2020 EAM Annual Conference Proceedings

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ABSTRACT

Title: An Examination of Organizational Moral Development as a Prerequisite for Successful Implementation of Creating Shared Value Strategy

INTRODUCTION

Overview

There is a growing awareness by individuals and businesses of the need to be more accountable to society and to help solve society's pressing problems (Costanzo et al., 2014; Rey-Martí et al., 2016). There is also the need by businesses to regain legitimacy owing to society's unprecedented distrust and disdain of businesses (Hiller, 2013). The global financial crisis of 2008-2009 further exacerbated this distrust with businesses being described as self-interested and unmindful of their relationships to society (Hiller, 2013). Businesses have been accused of having no interest in humanity (Munch, 2012) and even being a threat to human survival (Metcalf & Benn, 2012).

A strategy for success: Creating Shared Value (CSV)

Researchers have begun to explore ways by which businesses can be more beneficial to society, i.e., ways by which businesses can create more positive social impact for society (Porter & Kramer, 2011). Porter and Kramer (2011) describe the concept of creating shared value (CSV) as a business strategy that businesses can adopt to generate higher profits while simultaneously creating more positive social impact for the society (Porter & Kramer, 2011). CSV is defined as "…creating economic value in a way that also creates value for society by addressing its needs and challenges…" (Porter & Kramer, 2011, p.1).

According to Porter and Kramer (2011), businesses have viewed value creation narrowly, focusing on short-term gains at the expense of long-terms successes. This narrow conception of capitalism has prevented businesses from harnessing their full potential in meeting society's broader challenges. The need to reinvent capitalism was earlier reiterated by Bill Gates. Gates (2008) suggested that by finding novel ways for the poor to participate in the global economy, a new wave of wave of innovation and economic growth will be unleashed (Gates, 2008).

Arguments for CSV

The arguments for adopting CSV as a business strategy is premised on the notion that societal needs, not just conventional economic needs, define markets (Porter & Kramer, 2011). The largest unmet needs in society include fundamental human needs, such as health, better housing, improved nutrition, help for the aging, greater financial security, and less environmental damage. By addressing any of these unmet needs in an innovative manner, companies can create economic value by creating societal value. Businesses whose products and services address society's fundamentals needs or solve society's pressing problems will receive favorable demand. This can lead to higher profitability. Thus, businesses can gain competitive advantage while simultaneously enhancing social and economic progress for societies in which they operate (Porter & Kramer, 2011). In other words, companies can create economic value by creating societal value.

Another argument for pursuing the CSV strategy is the realization that social harms can create internal costs for firms (Porter & Kramer, 2011). This argument states that economic gains can be realized operational efficiencies. Thus, businesses can save more money by reducing wastage of resources, by reusing and recycling materials. This is also beneficial to society and to the environment. Porter and Kramer (2011) suggest three ways to create shared value: by reconceiving products and markets, by redefining productivity in the value chain, and by enabling local cluster development. Porter and Kramer (2011) offer the following examples; that of GE's Ecomagination products which reached $18 billion in 2009 – the size of a Fortune 150 company. Similarly, Wal-Mart has made a successful attempt at redefining productivity in its value chain; by reducing its packaging and cutting 100 million miles from the delivery routes of its trucks, Wal-Mart lowered carbon emissions and saved $200 million in costs. By investing in employee wellness programs, Johnson & Johnson has saved $250 million in health care costs.

In summary, the concept of creating shared value proposes that fundamental societal needs are ready markets waiting to be tapped by businesses, who can realize significant economic gains by solving these needs in an innovative manner (Porter & Kramer; Prahalad, 2014). The dual objective of CSV is the realization of profits and the creation of social impact.

Research Gap Addressed by this Paper

This paper introduces moral development as a variable which influences how sensitive individual businesses are to society's legitimate needs or the legitimate needs of stakeholders. An organizations' moral development is described in terms of the capacity to factor in the legitimate interests of stakeholders and to consistently act for the common good of others in society (Mair & Noboa, 2006).

and organizational members will enhance the realization of social change.

Moral Development Theory

This research presents moral development as an “other-regarding” and a prosocial construct. Cognitive moral development (CMD) is described as the cognitive process that motivates an individual to help others in search of a common good (Mair & Noboa, 2006). High moral development is associated with being sensitive to the needs of others and an ability to consider the legitimate interests of a broader stakeholder base (Goolsby & Hunt, 1992). Low moral devlopment is associated with a focus on realizing self-interest. In this section, a discussion of moral development in individuals is followed by a discussion of moral development in organizations.

moral development in individuals.

The CMD theory, developed by Kohlberg (1969), states that in individuals, moral development proceeds through a cognitive developmental process. According to Kohlberg (1969), an individual acquires an increasingly accurate understanding of the nature of moral obligations in complex social systems, in a developmental process that takes place over time. Thus, according to Kohlberg (1969), in decisions having a moral dimension, the ability to recognize and analyze the complex relationships among all the elements involved, and to recognize all the possible outcomes that might result from taking a particular course of action, depends on the CMD stage of the individual. The moral reasoning processes of individuals improve as their reasoning abilities pertaining to social arrangements improve (Goolsby & Hunt, 1992). Kohlberg (1969) proposes that every individual occupies one of six stages of moral development and that the stage an individual belongs to would guide reasoning and decision-making in situations involving moral issues. According to Goolsby and Hunt (1992), making a decision in situations involving a moral twist often requires resolving how the situation may affect each of the entities involved and then being able to calculate the diverse range of interests of all stakeholders in arriving at the right decision or course of action (Goolsby & Hunt, 1992). Therefore, when situation arise involving decisions with a moral dimension, persons with poorly developed moral reasoning abilities are less capable of assimilating the rightful needs of all parties (Goolsby & Hunt, 1992; Kohlberg, 1969). An individual's moral reasoning ". . . becomes cognitively more complex in each stage as he/she uses increasingly elaborate algorithms for setting priorities and distributing justice" (Goolsby & Hunt, 1992, p. 56). The construct of moral judgment is also useful in providing guidance for what course of action to pursue in situations involving conflicting moral claims (Ashkanasy, Windsor, & Trevino, 2006).

As mentioned above, Kohlberg (1969) contends that CMD can be characterized as a progression through a maximum of six stages. Kohlberg's six-stage moral development is categorized into three levels: the pre-conventional level, the conventional level and the post-conventional level, with each level comprising two stages. At the pre-conventional level, which comprises stages 1 and 2, individuals make moral decisions based on immediate consequences to them, i.e., punishments and rewards. At the conventional level, which comprises stages 3 and 4, individuals make decisions based on the need to adhere to norms of appropriate behavior established by external groups, such as peers, family, and society. At the principled level, stages 5 and 6, individuals make moral decisions based on self-selected universal ethical principles which transcend the authority of group norms. At this principled stage, individuals become decreasingly egoistical (Goolsby & Hunt, 1992).

Kohlberg's (1969) stage sequence of CMD has been supported as well as validated by several longitudinal, cross-cultural, and cross-sectional research studies. The studies demonstrate that Kohlberg's research is applicable across many populations and cultures (Blasi, 1980; Brabeck, 1984; Gibbs, Widaman, & Colby, 1982; Snarey, 1985). According to Goolsby and Hunt (1992), the cognitive ability to integrate the legitimate interests of many diverse publics signals the level of CMD of an individual. Goolsby and Hunt (1992) state further that "individuals high in CMD are able to recognize the "social contract" and the importance of multiple stakeholders, as well as demonstrate socially responsible behavior in organizations" (Goolsby & Hunt, 1992, p.58).

The CMD framework has been useful in studying managers, as managers often face situations where there are conflicting moral claims among the various interests in the organizations that they manage (Ford & Richardson, 1994; Trevino, 1992). Marketers have also been studied as marketing constitutes a "morally complex" environment (Goolsby & Hunt, 1992; Ho, Vitell, Barnes, & Desborde, 1997). The CMD theory fits squarely into the study of social entrepreneurship because social entrepreneurs often need to assimilate the social needs of diverse publics. For social entrepreneurs, accountability and responsibility are not limited to traditional markets, economic actors, or stockholders, but responsibility and accountability often extend to a broader range of stakeholders, including social actors and society (Dees, 1998). The CMD theory also fits squarely because researchers have emphasized that tensions often exist between social and economic goals (André, 2012) and that the pursuit of social goals is an added cost to business. Social entrepreneurs often find themselves having to make decisions with respect to either of these two alternatives.

The social entrepreneur often finds him/herself in situations involving the need to resolve conflicting claims from each of these ends (André, 2012; Crane, Palazzo, Spence, & Matten, 2014). When in situations in which moral claims conflict, understanding of the nature of moral obligations in complex social systems becomes important (Rest, 1979), particularly for social entrepreneurs.

Goolsby and Hunt (1992) suggest that individuals high in CMD are more sensitive to the desires, needs, and wants of diverse stakeholders and that they are also better able to engage a broader stakeholder group, as well as integrate their legitimate interests (Goolsby & Hunt, 1992). This suggests that CMD may be related to the process of identification of social needs and opportunities.

moral development in organizations.

Building on Kohlberg's (1969) ideas of individual level CMD theory, other researchers, also theorize that the stage-based moral development idea also applies to organizations (Logsdon & Yuthas, 1997; Reidenbach & Robin, 1991; Sridhar & Camburn, 1993). Accordingly, organizations too, just as individuals, can be classified into stages of moral development.

For example, Reidenbach and Robin (1991) categorize organizations into five stages of moral development (amoral, legalistic, responsive, emerging ethical, and ethical). Their model was based on case studies of the actions of large numbers of organizations as they responded to diverse situations. Differences in the moral development stage of each organization were deduced from the different corporate actions taken by each organization. Consequently, they drew up a hierarchical model of organizational moral development based on the observed differences in corporate behavior. According to Reidenbach and Robin (1991), management philosophy and attitudes are important determinants of these corporate behaviors, signaling that an organization's moral development is influenced by organization's top management. Further explanations of how corporations move across levels were presented, and case scenarios typifying each of the developmental stages were described.

Similarly, Sridhar and Camburn (1993) argue that organizations can be categorized into stages of moral development. Their rationale lies in the observation that, over time, organizations develop into collectivities of shared cognitions and rationale as a result of embracing shared language and meaning. They suggest that by viewing organizations as symbol processing systems of shared language and meaning, a better understanding of organizational ethical behavior can be achieved. They developed their six-stage model by asking independent subjects to analyze speeches made by organizational spokespersons following ethical crises. Consistently, participants classified organizations into distinct categories of moral development.

More recently, Logsdon and Yuthas (1997) also developed a six-stage model of organizations' moral development. Their argument is based on whether an organization focuses on the realization of self-interests alone or whether it takes other stakeholders' interests into account in its activities. Logsdon and Yuthas (1997) argue that "just as the moral development of individuals is premised on whether and how they take others into account (Fraedrich, Thorne, & Ferrell, 1994; Trevino, 1992), an organization's level of moral development is signaled by the way an organization views its goals and relationships to various stakeholders" (p. 1216).

The major theme of the work of Logsdon and Yuthas (1997) is that organizations at low levels of moral development are motivated largely by a quest to fulfil self-interest, i.e., economic interests and financial objectives such as bottom-line profits, stock prices, and revenues. At low levels of moral development, organizations focus on realizing self-interest/economic interests regardless of whether their activities result in harm to other stakeholders, i.e., at pre-conventional stages of moral development, or, at best, they accommodate the interests of narrow stakeholder groups only to the extent that this furthers the realization of organizational self-interest, i.e., at conventional stages of moral development.

However, for organizations at higher stages of moral development, i.e., post conventional stages, the interests of broad stakeholder groups, which include market-based and non-market- based stakeholders, local communities, environmental groups, as well as the poor or other disadvantaged members of society, are considered as important goals in their own right. At this stage, interests of these stakeholder groups are actively pursued in their own rights and not merely as instrumental means geared towards the realization of organizational self-interest alone (Donaldson & Preston, 1995). Organizations at the post conventional stage of moral development are motivated to pursue the interests of broad stakeholders because they “do not see themselves as separate from this broad range of stakeholders, but they recognize their interconnectedness in achieving welfare of the society” (Logsdon & Yuthas, 1997, p. 1218).

Just like other researchers have suggested, Logsdon and Yuthas (1997) emphasize the role of top management as the major determinant of organizational moral development (Logsdon & Yuthas, 1997; Reidenbach & Robin, 1991; Sridhar & Camburn, 1993). They emphasize that top management plays a role in setting the moral tone for the organization and that top management is responsible for establishing and maintaining the moral climate of the organization.

The fact that top management, founder or CEO behaviors and beliefs shape organizational variables is not new in the literature. For example, the upper echelon theory (Hambrick & Mason, 1984) has been widely used to explain how factors such as the cognitive biases and values of organizations’ top management, dominant coalitions or power holders in organizations influence organizations, organizational variables and organizational outcomes (Schminke, Ambrose, & Neubaum, 2005). To a large extent, entrepreneurs shape their organizations through their beliefs and behaviors; they set up processes within the organization that ensure that their philosophies filter down to employees (Logsdon & Yuthas, 1997). An entrepreneur’s moral development is a major determinant of his/her organization’s ethical climate as well as his/her organization’s moral development stage (Schminke et al., 2005). For example, studies show that founders, CEO, or top management significantly determine their organization’s “ethical climate”, i.e., the moral atmosphere of the organization’s work environment (Dickson, Smith, Grojean, & Ehrhart, 2001; Logsdon & Corzine, 1999; Logsdon & Yuthas, 1997; Schminke et al., 2005; Sims, 2000; Sims & Brinkman, 2002) and their organization’s moral development stage (Logsdon & Yuthas, 1997, Reidenbach & Robin, 1991).

Trevino (1986) hypothesized that a primary influence on the organization’s moral development is the stage of moral development of top managers. In a similar vein, Logsdon & Yuthas (1997) also argue that “unless s/he is exhibiting cognitive dissonance, an executive who applies a high level of moral reasoning in evaluating personal moral dilemmas is likely to use similar cognitive processes to deal with dilemmas facing the organization” (p. 1220). Further, there is also a high likelihood that s/he would use this framework as a standard from which to develop expectations regarding the reasoning pursued by other individuals within the organization (Logsdon & Yuthas, 1997). Logsdon and Yuthas (1997) suggest, for example, that a manager who considers the legitimate interests of stakeholders in the process of decision making would prefer that his/her subordinates also adopt such reasoning in making similar decisions. On the other hand, a manager who, for example, cuts corners on product safety and product quality signals to subordinates that low levels of moral reasoning are acceptable in making decisions in the organization.

The strong effect of an organization's leader on the organization's level of moral development can also be seen in results found by Schminke et al. (2005). While examining the effect of leader moral development on the organization's ethical climate, Schminke et al. (2005) found that the leader moral development exerts an influence above and beyond that of the average moral development of firm employees, indicating that leaders, CEOs or top management's influence shape the organization's moral development.

HYPOTHESES DEVELOPMENT

Moral Development and Social Impact

Higher stages of CMD are associated with being able to accommodate the interests of broader stakeholder groups, which include local communities, the environment, environmental groups, as well as the poor or other disadvantaged members of society (Kohlberg, 1969; Logsdon & Yuthas, 1997). At higher stages of moral development, the interests of these broader stakeholder groups are considered, in their own right, as important goals, not merely as instrumental means geared towards the realization of self-interests alone. According to Logdson and Yuthas (1997), at a higher stage of moral development, e.g., at the post conventional stage of moral development, the motivation to pursue the interests of broad stakeholders arises because individuals no longer "see themselves as separate from this broad range of stakeholders" (p. 1218) and they "recognize their interconnectedness to these stakeholders in achieving welfare of the society" (p. 1218). On the contrary, at low levels of moral development, organizations focus on realizing self-interest/economic interest regardless of whether their activities result in harm to other stakeholders, i.e., at pre-conventional stages of moral development, or, at best, they accommodate the interests of narrow stakeholder groups only to the extent that this furthers the realization of organizational self-interest, i.e., at conventional stages of moral development (Logdson & Yuthas, 1997)

The ability to engage stakeholders has been related to higher social impact (Bacq & Eddleston, 2018; Cannatelli, 2017). Thus, consistent with the thoughts above which suggest that higher stages of moral development are related to the ability to effectively accommodate and engage a broader stakeholder base, I argue that higher levels of CMD are associated with higher ability to create social impact.

The presence of an “other-regarding” culture in organizations has also been suggested to be related to higher social impact (Bacq & Eddleston, 2018; Montgomery et al., 2012; Zahra et al., 2008). An organizational culture which encourages employee participation and care fosters employee commitment to firm goals (Smith et al. 2016; Zahra et al. 2009). Accordingly, employees are motivated to take advantage of stakeholder support (Bacq & Eddleston, 2018) and this further amplifies the positive relationship between stakeholder support and social impact (Bacq & Eddleston, 2018). Similarly, Bacq and Eddleston (2018) state that an organizational culture that is not “other-regarding” can hurt its scale of social impact by limiting employee participation and empowerment. Researchers note that in such organizations, the intensity with which the enterprise’s ethical and moral intentions inspire employees to pursue firm goals is diminished (Smith et al., 2016; Zahra et al., 2009). In a culture that lacks employee involvement and care, employees will neither be fully committed, nor will they be willing to exert additional effort, and these hamper the capabilities of the organization to achieve social impact.

Reidenbach and Robin (1991) studied moral development in organizations and found that organizations low in moral development limit employee participation and discretion. Furthermore, these organizations do not demonstrate genuine concern for employees (Reidenbach & Robin, 1991). In line with the above, I argue that high moral development is positively related to social impact since it fosters an 'other-regarding' culture in organizations, which encourages employee participation and commitment to organizational goals.

Higher CMD has also been found to be associated with corporate social responsibility. In their study using marketers as samples, Goolsby and Hunt (1992) found a good correlation between CMD and socially responsible attitude. More specifically, they found that marketers high in CMD are more likely to act in socially responsible ways than those low in CMD. Further, according to their findings, marketers lower in CMD frequently placed duty to company above duty to society whereas their counterparts higher in CMD did so less frequently. In my opinion, these findings may suggest that individuals higher in CMD are more likely to pay attention to issues such as lowering emission of greenhouse gases, minimizing wastes through reduced packaging and more efficient resource use, organic food offerings, or improvement of employee wellness, whereas individuals lower in CMD are more likely to act in less socially responsible ways with respect to the above-mentioned issues.

Higher stages of moral development have been associated with higher sensitivity to the needs and wants of diverse publics and the ability to integrate the legitimate interests because of a broader stakeholder base in society (Goolsby & Hunt, 1992). Being prosocial or being other-oriented encourages awareness of the circumstances of other people and forges a deeper appreciation of their different contexts of existence (Dutton, Worline, Frost, & Lilius, 2006). Moral development is a prosocial motive. Prosocial motives have been associated with: (1) integrative thinking, (2) commitment to alleviating others' suffering, and (3) a more prosocial form of cost-benefit analysis (Miller et al., 2012). Prosocial motivations help individuals to identify more ways to help others effectively; they engender innovation by helping to envision a larger variety of possible benefits (Grant & Berry, 2011) and foster commitment to others by suppressing a focus on personal risks (Batson & Shaw, 1991). In contrast to pro-self motivations, prosocial motives encourage innovation and a search for solutions that lead to collective gains. Therefore, in line with the above, I argue that higher CMD is associated with higher likelihood of creating more social wealth, value, and impact than low CMD.

Werhane (2012) cites several examples of social entrepreneurs who failed because they focused more on themselves rather than on the societies and communities which they intended to serve. Examples of these included the Indian banking micro lending failures (Werhane, 2012), and Hindustan Lever's initial affordable soap campaign failure (Werhane, 2012). These social entrepreneurial initiatives were based on a firm-centric view and failed (Calton et al, 2013; Werhane, 2012). Werhane (2012) argues that to be successful, social entrepreneurs must be sensitive to local contexts. In a similar vein, Calton et al. (2013) suggest that to be successful, social entrepreneurs must adopt the "giving a face to places" (p.398) mental framework, i.e., a mental framework which is able to integrate the uniqueness of every community by providing tailor-made solutions for each community's unique problems and challenges, thereby avoiding the provision of generalized solutions to communities' needs.

For successful social impact, social entrepreneurs must also develop a moral imagination, (Calton et al., 2013) which is the ability to challenge existing mind-sets and to think out of the box (Calton et al., 2013). It is my view that as a result of more developed moral cognitions, social entrepreneurs higher in CMD are more likely to possess more developed moral imaginations and are likely to be better able to adopt the "faces and places" mental models which are necessary for successful social impact. Therefore, I propose a relationship between CMD and social impact, stated formally:

Hypothesis 1: *Moral Development is positively related to social impact.*

Moral Development and Financial Performance

There is a link between social wealth creation and economic wealth creation (Calton et al., 2013; Fuller & Tian, 2006; Kramer, 2011; Porter & Kramer, 2011; Prahalad, 2014). Calton et al. (2013) state that there are significant opportunities for high profitability through serving social needs. Porter and Kramer (2011), through their "creating shared value" concept, argue that fundamental social needs and not only economic needs define markets. They suggest that through reconceiving products, through redefining the value chain, and by creating new coalitions, entrepreneurs can increase social wealth and simultaneously realize more profits for themselves.

Reconceiving products entails being creative at introducing new products that address society's huge and pressing needs (Porter & Kramer, 2011). According to Porter and Kramer (2011), these needs are the greatest unmet needs globally include and include health needs, needs for better housing, better nutrition, help for the aged, financial security, and less damage to the environment (Porter & Kramer, 2011). Similarly, redefining the value chain with societal progress in mind can also lead to more profits for businesses. Porter and Kramer (2011) argue that "social harms frequently create internal costs for firms; such as wasted energy or raw materials, costly accidents, and the need for remedial training to compensate for inadequacies" (p. 5a). For example, excess packaging of products and greenhouse gases are not just costly to the environment but also costly to the business.

Earlier discussions suggest that high CMD is associated with alertness and sensitivity to social needs, and a higher likelihood of conceiving of novel ways of meetings these needs through innovative products and services (Grant & Berry, 2011). Higher CMD is associated with being able to demonstrate higher concern for society and the ability to take the interests of a wider stakeholder base into consideration. This leads to the possibility of being more innovative at proffering solutions that meet the needs of these diverse groups. Therefore, efforts at meeting the huge fundamental societal needs are likely to lead social entrepreneurs with higher CMD to realize higher profits as they meet these needs.

CMD has been associated with being ethical and with the avoidance of carrying out socially irresponsible activities (Goolsby & Hunt, 1992). Thus, higher CMD should be associated with socially responsible activities aimed at reduction of greenhouse gas emissions, more efficient resource use, and avoiding wastage. These activities, according to Porter and Kramer (2011), translate to cost savings and financial gains. For example, Wal-Mart in 2009 saved $200 million from reducing its packaging and lowering carbon emission through more efficient routing of trucks. Similarly, between 2002 and 2008, Johnson & Johnson had saved $250 million on healthcare costs by investing in employee wellness (Porter & Kramer, 2011).

Fuller and Tian (2006) also suggest a positive link between social responsibility and profitability in an organization. They argue that organizations which act in an ethical and socially responsible manner acquire high levels of symbolic capital. Symbolic capital is described as the value or reputation accorded to a firm by society (Bourdieu, 1986). Symbolic capital is the prestige or honor possessed by a firm, and it increases with firms' social responsibility and ethical behaviors (Fuller & Tian, 2006). More importantly, Fuller and Tian (2006) argue that it is possible to exchange symbolic capital with economic capital.

Conversely, lower CMD is associated with being more self-interested and having a lower concern for society's legitimate interests. Low CMD may therefore, limit the likelihood of developing innovative ways to solve social needs. Social irresponsibility and unethical behaviors are more likely with low CMD than with high CMD. Acting in socially irresponsible ways may increase internal costs for businesses and an inability to realize financial gains from cost savings.

Gates (2008) also suggests that entrepreneurs who are more socially responsible may receive more positive recognition, prompting customer loyalty. Customer loyalty may encourage higher demand and increased patronage thereby leading to higher revenues for organizations. I therefore propose a relationship between CMD and financial performance and state formally:

Hypothesis 2: *Moral Development is positively related to financial performance.*

METHODOLOGY

Survey Sample

The sample for research was B Corps. The questionnaire was administered via email to all the B Corps in the United States of America, a total of 1,110 B Corps. B Corps are social entrepreneurs, who have applied to B Lab, an independent organization which assesses, scores, and certifies social entrepreneurs. B Lab verifies social entrepreneurs' social and environmental performance, public transparency, and legal accountability, as meeting the highest standards before designating them as B Corps (https://bcorporation.net/). The B Lab website (https://bcorporation.net/) currently contains data on the social impact scores of over 2000 Certified B Corps from 42 countries and more than 120 industries. The social impact score for each social entrepreneur is a composite score based on an agglomeration of sub-scores based on the following dimensions: environment, workers, customers, community, and governance. For more information on how the social impact score is calculated, see website: https://bcorporation.net/.

B Corps social impact scores range from 80 to 200. The higher the score, the higher the social impact created by the firm. The choice of this sample is appropriate based on two factors: (1) these social entrepreneurs engage in the simultaneous pursuit of both social and economic goals, and (2) This sample contains a national sample of social entrepreneurs from various industries in the United States.

Measures

The survey instrument contained items on CMD, age, level of education, ethnicity, financial performance (revenues), and social impact. The CMD questions were obtained from Lind's (1978) MJT questionnaire

Statistical Methods

Returned surveys were examined for missing data and as mentioned earlier no recurring issues were identified. Data were collected from early June to mid-August 2018. Overall, 167 social entrepreneurs completed responses were obtained, a response rate of 25%.

RESULTS: TESTS OF HYPOTHESES

Demographic Data

There was a total of 167 participants. The mean age of the participants was 47 years. The entrepreneurs in the sample were mostly white males. Most participants had a college or graduate degree. Table 5.1 summarizes the demographic characteristics of the respondent sample.

Table 1.0 Participant Demographic Characteristics

	Mean/SD	***Range***
Age (Years)	46.53/12.51	18-99
	Frequency	***Percent***
Gender		
Male	89	53.3
Female	78	46.7
Race/ Ethnicity		
Black	3	1.9
White	151	90.4
Hispanic	3	1.9
Indian sub-continent	2	0.9
Others	8	4.76
Education		
Associate Degree	2	0.9
Some College	8	4.7
Bachelor's Degree	58	34.9
Some Graduate	31	18.8
Graduate Degree	68	40.5

N= 167

Response Bias

A *t*-test was conducted to examine the differences between respondents and non-respondents in terms of mean social impact, mean revenue, mean number of years in business using independent sources of data. Data used for the *t*-tests for social impact scores was obtained from www.bcorporation.net while data used for the *t*-tests for mean revenue and mean number of years were obtained from www.owler.com. The *t*-tests yielded no differences between respondents and non-respondents with respect to these parameters (see Table 2.0). Since there is no statistical difference between respondents and non-respondents, it suggests that the issue of response bias may be limited, and the respondent sample is representative of the overall sample.

Table 2.0 Differences between Respondents and Non-Respondents in terms of Mean Revenues, Mean Social Impact Scores, and Mean Number of Years in Business.

	Mean Revenues	**Mean Social Impact Scores**	**Mean number of years in business**	
Respondents	$3553400	99.5	12.9 years	n = 167
Non-Respondents	$3602458	98.3	12.2 years	n = 943

t-tests were not significant

Bivariate Analyses - Correlations

Table 3.0 details the results of descriptive statistics and correlations among the key variables used in the study.

Table 3.0 Descriptive Statistics and Correlations

Variable	**Mean**	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1.Social Impact Score	99.5	18.7	1								
2. Opp. Rec	N/A	N/A	0.03	1							
3. CMD	13.5	8.20	0.10	-0.08	1						
4. Gender	N/A	N/A	0.13*	-0.07	0.02	1					
5. Age	46.50	12.50	0.03	-0.08	-0.06	0.18	1				
6.Education	N/A	N/A	0.38***	0.31***	0.38***	0.09	0.07	1			
7. Revenue	3553400	6682703	0.16	0.23	0.20	0.10	0.20	0.45*	1		
8. Years in Business	12.9	9.2	0.22*	-0.20	0.02	0.06	0.37**	0.13	0.44**	1	
9. Employees	26.60	86	0.43*	0.06	0.04	0.14	0.04	0.06	.50**	0.15	1

* $p < .05$ ** $p < .01$ *** $p < .001$

regression.

In this section, the formal hypotheses stated for this research, are examined and the results of the different statistical methods used are presented.

hypotheses testing.

hypothesis 1: cmd is positively related to social impact.

A hierarchical multiple linear regression was used to determine the relationships between CMD and social impact. The number of employees and the number of years in business were used as control variables. Thus, a stepwise analysis was performed. The enter method was used with number of years in business and number of employees first entered into the model and with CMD values subsequently entered into the model (see Table 4.0). As can be seen, the entrepreneur's CMD plays an important part in social impact created (see Model 2, on Table 4.0). The resulting regression model was significantly improved over Model 1 (which had only the control variables) with the addition of CMD to the model ($p < .001$). Model 2 resulted in an adjusted R^2 of .065 (F = 26.674, $p < .001$). The standardized regression coefficient for CMD was also highly significant ($\beta = .325$, $p < .001$). Thus, a one standard deviation change in CMD would result in a .325 standard deviation change in the social impact created. These results provide strong support for Hypothesis 1.

Table 4.0 Regression Analyses Results for Social Impact: Hypothesis 1

	Model 1	**Model 2**
Variable	**Beta**	**Beta**
Controls		
Number of years in business	.42	.22**
Number of Employees	.25	.06**
CMD		.325***
F	26.674**	27.030**
Adjusted *R* Square	.032	.065
Change in *R* Square from Model 1		.033*

* p < .05 ** p < .01 *** p < .001 n = 167

hypothesis 2: cmd is positively related to financial performance.

A hierarchical multiple linear regression was used to determine the relationships between CMD and financial performance. Here, the number of employees (size) and number of years in business were used as control variables. Thus, a stepwise analysis was performed. The enter method was used with number of years in business and number of employees first entered into the model and with CMD values subsequently entered into the model (see Table 5.0). CMD had a positive relationship with revenue but the relationship was not statistically significant. The regression coefficients for CMD was not significant (see Model 2 in Table 5.0). Thus, hypothesis 2 was not supported.

Table 5.0 Regression Analyses Results for Financial Performance: Hypothesis 2

	Model 1	**Model 2**
Variable	**Beta**	**Beta**
Controls		
Number of years in business	.42	.36**
Number of Employees	.25	.44*
CMD		.008
F	29.097***	31.145**
Adjusted *R* Square	.038	.052
Change in *R* Square from Model 1		.014*

* p < .05   ** p < .01   *** p < .001   n = 167

DISCUSSION OF RESULTS

The study found support for hypothesis 1 which examined the relationship between CMD, and the social impact. This is consistent with the literature suggesting that CMD is related to the ability to assimilate the interest of diverse publics and to incorporate and serve the goals of a wider stakeholder base (Donaldson & Preston, 1995; Goolsby & Hunt, 1992; Logsdon & Yuthas, 1997). All things being equal, the more likely it is to identify and meet the needs or goals of a wider stakeholder base, the greater social impact created. Moreover, Goolsby and Hunt (1992) suggest a positive relationship between moral development and socially responsible behavior. And all things being equal, the results of this study suggest that acting in a socially responsible manner should lead to higher social impact.

Full support was not found for hypothesis 2 which examined the relationship between CMD and the financial performance. Although the statistical relationship observed between these variables was positive, it was not significant. The inability to find support for this hypothesis may be related to tensions that may exist in the simultaneous pursuit of social goals and financial goals (André, 2012). It may be the case that those businesses higher in CMD placed more emphasis on creating social impact at the expense of financial gains (Peredo & McLean, 2006). It may also be the case that businesses lower CMD levels did better in terms of financial performance since, theoretically speaking, lower CMD predisposes individuals to pursue self-interest at the expense of other social interests.

Taken together, the data trend suggested consistency with the stated hypothesis as there was a positive relationship between these variables. As discussed in earlier, the Creating Shared Value (CSV) strategy is gaining recognition as one of the strategies suggested for present day businesses for maximizing profits while at the same time creating social impact for society (Porter & Cramer, 2011). CSV strategy is recommended for business success. Porter & Kramer (2011) suggest that not only will this strategy help businesses to make profits, but it will also help businesses regain lost legitimacy in the eyes of society, and usher in a new wave of creative capitalism (Gates, 2008; Porter & Kramer, 2011). The findings of this study suggest that organizations high in CMD are more likely than those low in CMD to be successful in adopting and executing this strategy.

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The Impact of External Factors on Productivity: Changes in Freight Railroad Productivity due to Deregulation and Economic Recessions

Abstract

Studies of productivity have often focused on internal factors such as, employment, prices, and profit. This study examines the effects of deregulation and economic recessions on several measures of productivity using the case of the freight railroad industry. Following its deregulation in 1980, the freight railroad industry initiated a retrenchment and turnaround strategy to reverse the chronic pattern of decline that had produced numerous bankruptcies. It began cutting costs and investing in new products, services, and technologies to increase competitiveness. Results show that deregulation had a positive impact on capital and labor productivity, and that economic recessions had a negative impact on capital productivity but not on labor productivity.

Keywords: Freight railroad; productivity; deregulation; recession.

During the late 1970's and early 1980's, the railroad, airline, trucking, banking, and telecommunications industries were substantially deregulated. Numerous studies have examined the effects of this deregulation on wages, employment, and productivity (e.g., Bailey, 1986; Card, 1986; Ehrenberg, 1979), and on prices, revenue, and market share (e.g., Ellig, 1989; Johnson, 1991). A few studies have examined the effects of deregulation on employee characteristics such as age and education, but these studies did not link changes in employee characteristics to business strategy or to outcomes such as productivity (e.g., Guthrie, Grimm, & Smith, 1991; Murphy, 1988).

Deregulation alters the business environment and thereby increases pressure on firms to alter business strategy (Guthrie, Grimm, & Smith, 1991). In turn, business strategy influences the characteristics of employees needed (Guthrie & Olian, 1991; Jackson, Schuler, & Rivero, 1989). Thus, deregulation should cause firms to alter staffing practices in an effort to be successful in the new environment, and those staffing changes should lead to increased productivity.

Industry Level Versus Firm Level Strategy

The life cycle, turnaround, and retrenchment theories are formulated at the firm level, and explain individual firm reactions to environmental changes. By extension, we contend that environmental changes such as deregulation that affect an entire industry segment will lead to aggregate industry outcomes similar to those that would be expected if the environmental changes affected only a single firm.

The freight railroad industry was regulated so heavily in regard to prices, technology, and infrastructure such that all firms virtually were required to follow the same business strategy in order to remain within the bounds of the regulations. Because all firms followed the same basic business strategy (due to regulation), they can be considered to be a strategic group (Porter, 1980), and as such, they can be analyzed jointly at the aggregate level.

Lending support to the contention that all firms can be viewed as a strategic group and analyzed at the aggregate level is the high level of mergers and acquisitions in the industry. Specifically, in 1980, there were more than 25 freight rail carriers, but that number had declined by more than 75 percent to 6 freight rail carriers by 2010 due to mergers and acquisitions (Kriem, 2011). In short, the industry moved away from differentiation of companies toward oligopoly.

Because all firms in the industry began with the same business strategy and were affected similarly by deregulation, they should have attempted to make similar changes in business strategy and employee characteristics, and these changes should be evident at the industry level. This extension of firm-level theory to industry level analysis has been used by previous researchers who used industry-level data to examine relationships between deregulation, employment and product prices (e.g., Babcock & German, 1991; Yochum & Rhiel, 1990).

Business Environment

Prior to passage of the Staggers Rail Act in 1980, the freight railroad industry was heavily regulated. The Interstate Commerce Commission required that prices meet or exceed certain levels, restricted entry into the industry, and severely limited abandonment of seldom used or unprofitable tracks (Wilner, 1990). Further, freight railroads' primary competitor was the trucking industry, and when freight railroads' reliability fell and costs rose during the 1970's, the trucking industry increased its share of the shipping market dramatically (Murray, 1991).

Deregulation allowed freight railroads to decrease their prices to gain market share (Boyer, 1987; Levin 1981a). Firms also were permitted to form contracts where the terms of the contracts could remain confidential, which fostered competition (MacDonald, 1989; Levin, 1981b). Further, the process of obtaining approval to abandon tracks was simplified so that some tracks could be abandoned immediately, which decreased overhead costs (Braeutigam & Panzar, 1993; Due, 1987).

Although freight railroads were permitted to compete with other shippers after being deregulated, delays and damages to shipments were still more common with railroads than with other shippers (Murray, 1991). Further, customer service was poor due to cumbersome organizational structures and outdated technology (Bradley, 1990). In addition, the coal and steel industries were still declining and the railroads needed to increase shipping other types of goods in order to increase market share (Guthrie, Grimm, & Smith, 1991).

Business Strategy

Freight Railroad Business Strategy

In order to adapt to the rapidly changing business environment that was caused by deregulation, the railroads adopted a business strategy known as resizing (Koys et. al., 1990). A resizing strategy occurs when a firm does the following: expands part of the firm into new parts of a niche; shrinks some parts of a niche; and leaves other niches intact, as shown in Figure 1. The resizing strategy simultaneously encompasses three stages of the business life cycle: growth; maturity; and decline.

As shown in the Figure 1 the resizing strategy undertaken by the railroads was as follows: expand into the intermodal niche in order to win customer confidence and to compete with trucks; decrease shipments of coal and steel; maintain shipments of farm products.

A resizing strategy is also a continuous action involving all levels of the organization (Koys, et. al., 1990). In the railroads, each level of the organization, from the upper management, to the technicians, to the train engineers, down to the maintenance crew was affected by the resizing, because the roles and interactions of each employee under the new operational methods and technology of intermodal would change.

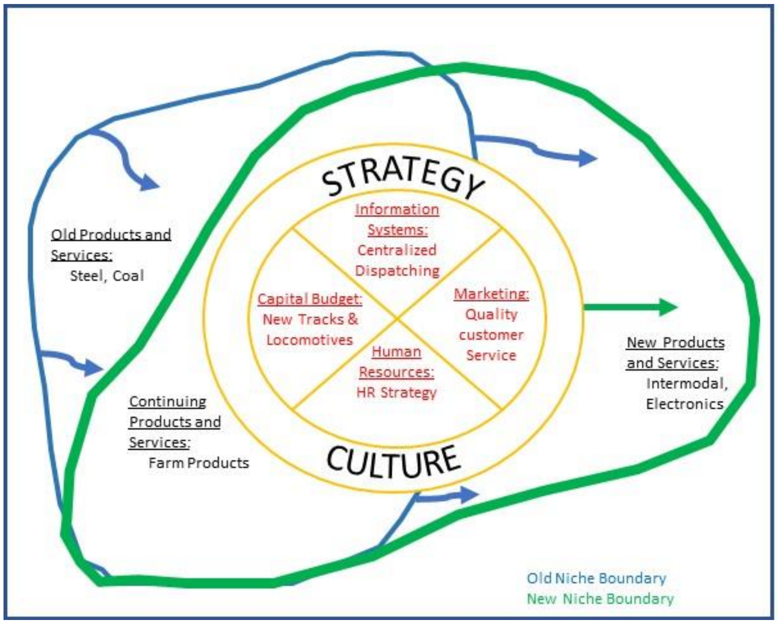

Figure 1
Organizational Resizing and the Change in Niche for the Freight Rail Industry
Adapted from: Koyes, et al. (1990).

"Organization resizing proactively influences a company's shape and size in relation to its developing niche and long-term objectives," so we would expect the shape, size, and functions of the labor force of the railroads to alter because of the resizing (Koys et. al., 1990). That is, the organizational strategy influences the human resource strategy.

Freight Railroad Operational Strategy

In order to increase market share and profitability, the railroads planned to become a multifaceted and high-quality freight transportation industry (Miller, 1987). Firms could achieve higher productivity and market share by following a two-step process. First, because firms faced a high level of competition, they should have decreased employment, labor costs, and capital costs, which were higher than necessary (Pearce & Robbins, 1992). This retrenchment would allow firms to decrease costs so that funds could be made available for changes in product-market focus. A successful retrenchment should be accompanied by a selective and internally consistent pattern of elimination and redeployment of employees (Barker & Mone, 1994).

Second, firms should have tried to increase market share. Under the product life-cycle theory, firms in a turnaround stage are threatened with closure but wish to survive (Kochan & Barocci, l985; Schuler, 1989). These firms focus on cutting costs and on increasing quality, customer loyalty and market share. During turnaround, the railroads expanded into new product markets, decreased output to some product markets, and maintained output to other product markets (Miller, 1987).

Firms also began to increase the quality of customer service through the use of computerized and centralized dispatching and customer service centers (Welty, 1987; Yochum & Rhiel, 1990). Further, firms increased the use of intermodal transportation, where boxcars are moved from trains to trucks without unloading the boxcar, and so railroads were able to provide door-to-door service similar to the trucking industry (Duke, Litz, & Usher, 1992; Willoughby, 1988). Firms used the flexibility of centralized dispatching and intermodal transportation to implement just-in-time shipping (Bradley, 1990). Railroads also made infrastructure improvements such as upgrading track beds and purchasing new locomotives in order to reduce delays and damages to shipments (Shedd, 1992). In summary, freight rail carriers would have needed to address many areas of operations in order to increase productivity (Kreim, 2011).

Business Strategy and Staffing Strategy

An HRM strategy provides strategic focus for organizations, because its components (i.e., staffing, compensation, training, communication, and organizational culture) greatly influence the effectiveness of business strategy implementation (Walker, 1992). It has long been recognized that staffing practices, in conjunction with business strategy, influence organizational outcomes (Dyer. 1984; Miles & Snow, 1978; Olian & Rynes, 1990; Schuler, 1992; Schuler & Walker, 1990). Research on business strategy implementation shows that staffing practices that fit the requirements of a business strategy can facilitate the successful implementation of that business strategy (Galbraith & Kazanjian, 1986; Gomez-Mejia, 1988). Staffing practices can be used to encourage employee behaviors that can enhance organizational performance, staffing, and be used as a means to implement business strategy (Butler, Ferris, & Nappier, 1990; Schuler, 1992; Wright & McMahan, 1992).

Retrenchment

At the start of deregulation, the railroad industry faced an increasingly competitive product market and had higher than necessary employment and labor costs. Because prices were higher than they would have been if firms were not regulated, and because the industry was heavily unionized, wages also were higher than they would have been if firms were not regulated (Cook, 1991; Welty, 1988). This pattern is typical of regulated industries (Ehrenberg, 1979). After deregulation, firms began to retrench which required changes in staffing practices aimed at cost reduction. In deregulated industries, either wages or employment or both should fall substantially due to increased product market competition (Ehrenberg, 1979), so the industry should have taken steps to decrease compensation costs or employment or both (Schuler, 1989). These relationships are shown in Figure 2.

Indiscriminate slashing of an industry's resources may actually hasten the industry's decline (Barker & Mone, 1994), but, selective and prudent reductions that lower costs but improve efficiency can yield a leaner, more productive and more strategically flexible industry. The key is to eliminate those assets and employees that are least productive and invest in those assets and employees that are crucial to the industry's future. Thus, the industry would have wanted to decrease employment and labor costs for occupations not directly involved in production, such as managerial and clerical positions (i.e., staff positions). The industry also may have wanted to decrease employment of some production (i.e., line) positions. However, it would have been difficult to decrease employment in production occupations due to the high level of unionization of these occupations (Cook, 1991). Thus, it should be expected that employment and labor costs would fall significantly for staff employees but less so for line employees.

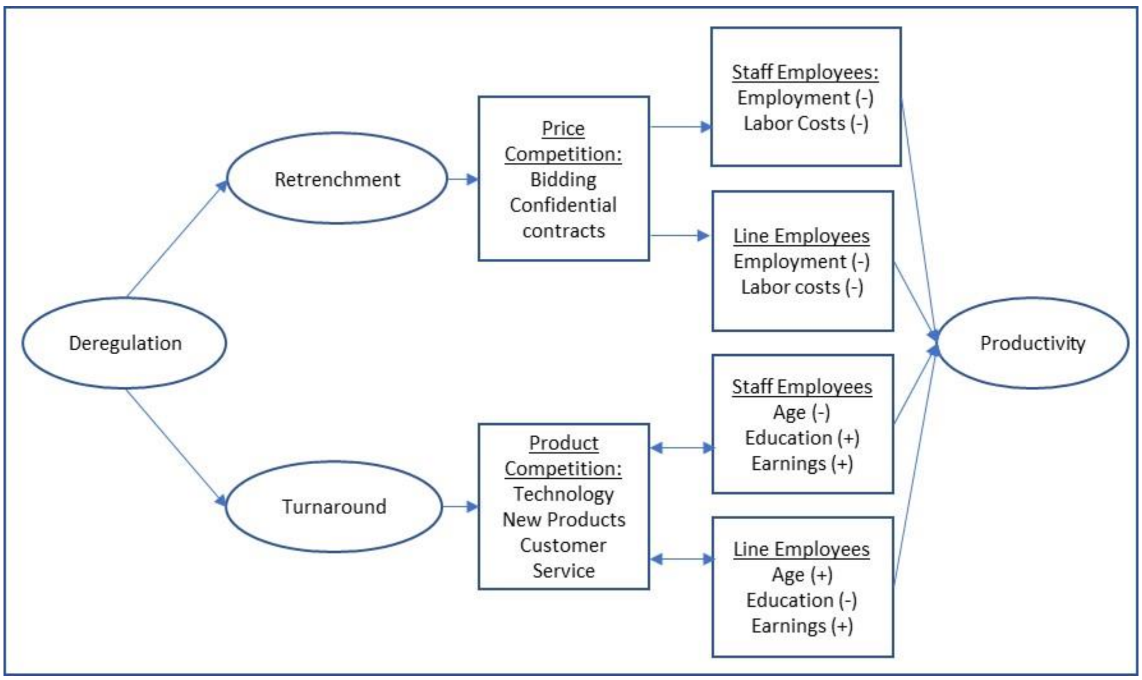

Figure 2
Hypothesized Relationships between Retrenchment, Turnaround, and Productivity

Turnaround

Employee characteristics. In addition to retrenching, the industry also needed to branch into new product markets, improve quality, and use advanced technology to implement the turnaround. Turnaround affects staffing because an industry may need different knowledge, skills, and abilities than those possessed by current employees (Fombrum, Tichy, & Derenna, 1984). Therefore, an industry which is changing focus or expanding should seek employees with different skills than the skills of employees in the firms, which ensures having the necessary skills available and helps avoid promoting unqualified employees.

Mature industries are more likely to require employees who promote innovation, in order to avoid stagnation or decline (Butler et al., 1990; Coombs & Rosse, 1992). Thus, to achieve turnaround, the industry would need to hire employees who would promote innovation. Guthrie and Olian (1991) found that firms that focus on improving the quality and diversity of products hire younger managers than managers hired by firms that focus on being low-cost producers. Firms may believe that younger employees are more flexible and willing to take more risks, and that employees with higher levels of education bring a greater variety of ideas to a company (Grimm & Smith 199l; Guthrie & Olian, 1991).

Staffing practices vary according to the type of occupational category of employees (Jackson, et al., l 989), so railroads may have wanted to increase the educational level of some employees but not of others. Specifically, railroads would have wanted to increase the educational level of managerial and professional employees, because these employees would be responsible for planning and implementing changes in managerial, technological, and organizational practices. Thus, the industry would have hired younger and better-educated employees for staff positions. However, due to the high level of unionization of line occupations, the industry would not have been able to make changes in the age and education in these occupations (Lewis & Miller, 1987; McMahan, 1991; Shedd, 1992; Welty, 1989).

Productivity. Fit between the requirements of the new business strategy and the industry's staffing practices should enhance implementation of the business strategy (Butler et al., 1990; Galbraith & Kazanjian, 1986; Walker, 1992). If staffing practices encourage employee behaviors that support business strategy, then industry performance should be enhanced (Galbraith & Kazanjian, 1986: Schuler, 1992). Because the railroads were operating in an increasingly competitive environment, they should have implemented changes aimed at increasing productivity. When the industry achieved appropriate changes in its staffing outcomes, performance measures would have improved, and the industry would have achieved increased productivity.

Method

Subjects

Workers. Data on railroad employee characteristics were derived from the Occupational Employment Statistics (OES) and the Current Population Survey (CPS). The CPS is a survey of randomly selected households conducted monthly by the Department of Commerce, Bureau of the Census (U.S. Department of Commerce, 1982). For the years 1982, 1989, and 1993, data was taken from the magnetic tapes and CD ROM's containing the raw data, and for later years, data was taken from the Census Bureau web site. The Occupational Employment Statistics (OES) is a survey of nonfarm employers conducted by Bureau of Labor Statistics, U.S. Department of Labor, and it does not include self-employed workers (U.S. Department of Labor, Bureau of Labor Statistics, 2019a). The OES data was taken from the Department of Labor web site.

Variables

Employment. We measured employment levels to determine whether the industry underwent retrenchment. For the CPS for the years 1982, 1984, 1989, and 1993, occupational employment was calculated from the CPS raw data using the March Supplemental Weights, which are based on the person's probability of being selected for the survey, (Batine, 1991; U.S. Department of Commerce, 1982). Employment data was also taken in aggregate form from other sources for comparisons with productivity measures (Statistical Abstract of the United States, 1993; 1985; 1981). OES employment data for later years was downloaded in final form from tables on the Bureau of Labor Statistics website.

Productivity. We examined productivity in order to determine the effects of changes of employee characteristics on organizational outcomes. We used the following three measures of productivity: Capital productivity; Labor productivity; and Multifactor productivity. Labor productivity (i.e., output per employee hour) is "the sum of the effects of changes in capital and intermediate purchases inputs relative to labor and the multifactor residual" (Duke, Litz, Usher, 1992, page 49). Multifactor productivity "relates output to the combined inputs of labor, capital, and intermediate purchases. It reflects many of the same influences as the labor productivity measure, but because both capital and intermediate purchases are included as inputs, it does not reflect the effect of these influences on the productivity residual" (Duke, Litz, Usher, 1992, page 49).

The productivity measures are indexed to 2007 = 100. For the years for 1987 to 2018, data on productivity was obtained from the Bureau of Labor Statistics using the BLS Data Finder 1.1 located at the following URL: https://beta.bls.gov/dataQuery (U.S. Department of Labor, Bureau of Labor Statistics, 2019b). The URL for the query is located in the reference list; the query used the following categories: SEARCH: productivity; SURVEY: Industry Productivity; CHARACTERISTICS: Industry; CHARACTERISTIC CATEGORY: Trade and Transportation and Utilities; CHARACTERISTIC CATEGORY DETAIL: Rail Transportation.

For the years 1970 to 1986, data on productivity was obtained from Duke, Litz, Usher, (1992), and data was transformed from being indexed to 1982 = 100 to being indexed to 2007 = 100 by comparing the statistics for the year 1987 from the earlier and later data sets, and multiplying the earlier productivity statistics by the percentage that would make the 1987 figures for the two data sets equal, as follows: capital productivity, transform 133.3 to 58.454 by multiplying by 0.4385; labor productivity, transform 171.8 to 42.315 by multiplying by 0.2463; multifactor productivity, transform 145.8 to 62.516 by multiplying by 0.4288.

Results

Employment

Figure 3 shows that from 1982 to 1989, total employment declined 28.6% from 470,897 to 336,196, and employment declined for every occupation except transportation and material moving occupations (OES code 53). By 1994, employment decreased a further 27.4% to 244,220, for a total decrease of 48.2% between 1982 and 1994.

Employment in four support staff occupational groups decreased faster than industry average from 1982 to 1989 as follows: professional specialty, including engineering, math, science, law, education (OES codes 17, 19, 23, and 25) declined 90%; executive, administrative, and managerial; finance; computer (OES codes 11, 13, and 15) declined 50%; precision production, craft, and repair (OES code 49) declined 55%. Administrative support, including clerical (OES code 43) declined 23.2%, slightly less than industry average.

Employment in three production occupational groups increased from 1982 to 1989 as follows: machine operators, assemblers, and inspectors (OES code 51) increased 154.1%

transportation and material moving occupations (OES code 53) increased 41.3%; service – protective, food, health, (OES codes 29, 33, 35, and 39) increased 7.3%.

Productivity

Figures 4 and 5 contain data on three measures of productivity (i.e., capital, labor, and multifactor) spanning the years before and after deregulation (i.e., 1970 to 2018), indexed to 2007 = 100. Over the 38-year period, productivity for the three measures increased significantly: (capital by106.1%%; multifactor by 198.7%; and labor 686.8%). The rate of increase for labor, capital, and multifactor productivity increased significantly after deregulation, until the onset of the 2007 to 2009 recession. During and following the recession, labor productivity continued to increase but capital and multifactor productivity decreased.

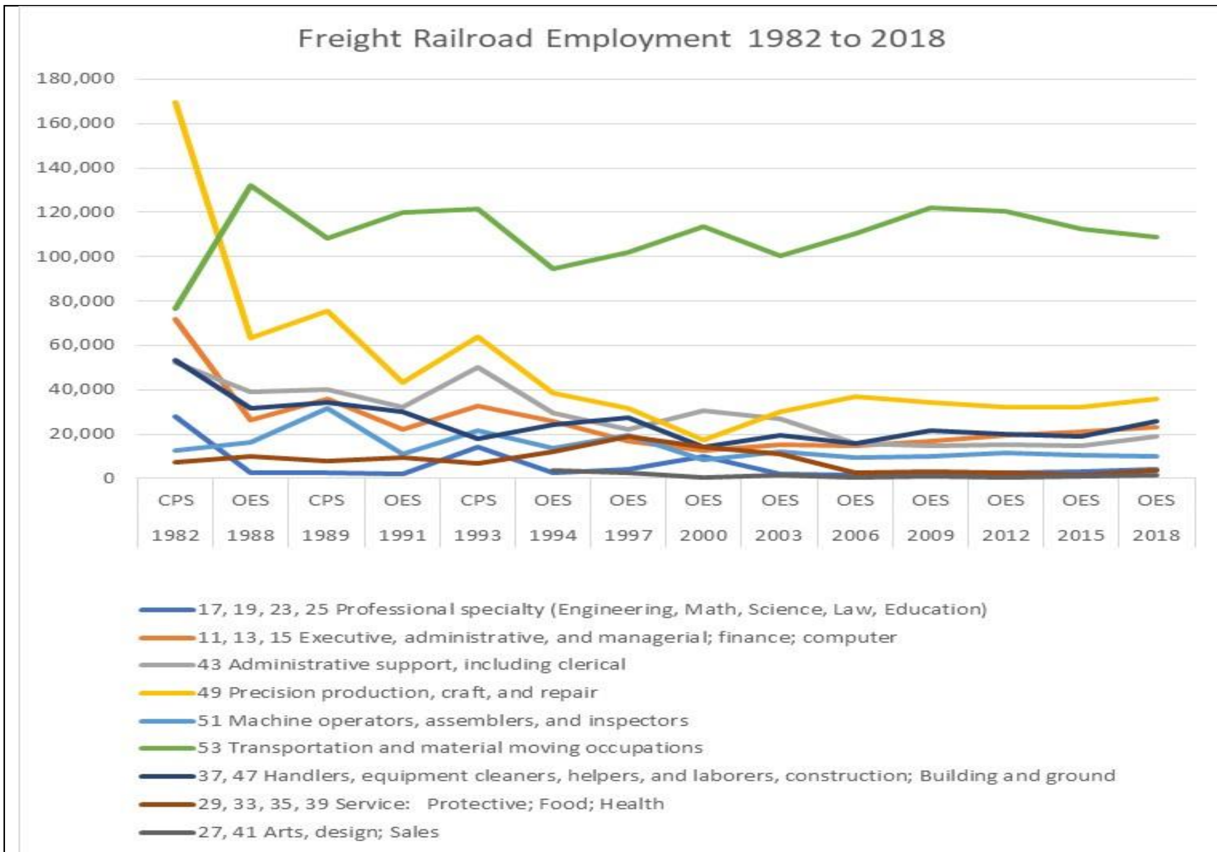

Figure 3 Freight Railroad Employment 1982 to 2018

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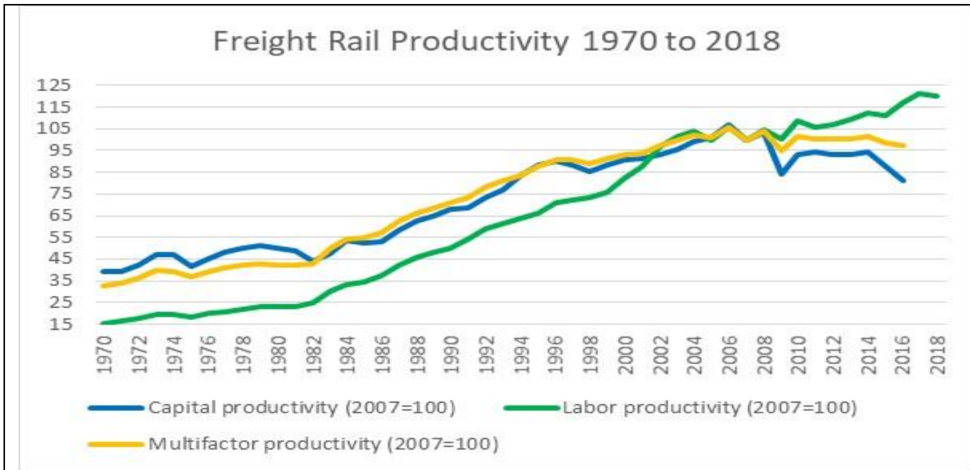

Figure 4 Freight Rail Productivity, 1970 to 2018: 2007=100

Figure 5 contain data on the rate of change in productivity. Viewing the data in annual changes (shown in Figure 5), significant declines in capital productivity are notable during years when there was a national economic crisis: 1975 (-11.9%), 1982 (-10.4%), and 2009 (-18.6%).

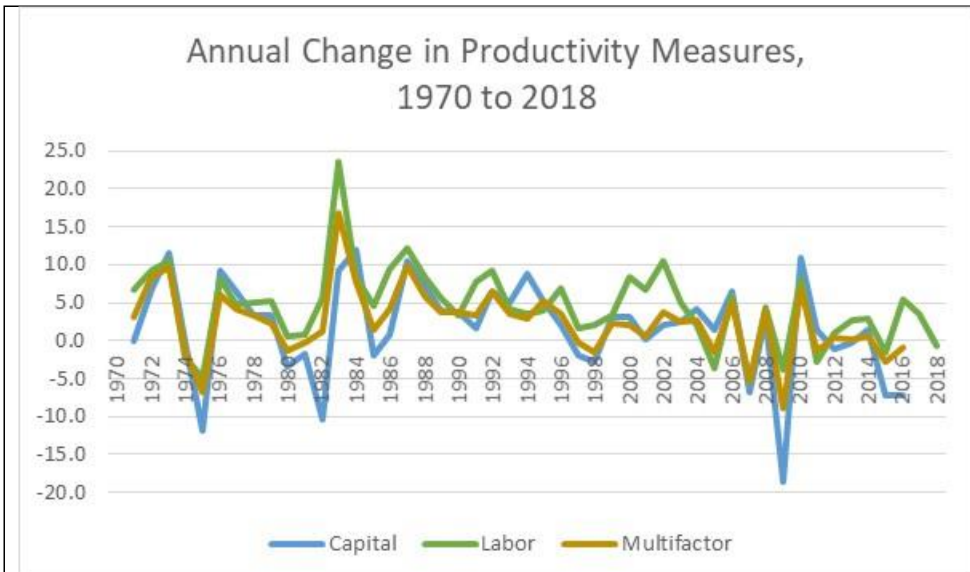

Figure 5 Annual Change in Productivity Measures, 1970 to 2018

Viewing the data in 5-year periods (shown in Table 3 and Figure 6), it is seen that the highest rates of increase occurred in the period directly following deregulation, in 1981 to 1985 (capital +28.0%; multifactor +29.3%; labor 48.1%), and in 1986 to 1990 (capital +28.1%; multifactor +24.9%; labor 32.8%). Although productivity continued to increase until 2009, it did so at a slower rate, and the period covering the most recent recession, 2006 to 2010, saw net decreases in capital (-13.1) and multifactor (-4.0) productivity.

Table 3
Rate of Change in Productivity, 5-Year Periods, 1970-2018

Period	Capital	Labor	Multifactor
1970-1975	4.9	19.8	12.9
1976-1980	10.0	16.5	8.6
1981-1985	7.3	48.1	29.3
1986-1990	28.0	32.8	24.9
1991-1995	28.1	22.6	19.3
1996-2000	1.1	16.2	2.5
2001-2005	10.5	14.0	7.5
2006-2010	-13.1	2.5	-4.0
2011-2015	-7.2	5.2	-1.7
2015-2018		2.9	

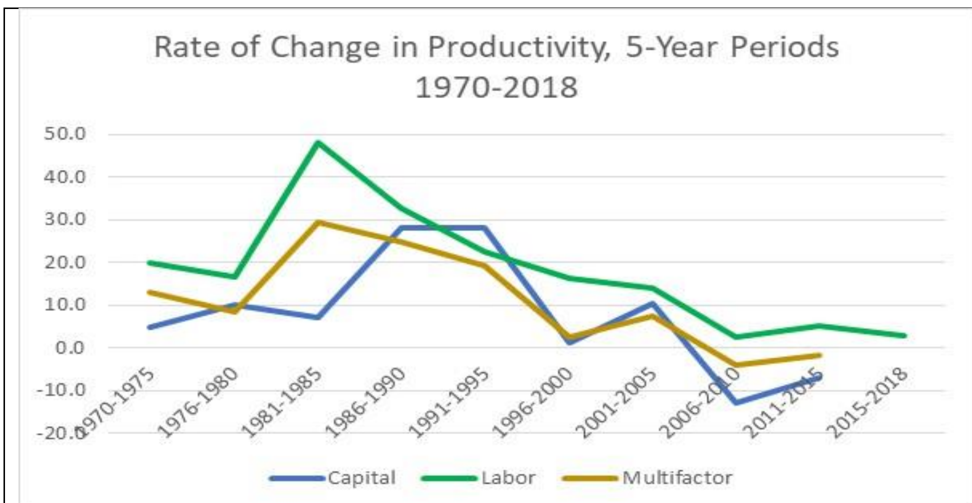

Figure 6
Rate of Change in Productivity, 5-Year Periods, 1970-2018

Discussion

Employees

Employment. The freight rail industry experienced sharp declines in employment immediately following deregulation in 1980, and the decreases continued until the mid-1990’s, when employment generally leveled off (i.e., 1982 = 470,897; 1994 = 244,220; 2018 = 232,580). The industry also used selective retrenchment and turnaround strategies with its staffing shortly after deregulation because employment in occupations was decreased or increased at different rates. Results also indicate that the industry subsequently achieved significantly higher productivity, in particular, labor productivity, and productivity continued to increase over time.

From 1982 to 1989, employment in supporting (i.e., staff) occupations decreased faster than industry average, while employment in production (i.e., line) occupations increased. From 1988 to 2018, employment in supporting occupations and some production occupations decreased faster than average, while transportation and moving materials employment decreased slower than average. Overall, the industry significantly decreased employment and realigned its staffing patterns to increase the relative importance of production and transportation occupations, which resulted in an extraordinarily large increase in labor productivity.

Productivity

The industry experienced increases in capital, multifactor, and labor productivity throughout the 1970 to 2018 period. The rate of increase in the three productivity measures increased greatly in the years directly following deregulation (i.e., 1982 to 1986), then declined until 2009. At that time, due to the 2007 to 2009 recession, the rate of growth in capital and multifactor productivity became negative, but the rate of growth of labor productivity continued to be relatively high. Three years of national economic crises (i.e., 1975, 1982, and 2009) caused slight decreases in capital productivity, and 2009 also caused slight decreases in multifactor and labor productivity. Nevertheless, labor productivity continues to grow.

Conclusions

When faced with increasing competition and higher than necessary costs, firms in the railroad industry began a program of retrenchment and turnaround designed to lower costs and restore lost market share. Staffing changes that were designed to fit the requirements of the turnaround strategy helped the strategy succeed. As a result, productivity and output increased.

We conclude that changes in business environment that introduce more competition into the product market can be addressed through retrenchment and turnaround strategies. Fit between the environment, the business strategy, and employment practices can lead to increases in productivity. Further, although the retrenchment and turnaround theories are formulated at the firm level, they appear to be applicable at the industry level when environmental changes affect an entire industry.

Our study has limitations, the most significant among those limitations being the secondary nature of our data. In particular, use of OES data for longitudinal analysis can sometimes be problematic (U.S. DOL-BLS., 2019d). When creating the crosswalks for this paper, we discovered several anomalies in the OES data sets. Many anomalies were corrected for the purpose of this paper, but some anomalies may have been missed. Due to the anomalies, the total number of employees in the industry differs in this paper from the published OES statistics for various years.

Nevertheless, our industry level perspective does accomplish some things that we could not have accomplished otherwise. Our approach eliminated firm-specific or regional variation which could have affected the degree of retrenchment or the types of changes in staffing practices that were observed. Our study also allowed us to examine the theoretical linkages between strategy and staffing at the industry level. The data seem to suggest that the basic industrial and organizational paradigm of structure/conduct/performance can be extended to firm-level actions in the areas of strategy implementation and staffing.

In spite of its limitations, however, this study adds value for theorists engaged in both business strategy and human resource management research. Strategy researchers will note the pattern of retrenchment and recovery that seem to have characterized this industry's turnaround. HRM researchers will note that human resource practices lie at the heart of strategic effectiveness. This study strengthens the argument that the human resource perspective should be represented throughout the strategic process.

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What happens when there is a new guy at work? Tackling the problem of tacit knowledge through social networks.

Abstract

Tacit knowledge is the key to business continuity and retaining core knowledge during organizational change. Corporations have recognized its importance and implemented knowledge management strategies to ensure valuable knowledge is preserved. While much of the academic research has looked into the nature of tacit knowledge, the role of social networks in maintaining tacit knowledge has been largely unexplored. The following paper seeks to link existing tacit knowledge theory with social network theory through theoretical analysis and literature review. First, social networks are more important when tacit knowledge cannot be codified and when the nature of that knowledge is process-based. Second, while the strength of relationships tends to increase the effectiveness of tacit knowledge transfer, weaker relationships tend to dominate the actual transfer of knowledge. Third, asymmetry in relationships tends to decrease effectiveness of tacit knowledge transfer. The purpose of the paper is to explore when social networks matter more for tacit knowledge communications and what types of social networks are most effective at transmitting tacit knowledge.

Keywords: Tacit knowledge, knowledge, knowledge transfer, social networks, information

Introduction: An Unexplored Intersection

Transmitting tacit knowledge from experienced workers to new workers is widely recognized as difficult and challenging for organizations (Haldin-Herrgard, 2000; Hau, Kim, & Lee, 2016). The formal and informal social networks that constitute an organization play a large role in how effective tacit knowledge is communicated among employees. Tacit knowledge is information and patterns contained in the minds of experienced workers, which is difficult to communicate to newer workers because of its specific and complex nature (Nonaka, 1994; Polanyi, 1966). During the course of a career, employees build up knowledge of process and content in relation to their roles that are not codified anywhere within the firm. It is resident in their heads, and they do not have to communicate it on a regular basis (even though they may use it every day). When it is time to pass on knowledge to new workers, tacit knowledge poses a problem for firms unless an effective communication mechanism is established. The literature has discussed how tacit knowledge is difficult to both communicate to others and directly teach others due to its highly personalized nature (Ambrosini & Bowman, 2001; Li-Wei & Lin, 2013; Nonaka, 1994; Reed & Defillippi, 1990; Simonin, 1999; Swap, Leonard, Shields, & Abrams, 2001; Wipawayangkool & Teng, 2016). While much as been written in academic literature about the problems related to communicating tacit knowledge, more attention is needed surrounding the role of social networks.

Social network theory deals with the structure, strength, and symmetry of relationships within an organization (Brass & Burkhardt, 1993; Brass, Butterfield, & Skaggs, 1998; Mead, 2001). Outside of the “formal” reporting structure, employees have complex social relationships in their daily interactions. Social networks have a number of variables that can effect the relationship between experienced and newer workers. For example, two important variables are symmetry (if one person is more powerful than the other) and strength (the emotional closeness of the relationship. These interactions can have huge impacts on how tacit knowledge is shared between those employees.

This paper attempts to address a gap in the literature by examining the intersection of tacit knowledge transfer and social networks. The paper offers several propositions to investigate the complex interaction of the types of communication (in regards to tacit knowledge) and the types of social networks. Many combinations are possible, but certain arrangements will result in the most effective transmission of tacit knowledge within a social network. The paper explores the inherent problems tacit knowledge creates for organizations and the four communication methods typically utilized to transmit tacit knowledge to new generations of workers. The paper also discusses the theory of social networks to define the variables (structure, strength, and symmetry) that outline different types of relationships. Lastly, the paper discusses the propositions in regards to tacit knowledge and social networks.

Tacit Knowledge

The literature has long recognized knowledge as a source of competitive advantage for organizations (Grant, 1997; 1996b). Knowledge is the understanding through individual learning and perception (Grant, 1996b; Polanyi, 1966). Knowledge can be a significant organizational resource if it comprises characteristics that are valuable, rare, inimitable and non-substitutable characteristics, even more so if it has a tacit dimension (Polanyi, 1966; Seidler-de Alwis & Hartmann, 2008).

There are two distinct types of knowledge: tacit knowledge and explicit knowledge (Grant, 1997; Polanyi, 1966). Michael Polanyi defines tacit knowledge as the understanding that is developed through observations and practice that cannot be clearly codified and communicated. Everyone provides their own distinct meaning, based on his/her collection of tacit knowledge, when articulating knowledge (Polanyi, 1966). Thus, tacit knowledge is inherently build up in a persons' mind and is difficult (though not impossible) to codify. Another view is from Martin Davies, who utilizes a linguistic approach to define tacit knowledge as a "certain kind of causal-explanatory structure which underlies, or is antecedent to, the pieces of knowledge that the speaker has concerning complete sentences" (1989: 542). Davies sees tacit knowledge as a way to explain structure without the need to be explicitly stated.

Tacit knowledge is not written down anywhere—although there is some disagreement, as to whether it could be. Most academics believe that tacit knowledge can never be written down and that tacit knowledge ceases to be tacit if it can written down. Tacit knowledge is the "knowing how" instead of "knowing about" where it can only be shown through application and practice, which is not possible through codification (Grant, 1996b; 1996b; Kogut & Zander, 1992). Moreover, codifying tacit knowledge may redirect the focus to the particulars instead of the entity. As a result, the focus change may cause people to lose sight of the entity and the related tacit knowledge all together (Polanyi, 1966). However, it is worth noting that some authors believe that tacit knowledge can be written down, but is not because of the sheer volume of knowledge (Selamat & Choudrie, 2004). While tacit knowledge ceases to be tacit when it is written down, it remains tacit if it could be written down but remains unwritten. This more accurately reflects the reality of most corporations today, so the more permissive definition of tacit knowledge as knowledge not currently written down is stronger.

However, once knowledge is written down (or otherwise codified), it is generally accepted to be explicit knowledge (Grant, 1996b; Selamat & Choudrie, 2004). Explicit knowledge is knowledge that can be both communicated and shared through language and writings. Moreover, explicit knowledge is knowledge that can be standardized and reproduced easily for other people (Liao, 2005; Polanyi, 1967).

Opportunities and Challenges of Tacit Knowledge

Tacit knowledge presents interesting opportunities and challenges for organizations. Tacit knowledge can provide a real competitive advantage for firms because it is hard to replicate by its very nature (Bermanet, Down, & Hill, 2002; Grant, 1996b; Li-Wei & Lin, 2013; Lubit, 2001; Wipawayangkool & Teng, 2016). Knowledge that is in employees' brains is difficult to replicate in other firms, because it is based on a unique set of experiences (Bhatt, 2001; Grant, 1996b; Haldin-Herrgard, 2000; Reed & Defillippi, 1990). Tacit knowledge around process often comes together to form a strong foundation of culture (Ghoshal & Bartlett, 2000; Hurley, 2002; Lawler, 2004). Examples such as McKinsey & Company, which is known to have a culture of excellence in management consulting, is based on inherent knowledge of the "McKinsey Way" to operate businesses—much of which is not codified, but is built into the "DNA" of McKinsey consultants.

However, tacit knowledge also presents an inherent problem—how to replicate such knowledge to new employees. Gertler (2003) illuminates the properties of tacit knowledge by discussing its three inherit and perpetual issues. The first issue is how tacit knowledge is produced. It is difficult for firms and its managers to understand how tacit knowledge is created and how to make investments that will facilitate its creation. The second issue is how can firms find tacit knowledge from their individual employees and correctly utilize it for the bettering of the firm. The third issue is how can firms reproduce tacit knowledge and share it among internal employees (Gertler, 2003). The aforementioned problems with tacit knowledge come down to the single point that it cannot be easily conveyed, as its owner never had to state the knowledge in a clear and precise way (e.g. subjective insights, intuitions, and hunches). Moreover, the transfer of tacit knowledge is sensitive to both social and situational context, which can be difficult to replicate for educational purposes. Unlike explicit knowledge, tacit knowledge has to be internalized by the individual within a social context in order to be appropriately understood. Thus, the methods of communication of tacit knowledge become of paramount importance for organizations seeking to use tacit knowledge to build competitive advantage.

Communicating Tacit Knowledge

Many studies have analyzed the effectiveness of "systems" (information technology or knowledge management systems) in capturing tacit knowledge (Desouza, 2003; Malhotra, 2002; Nonaka, 1994; Selamat & Choudrie, 2004; Wipawayangkool & Teng, 2016). Many find that "one-size-fits-all" solutions are not effective at capturing and communicating tacit knowledge—that a more nuanced view is necessary in order to better determine how to best transfer tacit knowledge.

Many firms implement learning management systems (like software) to capture and distribute tacit knowledge, however they fall short by coming across as "a one size fits all" solution (Desouza, 2003). Knowledge management systems can be unsuccessful due to their inherent design, which unravels and becomes a constraint in adapting and changing to an environment that is considered dynamic and uncertain. These failures are the results of gaps between within the value the firms create and the value demanded by market conditions. As a result, the task of tacit knowledge capture gets pushed aside in order to resolve the inefficiencies of the firms' knowledge management systems (Malhotra, 2002; Selamat & Choudrie, 2004).

Moreover, organizations are unsure that the benefits of capturing tacit knowledge will sufficiently justify the costs. Selamat and Choudrie (2004) argue how individuals can externalize and document their tacit knowledge in order for firms to use that knowledge as a basis to maintain information systems up to date with pertinent best practices. However, the costs for firms to document individuals' knowledge can be too costly and time consuming for firms to actually pursue. Additionally, the transfer between individuals is often slow and uncertain (Grant, 1996b; Kogut & Zander, 1992). Organizations, particularly those in fast paced and dynamic environments, may not have the time or budget to pursue such programs. Thus, the importance of informal relationships and the importance of social networks in regards to tacit knowledge becomes amplified. By understanding these issues, firms will be in a better position to justify the need of capturing tacit knowledge and determining the method to capture and distribute that knowledge throughout the firm.

Communicating Tacit Knowledge

The intersection of tacit knowledge and social networks is how knowledge is communicated between individuals within a network. Communication between employees of a firm enables knowledge that is in one employee's head to be transmitted to another. This is important when a new employee joins the firm. Moreover, the effectiveness of such communication is essential to an organization's success when older employees leave the firm, as their tacit knowledge will also leave unless communicated. Therefore, the question of what variables lead to different communication approaches for tacit knowledge arises. In order to understand the link between tacit knowledge and social networks, it becomes important to look at the attributes that indicate the communication methods would be most effective in specific types of social networks.

Predictive Attributes

The attributes that help match communication method with social network are: the nature of the tacit knowledge (content vs. process) and the codification of knowledge (can be codified or cannot be codified). The nature of tacit knowledge involves whether the knowledge is related to job content (e.g., technical details of a product, information about customer accounts) or the process of working within the particular firm (e.g., how to get a sales discount approved for a customer, the realities of annual budgeting). Academic literature in knowledge management has discussed how the focus on the process is commonly seen as the "how" while the focus on the content is referred to as the "what" (Byosiere, & Luethge, 2008; Davenport & Prusak, 1998; Nahapiet & Ghoshal, 1998).

The codification of knowledge is related to whether the information could ever be written down (e.g., creating a process chart for annual budgeting) or could only be communicated orally or through observation (e.g., what informal social interactions work best with certain clients). As a result, social networks will be more or less effective in transmitting tacit knowledge depending on which method of communications is appropriate in a given situation.

These two attributes form a matrix of how tacit knowledge can be communicated among employees in an organization. Literature has demonstrated that different common forms of communication in an organization (mentoring, training, organizational learning, and manuals), fit better to different points in the matrix.

Mentoring can be a formal or informal communication method, where content-based tacit knowledge is shared in a one-on-one setting. Mentoring is done around a specific role or position in a firm (e.g., financial analyst), not just between any employees. Thus, the knowledge transmitted tends to be content-based and specific to the knowledge built up by an employee in a particular role over many years. Furthermore, knowledge communicated by mentoring usually cannot be codified, because if it could, mentoring would be an inefficient way of communicating it relative to alternatives. (Higgins & Kram, 2001).

While mentoring is one-on-one, while training is one-on-many. Training involving tacit knowledge is defined as taking content-based knowledge that can be codified and communicate on a one-to-many basis. The main difference between mentoring and training is that the knowledge can be structured and codified. For example, knowledge of how to select what analysis might be appropriate for a given situation has a few guidelines, but no hard-and-fast rules; such tacit knowledge is more appropriate for mentoring. By contrast, showing employees how to do different types of analysis is knowledge that can be communicated on a repetitive basis in a structured manner (that could be written down if necessary)—tacit knowledge amenable to training (Liau, 2005).

Organizational learning is firm-specific knowledge of process that is contained in the "DNA" of an organization. Such knowledge is usually not apparent to outsiders, as how things are done at an organization tends to be more tacit than any other type of knowledge (e.g., how to get a purchase order approved, the internal politics of the budgeting process). Unlike mentorship, organizational learning almost always takes place in informal settings and outside the official sanction of the firm (Liu, 2005). Because such knowledge can only be built through experience at the firm, communication also tends to be “action-oriented” rather than merely talking. Newer employees learn by walking through the process with experienced workers.

Manuals are the ultimate in codifying tacit knowledge—indeed, once the tacit knowledge is put into manual form it is no longer tacit (Bryant, 2005; Grant, 1996; Kogut & Zander, 1992; Nahapiet & Ghoshal, 1998). Manuals enable the capture of tacit knowledge around processes and content which can be communicated without the presence of a “teacher”. Tacit knowledge amenable to this codification is either process-related (e.g., writing down the process map of the budgeting process) or basic, entry-level content.

Taken together, this paper offers a matrix of common communication methods of tacit knowledge.

Table 1. Methods of Communicating Tacit Knowledge

<table>
<tr><th colspan="2" rowspan="2"></th><th colspan="2">Can it be codified?</th></tr>
<tr><th>No</th><th>Yes</th></tr>
<tr><td rowspan="2">Nature of knowledge</td><td>Content
(role-specific knowledge)</td><td>Mentoring</td><td>Training and Education
(e.g. real-time or classroom)</td></tr>
<tr><td>Process
(how things are done)</td><td>Organizational learning
(e.g. informal passing on of insights)</td><td>Manuals</td></tr>
</table>

Social Networks

Social networks can be defined as "a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behavior of the persons involved" (Mitchell, 1969: 2). Essentially, the focus is centered on the relationships between the actors and the effects those relationships have. In communicating tacit knowledge, the nature of the relationship will have a significant impact in how effectively the tacit knowledge is shared. The academic literature has extensively explored the relationships in social networks including the dimensions of strength and symmetry (Brass & Burkhardt, 1993; Brass, Butterfield, & Skaggs, 1998; Mead, 2001).

According to Granovetter, the strength of a tie is a "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (Granovetter, 1973: 1361; Granovetter, 1983). Strong relationships are those close circles of friends and work associates with a certain minimum of interaction and trust. Weak relationships are casual acquaintances with no need for deep trust. Two key questions arise around tacit knowledge and relationship strength: Are strong relationships necessarily better at transmitting tacit knowledge? Is tacit knowledge typically transmitted through stronger or weaker relationships? Ties that are weak often involve common, everyday contact that might be conducive to communicating certain types of tacit knowledge.

Symmetry refers to degree to which trust is balanced in a relationship. Asymmetric relationships where the “trust and emotional involvement of one actor are not reciprocated by the other” (Brass & Burkhardt, 1993; Brass, et al, 1998: 19; Carley & Krackhandt, 1990). While symmetric relationships tend to result in stronger relationships in the long term, asymmetric relationships often result in skewed incentives for the parties involved in the relationship. In tacit knowledge transfer, an asymmetric relationship may result in too much or too little knowledge being transferred. For example, the existing employee may not want to transmit knowledge if they perceive that the newer employee could supplant them in their job. Asymmetrical relationships could reduce the effectiveness of tacit knowledge communication.

Tacit Knowledge and Social Networks

It becomes important to understand whether dimensions of social networks interact with the types of communication methods in regards to tacit knowledge. Especially considering that three out of the four communication methods (mentoring, training, and organizational learning) involve social interaction between an experienced employee and a newer employee. Strength and symmetry of relationships are likely to have major effects on the effectiveness of these communication methods. Thus, interactive effects of multiple permutations of communication methods and social network dimensions are further explored to understand how tacit knowledge is best shared. To structure these permutations, two fundamental inquiries are considered: which communication methods do social networks matter more and how do relationship strength and symmetry affect the effectiveness of the various communication methods?

When considering the first of these two questions (in which communications methods do social networks matter more), the two dimensions that formulate the tacit knowledge communication matrix need greater examination. The nature of the knowledge (process vs. content) and whether the knowledge could be codified are the logical two axes on which to consider where social networks matter.

The first dimension in the communication matrix is whether knowledge can be codified. Note that the knowledge is not actually codified (in which case it would no longer be tacit), but rather has to do with potential to be codified. Social networks are likely to matter more when knowledge cannot be codified, as the only way they can be communicated is orally (Droege & Hoobler, 2003). Social interaction is inherently necessary when knowledge cannot be codified.

Social networks will thus play a greater role in mentoring or organizational learning communication, and a lesser role in training or manuals. The effectiveness of mentoring will be heavily influenced by the strength of the relationship, where a trusting relationship could significantly increase the “teacher’s” willingness to pass information onto the “student” (Liau, 2005). Organizational learning, with its more informal nature, is likely even more dependent on a strong, trusting relationship to relay information on idiosyncratic people and processes within the firm (Liu, 2005). Similarly, both mentoring and organizational learning could be made less effective by asymmetrical relationships, where one person has an incentive to not share information.

By contrast, training and manuals will likely be less affected by social networks. Manuals are inherently not effected by social networks, as writing and reading a manual are usually each solitary pursuits. Training and education is a social process, but is often one-on-many rather than one-on-one. Social networks may play a role in training, but in very subtle and indirect ways. For example, a teacher may favor students with whom they have strong relationships, or the complex structure of relationships may lead to skewed incentives for teacher or student. However, the fact that training is inherently structured and public (relative to mentoring or organizational learning) creates peer pressure and monitoring effects that reduce the impact of social network on the efficacy of tacit knowledge communication. Thus, the paper proposes:

Proposition 1: Social networks will positively influence the effectiveness of tacit knowledge transfer when that knowledge cannot be codified.

The second dimension is whether the knowledge is process or content based. Focusing on knowledge that cannot be codified (and thus Proposition 1 is more likely to be influenced by social networks), the question is whether mentoring (content-based) or organizational learning (process-based) will be more influenced by social networks. Both are one-on-one social interactions, but mentoring can be more formalized and is typically more structured (Higgins and Kram, 2001). Organizational learning around firm-specific process tends to be more informal because the tacit knowledge tends to be more sensitive—knowledge about specific people or the "unofficial" way to do things (Bouty, 2000; Droege & Hoobler, 2003). The fact that organizational learning tends to be more informal increases the importance of social networks.

Informality of knowledge transfer increases the role of social networks because factors other than the tacit knowledge increase in significance. More formal mentoring typically involves content-based knowledge that is compelling outside the social context of the organization (for example the intricacies of programming code or how to make a compelling automotive parts sales call) (Higgins & Kram, 2001). Such tacit knowledge is what it is outside the social context of the organization. On the other hand, informal organizational learning is inherently about processes that are specific to the context of the firm (for example how to build a coalition to get a proposal approved by the CEO). Because this informal knowledge transfer is more context-specific, social network factors such as the strength of the relationship or asymmetry in the relationship will have a greater impact on the transfer of knowledge (Bouty, 2000; Droege & Hoobler, 2003).

However, the opposite appears to occur when considering knowledge that can be codified. Social networks inherently have a greater role in training/education than in manuals because of the solitary nature of writing and reading manuals. Thus, if limited to non-codifiable knowledge, social networks influence process tacit knowledge transfer more than content tacit knowledge. Therefore, this paper proposes that social networks will influence the success of tacit knowledge transfer more when that knowledge is related to process, rather than content:

Proposition 2: Social networks will positively influence the effectiveness of process related tacit knowledge transfer.

The second area of hypotheses is around the two social network dimensions (relationship strength and symmetry) that influence tacit knowledge transfer. Strong relationships are expected to be more effective than weak relationships. Close emotional ties and trust-based relationships are more amenable to sharing tacit knowledge openly and fluidly. For example, new employees will be more willing to ask questions and tenured employees more willing to correct errors to ensure the knowledge is transferred properly. In weaker relationships, knowledge that is difficult to communicate, complex, or politically sensitive might not be shared to the student because of a lack of trust.

However, tacit knowledge is more likely to be spread through weak relationships (Droege & Hoobler, 2003; Granovetter, 1973). The majority of relationships are weak, as all employees have greater informal contacts they work with during the day than close, trusting relationships. Tacit knowledge takes many forms and is often transferred informally between dissimilar individuals with weak relationships to each other (e.g. engineer from one firm talking to a computer programmer in another firm). The sheer number of weak relationships and everyday interactions involving communication of tacit knowledge makes it the more common transmission. Granovetter (1973) argues that weak ties can play an important role in the flow of information through a study of job mobility. In his labor market study, he showed how individuals were able to locate prospective job opportunities more often through ties that were weak than those that were strong (Granovetter, 1973). However, strong relationships (usually taking the form of strong mentoring relationships) tend to be more effective in ensuring that the maximum amount of knowledge is actually transferred. Therefore, the paper proposes that tacit knowledge is spread significantly more through weak relationships than strong relationships, even if strong relationships are generally more effective:

Proposition 3: Tacit knowledge will be positively shared through weak relationships.

Asymmetry in relationships will tend to create barriers to effective communication of tacit knowledge because of skewed incentives of the parties involved. If one party trusts the other, but that trust is not reciprocated, there will be incentives to aggressively take knowledge or hold it back—either way reducing the effectiveness of knowledge transfer. For example, tenured employees who believe that the new employee is trying to take advantage of their tacit knowledge will likely not communicate everything they know. Moreover, new employees who aggressively pressure the tenured employees for knowledge are likely to create awkwardness that disrupts the normal flow of information. Therefore, this paper proposes that symmetrical relationships tend to be more effective at transmitting tacit knowledge than asymmetrical relationships:

Proposition 4: Symmetrical relationships will positively transmit tacit knowledge.

Suggestions for Further Research

This paper identified the attributes around tacit knowledge (nature of knowledge and whether it can be codified) that were especially critical, but there other attributes that could be considered. Complexity of knowledge and specificity of knowledge could also affect the effectiveness of varying communication methods. At the same time, social networks have many characteristics beyond strength and symmetry, which could affect tacit knowledge. For example, the complexity of relationship structure (e.g., peer pressure, monitoring, and interdependent relationships) likely has an impact on how effective tacit knowledge transfer is.

Moreover, the communication methods of tacit knowledge are likely to have interactive effects with other factors besides social networks. Specifically, small and medium sized firms are likely to communicate tacit knowledge in a different manner than in resource-rich large firms. In addition, different industries could have different emphasis in communication methods that should be further explored.

Conclusion

Given its inherent complexity, social networks and tacit knowledge are a largely unexplored arena that deserves more attention. The four propositions are explored to continue and expand the conversation around the complications of sharing tacit knowledge. The purpose of this paper is to not only present these propositions in regards to the theory and academic literature, but also eventually test them for future research. The subsequent step is to test these propositions as part of an overall research agenda on tacit knowledge. By transforming the propositions suggested in this paper into testable hypotheses, the hope is to initiate a discussion that will contribute to the existing base of knowledge about tacit knowledge and social networks. Specifically, the propositions presented here may have practical implications with how firms operate but also how they manage tacit knowledge with existing and new employees. It suggests that an ongoing discussion could benefit tacit knowledge sharing, as well as the overall success of the organization.

While intangible ideas like social networks and tacit knowledge are difficult to quantify, this paper attempts to shed light on when social networks might matter more for tacit knowledge communications and what types of social networks are most effective at transmitting tacit knowledge.

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Value Creation: A Study of Firm Growth & Expansion

Abstract

In this study, we analyze the value creation of a company over a significant part of its history in order to gain insights into and build theory about how firms generate value as they expand and grow in multiple fields through exploration and exploitation of capabilities.

Keywords: Exploration, diversification, value creation

Introduction

In this study, we analyze the value creation of a leading Fortune 500 company over a significant part of its history in order to gain insights into and build theory about how firms generate value as they expand and grow in multiple fields.

In recent times, many industries have been subject to rapid structural change leading to erosion of firm competitive advantage (D'Aveni, 1994; Wiggins and Ruefli, 2002). According to the resource based view of the firm, competitive advantage lies in the inimitability and non-substitutability of firm resources (Barney, 1991). Sustenance of competitive advantage in dynamic environments depends on building dynamic capabilities (Teece, Pisano and Shuen, 1997; Winter, 2003). Firms in dynamic industries often look outside their boundaries in a quest to gain new knowledge and build new resources to maintain competitive advantage. In this paper, we focus on the technological resources of the firm, and study the valuation effects of technological search and new knowledge infusion of firms as firms grow and expand.

Following the behavioral theory of the firm, organizational search can be characterized as exploration or exploitation (Levinthal and March, 1993). While exploitation with its emphasis on things already known enables the firm to maximize returns from investments made in the past, exploration, with its emphasis on developing the new and unknown, is the firm's probe into the future to generate new revenue streams. Exploration, then, has an important role to play in dynamic environments. In this research we conceptualize both alliances and acquisitions as mechanisms for technological search or in other words, as a way for firms to either exploit, or explore technologies and gain new knowledge.

We hope to make contributions to the strategy literature in many ways. While the role of inter-organizational relationships (alliances and acquisitions) in allowing firms to access, develop or acquire new skills and capabilities is well documented in the literature (See, e.g. Baum, Calabrese, and Silverman, 2000; Dussauge, Garrette, and Mitchell, 2000), relatively little is known about the performance impact of the *nature of the knowledge* (e.g. the technological distance being spanned, or the degree of novelty of the technology) involved in the transaction, or in particular, how the exploratory or exploitative nature of the knowledge is valued by shareholders. Further, by looking at both alliances and acquisitions as a means for external search, we hope to gain a richer picture of the firm's technology strategy. Using an inductive approach, we conduct a fine grained analysis of the firm's external search activities and build theory about "related" search (or diversification). The case study methodology is a powerful methodology for exploring an empirical phenomenon and building theory based on the evidence collected (Eisenhardt 1989).

To analyze firm valuation or performance, we introduce the use of Long Term Cumulative Abnormal Returns or LCAR and propose that this is a valuable measure for long term firm performance, particularly for strategy research over long periods of time.

<u>Research Setting and Corporate Overview</u>

Our case company (we'll call it Medical Inc.) is a leading firm in the medical devices industry with revenues of $29 billion and market capitalization of $113.5 billion in December 2018. While its beginnings were as a cardiovascular device company; it is now active in many other device segments such as neurology and orthopedics; this is a high tech industry subject to turbulence. Corporate development activities to tap into new knowledge have been an important part of its strategy.

<u>Data Collection</u>

Data on the firm's strategy was collected primarily from the company's annual reports, key word searches of main news sources in Factiva, the Lexis Nexis database, Business and Industry database, Standard and Poor Industry Reports, SDC, and the company's website. Extremely detailed information was thus gathered on each transaction. Data for the value history comes from the CRSP database.

Analysis

Our analysis of Medical Inc.'s strategy reveals that it is impressive in its singular focus on its key market, i.e. addressing disease conditions through devices; and on being a technology driven company. The company moves to different parts of the body in terms of disease conditions it addresses over the years from the heart to the brain, to the spine and so on, but it remains a medical devices company. Any diversification that the company thus engages in is related diversification. It is within this context of Medical Inc.'s overall strategy over its history that this paper examines its technological learning through exploration and exploitation. We delve deep into this related diversification and see how different strategies of knowledge integration and application within related diversification can impact value creation.

Medical Inc. has engaged in external search right from its beginnings, starting in 1966 (Fig.A1 in Appendix). The firm has expanded its presence in many segments over the years, many through exploration of new knowledge in alliances and acquisitions (Fig.A2 in Appendix).

Phases: We divide the history of Medical Inc. into four phases identified based on points of transition in strategy of the firm. These phases also correspond roughly to CEO tenures.

Phase I: 1985 to 1989: CEO1 took over as CEO in 1985, retired in 1991

Phase II: 1990 to 1995: CEO2 took over as CEO in 1991

Phase III: 1996 to 2000: CEO2 continues [1]

Phase IV: 2001 to 2006: CEO3 took over as CEO in 2001

The number of alliances and acquisitions in each phase has steadily increased (Fig.A3 in Appendix); and the presence of the company in various segments has also changed over the phases (Fig.A4 in Appendix).

On the basis of our analysis of the alliances and acquisitions of the firm we developed an analytical framework as a tool in understanding the firm's technology strategy and impact on value creation. We identified two critical knowledge dimensions. The first is the technology

[1] Phase II and III could be combined into a single phase under CEO2 but this his tenure is split into two phases because of a discernable change in strategy, and also to make the phases comparable in terms of their lengths

dimension of its search i.e. whether the technology being learnt is near or distant from the firm's current technological portfolio, in other words is the firm exploring or exploiting in this domain The second dimension is the device segment in which the technology falls. A device segment is defined by the disease that the devices address. So, for example, Medical Inc.'s interventional vascular segment addresses plaque build-up in the vessels, while the rhythm management segment addresses heart rhythm disorders. From a strategy point of view, each device segment denotes expertise in a disease or condition of a specific body part. Thus, existing segment is a disease area in which the firm already has relevant technological expertise while new segment denotes that the firm is gaining some new expertise Thus, we classify transactions by considering that:

1. The technology could be near or far (i.e. exploitation or exploration, respectively)
2. The device segment could be an existing, or a new one

This leads to four possible classifications of each transaction, as shown in Figure 1 below.

Figure 1: Typology of External Search

Business Segment

Technology	Existing	New
Near	"Strengthening"	"Applications"
Far	"Expansion"	"Diversifying"

The four categories are explained below:

1. Strengthening: By exploiting similar/close technologies in device areas in which the firm is already present, it is strengthening its position in that technology and device segment
2. Expansion: By exploring new technologies in device segments the firm is already present in, it is expanding its product line, or offerings in that segment i.e. improving its offerings in that segment

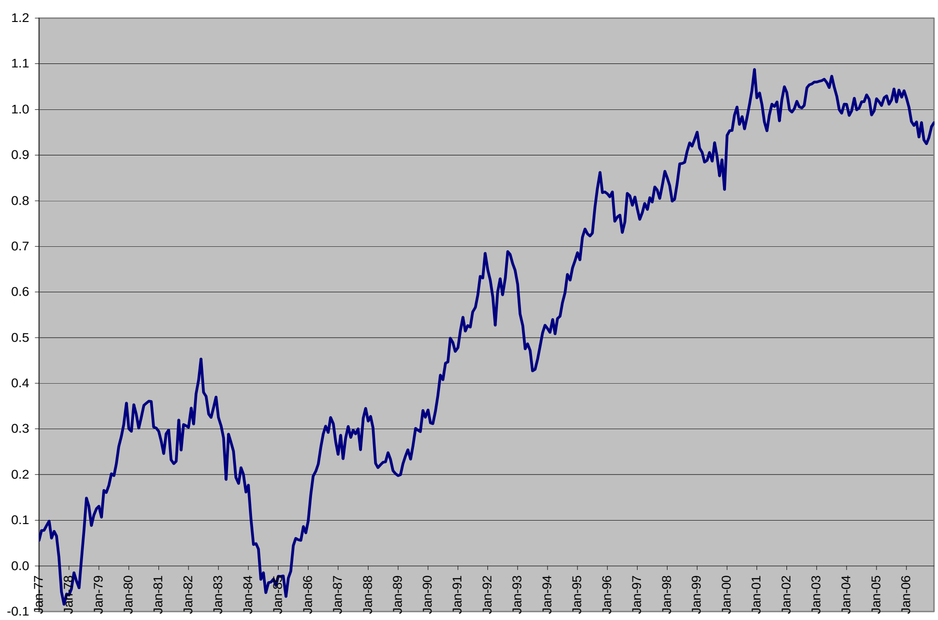
3. Diversifying: By exploring new technologies in device segments the firm is not present in, it is engaging in diversification
4. Applications: By exploiting technology in new segments, the firm is extending the applications of existing or very close technologies

Thus, the upper half denotes technological exploitation, while the lower half denotes technological exploration.

Valuation: This study develops the Long Term Cumulative Abnormal Returns (LCAR) of the stock to generate the value history of the firm. LCAR is a monthly series of abnormal returns to the stock generated on the basis of rolling betas. The monthly series can be summarized and analyzed in various ways- it provides in general a longer- term view of the abnormal returns generated by the stock, not based on any particular events. It captures the returns to the shareholders beyond the expected normal return of the stock based on the stock's particular beta.

Figure-2 presents the LCAR series for Medical Inc. over its history as a public firm i.e. from 1977 to 2006.

Figure 2: Medical Inc. Valuation (LCAR) from 1977-2006



Medical Inc. Search Strategy

The abnormal returns of Medical Inc.'s stock over these twenty-two years and individually in the four phases are summarized below:

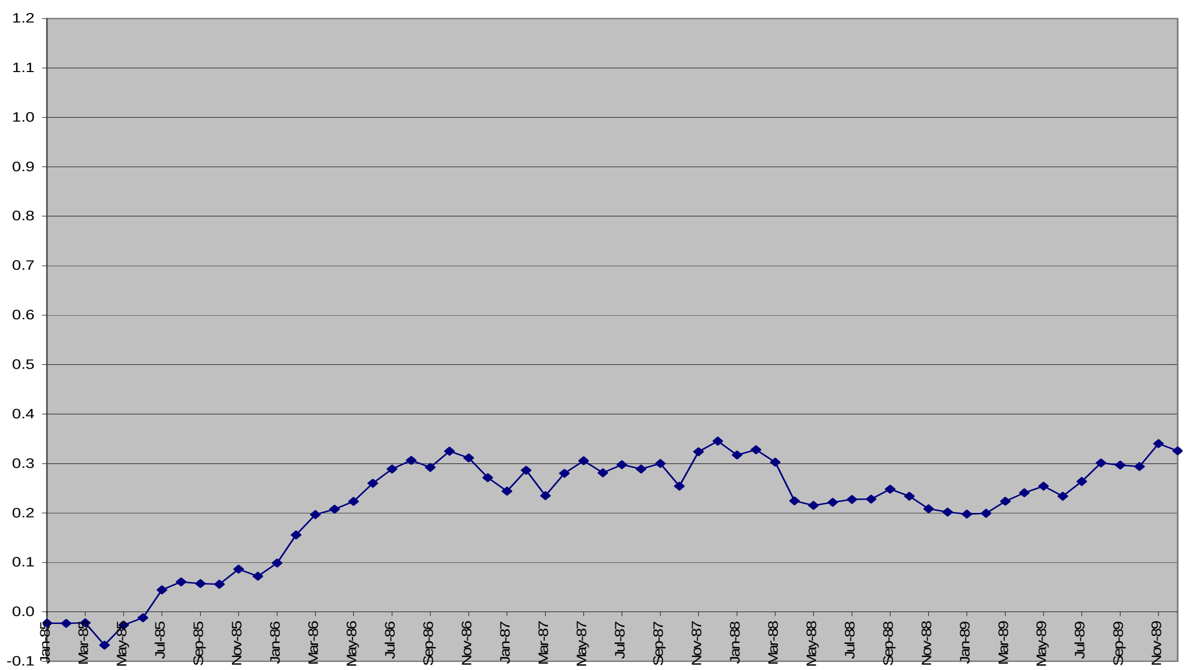
	Years	CAGR (annual)
Overall	85-2000	17.7%
Phase I	1985-89	18.5%
Phase II	1990-95	20.9%
Phase III	1996-00	13.2%
Phase IV	2001-06	-4.4%

We now present a brief analysis of the search the firm undertook in each phase.

PHASE I: 1985 to 1989

During this phase, the CAGR in the abnormal returns was 18.5%. Overall company sales doubled from 1981 to 1989.

Figure 5: Phase I Valuation (LCAR; 1985-89)



Till 1985, for thirty-five years after its founding, Medical Inc. was mainly a pacing company, and almost all of its revenues came from this segment in 1985. CEO-1 was named president and CEO in 1985. Diversification was a corporate goal.

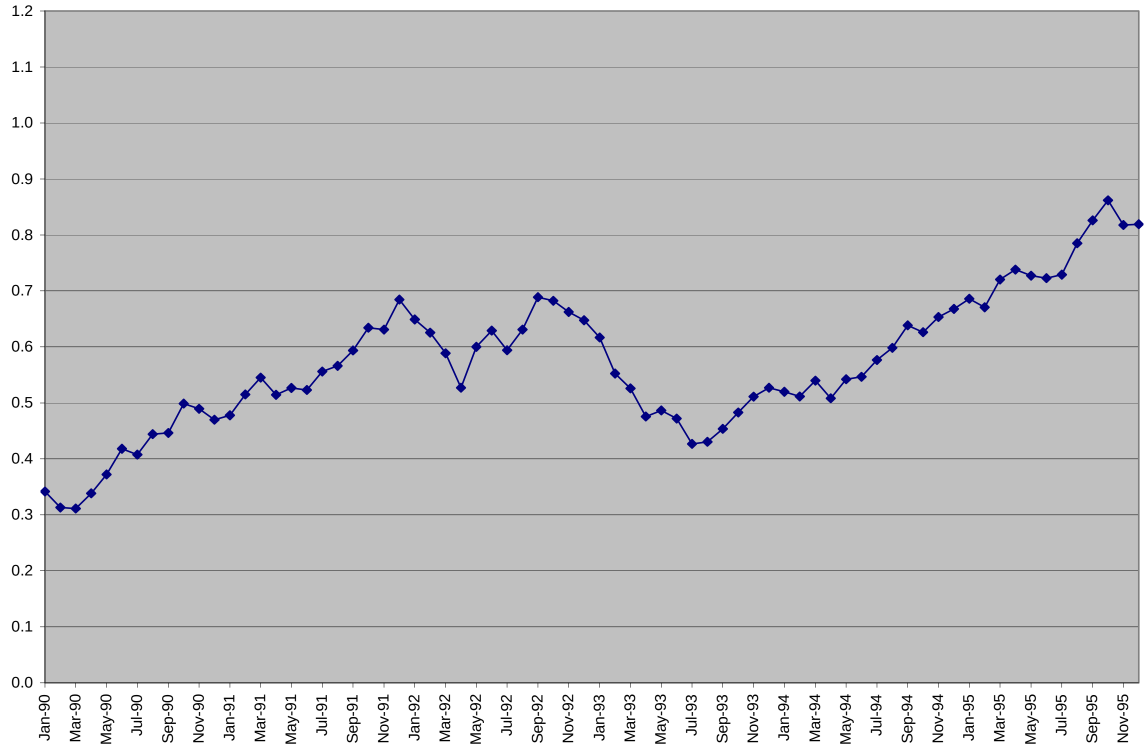
Acquisitions explored new technology to enter two new segments within the cardiovascular area: Cardiopulmonary and Interventional Vascular. Other acquisitions (four) explored new technology in its existing segments.

Thus, Medical Inc. explored new technologies through acquisitions to enter new device segments – “diversifying” search and also to expand its existing segments- “expanding” search. By the end of the decade, it had moved from its position as a pacemaker company to a major medical devices corporation.

PHASE II: 1990-1995

The stock of the company returned a CAGR of 38.4% during this phase (1990-95), which meant an investment of $100 in 1990 would be worth $700 in 1995. The abnormal returns of the company were a positive 21%, compounded annually. This was a period of very high performance; the company’s net income grew at 26% CAGR.

Figure 6: Phase II Valuation (LCAR; 1990-95)



Firm Strategy

In 1990 Medical Inc. was operating in six device segments under the cardiovascular and neurological areas. The previous COO under CEO-1 became CEO in May 1991.

External Search

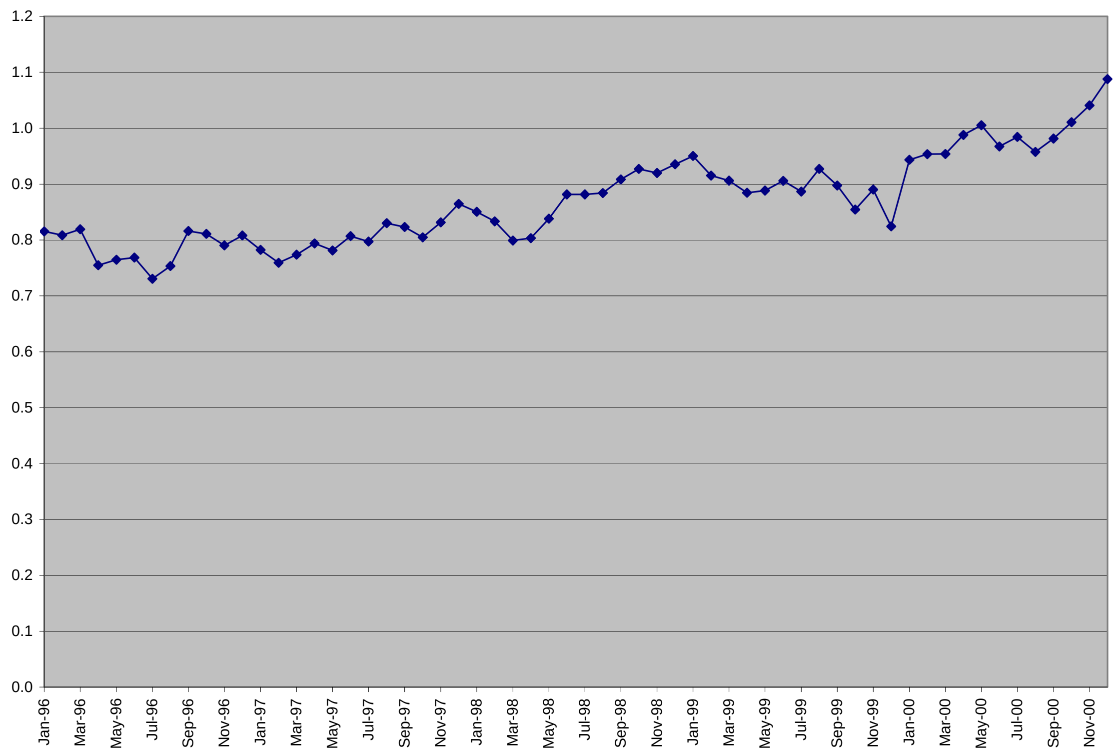
1. The technological search of the firm through acquisitions is focused on exploration in its existing high-growth segments, the firm is adding or expanding product and technology lines in its existing device segments- thus ‘Expanding”, in terms of our framework
2. The focus of its technological search through alliances is on re-combinations of existing technology with partners’ technologies in an existing device segment
3. The firm focused entirely on its existing device segments; there is no activity in any new device segment

PHASE III: 1996-2000

The stock of the company returned a CAGR of 33.4% during this phase (1996-2000), which meant an investment of $100 in 1996 would be worth $ 438 in 2000.

The abnormal returns of the company were a positive 12%, compounded annually.

Figure 7: Phase III Valuation (LCAR; 1996-2000)



Firm Strategy

The company added acquisitions of "related businesses and technologies" as another prong of its corporate strategy in 1996, "with the intention of augmenting our technology and establishing new growth platforms."

The company experienced a 22% CAGR in net sales over this time period, and net income grew at 18%, another phase of high performance.

External Search

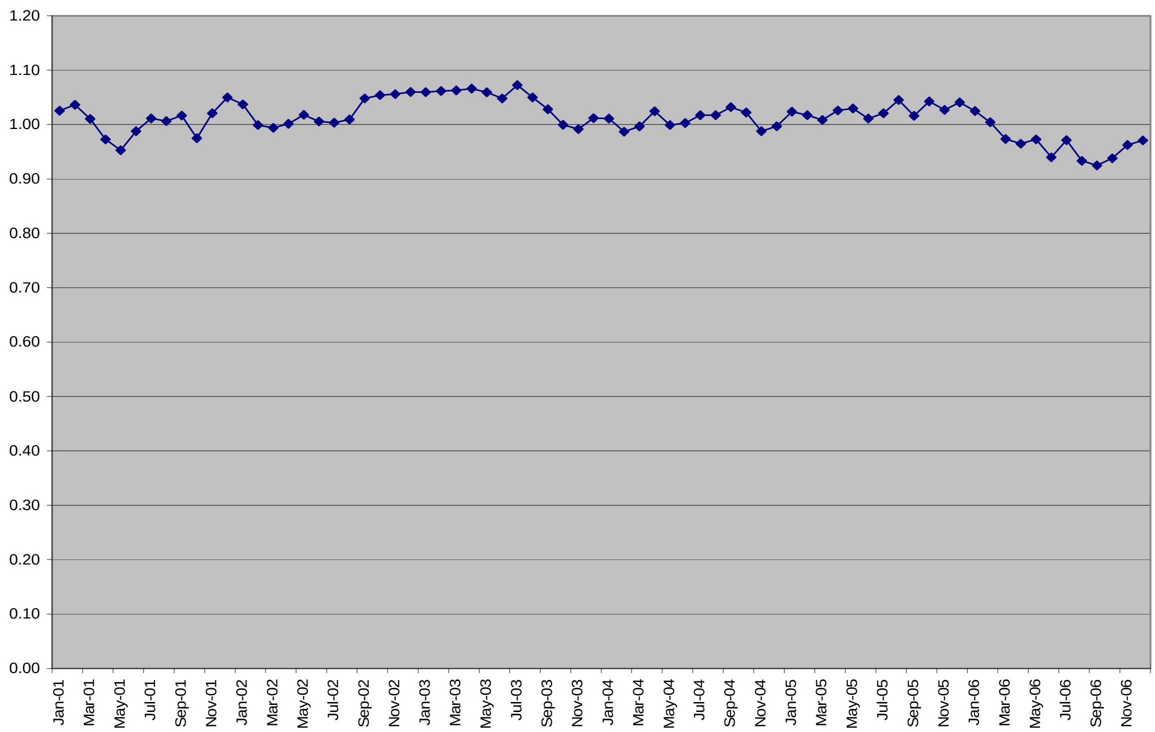
1. The search strategy of the firm is focused on exploration, both through acquisitions (seven of a total of twelve) and through alliances (six exploratory and three recombinatory of a total of nine)
2. Overall, the firm makes a concerted effort to enter a new area with three exploratory acquisitions, and four exploratory alliances that complement the acquisitions.

3. The firm makes another concerted effort to gain a foothold in one of its existing businesses through three exploitative acquisitions, and two exploratory ones. The exploratory acquisitions infuse some of the latest technology to this area
4. Thus the search strategy of the firm is dominated by "diversifying" type search and "strengthening" type search

PHASE IV: 2001-2006

The stock of the company returned a CAGR of -0.15% during this phase (2001-06), which meant an investment of $100 in 2001 would be worth $99 in 2006. The abnormal returns of the company experienced a negative 4.4% CAGR.

Figure 8: Phase IV Valuation (LCAR)



A new CEO (who was COO prior) took over reins in 2001and unveiled a new vision for the 21st century that included new growth platforms.

External Search

1. The focus of the firm's acquisitions in this phase is exploration and exploitation in newer device segments

   a. The firm enters four new areas in this phase; two of these are not related to its existing technologies or device segments
   b. The acquisitions to enter new areas are more scattered and spread out thinly on many device segments unlike the concerted effort in the last phase
2. The firm also explores in existing segments through acquisitions. However, this search is mostly incremental and does not signify major additions to its offerings in the segment.
3. The firm's alliances also engage in a similar "expansion" type search
4. There are two alliances in the information technology area; one of which improves the existing segment offering. The second one, however, seems to be a distraction for the company as it signifies its entry into the IT/semiconductors area which is totally unrelated to any of the firm's existing businesses.
5. Thus, it appears that the firm is exploring technologies in many new segments in a short period of time. Whereas in phase 3, it made a concerted effort to enter new areas, in this phase it seems to be spreading effort thinly over many new areas

Overall Conclusion

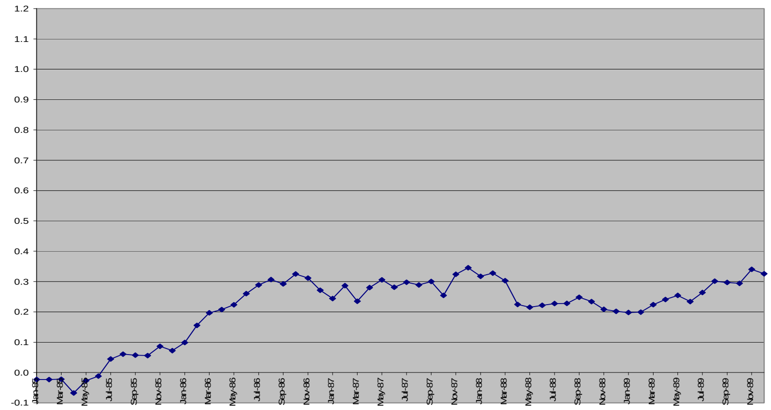
Medical Inc.'s search strategy changed over the phases in terms of the type of search that dominated. The following strategy emerges from the analysis of the company's external search through alliances and acquisitions:

I. In Phase I & II: The firm focuses on building its existing device segments. it engages in exploration in its existing segments, thus "expanding" these areas

II. In Phase III: The firm seems to focus on building its existing segments ("expansion") and also makes significant effort through acquisitions and alliances to enter new segments ("diversifying")

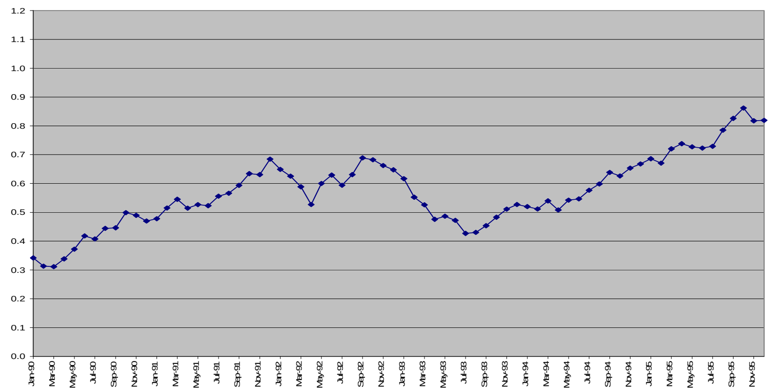
III. In Phase IV: The firm enters many new device areas. However, there appears to be a lack of focus and concerted efforts as in Phase II (in diversifying efforts); and exploration in existing and some new segments is incremental (i.e. small improvements in technology were made)

Below we present a quick summary of the valuation & the search strategy of the firm in all the four phases.



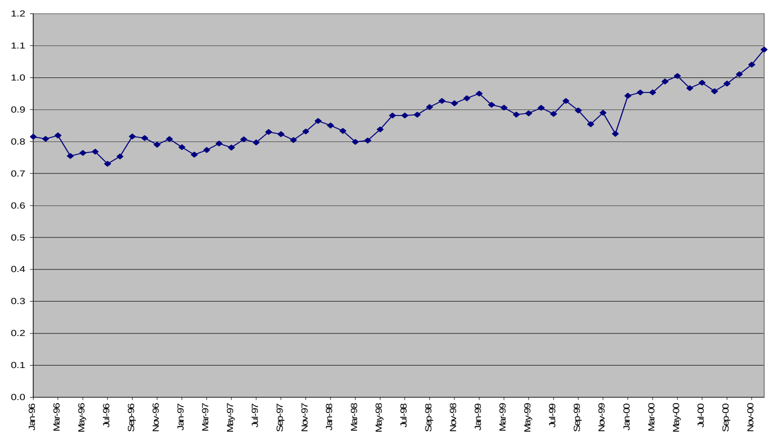
Phase I Valuation: 1985-89

Engaged primarily in “Expansion”: explored new technologies to expand its existing segments & some “Diversifying” search to enter two new segments



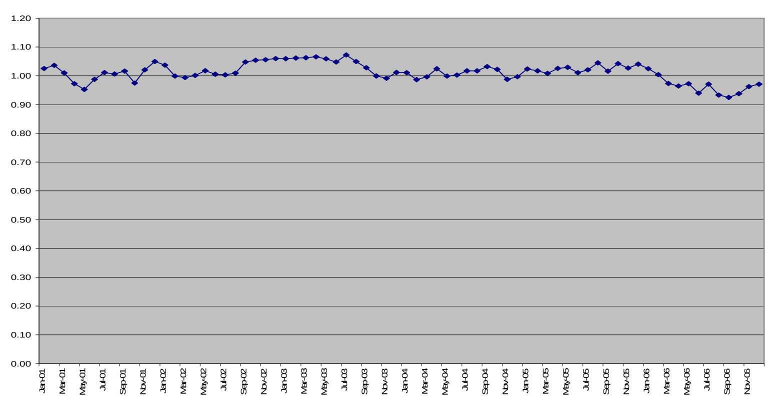
Phase II Valuation: 1990-95

Dominated by “Expansion”: exploration of new technologies to the existing segments & developing recombinations of a platform technology with partners’ new technologies in an existing segment



Phase III Valuation: 1996-00

Dominated by “Diversifying” type search through a concerted effort in a new segment (spinal-neurosurgery); also engages in “Strengthening” type search through efforts to catch up an existing segment.



Phase IV Valuation: 2001-06

The firm explores technologies in many new segments in a short period of time. This strategy to enter new areas seems to lack the focus and concerted efforts of the previous phase. The search in existing areas, especially through its acquisitions represents incremental improvements to existing technologies and recent ones, unlike the significant expansion in the earlier phases

Conclusion:

We analyzed the strategy of a firm to gain new knowledge from outside and linked it to value creation. Our analysis suggests that the initial phases of high growth in abnormal returns correspond to "expansion" type search strategy, in which the firm is primarily exploring and integrating knowledge of technologies in its existing device segments. The middle phase of positive, but slower growth in abnormal returns seems to correspond to a phase of "expansion" and "diversifying" type search, with the diversifying effort being concentrated in a few knowledge areas. The last phase of negative abnormal returns seems to be associated with a "diversifying" strategy lacking the significant concerted efforts of the previous phase, and an "expansion" type search that adds to existing knowledge and segments incrementally.

This study provides a fine grained analysis of the exploratory and exploitative learning efforts of firms while engaging in related diversification and identifies two important dimensions that denote knowledge of the firms. We discussed an analytical framework that emerged from our analysis to deeply understand a firm's knowledge search within the overall bounds of "related" diversification. We demonstrate the use of the long term stock market valuation i.e. LCAR for the study of firm strategy, and sheds light on how variations in Medical Inc.'s external search strategy were linked to variations its performance. We believe our framework to analyze related diversification provides a much finer look at the strategy choice of firms, and this study provides us with hypotheses about nature of search and firm performance that we test for and find support for in a large sample empirical study as well.

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APPENDIX

Figure A1: Medical Inc's External Search (Cumulative Number of Alliances, Acquisitions and Total)

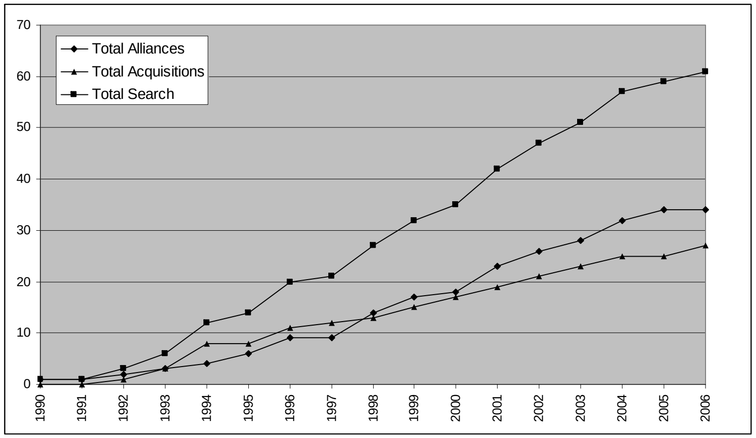


Figure A2: Medical Inc's External Search by Device Segments (Cumulative Number – Cardiovascular & Non-Cardiovascular)

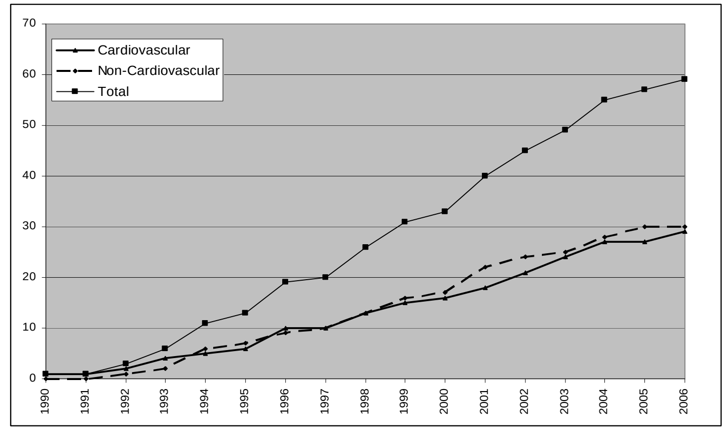
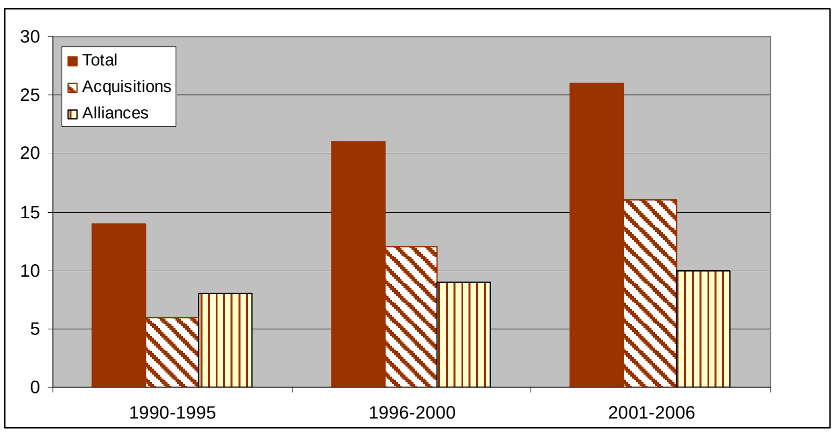


Figure A3: Medical Inc's external search by Phase

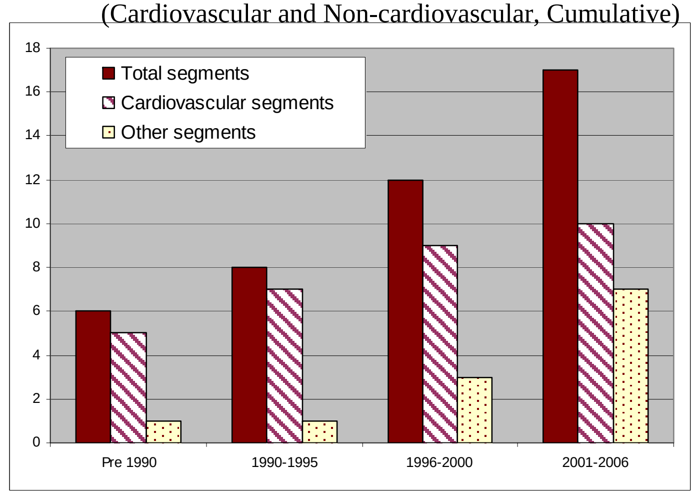


Phase II

Phase III

Phase IV

Figure A4: Medical Inc's presence in device segments by phase (Cardiovascular and Non-cardiovascular, Cumulative)



Phase II

Phase III

Phase IV

Supranode implications for social media network structures and outcomes

Abstract

Social media network use is expanding rapidly, increasing the spread and scale of information diffusion. Researchers have highlighted important differences between non-social media enabled and social media enabled networks and have noted novel areas of inquiry for researchers to investigate. Leveraging the detailed findings from the March 2019 *Report on the investigation into Russian interference in the 2016 [U.S.] presidential election* this case study expands our understanding of social media networks with theoretical implications for both network theory and the theory of networks. This paper identifies unique social media network enabled nodes which we term "supranodes." These nodes are versed in network theory and empowered via social media network awareness to socially engineer network structures and outcomes to develop structural capital in support of their initiatives. This paper highlights the features of social media networks that enables these nodes, such as affirmation ties, identifies the mechanisms these nodes use to empower their actions and provides a framework for considering various supranode archetypes. The paper concludes with the implications of these nodes to business and society.

Keywords

network theory, theory of networks, network theory of networks, social media, social media networks, cascades, ties, nodes, affirmation ties, bot ties, supranodes

Introduction

Social media networks which ultilize the internet to support interpersonal communication and collaboration are pervasive. Social media networks generally refer to the dynamic and interactive applications of Web 2.0, such as Facebook, Instagram, and Twitter deployed on the internet (de Bakker & Hellsten, 2013; Kahn & Kellner, 2004). Social media network use has risen dramatically, with the rate of adults in the U.S. using social media networks at 76% in 2015 (Pew, 2015). Market data notes the large number of monthly active users (MAUs) on leading social media networks. Examples include Facebook at 2.23 billion MAUs, Instagram at 1 billion MAUs and Twitter at 321 million MAUs (Buffer, 2019; Zephoria, 2019). This pervasive adoption is enabled by the ease of internet access and free use enabled by the advertising revenue business models adopted by many of these social media network applications.

These social media network applications leverage their user networks for economic benefit. In the parlance of network research these users are viewed as nodes (or actors) connected by ties of varying types on the network. For example, these ties may be cognitive (friend or colleague), affective (like or dislike) or event driven (sending or receiving communications). These ties form paths connecting nodes in the network resulting in an overall network structure within which the various nodes have unique positions. Researchers have related these varying network structures and node positions to both network and individual outcomes (Bogatti and Halgin, 2011).

Social media networks have unique characterisitcs relative to their non-social media enabled counterparts (Kane, Alavi, Labianca and Bogatti, 2014). At a feature level these include free access, ease of use, digital profiles of users, homogenization of relational connections, network transparency to all nodes, fee-enabled expanded network transparency, ease of search, reduced node privacy (both within and, via aggregation, across social media networks), path and scale visibility of information flows, and unique flows of digital content allowing copying and manipulation (Kane et al, 2014; Besiou, Hunter, and Van Wassenhove, 2013; Barton, 2009; Gilbert and Karahalios, 2009; boyd and Ellison (2007; Donath & Boyd, 2004).

Social media network interactions operate with limited formal management. For instance, viral messaging can result in the rapid organization of a massive group such as a 'flash mob' without the need or time for managerial control, enabling large and loose groups to take credible, coordinated action of the sort that was typically the purview of formal organizations (Ansari & Phillips, 2011; Shirky, 2011). As nodes join a conversation, they can form and expand a specific issue network very rapidly via the networks built in facilitation of bridges between groups. The digital nature of social media network information flows enables nodes to gain greater influence on the framing and agenda-setting of issues by producing their own information about an issue, even if untrue (Besiou et al., 2013; Fieseler & Fleck, 2013). Specifically, social media networks empower nodes to influence perceptions of their issue's salience by assigning it values and attributes with very few (if any) gatekeepers to edit or verify accuracy. (Besiou et al., 2013; Carroll & McCombs, 2003; McCombs, 2004).

Given these many distinctive features of social media networks Kane et. al. (2014) proposed a framework of ten critical research questions to investigate the theoretical implications of these differences to social network analysis. In this paper we utilize the findings from the recently completed Mueller report investigating Russian social media network interference in the 2016 U.S. presidential elections (Mueller, 2019) to inform these questions. This report compiles the findings from Mueller's investigation conducted from May 2017 to March 2019 which resulted in numerous indictments, including one against the Russian Internet Research Agency (IRA) (Apuzzo and LaFraniere, 2018). The report concluded that a social media campaign was executed "… in sweeping and systematic fashion to favor presidential candidate Donald Trump and … provoke and amplify political and social discord in the United States" (Mueller, 2019). The case analysis is framed using the research questions posed by Kane et. al. (2014).

The analysis identifies unique social media network enabled nodes which we term supranodes. These nodes are versed in network theory and empowered via social media network awareness to socially engineer network structures and outcomes. This paper highlights the features of social media networks that enables these nodes, identifies the mechanisms these nodes use to empower their actions and provides a framework for various supranode archetypes.

The paper is organized as follows: We begin with a selective literature review of network theory, social media networks, and information cascades that help inform our case analysis. We next follow the Kane et.al. (2014) research question framework to analyze the relevant findings from the Mueller investigation. We extend the social media networks research literature by introducing supranodes and affirmation ties that, by design, affect network structures and outcomes. The paper concludes with implications of these case findings to business and society.

Network theory

Network theory refers to how a network's structure, such as number of ties, leads to outcomes for nodes, groups or the overall network; the theory of networks considers the antecedents that determine these network structures (Brass, 2002). If theoretical models show how network processes and structures impact other network phenomena this is separately classified as a network theory of networks. These network theoretical models typically consider either issues of flows passing between nodes or the bonding of nodes via ties for coordination and power (Borgatti et. al., 2011). This distinction between network theory, the theory of networks, and network theories of networks is, to a certain extent, a byproduct of network's dual sociological and mathematical features.

Ties and nodes

Network theory predominantly focuses on tie considerations. In non-social media settings nodes typically maintain relationships with up to 150 individuals, including about 15 close friends, where tie strength is determined by the frequency of interaction, distance, and the level of relatedness that nodes experience with one another (Dunbar & Hill, 2002). Ties in non-social media networks can be categorized as proximates (same platform), relations (friends, followers), interactions (messaging) and flows (retweets) that occur in a continuum that builds temporally (Atkin, 1977).

Network theory focuses on the structural impact of networks and their impact on outcomes independent of the consideration of individual node attributes (Borgatti et al, 2011). The theory acknowledges the importance of node attributes to outcomes with studies showing how homophily tends to lead to stronger ties (McPherson, Smith-Lovin, Cook 2001), addressing endogeneity concerns (Lee, 2010) and considerations of agency. Agency, when used to shape networks, is acknowledged as critical; however, the network outcome of the shaping is separately considered in network analyses (Borgatti et al 2011).

Social media networks

The potential for agency considerations becomes exacerbated in social media networks given the opportunity for differences in system features knowledge (Devaraj and Kohli 2003) and the use of these system capabilities in unintended ways (Boudreau and Robey 2005). System features greatly facilitate the ability to know and manipulate networks given the enhanced visibility to network characteristics (Ren, Kraut and Kiseler, 2007). Researchers provide guidance to nodes on how to leverage this system provided network information. For example, in an article by Maiz, Arranz and de Arroyabe (2016) guidance is provided on methods to optimize social interactions among Facebook followers through consideration of density and clustering data available on the platform. Despite the network data provided by the systems empowering social media networks it is likely that many network nodes remain unable or indifferent to leveraging this information, expanding the knowledge gap between the network aware nodes and others. The reality is that nodes in general vary considerably in their ability to discern group network relations (Krackhardt and Kilduff 1999; Krackhardt 1990) or even to visualize their own networks (Marineau et al. 2012).

Social media networks are larger than non-social media networks. The average number of Facebook user friends is 338 with a mean of 200 (Brandwatch, 2019) and the allowed platform connections enabled tend to be extremely large, for example 5000 friends on Facebook (Facebook, 2019). Despite this, research suggests limitations on the number of ties nodes can maintain (Ellison et al. 2011; Pollet, Robert and Dunbar, 2011); although online profiles can be managed by a group advantaging the group managed nodes presence (Kane et al. 2014).

Social media are heavily populated with clusters of nodes whose only commonality is a specific topic of interest. That is, clusters form among nodes with no interpersonal relationship but who care about a given topic or the viewpoint represented by the cluster. We term these connections *affirmation* ties as they enable individuals, on a large scale, to gather curated information about the issues they identify with. Affirmation ties serve the purpose of asserting one's position regarding an issue while remaining disconnected in every other way to other nodes doing the same. A node's participation in a cluster may enable information flow either explicitly, via retweets, or implicitly, via posts appearing on one's Facebook timeline, as examples. We argue however that in a social media context these affirmation relationships cluster through groups with strong issue identity. Although the relationship that substantiates affirmation ties are unique, these ties drive activities similar to traditional network ties in that they provide social capital, information flows, and signalling benefits. In clusters formed from affirmation ties, actors have predominantly homogeneous views on the narrow issue they endorse and a low threshold related to the dissemination of topical information both within and beyond the cluster. The ease with which these clusters form through social media dramatically increases a node's bridging power.

Affirmation ties enable greater homogeneity within clusters, which happens through two related mechanisms: 1) the ease of access to issue networks enables nodes to "browse" and learn about the values and activities of a group prior to joining, and 2) an node's ability to start her own group based on her particular views or be extrasized from a group by members attempting to protect the group's identity (Sunstein, 2001). Affirmation ties impact network structures and behavior by establishing clusters of nodes who share common characteristics at deep levels (emotionally and psychologically) as opposed to the homogeneity of non-social media clusters that are largely rooted in characteristics such as geographical location, demographics, or lifestyle (Rogers, 2003). In addition, the anonymity of online group members connected through affirmation ties intensifies the need for nodes to adopt the group's identity because they rely primarily on nonverbal cues to conform with group norms (Cha, Haddadi, Benevenuto, & Gummad, 2010) – where the main cue is issue endorsement (Donath & Boyd, 2004).

These arguments are consistent with previous research showing that in more homogeneous networks institutional norms and values diffuse rapidly, resulting in mimetic behaviors and shared behavioral expectations across the network (Oliver, 1991; Rowley, 1997). These dynamics are significantly enhanced by the structural components of social media and especially the dominance of affirmation ties in these networks. Indeed, studies show that cybernorms tend to diffuse more quickly than traditional social norms (Major, 2000). As a result, network participants tend to present more convergent viewpoints (Balzarova & Castka, 2012).

Digital profiles and trace

Social media networks often provide information about your network as well as that of others; an example is making visible all node's eigenvector centrality revealing relative node influence levels (Kane et al. 2014). Digital profiles and trace provide additional details on nodes through pre-defined, albeit limited, content that communicates node features and traces node activity (i.e. comments, status updates, views, likes) enabling "tie targeting" behavior. Through curated profiles and trace, nodes become homogenized and fail to reflect the diversity they represent. Strength of ties, a common non-social media networking measures is typically missing from such system level data.

This visible data can impact network behaviors such as information flows (Piskorski, 2009) resulting in herding behaviors (Oh and Jeon 2007) and information cascades (Aral and Walker 2011; Bampo et al. 2008; Hinz et al. 2011). Homophily also remains a driving tendency in the establishment of ties on social media networks (VanAlstyne and Brynjolfsson 2005).

The constrained node profile data can also encourage pseudonymity, identities consistent with the network context but unrelated to a node's offline identity (Kane et al, 2014). Aliases and non-human nodes (bots) can also be created by actors to expand their overall node presence in a network and have been observed on social media networks related to protests, dating and election campaigns (Salge & Karahanna 2018).

Enhanced content access

Social media network features enable information flows among non-connected nodes through various content access mechanisms, including information streams (i.e. Facebook NewsFeed) and algorithmic search capabilities (Ellison and boyd 2013). These features amplify the presence of trending data streams and allows access to other nodes information without establishing relational connections with the source node (Kane et al, 2014).

Information flows and cascades

A widely accepted model for understanding how information and behavior diffuse in traditional social networks is the thresholds model (Granovetter, 1978). Thresholds represent "the number or proportion of others who must make one decision before a given actor does so" (Granovetter, 1978:1420) and enable us to model how individual preferences for engaging in a behavior or spreading information interact and aggregate. The threshold model helps explain network cascades, where individuals follow others' behavior (Anderson & Holt, 1997; Barton, 2009; Welch, 1992). Cascades are explained by the theory of observational learning (Bandura, 1977, 1986) occurring mainly because of individuals' inherent desire to conform with social norms and to be accepted in social networks which leads them to follow the behavior of others (Bikhchandani, Hirshleifer, & Welch, 1992; Smith & Sorensen, 2000; Watts, 2002). In laboratory studies Celen and Kariv (2004) observe that informational cacades often arise (35 percent of the time in their research) due to Bayesian updating by subjects from the observation of other's actions. Observational learning theory and information cascade formation requires discrete choices, you like or do not like a cause on Facebook as an example, a common situation in a social media context (Bikhchandani, Hirshleifer, & Welch, 1998).

A number of models have been proposed that help in our understanding of information cascade formation. In studies of binary choice models cascade liklihood increased with the number of nodes involved and as the nodes probability for responding to a cascade topic becomes greater than 50% (Bikhchandani et al., 1992 and Watts, 2002). The larger volumes of ties in social media networks, the ease of visibility and action and the binary nature of many platform choices leads to accelerated and larger information flows in social media networks.

In social media networks where ties and clusters are no longer formed based on complex personal interactions, connections can now be established by virtual, computer-generated individuals or groups. These *bot* tie connections are typically created to artificially indicate support for an issue by participating in clusters or serving as bridges for information to diffuse across clusters. Although these bot ties are non-human nodes, they function as perceived human connections in the attenuated contact environment of a social media network and have real effects on the diffusion of issues. Studies in the field of human computer interaction support that people treat new media similarly to real people and places (Nass & Moon, 2000; Nass, Moon, & Fogg, 1995) and respond to computer personalities in the same way they do to humans (Nass, Moon, & Carney, 1999; Reeves & Nass, 1996).

Since pressures for conformity leads to informational cascades (Bikhchandani, Hirshleifer, & Welch, 1998), and that these pressures are exacerbated by deeply-seated commonalities (Chesney, 2016), information cascades are more likely to occur in social media. The ease with which one can connect with others in social media networks has rendered cascades much more common and precipitous. Bot ties further add to these phenomena by magnifying diffusion in networks, at times even crafting the appearance of a cascade. Altogether, the structural elements of social media favor the occurrence of cascades by making it easier for each node to diffuse issues (Besiou et al., 2013). As such, social media’s rapid connection of readily available groups promotes a “scale-free network” (Barabasi & Bonabeau, 2003), enabling the diffusion of issues and social norms at unprecedented rates. Bot and affirmation ties result in more nodes, more connections, and more nodes (% and actual) supporting potential cascade issues, thus positively increasing variables that result in greater cascade formation (Watts, 2002; Bikhchandani, Hirshleifer, & Welch, 1992). While a node's influence is important, Watts and colleagues (2004, 2007) indicate that a critical mass of easily influenced individuals may be far more significant to diffusion. In social media, bot ties contribute to the perception of a critical mass and raise awareness in clusters, feeding information cascades by increasing the likelihood of exceeding node thresholds. Affirmation and bot ties at an interpretive and impact level act as "real" ties in impacting the flow of information in social media networks , as summarized in Table 1.

Insert Table 1 about here

Mueller report case analysis

In this section we consider the case of Russian social media interference in the 2016 U.S. presidential election as documented in the March 2019 Mueller report (Mueller, 2019). The Mueller investigation into Russian interference took place between May 2017 and March 2019 at a cost of nearly $32 million (CNBC, 2019). Sections of the report relevant to this case analysis were reported on pages 14-32 under the following sections: Russian "active measures" social media campaign; Structure of the Internet Research Agency (IRA); The IRA targets U.S. elections; The IRA ramps up U.S. operations as early as 2014; U.S. operations through IRA-controlled social media accounts; U.S. operations through Facebook; U.S. operations through Twitter (individualized accounts; IRA botnet activities***);*** and Targeting and recruitment of U.S. persons. Note that all quotes in this section reference the Mueller report. The analysis is framed to inform seven of the ten social media network research questions posed in Kane et al (2014).

Differing ties and ties features impacts on user's network behaviors and network structures

Colin Stretch, General Counsel of Facebook noted in the Mueller report …"We estimate that roughly 29 million people were served content in their News Feeds directly from the IRA's 80,000 posts over the two years. Posts from these pages were also shared, liked, and followed by people on Facebook, and, as a result, three times more people may have been exposed to a story that originated from the Russian operation. Our best estimate is that approximately 126 million people may have been served content from a page associated with the IRA at some point during the two-year period. … The Facebook representative also testified that Facebook had identified 170 IRA created Instagram accounts that posted approximately 120,000 pieces of content during that time."

The IRA leveraged all four tie types in this initiative. Initial target Facebook nodes for the 80,000 posts were the proximates, the Facebook platform fed copies of the postings to additional nodes via its' News Feed interactions, the nodes shared the content with their relations expanding the diffusion to 29,000,000 and the flows from shares, likes and following extended the posts to 126,000,000 recipients.

The IRA leveraged network feature to play a numbers game, triggering thresholds to create information cascades and creating groups to establish clusters to facilitate relational sharing and low group thresholds to diffusion as noted in the following report excerpt: "… Multiple IRA-controlled Facebook groups and Instagram accounts had hundreds of thousands of U.S. participants. IRA-controlled Twitter accounts separately had tens of thousands of followers, including multiple U.S. political figures who retweeted IRA-created content. … The IRA bought an advertisement for its Instagram account "Tea Party News" asking U.S. persons to help them "make a patriotic team of young Trump supporters" by uploading photos with the hashtag

"#KIDS4TRUMP." … Individual IRA social media accounts attracted hundreds of thousands of followers. … at the time they were deactivated by Facebook in mid-2017, the IRA's "United Muslims of America" Facebook group had over 300,000 followers, the "Don't Shoot Us" Facebook group had over 250,000 followers, the "Being Patriotic" Facebook group had over 200,000 followers, and the "Secured Borders" Facebook group had over 130,000 followers."

The IRA, via groups, drove close relations with its followers – taking them from proximates to interactions and engaging them to promote and create content to achieve IRA objectives.

Missing social media platform features impacts on user's network behaviors and structures

In the context of this case missing tie features that impact network structures and outcomes include: effectively no tie limitations, homogenization of ties through digital profiles with no authentication mechanisms and the lack of identification or discernment of tie strength. In combination these missing elements are seen to dramatically increase network degree, density and clustering measures and trigger information cascades through the ability to create and deploy alias and bot nodes indiscriminately and create spurious groups to amplify clustering.

As noted in the Mueller report the IRA created fictional personas on the social media networks: "Using fictitious U.S. personas, IRA employees operated social media accounts and group pages designed to attract U.S. audiences. … falsely claimed to be controlled by U.S. activists." The IRA also utilized impersonation while operating on these networks to hide their identity: "… buying political advertisements on social media in the names of U.S. persons and entities." The IRA created fake organizations to attract nodes to join their groups to increase clustering and reach: "Initially, the IRA created social media accounts that pretended to be the personal accounts of U.S. persons. By early 2015, the IRA began to create larger social media groups … that claimed (falsely) to be affiliated with U.S. political and grassroots organizations. In certain cases, the IRA created accounts that mimicked real U.S. organizations. For example, one IRA-controlled Twitter account, @TEN_GOP, purported to be connected to the Tennessee Republican Party. More commonly, the IRA created accounts in the names of fictitious U.S. organizations and grassroots groups and used these accounts to pose as anti-immigration groups, Tea Party activists, Black Lives Matter protestors, and other U.S. social and political activists." In addition the IRA created automated bot accounts to amplify diffusion: "The IRA's Twitter operations involved two strategies. First, IRA specialists operated certain Twitter accounts to create individual U.S. personas **…** Separately, the IRA operated a network of automated Twitter accounts (commonly referred to as a bot network) that enabled the IRA to amplify existing content on Twitter."

The impact of these IRA affirmation and bot tie activities are documented in the Mueller report enabling amplified presence and activity thru bot tie activity and strong information flows by triggering thresholds and establishing affirmation tie links via IRA established groups. As noted in the report "In January 2018, Twitter publicly identified 3,814 Twitter accounts associated with the IRA. According to Twitter, in the ten weeks before the 2016 U.S. presidential election, these accounts posted approximately 175,993 tweets … Twitter … notified approximately 1.4 million people who Twitter believed may have been in contact with an IRA-controlled account."

Profile features impacts on user's network behaviors and content diffusion

The impressive scale of the reach of the IRA campaign noted, reaching 126,000,000 nodes on Facebook with their 80,000 posts, suggests a targeted seeding campaign of messaging enabled by node profile information. The posts were socially engineered to affirm the beliefs of targeted nodes and to encourage diffusion as noted: "IRA Facebook groups active during the 2016 campaign covered a range of political issues and included purported conservative groups (with names such as "Being Patriotic," "Stop All Immigrants," "Secured Borders," and "Tea Party News") … To reach larger U.S. audiences, the IRA purchased advertisements from Facebook that promoted the IRA groups on the News Feeds of U.S. audience members. According to Facebook, the IRA purchased over 3,500 advertisements, and the expenditures totaled approximately $100,000.56."

A specific example of these actions follow: "…on April 6, 2016, the IRA purchased advertisements for its account "Black Matters" calling for a "flashmob" of U.S. persons to 'take a photo with #HillaryClintonForPrison2016 or #nohillary2016."

The IRA also used profile/trace platform capabilities to target nodes on the networks. Given the targeted nature of the outreach and messaging these sources and affirmation ties were blindly liked, forwarded and followed by the target nodes. As noted: "The IRA operated individualized Twitter accounts similar to the operation of its Facebook accounts, by continuously posting original content to the accounts while also communicating with U.S. Twitter users directly (through public tweeting or Twitter's private messaging). The IRA used many of these accounts to attempt to influence U.S. audiences on the election. Individualized accounts used to influence the U.S. presidential election included @TEN_GOP …"

Targeting affirmation tie recipients was a critical strategy of IRA actions. Per the Mueller report "As early as 2014, the IRA instructed its employees to target U.S. persons who could be used to advance its operational goals. Initially, recruitment focused on U.S. persons who could amplify the content posted by the IRA. … IRA employees frequently used Twitter, Facebook, and Instagram to contact and recruit U.S. persons who followed the group…. The IRA also recruited moderators of conservative social media groups to promote IRA-generated content, as well as recruited individuals to perform political acts (such as walking around New York City dressed up as Santa Claus with a Trump mask). … as the IRA's online audience became larger, the IRA tracked U.S. persons with whom they communicated and had successfully tasked (with tasks ranging from organizing rallies to taking pictures with certain political messages.) … U.S. media outlets also quoted tweets from IRA-controlled accounts and attributed them to the reactions of real U.S. persons. Similarly, numerous high-profile U.S. persons, including former Ambassador Michael McFaul, Roger Stone, Sean Hannity, and Michael Flynn Jr., retweeted or responded to tweets posted to these IRA controlled accounts. Multiple individuals affiliated with the Trump Campaign also promoted IRA tweets."

Nodes and third party use of network structure knowledge impacts on performance variation

The IRA executed a highly organized and strategic effort to influence the 2016 Presidential election in favor of Donald Trump. The IRA operation demonstrated an execution versed in network theory and empowered via social media network awareness to socially engineer network structures and outcomes to develop structural capital in support of their initiative. Nodes targeted by the IRA in turn demonstrated a weak awareness or understanding of such topics making them easy pawns to be leveraged in this effort. The IRA was aided by a large staff to support its initiatives. As noted: "IRA subdivided the Translator Department into different responsibilities, ranging from operations on different social media platforms to analytics to graphics and IT. … Dozens of IRA employees were responsible for operating accounts and personas on different U.S. social media platforms. The IRA referred to employees assigned to operate the social media accounts as 'specialists.' Starting as early as 2014, the IRA's U.S. operations included social media specialists focusing on Facebook, YouTube, and

Twitter. The IRA later added specialists who operated on Tumblr and Instagram accounts. … [and] the IRA closely monitored the activity of its social media accounts."

Discussion

A critical question this case raises is what is the IRA in the parlance of network theorizing? The manifestation of the IRA on the various social media networks are via the accounts it established (Twitter 3,814 accounts; Facebook 470 accounts; Instagram 178 accounts) with the IRA presence, as perceived by controlled nodes, greatly amplified on the respective networks. However the IRA, as a specific node, is not explicitly present on these networks.

IRA as surpanode

We argue the IRA represents a new network structural feature in social media networks, which we term a supranode, leveraging supra's definition to indicate the distinctiveness of this feature: above, over, beyond the limits of , outside of (Dictionary, 2019). The supranode, which is an extra-network structural feature, leverages intra-network nodes that it creates (bots) or effectively controls (proxies, aliases) or manipulates (affirmation ties to targeted nodes) to achieve its objectives. The supranode leverages the bond model of network research, establishing relative power advantages versus other nodes in the network. The unique features of social media networks enable this novel structural feature as positioned in Table 2.

Insert Table 2 about here

The IRA operates as a supranode in this case however a key question is are supranodes common in social media networks? The social media network context would suggest yes to this question. Nodes are enabled to establish supranodes by social media network's features and users are known to utilize social media platform features in novel ways as noted in our earlier network theory discussion. Power advantages accrue to supranodes, and the cost of supranode creation (given knowledge and intent) is moderated by the platform capabilities. Malicious behavior (to the extent that is the surpanode intent) is also common online with a study on crowdsourcing competitions suggesting that malicious behavior is a norm, not an anomly, in that related, online context (Naroditskiy, Jennings, Van Hentenryck and Cebrian (2014).

Another important question is what does it take to be a supranode and do supranodes really impact outcomes? The Russian interference case acknowledges interference in the 2016 U.S. election however it does not suggest that the election outcome was impacted by these efforts, although Donald Trump did was elected president. Push back on impact notes that the IRA supranode only spent $100,000 on Facebook social media advertising, a very modest number relative to the $81 million spent by the Clinton and Trump campaigns. The reality is that a supranode is not powered by advertising expenditure flows but by exploiting network knowledge and awareness. The IRA employed dozens of staff between 2014-2016 to support this effort per the Mueller report. Assuming, as an esitmate, 36 staff for the two years before the election when the supranode was active at $50,000 salary per staff per year the effort would have spent $3,600,000 on human capital during this period, still modest relative to $81 million but far from insignificant. The network impact from these investments is impressive with 126,000,000 Americans touched by the Facebook efforts alone. The continued engagement by Russia in election interference in the Ukraine post the U.S. focused effort suggests the supranode initiative outcomes to have been viewed favorably by its leadership (Brookings, 2019).

If supranodes are the new “invisible hand(s)” of social media networks, a la Adam Smith, what are some exemplars of them in practice? In Table 3 we suggest a range of supranode archetypes with exemplars and a categorization of the supranode drivers utilizing the collective intelligence genome constructs from Malone, Laubacher and Dellarocas (2010) and the pressures they can exert on existing network nodes derived from Suchman (1995).

Insert Table 3 about here

Supranodes have broad theoretical implications for the range of network theories. Surpanodes can impact various network structures as noted in Table 4 and have implications for all three network theoretical traditions as outlined in Table 5.

Insert Tables 4 and 5 about here

Management and societal considerations

Supranodes, affirmation tes and bot ties, all observed in this case analysis, have significant societal implications. Research suggests that people are not discerning enough to distinguish these newly enabled ties from traditional “real world” relationships (Reeves & Nass, 1996) as confirmed in our case. Fake news and issues propagated by these supranodes can also generate significant societal damage which is not easily corrected due to Mandela effect (Mandela effect, 2019) residual impacts, as one example. Given the suggested supranode archetypes and the ability of social media networks to empower a range of large to small actors, governance considerations in this area deserve signifiantly greater attention.

On the managerial front there is a growing body of research examining the characteristics of issues that make them salient to managerial decision-makers (Bridwell-Mitch & Lant, 2014; Bundy, Shropshire, & Buchholtz, 2013; Clark, Bryant, & Griffin, 2015; Frooman, 2010; Lamertz, Martens, & Heugens, 2003; Litrico & David, 2016; Roloff, 2008; Sonenshein, 2016). This work suggests that activist nodes’ effectiveness depends on their ability to engage the logic of numbers and/or the logic of damage (den Hond & de Bakker, 2007). While the latter refers to the credible threat of harm activists may inflict on organizations, the former speaks to the amount of supporters advocating for the issue and the two are intertwined such that typically the greater the logic of numbers, the more potential damage may follow (della Porta & Diani, 2009). Activist supranodes can clearly trigger these logic of number thresholds driving information cascades. It is important to note that responses from organizations to an issue can significantly affect a cascade putting a halt to (or accelerating) an issue's momentum (Hiatt, Lee, & Grandy, 2015; King & Lenox, 2000; Reid & Toffel, 2009).

Trust issues also arise regarding functionality that are typically viewed as key value added from social media applications (such as product reviews), which may be generated by bot ties but nevertheless relied upon by consumers. This has important implications for new and existing social media empowered services. In addition the reduced expense of supranode campaigns to achieve social media empowered objectives has implication for the advertising business models employed by many of the most successful global social media companies.

This case study suggests supranodes as an important extension to the various network theories with signifianct practice implications. This foundational paper lays the groundwork for further theoretical and empirical study. For example, the impact of supranodes can be studied via modelling and experiments designed to evaluate node responses to various supranode behavior. Media controls can be hypothesized to avoid exploitation and to maintain the positive benefits derived from social media networks. Managerial strategic responses to issue management and broader strategy considerations suggested by supranodes can also be evaluated.

Table 1 Type of network ties, definition, and role in generating a cascade

Type of Tie	Definition	Role in Generating a Cascade
Strong	Connection between two nodes characterized by high emotional intensity, time together, intimacy (physical proximity) and/or reciprocal services (Granovetter, 1973: 1361)	Diffuse information fluently across strong ties
Weak	Connection between two nodes in separate clusters (Granovetter, 1973)	Bridge clusters
Affirmation	Connection created by a node to a cluster that endorses a similar interest or viewpoint	Magnify the number of clusters each node is a member of
Bot	Computer-generated connection created to advance the aims of a single node	Magnify support toward adoption threshold within clusters and diffuse information through bridging

Table 2 Social media network effects on network structure and outcomes

	Social Media Network Property	Effect on Network
Structure	Low (no) cost and ease of use No need for managerial control	New participants in the network (individuals and non-formalized organizations); Larger networks
	Increased bridging social capital through affirmation and bot ties	Network nodes/clusters have access to – and are exposed to – more types of information; Increased speed of communications, level of information sharing, and ability to organize through multidirectional channels
	Supranodes	Network nodes versed in network theory and empowered via social media network awareness to socially engineer network structures and outcomes
Behavior	Issue-related content created by network participants with few (no) gatekeepers to information diffusion	Increased influence of network participants on issue framing and agenda-setting
	Greater visibility of issue endorsements	Individual thresholds more quickly attained and increased pressure for conformity leading to potential cascades
	Greater homogeneity within clusters	Convergence within the network with respect to norms and values related to the issue

Table 3 Supranode archetypes, exemplars, drivers and pressures

Archetypes	**Exemplar**	**Drivers**[1]	**Pressures**[2]
Private actors	Political campaign social media manipulation efforts	Power, money	Mimetic
Government	Chinese government social media controls; Russian Internet Research Agency	Power	Coercive; mimetic
Platform	Facebook; Twitter	Money	Normative
Consultants; marketing agencies	Cambridge Analytica	Money	Mimetic
Standards bodies	IEEE	Glory	Normative

1. Malone et al (2010)
2. Suchman (1995)

Table 4 Supranode impacts on network structures

Network characteristic	Description	Impact
Degree	Number of ties to a node	Increase
Density	Percent of potential ties actually present	Increase
Average path length	Average of all shortest path lengths in the network	Decrease
Diameter	Maximum shortest path length in the network	Decrease
Cluster coefficient	Ratio of the actual triangular node connections in a graph to the total numbe of possible triangular node connections	Increase
Assortativity	Pearson correlation between adjacent node degrees	Increase
Global efficiency	Average of the inverse of all shortest path lengths	Increase
Eigenvector centrality	Connection by a node to highly influential nodes increases the connecting nodes centrality	Increase
Transitivity	Proportion of three nodes where if A connects to B and B connects to C then A will also connect to C	Increase

Table 5 Supranode theory implications[1]

Independent variable	Exemplar dependent variable impacts	Theory impacted
Supranode knowledge of network structure and theory (non-network antecedent)	More ties, bonds, flows (network outcomes)	Theory of networks
Number of surpanode created network ties/clusters (groups) (network variable antecedent)	Cascade (non-network outcomes)	Network theory
Number of surpanode created network ties/clusters (groups) (network variable antecedent)	Increased node transitivity, centrality, degree (network outcomes)	Network theory of networks

1. Mapping derived from Borgatti & Halgin (2011) table 4

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Strategic Inflection Points and Management Decision Making

Strategic Inflection Points and Management Decision Making

This paper is about how managers plan. It's about how managers make decisions about the planning process and how sometimes things can go very, very wrong. The question is how successful, talented managers can make good decisions time after time, but suddenly, at some point, find themselves missing danger signals. This paper explores how and why experienced management teams can miss changes, trends or events where that world changes around the company. It examines how this lack of foresight can create dangerous situations for companies, many of which have been harmed because managers did not recognize that the changes happening around them, or underestimated the importance of the changes.

The search for the answers to these questions led to a discussion of inflection points in business, and how management teams can fail to recognize the impact of an inflection point when they first encounter evidence of the associated changes in the environment for their firm's business. What is an inflection point? In mathematics, it is defined as "A point of a curve at which a change in the direction of curvature occurs." A second definition for business use is "A time of significant change in a situation; a turning point." (*Inflection Point—Meaning of Inflection Point by Lexico*, n.d.) A definition used by many in business and widely attributed to Andrew Grove, Chairman of Intel, is "… an event that changes the way we think and act." In his book *Only the Paranoid Survive*, Grove describes an inflection point as "… when the balance of forces shifts from the old structure, from the old ways of doing business and old ways of competing, to the new." (A. S. Grove, 1999, p. 33)

Figure 1, a graph showing an inflection point illustrates how subtle the change appears - particularly if you could see only the area of the graph near the inflection point. Managers face a similar situation with the business version of an inflection point - it can be very

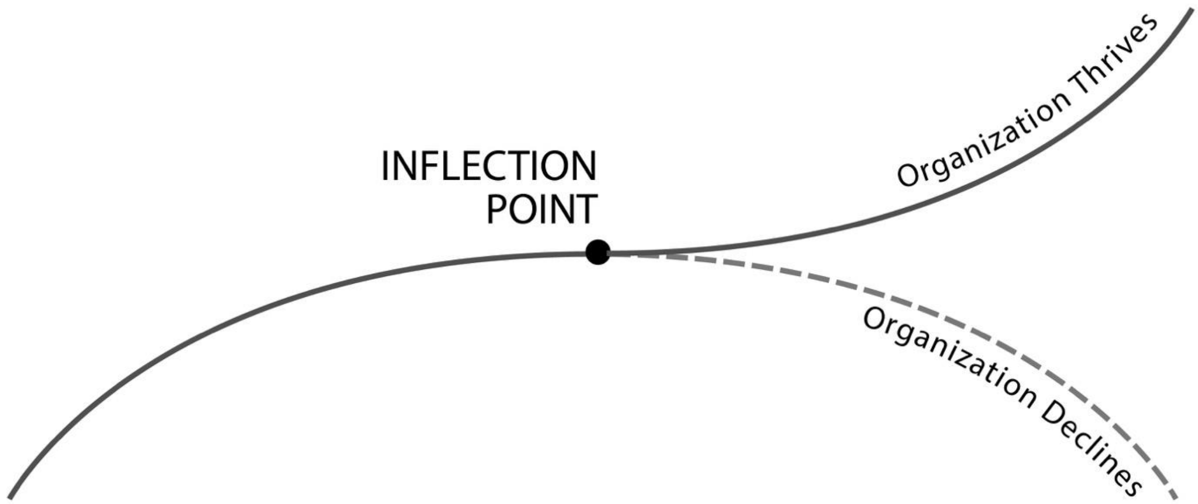

Figure 1 – Inflection Point Graph

difficult to spot “a time of significant change” while you are working within that moment of time. Being able to spot a inflection point in business is easier if managers step back and look at the historical context of current activity, plus changes that may be just beginning. However, note that while mathematicians have both pre and post inflection point data when they are determining an inflection point, managers working in real time have only historical data on which to base their decisions. They likely also have forecasts, but these tend to be relatively short range. More importantly, forecasts do not consider the severity of the impact of the changes associated with a never or rarely seen phenomenon. Managers in this situation are likely to struggle since they may have difficulty determining if the changes afoot differ from either cyclical changes with which managers have more experience, or the typical noise from random change that ultimately does not lead to major changes. An error in the opposite direction is also possible - managers may even miss the fact that changes are underway since they are working in unfamiliar territory. A. S. Grove (1999) notes that “It is around such inflection points that managers puzzle and observe, ‘Things are different. Something has changed.’” (A. S. Grove, 1999, p. 33)

In spite of the difficulty, it is important that managers anticipate and act on significant changes in their competitive environment. In order to do so, management teams need to constantly be on the outlook for unusual changes that can’t be explained by typical business cycles in the economy or in the firm’s industry. They have to be open to new explanations and thinking about possible solutions for new types of problems. They also need to think positively about the events they have observed - how can the company benefit from the changes that are happening in the environment? (Kahan, 2013, pp. 1–2) Moving quickly to meet changes in consumer demand, adjust to the economics of new production processes or incorporating a major improvement in technology are just some of the possible actions that could allow a management team to use the environmental changes to improve their competitive position (innovative new product features, market share, production costs, etc.) Acting quickly - before competitors fully understand the new rules - can lead to improved short term financial results as well as a stronger long term competitive position.

Examples of Inflection Points in Business

The following sections provide brief examples of how various industries and/or companies experienced - or in some cases are likely experiencing inflection points. Note how each firm reacted or is reacting to their situation and the varying outcomes.

Automobile manufacturing. Automation of assembly lines in increasing rapidly, including the use of automated guided vehicles (AGV’s) to move parts and partially assembled products automatically as needed in the productions process. Firms are increasing capital investments for factory automation, reducing the number of labor hours needed to produce automobiles (Forger, 2019). At the same time production facilities are rapidly evolving, the industry is facing massive changes in its products with the development and consumer interest in electric vehicles (EVs.) A number of technological changes point toward a rapidly approaching inflection point for EVs, with some manufacturers betting more heavily on EV development than others. The technologies that are coming together include the drop in the proportion of electric power in the U.S. produced by coal, resulting in greater benefits (lower CO_2 emissions, etc.) than if electricity was still primarily generated with coal. Manufacturing experience and economies of scale are kicking in to reduce production costs of EVs which, in a virtuous cycle, is likely to increase demand. The success of EVs is largely dependent on improving battery technology, and battery makers have been delivering smaller, more efficient batteries that have extended the range of EVs and made them more attractive to consumers (Silverstein, n.d.).

Banking. McKinsey has identified seven transformational trends in the banking industry:

1. Technology companies are using their technology to provide banking services, effectively disintermediating major banks. Example: Private label credit cards , Google Pay, Facebook's new digital currency.
2. Banks entering related ecosystems such as housing and mobility.
3. Bank customers across demographics increasingly prefer digital delivery of banking services
4. Corporate social responsibility now expected of banks by customers
5. Banks are adding technology and successfully generating major cost reductions

6. Managing risks presented by technology use (cyberattacks, social media incidents, etc.) is gaining attention of bank managements, leading to integration of activities across banking institutions
7. Increased demand for staff with digital skills has created shortages of qualified workers and caused banks to understand they are competing with technology firms for the same talent (Godsall et al., n.d.).

Mobility. The silos in which different transportation technologies have existed are beginning to merge. For example, automobile manufacturers, repair facilities, energy industries and so forth all within the automotive industry are likely to change their relationships with each other as well as what products and services they provide. At the same time other larger silos such as highways, ownership and financing of vehicles, other modes of transportation (from aircraft to marine to bicycles and scooters) are likely to begin to merge as customers demand more convenient and less expensive transportation options. These sorts of changes will have significant impacts on players within existing silos, with those who understand and expect the inflection point being most likely to survive (Heineke et al., 2019).

Shipping. At one time marine shipping was a very labor intensive business subject to the whims of unions and workers responsible for loading and unloading ships carrying bulk cargo using very little technology beyond the strong backs of those working the docks. That all started to change in the 1950's and 1960's as shipping companies introduced large intermodal containers that could be loaded at a customer site, transported by truck and/or rail to a port, and moved aboard a ship, with the process reversed at its destination. This changed the calculus of labor costs, ship utilization rates, shipping speed, and the cost of damage/theft of shipments. Containerships have grown to mammoth proportions forcing changes in the physical facilities at ports, and even the creation of a new, larger Panama Canal able to accommodate much larger ships than the original canal. The changes have also made possible tremendous increases in international trade and had significant impact on both companies and national economies (Levinson, 2006).

Cell Phones. In 2000, Finland's Nokia was the leading manufacturer of cell phones in the world. The company's world got a little too comfortable and they spent money on shareholder dividends and stock buy backs to help support the company's share price. In service of this strategy, they reduced spending on research and product development. Unfortunately for Nokia, their competitors were busy spending money on research and product development at the same time. By 2009 Nokia's product line was woefully out of date and lacking the sorts of technological innovations customers valued highly. Nokia also missed a major inflection point in phones by thinking of a cell phone as a phone. Customers, however, had already moved on, using the new phones to check email, and access all the wonders increasingly available on the Internet. Nokia's competitors, mostly phone makers using the Android platform and Apple using its own operating system were happy to provide customers what they wanted. The result was a fast, deadly drop in smartphone market share for Nokia from 23.8% in the first quarter of 2011 to just 8.2% in first quarter of 2012. A failed attempt to use the Windows operating system and other strategic missteps sealed the company's fate. Some speculate that Nokia's location, far from Silicon Valley or technology hubs in other places around the world, contributed to the downfall. The cross fertilization in the technology hubs could have averted some of the bad calls that led to the crisis. (Pai, 2015) Of course Nokia was not alone in missing this inflection point, Blackberry's parent company, Canada based Research in Motion also clung to its existing technology - essentially an email device with a phone added to it - while customers interest in web access grew. The results were similar to what Nokia experienced (Vara, 2013).

Case Study Examples

Three short cases in this section take closer looks at what happens when companies encounter inflection points.

Netflix vs. Blockbuster. Take for instance the case of Blockbuster Video, once a wildly successful company in the movie rental business. The company had stores across the US and dominated the rental business for DVD's. Netflix was founded in 1997, 12 years after after Blockbuster. Initially it used a DVD rental by mail model which was convenient - no trips to the video store - and also eliminated a much loathed feature of Blockbuster's service: late fees when DVD's were not returned on time. By simply limiting the number of DVDs that a customer could have checked out, Netflix eliminated late fees - a subtle change that was part of the reason customers switched from rental stores. At the time the number of households with access to high speed Internet, a necessity for streaming video, was relatively small, but growing. Looking ahead, Netflix obtained streaming rights for video, developed software and arranged for the infrastructure needed to support streaming. They have been running the DVD by mail and the streaming models simultaneously allowing them to serve households with and without high speed Internet.

No doubt Blockbuster's top management team was busy growing the company and attending to operational details when Netflix came along and started renting DVD's by mail. By the time they recognized the danger to their business model posed by Netflix, it was too late. Netflix was already entrenched and growing rapidly. Blockbuster was never able to really match what they were doing with the DVDs by mail. Similarly, by the time Blockbuster sensed the danger that streaming posed for their business model, Netflix was already established and growing its video entertainment streaming subscription business. Netflix was offering movies, television shows, entertainment specials - some of it original content - streamed to consumers' homes at a subscription price offering superior value to that offered to consumers by the movie rental model, Consumers reacted by shifting in large numbers to Netflix.

It's not that Blockbuster's management team was not aware of what Netflix was doing. The CEO and other top managers traveled from their Silicon Valley area headquarters to Blockbuster's Dallas headquarters several times with offers to partner or even sell Netflix to Blockbuster. An offer in 2000 was for Netflix to to run Blockbuster's online presence and Blockbuster would promote Netflix in their stores. Netflix CEO was laughed out of the conference room (Satell, n.d.). Later efforts included an offer to sell Netflix to Blockbuster for $50 million. Blockbuster passed on the offer. Five years later Netflix was worth $1.4 billion while Blockbuster's market capitalization was approximately $850 million (Goldsmith, 2005). Ten years later, in 2010, Blockbuster, by then worth about $24 million, filed for bankruptcy. Dish Network, in a move its CEO later called "poor strategy on our part" (Graser, 2013) bought the firm out of bankruptcy, but shuttered the business by the end of 2013.

The question is how could a management team as talented and successful as the one at Blockbuster miss all the danger signals and warning signs? They simply did not sense nor understand the danger that Netflix posed to their company. Was it inertia? Hubris? Not interpreting information correctly? More likely it was a combination of factors. In fact, Blockbuster's CEO and management team were not alone in failing to recognize an inflection point and change course to meet quickly evolving challenges. Similar fates have been suffered by many other companies and sometimes entire industries.

It should be noted that the story does not end with the demise of Blockbuster and other video rental stores. Netflix has created headaches, concern, alarm and in some cases opportunities for a number of related industries. Consider the ways in which video streaming of content has caused changes in the business models of movie theatre chains, cable TV systems, cable TV networks, broadcast TV networks, movie studios and production companies, television studios and production companies, and others.

Kodak's Failure to Confront Change. Unlike Blockbuster, Kodak had a clearer picture of the major changes in the photography business well in advance. It was clear that digital photography was going to supplant film photography as advances in computing, data storage, sensors, displays and printers allowed higher quality images to be captured and distributed in a digital format. In fact, an internal research project conducted in 1981 projected that it would take about 10 years for the technology to advance to the point where digital photography was a viable replacement for Kodak's existing cash cow - its photographic film, chemical and paper business. When CEO Colby Chandler retired in 1989, the board had the choice of Kay Whitmore, a veteran of the film business, or Phil Samper, a manager who had experience with digital technology. They went with Whitmore, who was quoted in the press as saying "… he would make sure Kodak stayed closer to its core businesses in oil and photographic chemicals." (Mui, 2012) For his part, Samper resigned and went on to be president of of Sun Microsystems and CEO of Cray Research (Mui, 2012). Meanwhile Whitmore lasted 3 years as CEO at Kodak, and was replaced by George Fisher, previously CEO of Motorola.

Fisher pushed for moves toward digital photography, but his tenure is evidence of just how hard it can be to get change right. His predecessor clung to film, while he got too far out in front of the technology and the customers' comfort zones. His efforts to move the company toward digital photography overshot the mark. He was also criticized by Wall Street for not moving quickly to cut costs, with some analysts noting he was trying to run a growth company. When the growth did not materialize, it became clear costs were a problem, and ultimately ended in his resignation (Desmond & Kahn, 1997). The board, in a move that could give anybody whiplash, named the COO, a traditional film executive named Daniel Carp, as the new CEO (Dvorak, 1999).

It is hard to argue Kodak and its various management teams in the 1980's and 1990's were not aware of the inflection point coming. With the exception of Fisher, their actions (or rather inaction) indicate they did not believe the worst could happen. They seemed to believe the change in demand for film, chemicals and paper would be less drastic than it soon proved to be. Or, as some would likely argue, it could be a case of compensation and incentives for top managers that were poorly aligned with the firm's strategic needs by emphasizing short term profits over survival of the company over a period of ten plus years.

Things eventually heated up. In July 2005 The Wall Street Journal reported that an equities analyst with Standard & Poor's downgraded Kodak stock, noting the "digital substitution is happening a lot faster than they anticipated." (Bulkeley, 2005, p. 3) Kodak admitted in 2004 that the change to digital photography would require it to make radical changes in its business, moving away from film related products and growing its presence in digital products. Its two year plan included the layoff of over 13,000 out of 64,000 workers then on the payroll (Bulkeley, 2005).

Part of the problem was that the new business Kodak was being forced to enter was significantly less profitable that the old photographic film, paper and chemical business. There were two reasons for this: First, the areas of technology involved were highly competitive and had lower margins, and second there were very few consumables in digital photography. Kodak had operated using the razor and razor blade model where they provided affordable cameras and made their money on the film consumers bought plus the paper and chemicals purchased by processing laboratories. (Dvorak, 1999) The digital photography business model was as unfamiliar to managers who had worked in the traditional photographic business as was the technology itself.

While Kodak did finally start to reorganize and cut costs, it continued to operate its film division even though that business was disappearing fast. It was not until January 2012, the same month the company filed for bankruptcy, that the film division disappeared, with what was left being merged into the two remaining divisions: commercial and consumer (Mattioli, 2012). By August much of the old film related businesses were up for sale (Spector & Mattioli, 2012). The company did emerge from bankruptcy in September 2013 and is now focused on commercial printing products, printers and a number of other products. It is traded on the NYSE and reported a $94 million profit in 2017 and a $16 million loss in 2018.

Retailer Reaction to Changes in Consumer Preferences in the Age of Amazon. As online retail operations like Amazon began to develop, some retailers appeared to take a serious interest in developing their own online capabilities, although the budgets and talent employed in these efforts varied. Others saw online retail as a distraction and found it more beneficial to focus on increasing their traditional retail sales through marketing and merchandising efforts while building more retail stores. In some cases retailers simply hired Amazon or other online retail specialists to develop and operate their e-commerce efforts. For example, Target’s management at the time chose to spend on building more stores while hiring Amazon to run their Target branded online effort. In short, management was seeking and being rewarded for short term profits from proven retail operations, while sacrificing opportunities for long term gains that were seen at the time as risky bets on e-commerce. As it turned out, retailers were at a classic inflection point and many did not seem to realize it.

Of course, some who recognized the inflection point were unable to profit from it. Some of the necessary technology was still in early stages of development, merchandising online was a developing art form and consumers ordering online were mostly early adopters. These risks resulted in some firms making what turned out to be poor choices in this rapidly evolving area of business. Early entrants in any new area of business sometimes benefit from first mover advantage - think Amazon. However, there is a reason people refer to companies leading the charge in new areas as being on the bleeding edge - think e-Toys and the other e-commerce sites that were ahead of their time and failed.

Retailers have for the most part made the transition from bricks to clicks, where online commerce is added as a second distribution system. Many have moved on to developing a clicks and bricks strategy designed to allow customers to choose between online and traditional retail depending on their needs for a particular transaction - or use both traditional and online channels within a single transaction. The latter includes everything from online kiosks in retail stores to picking up online orders from retail locations to same day delivery options. Behind the scenes, logistics for online and traditional retail has been merging, with many retailers using store locations as local distribution centers for online orders in order to reduce shipping costs and delivery times. The use of their retail locations for this purpose was one source of competitive advantage against Amazon, which needed to build out local distribution centers - or in the case of the Whole Foods acquisition, literally buy a retail network to help it compete with other retailers and experiment with how to best use retail location in a clicks and bricks strategy.

Like Kodak, retailers had advance notice of the major change they faced as technology and logistical solutions needed for full implementation and good customer service were developed. Unlike Kodak, one competitor was driving growth in online sales and technology and logistical solutions. That competitor, Amazon, started with clicks and could move more quickly and creatively than retailers with large legacy operations. Because they had legacy operations to protect, and because those legacy operations also had dictated how traditional retailers operated their businesses, many traditional retailers could not move as fast as Amazon and other digital native retailers did. Initially, some traditional retailers viewed online sales as a relatively unimportant part of their future, while others made modest efforts to build online sales. A few took the potential to grow through online sales, and the dangers of ignoring online sales, seriously and prioritized online efforts.

U.S. Retail e-commerce sales have steadily grown. In early 2010 e-commerce sales were a little over 4% of total U.S. Retail sales on a seasonally adjusted basis. By third quarter of 2019, this had increased to 11.2%. Year to year sales growth for quarterly total retail sales in the U.S. Has been in the low single digits, while e-commerce sales have been in the low to middle double digits (*Quarterly Retail E-Commerce Sales 3rd Quarter*, 2019). See Figure 2. Meanwhile, shopping malls are closing, big box stores are empty or being repurposed and traditional retailers have for the most part been struggling with online competition and changes in consumer buying behavior.

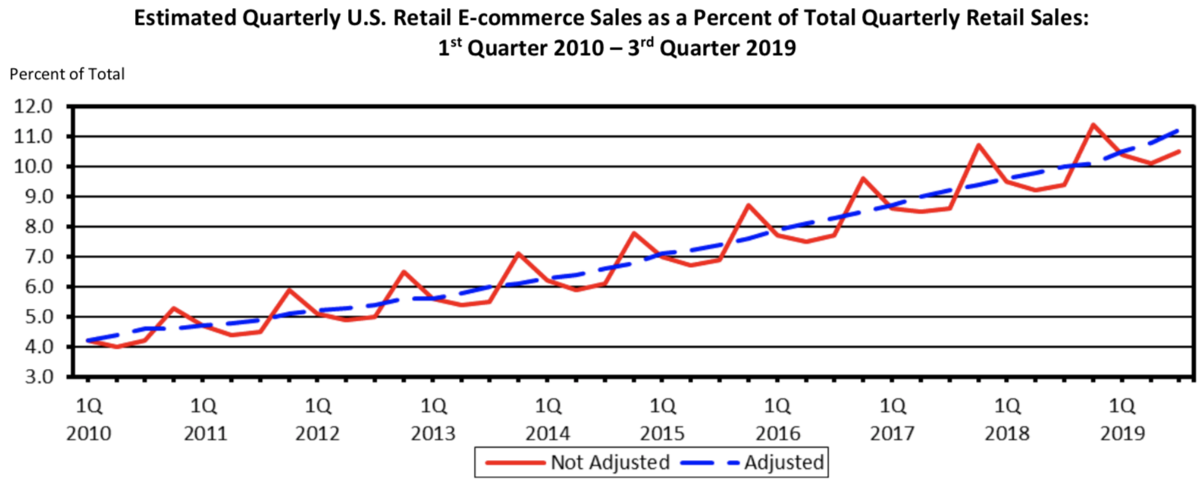

Figure 2 – E-commerce as Percent of Retail Sales (Source: US Census Bureau)

What's New?

While problems and challenges have confronted managers and companies in the past - as the examples and case studies show - the frequency and the stakes involved have been increasing. Partly this is due to the pace of technological change, but it is also due to growing markets and larger organizations operating in multiple industries and geographic locations.

With the stakes rising it is more important than ever to find ever better ways of improving the success rate of companies and their managers in dealing with major, strategic challenges. The concept of strategic inflection points and their relationship with strategic decision making and strategic analysis represents a path toward improved identification of strategic inflection points as wells more timely and effective ways to deal with the problems and changes they represent. Failure to improve a firm's batting average with strategic inflection points could seriously weaken a company and lead to deteriorating competitive advantage, which can be very difficult position from which to recover.

Literature Review

In order to gain insights into existing knowledge and understanding of major topics related to the opportunities and dangers for businesses presented by strategic inflection points, a focused literature review is presented below. The overall review focuses on the detection of and reaction to strategic inflection points by the management of impacted businesses. To accomplish this, the focus of the review is on four primary areas of literature: 1) The definition, description and impact of strategic inflection points, 2) Environmental scanning and related methods of detecting and assessing of new strategic inflection points, 3) Strategic analysis required to select methods of taking advantage as well as ways to minimize damage to the firm from the changes associated with an inflection point, and 4) How to guide and conduct strategic decision making in order to best carry out the required changes in a timely and effective manner. There are other areas related to strategic inflection points that will likely have importance, and there are subtopics that will warrant examination, as illustrated in Figure 3. However, given the state of knowledge today, the four areas reviewed below seem to be a logical first step.

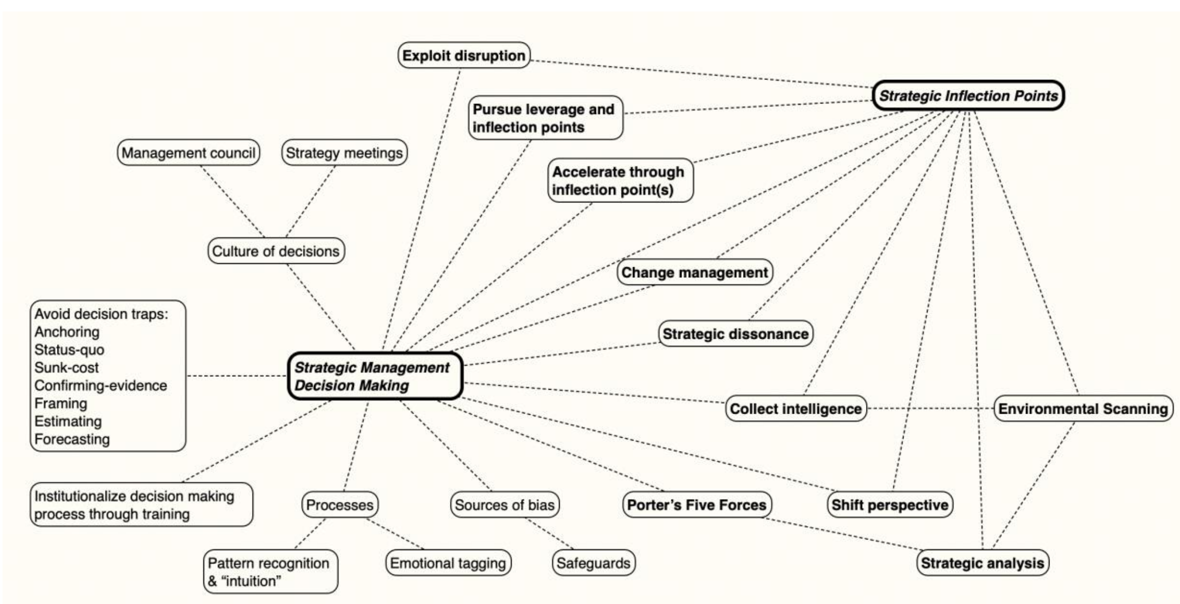

Figure 3 – Strategic Decision Making and Inflection Points

Strategic inflection points. The term strategic inflection point was introduced by Andrew Grove in his book Only the Paranoid Survive as "… a time in the life of a business when its fundamentals are about to change." (A. S. Grove, 1999, p. 33) He notes that the change can be good or it could portend difficult times or even the end of a company. An inflection point involves foundational changes that could have roots in technology, competition or other areas of importance to a firm. While it may not be evident at first, it changes the environment in which a firm operates in very significant ways that require the firm to change how it conducts business. One of the dangers is that the extent of the change may not be obvious, leading management to treat it as just another in a long line of issues and decisions faced everyday by CEO's. The delayed recognition of the change means a delay in either taking advantage of the change or adapting the firm's operations to the new reality it faces as the result of the strategic inflection point. In a lecture later published (A. Grove, 1997) Andrew Grove recommends ways to dealing with strategy inflection points in the context of Porter's Five Forces, illustrating how a company can transition to a new way of doing business given the occurrence of a strategic inflection point. He also stresses the importance of managers determining whether changes they encounter in day to day operations are simply run of the mill occurrences to be dealt with, or the much rarer strategic inflection points that will ultimately require major changes in the strategy and operation of the business. Grove, being an electrical engineer, naturally uses the analogy of signal versus noise from the electrical world to compare the process of sorting out the most important changes (signal) from the day to day changes and minor course corrections (noise.)

The strategic inflection point concept was revisited in an article (Phillips et al., 2016), which compares Grove's strategic inflection points mathematically to the inflection points typically seen in graphs of product life cycles. The study found some similarities, but also some ways in which the two types of curves differ. As a result of this finding the authors map out other terminology similar to inflection points, noting scientific definitions of the terms, a useful effort to help minimize confusion from similar terms.

Rita McGrath provides a look at ways to make strategic inflection points even more useful to top managers and their firms by focusing on ways to identify inflection points before they impact the business, providing the firm with a strategic competitive advantage over others who have not seen the inflection point coming (R. McGrath & Christensen, 2019). The author emphasizes that 1) When a management team and company is surprised by the impact of a strategic inflection point, that change has virtually always been building undiscovered for some time. 2) The difficulty firms have in noticing a strategic inflection point is not limited to just their firm. Competitors and others are having the same problem, so if a firm can notice the change earlier and act, they will gain competitive advantage. 3) Management teams responding to a strategic inflection point can use techniques associated with the discovery driven approach to business models described in several articles (R. G. McGrath & MacMillan, 1995), (R. G. McGrath, 2010) and (R. McGrath, 2017) as opposed to traditional analysis and planning in order to gain competitive advantage by making changes favorable in the new environment more quickly.

Bradt (2018) focuses on how to best take advantage of a strategic inflection point and notes for firms to be successful at gaining advantage, they will need to quickly shift the firm's strategy, organization and operations simultaneously in order to adopt the required changes. The author offers five steps for quickly adopting changes needed to make the best use of a strategic inflection point: 1) Figure out what has changed in the environment with the arrival of the strategic inflection point. 2) Change strategy in advance of the strategic inflection point fully taking hold - including not just strategy, but also strategic priorities, cultural changes that may be required. 3) Rearrange organization of firm as needed to execute the new strategy. 4) Change operational processes as needed to given the new strategy and organization. 5) Create and initiate communications programs for a) employees and b) vendors as well as other external partners that explain the changes being made with a focus on what the changes mean for individuals in each category.

Environmental scanning. Angriawan & Abebe (2011) investigated the impact of the background of CEOs, including industry tenure, CEO interpersonal functional diversity and level of environmental scanning in a group of manufacturing firms. The authors found that both length of CEO tenure and the level of business interpersonal functional diversity were positively related to the CEOs' and firms' emphasis on environmental scanning. In other words, CEO's with longer tenures who were generalists, rather than specialists, generally were associated with higher levels of environmental scanning.

Cho (2006) explored changes in the levels of environmental scanning after a major environmental change. The study looked at major airlines and the deregulation of the industry in the U.S. as the major event (inflection point.) The author found that firms with high turnover rates in their top management team (TMT) tended to have broader scopes in environmental scanning, and that their environmental scanning increased after the major environmental change. In addition, TMT's that became more diverse in terms of experience and education exhibited larger increases in environmental scanning that those with less diversity. Finally, the author also detected a link between the output-orientation of TMT members and the level, as well as breadth of environmental scanning.

Strategic analysis. The Five Forces Analysis was introduced by (Dobbs, 2014). The author notes that the Five Forces Analysis allows the strategists to determine the firm's strategic strengths and weaknesses. Once that is established, firms can be compared against other firms in the same industry as well as the overall industry. With this information a strategist can develop a plan of action likely to include: 1) developing a competitive position for the firm that makes the best use of its capabilities. 2) adopting a strategic mix that makes the best use of the firm's strengths and weaknesses. 3) anticipating how the competitive forces are likely to shift in the future, which would allow the firm to exploit future changes by introducing a strategy appropriate for the new situation before competitors notice what has happened. This third point fits the idea of strategic inflection points very well - to the point that it almost predicts the concept of strategic inflection points.

Porter (2008) updates the original 1979 article on the Five Competitive Forces and numerous related publications up to that point. The author notes that one of the important aspects of the Five Forces analysis is that it forces strategists to consider a wide range of information summarized in the five forces, rather than focusing on one just one or two elements of the overall situation. In other words, it forces users to stay focused on the overall framework of the company or industry, and enables users to see the big picture.

Dobbs (2014) points out that Porter's Five Forces analysis, as practiced by most users, is relatively superficial and decidedly qualitative. The author proposes a set of "templates" to gather quantitative data similar to Likert scales to capture quantitative information on each force, noting that by using a quantitative approach more useful and dependable information can be gathered on each of the Five Forces in any particular case.

Strategic Decision Making. (Campbell et al., 2009) discusses what neuroscience shows what can impact or distort managers' judgment with respect to decision making. The authors point out that managers' decisions typically depend on pattern recognition and emotional tagging. These "shortcuts" for decision making often provide quick and useful decisions, but they are subject to distortion from self-interest, emotional attachments and/or inaccurate memories. Managers can compensate for these human faults by trying to recognize the sources of bias, and as needed add more analysis, debates on relevant points to widen the diversity of opinion and/or relying on stronger organizational rules about the number of managers and/or experts needed to sign off on the most important decisions.

Kahan (2013) describes methods for pursuing and leveraging inflection points, noting that while inflection points can have both negative and positive impacts on companies, it is possible to turn a potential negative impact into a positive impact. The author maintains that inflection points can be used to great benefit by getting onboard early and maximizing the sales, profits or whatever is involved in the particular inflection point. If the inflection point appears to be a negative, once again getting on board early can help - except in this case it is adapting to the coming change in order to minimize damage that could occur if changes aren't made until after the damage has occurred.

Burgelman & Grove (1996) note that strategic planning often relies on the presumption of "extraordinary foresight" on the part of top managers. The authors also point out that it particularly unlikely to occur in high technology industries. The premise of the argument is that in very dynamic industries the strategic intent of a company - no matter how well crafted - is unlikely to match up with he strategic action of the firm for very long before strategic action leads or lags strategic intent. The mismatch between strategic intent and strategic action is referred to as “strategic dissonance.” The authors state that revised strategic intent must be developed to get the firm back into synch with its strategic actions. They also note that not all dissonance is strategic - sometimes it is simply operational friction or temporary mismatches that ultimately match up again with the original plan. If, on the other hand, the dissonance seems to, on close inspection, show signs of potential transformation at the industry or company level, then you are dealing with strategic dissonance, which signals an impending strategic inflection point. The authors also note that signs of a strategic inflection point are sometimes obvious, as were the cases of telecommunications deregulation and airline deregulation, where the coming events were literally announced by judges in court. More often the pending inflection point is subtle, but the authors observe that the first evidence will emerge from parts of the company that deal with the outside world - often middle managers and the sales force. The authors recommend top managers, typically somewhat sheltered from customer comments and actions of competitors while they focus on planning and operational issues, are well advised to listen to comments and signals from their middle management ranks and their sales force.

Discussion

Figure 3 shows many of the ways strategic management decision making is related to strategic inflection points. While the situation can differ from firm to firm, or industry to industry, the areas shown in bold are where most of the interactions between strategic management decision making and strategic inflection points occur. These areas need particularly close attention from TMT’s in order to optimize the resolution of strategic inflection points, and gain competitive advantage over firms less focused on resolving strategic inflection points. The areas of focus include:

- Exploit disruption

- Pursue leverage and inflection points
- Accelerate through inflection point(s)
- Change management
- Strategic dissonance
- Collect intelligence
- Environmental scanning
- Shift perspective
- Porter's Five Forces
- Strategic Analysis

New Line of Inquiry

Based on this review of strategic inflection points, and their connection to strategic management decision making, important areas of exploration would include:

- Increased understanding of the origins of strategic inflection points
- Ways to improve the early detection of strategic inflection points
- Better, standardized methods for analyzing and developing a rapid response for strategic inflection points once they are identified
- Preparing for quick action on newly detected positive strategic inflection points - those that could help the firm gain competitive advantage.
- Preparing for quick action on newly detected negative strategy inflection points, where the goal is to either to "make lemonade out of lemons" (entering/exiting industries or regions, adding or dropping product lines, etc.) or if lemonade is not a possibility, reduce the potential lost of competitive advantage, market share, profits, etc. when the change is clearly a negative for the firm.

- Improvements in the firm's capabilities in other areas of the interface between strategic management decision making and deriving maximum benefit (or minimum damage) for strategic inflection points.

Conclusion

Much of what we do in management is about maximizing results from the situation a firm finds itself in and/or strategizing to increase competitive advantage through changes in the firm and how it operates. Strategic management decision making techniques and skills have been aimed at these goals. By recognizing the importance of strategic inflection points - plus understanding how they work and how early detection can lead to better results - presents a new path toward improved management performance. These external phenomena can present opportunities that would otherwise not be possible, and they can also present potentially dangerous problems for the firm. In both cases, however, timely identification of the strategic inflection point is crucial for obtaining the best results possible. Focusing efforts on that early detection, plus quick analysis and action once the inflection point has been identified needs to be a top priority for top management teams everywhere.

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Emerging Multinationals’ control mechanisms for subsidiaries in Europe

Abstract

Emerging multinational companies (EMNCs) present a new opportunity to further existing knowledge on MNCs and perhaps develop theories that account for the observed differences with classic MNCs. This study will explore the control mechanisms adopted by EMNCs in developed economies. Using agency theory, this study seeks to compare EMNCs across developed economies in Europe and the degree of adaptation of control mechanisms to local environments. It is proposed that the extent to which an element of control is strategic or operational will determine whether an EMNCs management approach of its subsidiaries will be adaptive or exportive. Several propositions are developed as contributions to the management control literature.

Keywords: Emerging multinationals, emerging economies, multinational companies (MNCs), management control, Europe, headquarters control, subsidiary performance.

Introduction

Multinational companies (MNCs) establish subsidiaries in foreign countries and adopt internal control systems to manage and direct their foreign operations. However, subsidiaries are distinct organizations that face several host-specific conditions that influence how they operate (Chang & Taylor, 1999). In addition, geographical and cultural distance adds complexities to management of subsidiaries. MNCs use control mechanisms to ensure that subsidiaries are aligned to strategic goals and organizational objectives (Harzing & Sorge, 2003). Examples of control systems include performance and reporting requirements, staffing and training and corporate culture and management information systems. Over the years, researchers have identified that the choice, implementation and diffusion of control mechanisms is influenced by a variety of firm-specific and contextual factors (Brenner & Ambos, 2013; Chang & Taylor, 1999; Chow, Shields, & Wu, 1999; Egelhoff, 1984; Harzing & Sorge, 2003). These studies have predominantly focused on MNCs from advanced economies. These are MNCs from rich economies of North America, Europe and Japan that through foreign direct investment (FDI) transfer technology, products and knowledge to less developed countries (called North-South FDI) (Guillén & García-Canal, 2009).

On the other hand, the last two decades has seen a rise in multinationals from emerging economies and newly industrialized economies. These MNCs originate from countries such as Brazil, Russia, India, China, Mexico, Taiwan, South Korea, Saudi Arabia. Their international expansion is not limited to developing and other emerging economies but is also evident in developed countries (South-North FDI) (Guillén & García-Canal, 2009). They access international markets via greenfield investment, joint ventures and alliances. They range in size and are diverse in products/services they offer and industries they operate in. However, they seem to defy what is normally expected based on studies of developed multinational companies (DMNCs). On the surface, they lack the same “ownership advantages” and or administrative heritage as DMNCs that allows for forward diffusion of practices from home to host countries (Ramamurti, 2012). Despite being deficient in these conventional advantages, they do possess unique capabilities that allow them to succeed internationally. For example, they have access to cheap capital and labor, are familiar with weak institutional environments, and are able to produce goods and services at low costs (Guillén & García-Canal, 2009; Ramamurti, 2012). Furthermore, they are not only motivated to exploit firm-specific capabilities but internationalize to access markets and acquire strategic assets such as R&D capabilities, technological know-how, global brands and management skills (Luo & Tung, 2007).

Emerging economies account for about 20% of global FDI flows up from 10% in the 1990s (UNCTAD, 2016). In 2016, over 8 per cent of outward FDI came from Brazil, Russia, India, China and South Africa up from 5 per cent in 2010 and trends indicate that FDI from emerging economies will continue to rise (UNCTAD, 2017). Consequently, these new types of MNCs present a new opportunity to further existing knowledge on MNCs and perhaps develop theories that account for the observed differences with classic MNCs (Ramamurti, 2012). Much has been studied on Western international management practices, however, the current global landscape calls for a need to understand emerging multinational companies’ (EMNCs’) management strategies (Thite, Wilkinson, & Shah, 2012). Studies on EMNCs, particularly those focused on EMNCs in developed economies have been scarce with little understanding available on the decisions that influence control mechanisms in developed economies (Sageda & Feldbauer-Durstmüller, 2018).

The purpose of this study is to help fill this gap by investigating the control mechanisms adopted by EMNCs in developed economies. Drawing from agency theory, this study seeks to compare EMNCs across developed economies in Europe and the degree of adaptation of control mechanisms to local environments (Wright, Filatotchev, Hoskisson, & Peng, 2005). Harzing and Sorge (2003) observed that even in supranational governments, control mechanisms are influenced in ways unique to individual countries. In contrast, Sageda and Feldbauer-Durstmüller (2018) observed that the harmonization of markets and legal standards may result on convergence in how firms' management practices. This may very well be the case, as the EU as with the global market, has experienced many changes in the last decade. Thus, comparing EMNCs across multiple developed economies in Europe may help clarify the current position.

Literature Review

External Factors

Management practices are influenced by external factors resulting from home country, host country and industry conditions. Of these three constraints, country of origin has been identified as the main influence of control mechanisms in MNCs (Harzing & Sorge, 2003). Chang and Taylor (1999), observed that culture determined the type of control exerted by MNCs. Japanese MNCs staffed top management positions with parent company nationals more than American MNCs. In a study of Taiwan MNCs and subsidiaries, culture was found to affect the design of control mechanisms (Chow, Shields, & Wu, 1999) and the implementation and adaptation of management information systems (Sheu, Chae, & Yang, 2004). MNCs in individualistic cultures favored decentralization compared to MNCs from cultures with high uncertainty avoidance (Williams & van Triest, 2009). Furthermore, EMNCs are faced with negative country and brand and product image (Ramachandran & Pant, 2010). Compared to

DMNCs, EMNCs face difficulty transfering home country practices due to this negative perception. Thite et al., (2012) noted that talent management was a major challenge for an Indian MNC in Australia due to poor perception of employer brand.

Similarly, host country factors that affect control mechanisms include host-country business traditions, environmental uncertainty, market conditions, legal and political frameworks, local embededness, economic conditions and labor conditions. Studies show that the greater the need for adaptiveness to markets the more autonomy is delegated to foreign subsidiaries (Lin, 2014). In competitive environments, Dossi and Patelli (2008) noted that subsidiary decisions are influenced when rewards are linked with performance management. Host countries have different laws that govern international trade. In implementing management information systems Sheu, Chae and Yang (2004) found that in Taiwanese MNCs, European legal frameworks necessitated adaptation of systems to local requirements. Also, their subsidiaries in UK were seen to adopt local employment practices (Chang, Wilkinson, & Mellahi, 2007).

Lastly, Harzing and Sorge (2003) examined industry effects on control mechanisms. The head of subsidiaries in automobile industry were observed to be parent country national while host country nationals headed food and beverage firms. Also, innovativeness influences MNCs decentralization as the nature of activities requires a greater level of autonomy for subisidiaries (Williams & van Triest, 2009).

Firm level factors

The headquarter-subisiduary relationship is also influenced by a number of internal factors such as size of the subsidiary, degree of ownership and international business strategies. EMNCs subsidiaries play strategic functions of seeking assets, knowledge and technical knowhow which necessitates greater subsidiary autonomy (Wang, Luo, Lu, Sun, & Maksimov, 2014) . To minimize information asymmetry headquarters may resort to formalized and centralized control mechanisms to ensure subsidiary goals are aligned with those of the headquarters (Chang & Taylor, 1999; O'Donell, 2000). On the other hand, communication and interaction tends to be greater when subsidiaries are highly interdependent with the headquarters (O'Donell, 2000).

Chang and Taylor (1999) noted that MNCs' degree of use of performance management systems and staffing (i.e. employment of parent nationals in top subsidiary positions) control had a positive relationship with degree of ownership. For example, greenfield investments are less likely to resemble host-country practices compared to acquired subsidiaries HR systems (Rosenzweig & Nohria, 1994). This is because greenfield acquisitions are more inclined to adopt parent company practices than those that have already established methods of operation.

EMNCs pursue internationalization strategies that are motivated by a need to bolster competitiveness. Zhang (2003) observed that Chinese MNCs in the UK adopted their host's employment practices. While hiring more UK nationals as managers, top management positions were still staffed by expatriates. Lin (2014) observed that MNCs pursuing a global international strategy exerted a tighter control, characterized by integrated and standardized structures, on subsidiaries compared to those pursuing local responsiveness.

Furthermore, acceptance of output and behavior-based control mechanisms is facilitated by control mechanisms that rely on intense communication and personal interactions (Brenner & Ambos, 2013). The use of expatriates helps to legitimize these mechanisms by building trust between subsidiary employees and the headquarters.

Theoretical background

Agency Theory and Control

Agency theory attempts to explain the relationship between an 'agent' and the 'principal' where the agent acts on behalf of the principal (Pratt & Zeckhauser, 1985). In management, this theory has traditionally been applied to the relationship between owners/stockholders of a firm (principals) and managers (agents) (Fama, 1980). This relationship is also defined as a contract where the principal delegates authority to the agent to perform a service on the principal's behalf (Jensen & Meckling, 1976). A reciprocal relationship ensues that involves incentives rendered to the agent so that they may act in the best interests of the principal even where the principal may not fully observe the agent's action and information.

However, the agency relationship is characterized by information asymmetry (Eisenhardt, 1989; Pratt & Zeckhauser, 1985). The agents know more about their tasks than the principal and the principal may not have enough information to verify the agent's behavior. It assumes that humans are boundedly rational, risk averse and concerned with maximizing their self-interest (Eisenhardt, 1989; Fama, 1980; Jensen & Meckling, 1976). Because of this, the agent may not act in the best interests of the principal and both parties may have different risk profiles. Even when acting dutifully and honestly and facing limitations of bounded rationality, agents may be limited in making perfect judgements and acting appropriately (Hendry, 2002).

This leads to the agency problem which arises from a) the conflicting goals of the principal and agent and b) the difficulty in monitoring the agent's behavior. As a result, the principal incurs agency costs aimed at monitoring and controlling the agent (Pratt & Zeckhauser, 1985). Examples of such costs include the agent's investment of firm resources in projects that may not maximize shareholder value, or incentives given to agents to ensure that they act in the best interests of the principal (Jensen & Meckling, 1976; Pratt & Zeckhauser, 1985). Thus, the goal of the principal is to structure the relationship such that these costs are minimized (Pratt & Zeckhauser, 1985).

Researchers have identified mechanisms that principals use to control agents and minimize these costs. Traditional conceptualizations of control include behavioral, output and cultural (Eisenhardt, 1989; Ouchi & Maguire, 1975). Behavioral control involves monitoring the behavior of the agent. Output control involves measuring outcomes to align the actions of the agent with the goals of the principals. Cultural control entails socialization of agents to achieve congruence in values and interests (Eisenhardt, 1989; Jaegar, 1983; Ouchi, 1975, 1979).

Control in MNCs

Extending the classical agency theory to management, the headquarters of a Multinational Company (MNC) takes the position of “principal” and its subsidiary as “agent”. The parent company invests funds and resources on the subsidiary and the subsidiary is expected to operate in the interests of the parent company. However, parent company and subsidiaries may not share the same goals (Nohria & Ghoshal, 1994). MNCs have subsidiaries operating in different countries and may likely be headed by individuals from those countries. The legal, political, cultural and language differences of operating environments and managers values and attitudes gives rise to differing interests between the headquarters and subsidiaries. Cultural and geographic distance creates uncertainty about subsidiary’s decisions (Chang & Taylor, 1999; O'Donell, 2000). In addition, a greater level of resource ownership by a subsidiary may result in more independence and therefore higher agency costs (Nohria & Ghoshal, 1994).

In MNCs, a key internationalization concern is managing global integration while adapting to national conditions (Bartlett & Ghoshal, 1987). However, internationalization is a source of informational asymmetries and significant risks (Filatotchev, Jackson, & Nakajima, 2013; Gammeltoft, Filatotchev, & Hobdari, 2012) Coordination and control entails minimizing these disadvantages and integrating divergent interests such that the subsidiaries act to achieve the overall goal of the organization (Cray, 1984). Control is the process by which the parent company exercises power and authority over the subsidiary to bring about the desired outcome, and coordination is the process by which different task units are organized for them to work effectively (Cray, 1984). These two processes serve to manage the need for subsidiaries to be flexible in their host environments while minimizing conflict and overlap within the firm.

Within the MNC, outputs controls are based on valid and quantifiable measures which act as monitoring and evaluation tools (Ouchi, 1975). Output controls require little managerial intervention as they are based on verifiable evidence (Gencturk & Aulakh, 1995; Ouchi, 1979). While they require less resources compared to behavioral controls, they are less flexible to subsidiary-specific control needs (Ouchi, 1979). They are typically associated with incentives and may be in the form or performance management contracts, bonus and profit-sharing plans and commissions. Process controls are mechanisms that define how employees should behave and the processes they must engage in (Turner & Makhija, 2006). They require more managerial intervention as they involve direct, personal surveillance to guide and direct subordinates (Ouchi & Maguire, 1975; Ouchi 1979). Thus, process controls require much time and effort by headquarters in the management of foreign subsidiaries (Gencturk & Aulakh, 1995). With, cultural controls, an employee learns to become a part of the value system that implicitly governs the organization (Jaeger, 1983). Cultural control can be formal or informal and is facilitated by processes such as staffing top subsidiary positions with expatriates, mentoring, rotation of managers, management training and networking. Though, independent of each other, MNCs use a combination of controls to achieve desired goals (Brenner & Ambos, 2013; Ouchi, 1975, 1979).

Research Hypotheses

Based on the literature review and theoretical background, MNCs will adopt control mechanisms based on a number of influencing factors. Evidence suggests that there are notable differences in management practices between EMNCs and DMNCs. Due to their superior management practices DMNCs can transfer these practices to their target countries. On the other hand, EMNCs are doubly disadvantaged by the “liability of foreignness” and “liability of origin” (Ramachandran & Pant, 2010). The former are costs associated with doing business abroad borne by all MNCs, but the latter are institutional constraints that impact how EMNCs are perceived in their target countries (Luo & Tung, 2007). Similarly, EMNCs have their unique approach to managing their foreign operations based on a set of internal factors such as strategy, leadership, organization culture and interdependence of subsidiaries. Intuitively, the need to manage integration and differentiation will not have a universal effect on control mechanisms in EMNCs (Bartlett & Ghoshal, 1987). The tension between adapting to local environments and maintaining control over subsidiaries forces the EMNCs to develop ‘customized’ control mechanisms. Infact, Guillén and García-Canal (2009) noted that unlike DMNCs, EMNCs are not encumbered by administrative heritage and thus have the flexibility to be innovative with their organization forms. From an agency theory perspective, this creates a stronger need to enhance information flow, minimize uncertainty and ensure that subsidiaries conform to strategic goals of the parent company.

The scant research conducted on EMNCs in developed countries indicate that control mechanisms are not fully adaptive to local environments. EMNCs pursue experiential learning to overcome liability of foreignness and their late comer disadvantage (Cuervo-Cazurra, Maloney, & Manrakhan, 2007), and adopt ‘best management practice’ as a means of gaining competitive advantage (Fan, Zhang, & Zhu, 2013; Bartlett & Ghoshal, 1987). As a result, subsidiaries play a significant role of channeling knowledge to headquarters and tend to be fairly autonomous (Giuliani, Gorgoni, Günther, & Rabellotti, 2014). For instance, Thite et al. (2012) observed that subsidiaries of an Indian MNC were decentralized while strategic decision-making was done at the headquarter-level. Zhang (2003) found that Chinese MNCs adopted UK HRM practices as a way of acquiring knowledge and being globally competitive. A study of EMNCs in Europe by Giuliani et al. (2014) also supported this finding. They observed that, motivated by the need to access host country’s technical knowledge, EMNCs relied on subsidiary workers and personnel exchanges as the primary means of knowledge transfer.

In reconciling the need be globally integrated and locally responsive, Fan et al., (2013) showed that EMNCs are flexible in their control mechanisms. Their case studies of Chinese MNCs operating in Australia revealed that though EMNCs may be unique in their internalization processes, their human resource recruitment, and management processes differ. For example, some EMNCs do away with outdated performance and reward systems to attract local talent, others give more flexibility to subsidiary managers, while others retain responsibility of recruiting senior positions in the subsidiaries at HQ level. Similarly, Chang et al., (2009) observed that Taiwanese EMNCs in the UK adopt a mixed approach in adoption of HR practices that reflect the pressures of home and host country factors. The headquarters is responsible for strategic HR decisions such as workforce expansion or reduction while the subsidiary is responsible for operational decisions such as pay appraisal and recruitment.

Consequently, I argue that whether an element of control is strategic or operational will determine how adaptive (polycentric) or integrative/exportive (ethnocentric) the management approach will take (Taylor, Beechler, & Napier, 1996). Elements of management control include planning, evaluation, decision making, information systems and human resource. Strategic elements such as strategic planning, evaluation and decision-making will be handled at headquarter level while operational planning and decision-making will be decentralized at subsidiary level. Furthermore, top subsidiary positions will be staffed by expatriates but other HR practices such as recruitment and training will be more consistent with the practices in developed economies as an attempt to gain knowledge and legitimacy in developed economies. (Ying Chang et al., 2007; Fan et al., 2013). We acknowledge that this may look different in EMNCs as each firm has its own set of unique pressures to overcome. This leads to the following propositions:

Proposition 1: *The greater the element of control mechanism is characterized as strategic, the more likely that EMNCs will adopt an enthocentric approach to managing their subsidiaries in developed countries.*

Proposition 2: *The greater the element of control mechanism is characterized as operational, the more likely that EMNCs will adopt a polycentric approach to managing their subsidiaries in developed countries.*

Discussion

Implications for theory and practice

This paper has important implications for theory and practice. The traditional western model of coordination and control and its lack of applicability to EMNCs raises the need to understand how EMNCs exercise corporate control of their foreign subsidiaries (Thite et al., 2012). This study will attempt to shed light on the management approach that EMNCs take to manage their foreign subsidiaries in developed economies, which also responds to calls for future research on the influence of supranational institutions on control mechanisms (Sageda & Feldbauer-Durstmüller, 2018; Wright et al., 2005). Knowing which elements are integrated and which ones are adapted to local environment will be a good indicator of the relative pressures that EMNCs must overcome and provide understanding on their overseas behaviors. For example, results may indicate that EMNCS from similar countries have similar approaches. This may further extend past studies on the role of country effect in control mechanisms. The results may provide guidance to other EMNCs and HRM practitioners wishing to expand to developed countries. It may be that EMNCs that adapt to their HR practices to local environments attract better talent or use of expatriates promotes cohesiveness even across boundaries. How these EMNCs perform in developed economies vis-à-vis their control mechanisms may be a source of 'best management practice' for others to emulate. Finally, the rapid growth of EMNCs means that the global environment becomes extremely competitive. DMNCs are no longer the only players in their home countries and must fend off competition from new entrants. This means that understanding how EMNEs operate will provide more knowledge on how best to adapt their competitive strategies.

Limitations and Future Research

The first limitation is generalizability of findings. The study focused on developed economies in Europe. This is because Europe presents different national contexts that may strengthen comparability. Thus, the findings may not be generalizable to USA and Japan. Future studies may compare EMNCs in USA, Europe and or Japan. Second, the studies do not shed light on why EMNCs adapt their control mechanisms. Future research could examine the motivation behind this and investigate, for example, the role that technology has on control mechanisms. Finally, future work could establish how control mechanisms adapt over time. It may be that as EMNEs acquire and strengthen capabilities, their control mechanisms will change over time.

Conclusion

EMNCs present a new opportunity to further existing knowledge on MNCs and perhaps develop theories that account for the observed differences with classic MNCs. This study will explore the control mechanisms adopted by EMNCs in developed economies. Using agency theory, this study seeks to compare EMNCs across developed economies in Europe and the degree of adaptation of control mechanisms to local environments. It is proposed that the extent to which an element of control is strategic or operational will determine whether an EMNCs management approach of its subsidiaries will be adaptive or exportive. Several propositions are developed as contributions to the management control literature.

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Do CEOs Actually Value Corporate Political Strategy? The Influence of CEO Characteristics on Corporate Political Strategy

Abstract

Integrating studies on upper echelons and agency theories, I explore how CEO characteristics, tenure in particular, impact firms' engagement in corporate political strategy (CPS). I propose that depending on CEOs' tenure, firms have varying interests in being politically active, and thus have different incentives to make corporate political strategy investments. In addition, I suggest that CEOs' personal involvement in political activity affects their firms' CPS investments. CEOs' personal involvement in politics could indicate agency problems. To explore further this agency problem, I also examine how CEO duality moderates the relationship between CEO characteristics and CPS. Since CEO duality implies strong CEO power, CEO duality could intensify the agency problems in the context of CPS. Overall, consistent with my predictions, the findings demonstrate when agency problems are more prevalent in the context of CPS investments.

Key Words: Corporate political strategy, CEO, agency theory, upper echelons theory.

1. Introduction

Scholars have long been interested in why firms invest in corporate political strategy (CPS) (Epstein, 1969). Campaign contributions to elections, lobbying, grassroots advocacy, participating in trade associations are various types of CPS that firms engage in. The firms' decision to engage in CPS has been analyzed at multiple levels of analysis. Prior research identifies industry conditions, i.e., industry concentration, institutional context, i.e., political ideology, political competition, as well as firm characteristics, i.e., firm size, leverage, slack resources as antecedents of CPS (see Lawton, McGuire, & Rajwani, 2013; Lux, Crook, & Woehr, 2011 for a review). The underlying notion behind this stream of research is that firms allocate resources to CPS with the anticipation of generating better returns (Baron, 1995). Most of the existing studies focus on CPS decisions as unified behavior within the firm and neglect the firm's internal characteristics (Rehbein & Schuler, 1999). Despite these studies have significantly increased our understanding of firms' investments in CPS, considerably less work has examined whether firms' senior executives may have different attitudes or opinions on CPS. More recent research started exploring the CEO characteristics as antecedent of CPS (Fremeth, Richter, & Schaufele, 2016; Greiner & Lee, 2018; Rudy & Johnson, 2016). Drawing from the upper echelons theory (Hambrick & Mason, 1984), several studies argue that CEOs impact why their firms engage in CPS (Rudy & Johnson, 2016). Other studies take a different approach and articulate agency problems in the context of CPS (Cao, Fernando, Tripathy, & Upadhyay, 2018; Fremeth et al., 2016; Ozer & Alakent, 2013). They argue that CEOs might have personal interests in politics and this could affect whether their firms will be involved in CPS.

In this study, I contribute to the extant CPS research by investigating how CEO characteristics, tenure in particular, impact firms' engagement in CPS. Building from prior work, I expect that CEOs with different tenure influence their firms' investments in CPS in a different manner. I also examine how CEOs personal involvement in political activity affects their firms' CPS. CEOs' political involvement could indicate agency problems. Politically active CEOs may accrue personal benefits from their involvement in politics and this may encourage them to engage their firms in CPS. Yet, firms may not benefit from CPS as it is difficult to directly demonstrate causal linkages between CPS and firm outcomes (Hadani, Dahan, & Doh, 2015). Shareholders may view CEOs' political involvement as an opportunistic behavior. Consequently, CEOs' political involvement could increase agency costs. To explore further this agency problem, I examine how CEO duality moderates the relationship between CEO tenure and CPS as well as CEO political involvement and CPS. Since CEO duality implies strong CEO power, CEO duality could intensify the agency problems in the context of CPS. Powerful CEOs may be more inclined to engage in political activity and shape their firms' CPS in accordance with their own political activity. In doing so, this study demonstrates when agency problems are more prevalent in the context of CPS.

This study makes four important contributions to the CPS literature. First, I offer a framework that integrates upper echelons and agency theory in CPS research, and extend the seemingly contradictory arguments on the role of CEOs in the pursuit of CPS. Previous literature has presumed that these two perspectives are mutually exclusive. By integrating these two perspectives, I illustrate how various motivations for CEOs to engage in CPS may co-exist. Second, I contribute to the literature on CPS by examining when CEOs influence their firms' CPS. By considering the role of CEO tenure in shaping their firms' engagement in CPS, I extend the antecedents of CPS literature, which focuses on firms' motivations for CPS. Third, by studying CEOs' political involvement, I demonstrate why some firms are more actively engaged in CPS. While prior studies on CPS offer highly insightful explanations for why firms opt to engage in CPS, a few studies consider the management of CPS from the perspective of CEOs. Fourth, I advance the CPS literature by incorporating CEO duality as a moderating effect on the relationship between CEO characteristics and CPS. This offers a new insight that powerful CEOs with dual positions are more likely to differ in how they perceive CPS and respond to their firms' CPS decisions. Taken together, this study provides further analysis of agency problems in regard to CPS.

2. Literature Review

CPS, defined as firms' deliberate attempts to shape public policy in a favorable way to themselves (Baysinger, 1984), has been recognized in different fields such as political science, sociology, economics, finance, and strategic management (Hadani, Bonardi, & Dahan, 2016). Studies from these fields have been trying to understand why firms engage in CPS. Theoretically, early scholarly work on CPS proposes that firms can gain benefits from CPS. When utilized strategically, CPS is expected to produce public policy outcomes that help firms' continued economic survival and success (Baysinger, 1984; Ozer & Lee, 2009). Firms can achieve a number of objectives through CPS such as to bolster their economic positions, to hinder their domestic and foreign competitors' progress and competition, and to voice their opinions in government affairs (Hillman & Hitt, 1999; Keim & Zeithaml, 1986).

However, empirical work on the effectiveness of CPS has been inconclusive. Several studies find support for positive firm outcomes of CPS (Alakent & Ozer, 2014; Bonardi, Halburn, & Vanden Bergh, 2006; Ridge, Ingram, & Hill, 2017; Shaffer, Quasney, & Grimm, 2000). Other work suggests firms may be unable to accrue benefits from CPS and CPS even can be detrimental to firm outcomes (Aggarwal, Meschke, & Wang, 2012; Hadani & Schuler, 2013). Thus, scholars started to question whether firms truly achieve their financial objectives while pursuing CPS (Hadani & Schuler, 2013).

More recent work on CPS started to question the impact of CPS on firm outcomes and suggested firms may engage in CPS for a different reason: the CEO. Rudy and Johnson (2016) argue that a firm will invest in CPS because the CEO has the discretion to control such investment and the CEO has the greatest organizational power to influence those investments. Drawing on upper echelons theory which suggest that organizational outcomes can be viewed as reflections of senior executives' values and cognitive perspectives of their environment (Hambrick & Mason, 1984), Rudy and Johnson (2016) propose that CEO characteristics such as tenure, age, functional background, etc. influence their interpretation of the external environment and make them to be more aware of their firms' nonmarket environment and thereby to engage in CPS. Prior CPS work following on the upper echelons theory implies that CEOs aim to serve their firms to the best of their ability and make rational CPS decisions for the best firm outcomes as they believe CPS benefits their firm (Ozer, 2010). Yet, a number of scholars express skepticism over effectiveness of CPS and suggest that CEOs may support CPS not because CPS benefits their firm, but it helps their personal agenda (Fremeth, et al., 2016; Greiner & Lee, 2018; Hadani & Schuler, 2013). Hadani and Schuler (2013) suggest that CPS might signal agency problems to the extent that personal managerial motives could drive CPS. Other scholars note that CPS may benefit CEOs such as increased executive pay (Arlen & Weiss, 1995; Yu & Yu, 2011), personal prestige (Hart, 2004), and social capital (Reich, 2010). Taken together, these studies suggest that agency problems could occur between executives and owners as executives may have preferences or priorities to engage in CPS and those may not provide direct benefits to firms. So the question becomes what factors will lead CEOs to engage in CPS and when will they behave in a more opportunistic behavior? In other words, when will agency problems in the case of CPS be more salient? My primary argument is that certain CEO characteristics influence firms' engagement in CPS and they will also create contingencies in which agency problems will be more salient.

3. Hypothesis Development

3.1. CEO Tenure

Although several CEO characteristics could affect a firm's commitment to CPS, I propose that CEO tenure is particularly important. CEO tenure is one of the most commonly explored trait in the upper echelons literature. According to the upper echelons theory (Hambrick & Mason, 1984), CEOs' actions are defined by their understanding of the strategic situations they encounter. Their tenure significantly shapes this understanding as well as their skills, knowledge, and cognition orientation (Barker & Mueller, 2002). Following this perspective, a significant body of research relates CEO tenure to firm strategy (Barker & Mueller, 2002; Herrman & Datta, 2006; Hou, Priem, & Goranova, 2017). The prior literature finds CEO tenure to be related to a variety of important firm outcomes such as firm performance, risk taking, strategic change, innovation, investment strategies, etc. (Barker & Mueller, 2002; Boeker, 1997; Henderson, Miller, & Hambrick, 2006; Simsek, 2007). Hambrick and Fukutomi (1991) suggest that CEOs have different "seasons" of tenure and they learn as their tenure increases. In early stages of tenure, CEOs lack internal and external networks, experiences, and knowledge about their firms and industries (Wu et al, 2005, therefore they try to expand and refine their skill sets. In later stages, they gain more experience, build and capitalize on their social capital, become familiar with the decision process, and develop deep knowledge about their jobs, firms, and environments (Herrmann & Datta, 2006).

Research on CPS suggests that CPS could provide firms with long-term benefits such as securing government contracts (Blumentritt, 2003; Hadani, Munshi, & Clark, 2017), minimized tax and regulatory burdens (Hillman, Zarkhoodi, & Bierman, 1999; Richter, Samphantharak, & Timmons, 2009), and government bailout (Faccio, Masulis, & McConnell, 2006). I suggest that CEOs adjust their firms' CPS strategies over their tenure. I argue that in their early tenure, CEOs have less incentives to promote CPS because they may not be familiar with how CPS affects their firm performance due to inherent uncertainty involved during policy making process (Hadani et al., 2016). CEOs with long-term tenure are more likely to recognize the long-term benefits of CPS to their firms (Rudy & Johnson, 2016). Due to their greater experience within the firm, these CEOs are more inclined to grasp the strategic advantages of CPS for their firms. Hence, while CEOs with short-term tenure will have a limited ability to pursue CPS, CEOs with long-term tenure will commit more resources to CPS as they will have greater experience and knowledge about the long-term benefits of CPS for their firms. Accordingly, I expect CEOs with long-term tenure to be more motivated to engage in CPS.

Hypothesis 1: There is a positive relationship between CEO tenure and CPS.

3.2. CEO's Personal Involvement in CPS

A key point in analyzing CEOs' personal involvement in CPS is that CEOs might pursue CPS due to personal reasons and this creates agency problems between CEOs and owners of the firm. CEO's personal involvement in CPS may indicate that CEO pursues self-serving interests and engage in opportunistic behaviors through CPS. Fremeth et al. (2013) find that when individuals become the CEO of a firm, they significantly increase their political campaign contributions. Following the agency theory logic, I propose that the reason for firms' engagement in CPS could be that CEOs inject their personal preferences of political activity into corporate policies.

In recent years, a few studies indicate that CEO's political involvement is an indicator of agency problems. For example, Bebchuk and Jackson (2010) point out that the interests of senior executives in political spending may diverge from those of shareholders as political spending decisions could be a product of executives' own political preferences and beliefs. Aggarwal et al. (2012) find that CPS indicates conflict between shareholders and senior executives. By examining management entrenchment as a possible explanation for corporate lobbying, Mathur, Singh, Thompson, and Nejadmalayeri (2013) demonstrate that firms with more entrenched management have a greater tendency to engage in lobbying to further their own interests. Other studies note that senior executives personally could benefit from CPS. For instance, Gupta and Swenson (2003) find that individual senior executives' election campaign contributions (PACs) positively affect their firms' tax benefits. They also find that senior executives whose compensation includes earnings-based bonuses and significant stock ownership make larger PAC contributions to tax-writing members of Congress. Gordon, Hafer, and Landa (2007) suggest that senior executives' compensation tends to be influenced by their firms' performance as well as actions of government officials, therefore they are motivated by their interests and belief that their political contributions to elections have the potential to change the outcomes that influence them. Thus, I posit that CEO's personal involvement in political activity will be positively associated with the firm's engagement in CPS.

Hypothesis 2: There is a positive relationship between CEO's personal involvement in political activity and CPS.

3.3. CEO Duality

CEO duality, CEO as serving as board chair, is one of the most widely studied corporate governance practices (Dalton, Hitt, Certo, & Dalton, 2007). Prior research points out that CEO duality reflects the extent of board oversight and CEO power (Finkelstein & D'Aveni, 1994). In the context of CEO duality, agency theory suggests that boards should be independent from management to prevent managerial entrenchment (Krause, Semadeni, & Cannella, 2014). Since, CEO duality inherently conflicts with this suggestion, agency theorists believe that CEO duality negatively affects firm performance (Duru, Iyengar, & Zampelli, 2016; Finkelstein & D'Aveni, 1994). CEO is likely to use their board chair role to entrench themselves against accountability (Finkelstein & D'Aveni, 1994).

I expect that CEO duality negatively moderates the positive relationship between CEO tenure and CPS. I contend that powerful CEO positions are not always beneficial for investments in CPS. Longer tenured CEOs will have more power over their boards. As CEOs' tenure increases, CEOs can acquire managerial expertise, develop close relationships with board of directors, and gain considerable influence over the board (Shen, 2003). These CEOs can also gain more power when they hold chairmanship positions in the board. Longer tenured CEOs may exhibit different proclivity to invest in CPS when they are also the chair of the board. Taking advantage of their increased power, they may have less tendency to make an investment in CPS. These CEOs might be reluctant to invest in CPS. CPS is a risky strategy, cause-effect relations are ambiguous, can reduce firm performance in the near term or postpone payoffs (if any) in the long term. Since CPS is a long-term investment with uncertain outcomes, these powerful CEOs with long-term tenure and duality may not take risks which could severely affect firm performance. These CEOs may prefer stability and efficiency (Barker and Mueller, 2002). Their accumulated power enables them to pursue their interest opportunistically. As a result, longer tenured CEOs with duality can reduce their firms' investments in CPS. Taken together, this suggests the following hypothesis:

Hypothesis 3: The positive relationship between CEO tenure and CPS is weaker for firms with CEO duality.

In the context of CEO's personal involvement in CPS, I propose that CEO duality exacerbates agency problems vis-à-vis CPS. The more powerful the CEO is, the more CEO will engage in CPS due to agency problems. CEO duality magnifies managerial opportunism when CEOs personally invest in political action. I posit that CEO duality offers CEOs an opportunity to extract private benefits by misallocating firm resources to CPS. CEO duality provides an environment in which CEO can engage in managerial actions that deviate from shareholders' interests (Aktas, Andreou, Karasamani, & Philip, 2019). CEO duality gives CEOs more room to act in their own self-interest at the expense of shareholders (Barker and Mueller, 2002). With this stronger power, CEOs may more easily pursue their own personal agenda. CEO duality is more likely to allow the CEO to seek their personal interests in CPS. The adverse effect of CEO duality on CPS is more prevalent in firms that are potentially exposed to agency problems, particularly in the presence of CEO's personal involvement in CPS. CEO duality exacerbates this problem and leads to increased CPS. Accordingly, I hypothesize the following:

Hypothesis 4: The positive relationship between CEO's personal involvement in CPS and CPS is stronger for firms with CEO duality.

4. Methods

4.1. Data and Sample

The empirical setting for this study is the U.S. pharmaceutical industry from 2000 to 2010. The pharmaceutical industry has been among the top spenders in lobbying expenditures. I collected data from a variety of sources. First, I identified the pharmaceutical firms from COMPUSTAT database. To collect information on firms' corporate political strategies, I used the Center for Responsive Politics database, which provides a public access to firms' lobbying expenditures and campaign contributions (www.opensecrets.org). Then, information on CEO characteristics was retrieved from the ExecuComp database. The final sample includes 416 firms with 2,673 firm-year observations.

4.2. Measures

Dependent Variable

Corporate political strategy: I measure corporate political strategy by the natural logarithm of the total expenditures of the firm's lobbying activities and political action committee contributions in a given year. Consistent with prior research on CPS, I focus on these two most prominent measures of CPS (Hadani et al., 2015; Lux et al., 2011; Mathur & Singh, 2011; Schuler, Rehbein, & Cramer, 2002).

Independent Variables

CEO Tenure. CEO tenure is measured as the number of years a CEO has held the office.

CEO's Personal Involvement in CPS. Following prior studies (Fremeth et al., 2016; Gupta & Swenson, 2003), CEO's personal involvement in CPS is measured as the dollar amount of campaign contributions to particular candidates or parties made by CEOs.

CEO Duality. CEO duality is measured as a dummy variable taking the value of 1 if the CEO also serves as the board chairman, and 0 otherwise.

Control Variables

In addition, a number of control variables are included. First, I control for firm size as prior research has shown that firm size affects CPS. Firm size was measured by using the natural logarithm of the number of employees. Second, I control for book-to-market value measured as the ratio of a firm's book value to the equity market value. Capital intensity is measured by the ratio of capital expenditures to total sales. I also include two measures of organizational slack which are the ratio of working capital to total assets and the ratio of common equity to long-term debt. Prior CPS is the natural logarithm of the total expenditures of the firm's lobbying activities and political action committee contributions in the previous year. Lastly, I included year dummies to control for differences in CPS across time.

4.3. Analysis

Previous empirical studies on CPS note a methodological issue, which is the large number of observations in which firms invest zero dollars in CPS (Aggarwal et al., 2012; Gordon et al., 2007). Following previous studies, I approach this methodological concern by employing Tobit estimation. Tobit analysis captures and controls for both politically active and inactive firms.

5. Results

Table 1 displays descriptive statistics and correlation matrix for all variables. Table 2 includes the results of Tobit regression models of CEO characteristics on CPS. H1 predicts that CEO tenure is positively associated with CPS. The results in model 2 provide support for this hypothesis ($p<0.05$), as such CEOs with long-term tenure are more motivated to engage in CPS. H2 proposes a positive relationship between CEO's personal involvement in political activity and the firm's engagement in CPS. Consistent with H2, as shown in model 2, the results show a positive and statistically significant relationship ($p<0.01$). The moderating effects of CEO duality is displayed in model 3 and 4 respectively. The interaction between CEO tenure and CEO duality is negative and significant ($p<0.05$). This result supports H3, indicating that longer tenured CEOs with duality can reduce their firms' investments in CPS. The interaction between CEO's personal involvement in CPS and CEO duality is not statistically significant. Thus, H4 is not supported.

[INSERT TABLE 1 HERE]

[INSERT TABLE 2 HERE]

6. Discussion

In this paper, I explore how CEO characteristics influence their firms' engagement in CPS. The findings of this study suggest that CEO tenure and CEOs personal involvement in politics affect firms' pursuit of CPS. By doing so, this study addresses CEO-level antecedents of CPS from the upper echelons theory perspective. Specifically, I indicate that firms differ in why they invest in CPS due to their CEOs' characteristics. I also demonstrate that CEO duality moderates the relationship between CEO tenure and CPS. This suggests that CEO duality provides a context for CPS in which agency problems may occur. Thus, this study offers a framework that integrates upper echelons and agency theory in CPS research.

This study makes several contributions for CPS research. First, this study contributes to research on the role of CEOs in CPS. From upper echelons theory perspective, existing CPS research focuses on whether CPS decisions are influenced by CEOs (Fremeth et al., 2013; Hart, 2004; Rudy & Johnson, 2016). By considering the role of CEOs in CPS decisions, this research stream highlights the importance of CEOs within the firm and their influence on the long-term success of the firm. Another stream of CPS research examines the role of CEOs in CPS from agency theory perspective (Cao et al., 2018; Hadani et al., 2015; Mathur et al., 2013). The underlying premise of this research is that the interests of CEOs and shareholders may diverge with respect to CPS decisions and firms' investments in CPS may be a result of CEOs' own political preferences and beliefs (Bebchuk & Jackson, 2010). This paper fills a gap by integrating upper echelons and agency theory in CPS research and illustrates how various motivations for CEOs to engage in CPS may co-exist.

Second, this article contributes to the literature on CPS by examining when CEOs influence their firms' CPS. To understand how CEOs shape their firms' CPS, I examine CEO tenure as an important mechanism for firms' engagement in CPS. Consistent with prior research (Rudy & Johnson, 2016), I suggest that firms engage in CPS as a result of certain CEO characteristics, CEO tenure in this case. Thus, I extend the CPS literature by showing how CEO tenure affects firms' investment decisions on CPS.

Third, this study deepens our understanding of why some firms are more actively engaged in CPS by studying CEOs' political involvement. Prior studies on CPS offer highly insightful explanations for why firms opt to engage in CPS (Lux et al., 2011; Mathur & Singh, 2011), a few studies consider the motivation for CPS from the perspective of CEOs personal interests. This study proposes that CEOs' personal involvement in politics could indicate agency problems. Politically active CEOs may accrue personal benefits from their involvement in politics and this may encourage them to press their firms to invest in CPS more actively. Nevertheless, firms may not benefit from CPS since it is difficult to directly demonstrate causal linkages between CPS and firm outcomes (Hadani et al., 2015). As such, shareholders may view CEOs' personal involvement in politics as an opportunistic behavior. Consequently, CEOs' personal involvement in CPS could increase agency costs. This study extends this research stream and highlights the effects of CEOs' personal involvement in politics on their firms' investments in CPS.

Fourth, this study advances the agency theory perspective on CPS by incorporating CEO duality as a moderating effect on the relationship between CEO characteristics and CPS. With duality which bestows stronger power on CEOs, CEOs may more easily pursue their own personal agenda for CPS. Hence, this study offers a new insight that powerful CEOs with dual positions are more likely to differ in how they perceive CPS and respond to their firms' CPS decisions. Taken together, this study provides further analysis of agency problems in regard to CPS.

I recognize that this study has some limitations. While this study focuses on CEO tenure as one of the CEO characteristics impacting firms' CPS investments, future research could also examine how other CEO characteristics such as education, functional background, and age may affect firms' engagement in CPS. Second, I examine the theoretical framework in the context of the biotechnology industry. It might be interesting to study this framework in other sectors such as consumer electronics in which firms are increasingly becoming politically active in recent years (https://www.opensecrets.org/). Future research could also explore how CEO -top management team interaction may influence CPS decisions. Extending the present study to explore CEO-top management team interaction seems to be a promising area to study further agency theory implications in the context of CPS. Finally, in this study, I examine the moderating effects of CEO duality, yet, there might be other moderating variables such as CEO compensation, CEO- board relations, etc. to be considered to explore the relationship between CEO characteristics and CPS investments for future research.

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Table 1 Descriptive Statistics and Correlations

Variable	Mean	Std.Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1) CPS	3.21	5.82	1.00									
2) CEO tenure	.79	3.35	0.11*	1.00								
3) CEO-political	75.81	799.12	0.18*	0.16*	1.00							
4) CEO duality	.08	.27	0.10*	0.48*	0.25*	1.00						
5) Firm size	-.48	2.74	0.54*	0.14*	0.12*	0.16*	1.00					
6) Book-to-market	.84	209.01	0.02	0.00	0.00	0.01	0.02	1.00				
7) Capital intensity	3.28	130.67	-0.01	-0.01	-0.00	-0.02	-0.08*	-0.00	1.00			
8) Org. slack1	-5.42	373.89	0.01	0.02	0.00	0.02	0.03	0.00	0.00	1.00		
9) Org. slack2	447.55	5842.97	-0.02	0.01	-0.01	0.02	-0.03	0.00	-0.00	0.01	1.00	
10) Prior CPS	3.11	5.76	0.63*	0.12*	0.11*	0.09*	0.53*	0.01	-0.01	0.01	-0.01	1.00

* shows significance at the .01 level

Table 2 Tobit Regression Results

	(1)	(2)	(3)	(4)
Firm size	2.251***	2.485***	2.474***	2.485***
	(0.130)	(0.151)	(0.150)	(0.151)
Book-to-market	0.011*	0.010*	0.010*	0.010*
	(0.006)	(0.006)	(0.006)	(0.006)
Capital intensity	-1.690	-3.786**	-3.763**	-3.786**
	(1.048)	(1.844)	(1.845)	(1.844)
Org. slack1	0.358	6.188***	6.140***	6.189***
	(0.552)	(1.392)	(1.391)	(1.393)
Org. slack2	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Prior CPS	0.843***	0.796***	0.792***	0.796***
	(0.042)	(0.041)	(0.041)	(0.041)
CEO tenure		0.124**	0.230***	0.124*
		(0.062)	(0.078)	(0.064)
CEO-political		0.001***	0.001***	0.001
		(0.000)	(0.000)	(0.000)
CEO duality		-1.916**	-0.732	-1.912**
		(0.831)	(0.987)	(0.868)
CEO tenure X			-0.291**	
CEO duality			(0.133)	
CEO-political X				-0.000
CEO duality				(0.000)
Constant	-1.797**	-3.097***	-3.040***	-3.097***
	(0.905)	(1.046)	(1.045)	(1.046)
Obs.	2801	2673	2673	2673
Pseudo R^2	0.151	0.153	0.154	0.153

Standard errors are in parenthesis. Year dummies are included but not reported.
*** *p<0.01*, ** *p<0.05*, * *p<0.1*

Evaluating Crisis Readiness: A PLS-SEM Perspective

Abstract

This study investigates several drivers of crisis readiness, including market turbulence, innovative capacity, perceived likelihood of a crisis (PLC), and firm size. Results from a PLS-SEM assessment of 284 managers in the United States suggest that market turbulence drives PLC, innovative capacity, and crisis readiness. Managers who anticipated a potential crisis in their organizations (i.e., high PLC) also reported higher levels of crisis readiness. Managers in SMEs were more likely to expect a crisis in their organizations, but less prepared to address one when it strikes. Managers in innovative firms also exhibited a higher crisis readiness.

Keywords: Crisis management, crisis readiness, innovation, market turbulence, SME, PLS-SEM.

Introduction

A crisis is an unpredictable event that directly threatens an organization. Examples include labor disputes, natural disasters, cyber-crime, product recalls, and substantial litigation linked to workplace discrimination and sexual harassment. Avoiding all crises is not possible, but effective crisis leadership can help organizations prevent some occurrences and mitigate the negative impacts of others (Bundy et al., 2017; Coombs & Holladay, 2006). Crisis leadership begins with developing crisis readiness in the firm before a crisis strikes (Bhaduri, 2019; Bowers, Hall, & Srinivasan, 2017; Crandall, Parnell, & Spillan, 2013; Gallagher, 2017).

Crisis readiness is an essential organizational capability rooted in the behavioral theory of the firm, which emphasizes imperfect information, bounded rationality, and the need for managers to prepare for uncertain environments (Cyert & March, 1963; Ji-Yub, Jerayr, & Finkelstein, 2011; Liu et al., 2015). Many managers fail to promote crisis readiness in their firms in part because of a cognitive fallacy that posits, “it won’t happen to me” (Caponecchia, 2010). Behavioral economists examine why managers make less-than-rational decisions and have helped explain why this cognitive error permeates many organizations.

Following the behavioral economics perspective, Parnell & Crandall (2017) identified optimism bias, visualization, and inertia as (negative) drivers of crisis preparedness. The optimism bias (also called the “positivity illusion” (Ariely, 2009), encompasses a tendency to overestimate the probability of a positive event and underestimate the probability of a negative event (Weinstein, 1980). Visualization refers to the cognitive ability “see” the consequences of a crisis before it strikes. Managers are more likely to prepare for crises they can visualize. Inertia engenders a tendency to favor the status quo and hence, can lull managers into thinking a crisis is unlikely. Inertia can create a false sense of security if managers cannot easily visualize the effects of a potential crisis. It also explains why crisis readiness is low in some organizations.

How a manager perceives the external environment and the internal capabilities of the firm can influence a firm's crisis readiness. For example, market turbulence reflects the complexity of environmental change. The innovative capacity of the firm demonstrates the organization's ability to react to those market forces. Perceived likelihood of a crisis reflects the extent to which managers are concerned about possible calamities. A firm's size can also influence its ability to respond to changes in the environment. This study contributes to the crisis management literature by examining how environmental influences, organizational factors, and perceptions about crises influence preparation.

We address two research questions: (1) How do managers' perceptions of market turbulence, perceived likelihood of a crisis, and innovative capacity influence crisis readiness at their firms? (2) How does firm size influence crisis readiness?

Theoretical Background

A crisis is considered a low-probability, high impact event that can seriously affect the day to day operations of the organization (Crandall et al., 2013; Haibing et al., 2015). Crises have become more commonplace and diverse in recent years as technology has expanded, and business activity has become more global (Jakubanecs, Supphellen, & Helgeson, 2018). Crisis management scholars and practitioners seek to understand why crises occur and how they can be prevented and managed (Piatrowski, Watt, & Armstrong, 2010). Crisis decision-making is complex and challenging because leaders must make quick decisions amidst environments of stress, high uncertainty, and turbulence (Boin, 2019).

Much of the conceptual development related to crisis preparation emanates from the seminal contributions of sociologist Charles Perrow (1984), whose work on normal accident theory suggests that complex and tightly coupled systems trigger crisis events. Perrow argued that complexity created an environment where accidents would become inevitable, whereas tight coupling among departments or functions worsened the impact of the accidents. Nonetheless, managers can take critical steps to help their organizations prepare for an impending crisis before it occurs (Bhaduri, 2019; Spector, 2019).

Effective crisis management requires that firms act before, during, and after a potential crisis event. Organizations should develop crisis management teams (CMTs) and crisis management plans (CMPs) before a calamity strikes (Hunter, Van Wassenhove, & Besiou, 2016; Jacques, 2010). As part of this preparation, CMTs develop worst-case scenarios for potential crises that could affect the organization. These scenarios are the basis for standard operating procedures (SOPs) that guide organizational members as an adverse event unfolds. Moreover, employees at all levels should be aware of their specific responsibilities for addressing a crisis in their departments (Areiqut & Zamil, 2011).

Crisis readiness describes the posture of the firm relative to a potential crisis or category of crises (Pearson & Mitroff, 1993). Crisis readiness is a sub-area of the broader discipline of crisis management and includes both signal detection and the preparation/prevention phases (Bundy et al., 2017; Pearson & Mitroff, 1993). Crisis readiness is distinguished from a manager’s perceptions about the perceived likelihood of a crisis (PLC), the extent to which managers are concerned about the possibility of crisis events and their potential impacts on the organization (Pearson & Mitroff, 1993). Scales have been developed to measure crisis readiness and PLC (Rousaki & Alcott, 2007), and more recently, crisis self-efficacy (Park & Avery, 2019).

Organizations can modify their culture, structure, and design to prepare for and manage crises by preventing breakdowns that can facilitate them (Greve, Palmer, & Pozner, 2010). A firm's culture can also lay the groundwork for a crisis if unethical behavior is generally accepted or goes unchallenged (Bundy et al., 2017; Weick & Sutcliffe, 2006). Positive stakeholder relationships can help firms avoid crises and mitigate their effects by increasing information exchange and cooperation among managers across firms (Kahn, Barton, & Fellows, 2013; Ulmer, Sellnow, & Seeger, 2011). However, empirical research supporting the role of stakeholder relationships on crisis development is limited (Bundy et al., 2017).

Market Turbulence and Crises

Market turbulence involves frequent and less predictable changes in products, services, technology, competitors, and customer demand within an industry (Arora, Arora, & Sivakumar, 2016). Turbulent markets are volatile, asymmetrical, and unpredictable (Wu & Nguyen, 2019; Zehir & Balak, 2018). Turbulence raises the potential for crises but also creates opportunities for savvy firms to outmaneuver their rivals (Liu & Wei, 2015).

Uncertainties associated with turbulent markets—perceived instability and constant change in markets in which the firm competes (Wu & Nguyen, 2019; Zehir & Balak, 2018)—can promote anxiety among managers (Gottlieb, Weiss, & Chapman, 2007) and ultimately, crisis events (Coombs & Laufer, 2018; Milliken, 1987; Parnell, 2018; Watson, Finn, & Wadhwa, 2017). Managers in such environments would be expected to report higher levels of crisis readiness.

Market turbulence creates opportunities for innovation and high firm performance (Antoncic & Hisrich, 2001; Rodrigo-Alarcón et al., 2017), but can also impact perceptions about crisis risk (Coombs & Laufer, 2018; Watson et al., 2017). Amidst this backdrop, we propose the following set of hypotheses:

> *H1a: Market turbulence will be positively associated with the perceived likelihood of a crisis (PLC).*
>
> *H1b: Market turbulence will be positively associated with innovative capacity.*
>
> *H1c: Market turbulence will be positively associated with crisis readiness.*

Firm Size and Perceived Likelihood of a Crisis

Small to medium-sized enterprises (SMEs) are especially vulnerable to crises. Consider the impact of a disaster on the tourism and retail communities. Irvine and Anderson (2004) noted how the hand-foot-and-mouth disease devastated many smaller tourism-related businesses in the United Kingdom. Runyan (2006) examined firms along the Gulf Coast of the United States after the 2005 onslaught of Hurricane Katrina. He found that small businesses are most vulnerable to cash flow interruptions, are often unable to secure capital for recovery efforts, experience problems obtaining government assistance when a crisis strikes, and suffer the most from infrastructure problems during recovery. Doern (2016) noted that after the 2011 London riots, small businesses were caught off-guard, and many felt a sense of personal loss and grief because of the crisis. A common theme of these studies is an organization's loss of control over its environment during a crisis. This loss, along with physical loss of assets, toads to SME crisis-related vulnerability.

Because they perceive their environments as less controllable, managers in SMEs are often more aware of potential crises (Crandall et al., 2013; Topaloglu, Koseoglu, & Ondracek, 2013). Specifically, managers in large organizations tend to be better informed than their SME counterparts (Herbane, 2013; Kurschus, Sarapovas, & Pilinkiene, 2017). Managers in SMEs are aware of these challenges and often expect crises to strike (Herbane, 2013).

H2: Managers in SMEs will report a higher level of PLC.

Perceived Likelihood of a Crisis and Crisis Readiness

Crisis concern tends to spark preparation and readiness, as managers aware of current or prospective organizational problems are more likely to take appropriate measures to address them. Such a link is intuitive, as some level of knowledge about a potential problem is generally required before individuals act. Although awareness does not guarantee a positive response, management action tends to increase when the awareness about a crisis or another concern also rises (Bruce & Nowlin, 2011; Chew Abdullah & Khairuddin, 2013; Wong, 2019).

There are situations when crisis concern might not translate into crisis readiness, or where enhanced crisis readiness could prompt crisis concern (Parnell, Koseoglu, & Spillan, 2010; Rousaki & Alcott, 2007). A manager in a crisis-ready organization might report high crisis concern because preparation can raise crisis awareness among managers who might not have been as concerned otherwise. Nonetheless, most prior work suggests a strong link between crisis concern and crisis preparation (Bundy et al., 2017; Crandall et al., 2013; Liu, Shankar, & Yun, 2017). Hence, we expect a positive link between PLC and crisis readiness.

H3: The perceived likelihood of a crisis will be positively associated with crisis readiness.

Firm Size and Crisis Readiness

Crisis readiness is more challenging to develop in some organizations than in others. Specifically, it tends to be more challenging in small organizations and when managers do not understand how to prepare their organizations for a crisis (Crandall et al., 2013; Topaloglu et al., 2013).

Effective crisis planning requires firms to commit time, energy, and other resources to the effort (Parnell, 2015). Many large organizations employ individuals responsible for crisis planning and work with consultants to promote crisis assessment and training (Bhaduri, 2019; Watson et al., 2017). Due to planning and resource limitations, SMEs often struggle to survive when a crisis strikes. There is relatively less scholarly work on crisis planning in small firms, with exceptions in crisis-prone industries such as hospitality and tourism (Herbane, 2013; Morakabati, Page, & Fletcher, 2017; Racherla & Clark, 2009; Sawalha, Jraisat, & Al-Quduh, 2013).

SMEs often lack the information necessary to anticipate and avoid a crisis, as well as the resources required to manage it effectively. A lack of scale places most SMEs at a relative cost disadvantage when crisis planning is considered (Doern, 2016; Kurschus et al., 2017; Nicolau, 2015; Vouzas & Nizamidou, 2018). Hence, managers in SMEs are likely to report a greater concern about prospective crises and a reduced level of crisis readiness.

H4: Managers in SMEs will report a lower degree of crisis readiness.

Innovative Capacity and Crisis Readiness

Turbulent markets encourage innovation, which can increase returns in highly competitive markets (Tsai & Yang, 2013). As a result, innovative firms often outperform their rivals in turbulent markets (Kraus et al., 2012), but the inherent uncertainty can also make SMEs more crisis-prone (Kurschus et al., 2017; Vargo & Seville, 2011). The strategic challenges faced by SMEs and large firms often vary. Hence, crisis training for SMEs is not only vital but should account for problems unique to smaller organizations.

The development of innovative capability is proactive in that firms are investing in future performance. Developing crisis readiness is a proactive process as well (Crandall, et al., 2013).

The antithesis to innovation is inertia, a condition where the status quo is supported. Organizations stagnant in one area of operation, such as innovation, may also be in a state of inertia in other areas, such as crisis readiness.

H5: Innovative capacity will be positively associated with crisis readiness

Data and Methods

Previously validated scales were modified and employed to measure the study variables. We included three items from the market turbulence scale developed by Jaworski and Kohli (1993) and modified by Olson, Slater, and Hult (2005). The PLC scale was also based on their work but modified for the current study. The firm innovativeness scale included three items based on work by Hurley and Hult (1998), as modified by others (Augusto & Coelho, 2009; Hult, Hurley, & Knight, 2004; Santos-Vijande & Álvarez-González, 2007; Tang et al., 2008). The crisis readiness scale was adapted from Rousaki and Alcott (2007).

We defined small- and medium-sized enterprises (SMEs) as organizations with 10-250 employees and excluded those with fewer than ten employees. We measured SME status with a dichotomous dummy variable (i.e., 1=SME, 2=large firm).

Data were collected via a survey administered through Cint’s online insight exchange platform. Surveys were sent to and completed by full-time, practicing managers in the United States; part-time managers and non-managers were excluded. From an initial population of approximately 1,400 qualified potential respondents, 442 surveys were completed. Multiple management levels, experiential backgrounds, industry affiliations, and organization sizes were represented, including individuals with a wide range of organizational and management experience (see table 1). Lower level and middle managers were included in the analysis because they have played a greater role in recent years in both strategy formulation and execution

(Balogun & Johnson, 2004; Raes et al., 2011). However, individuals with fewer than three years of managerial experience or tenure with the organization were excluded because they might not possess enough knowledge to complete the survey.

Insert table 1 about here

We scrutinized each response for concerns such as evidence of straightlining and excessive missing data and eliminated problematic cases from the dataset. We also removed responses from individuals who completed the survey in less than 2.5 seconds per question. This conservative approach to cleaning the data eliminated 158 cases, resulting in 284 usable responses.

Results

The hypotheses and model were assessed systematically using SmartPLS software (Hair et al., 2019). Scales were evaluated for reliability and validity via the consistent partial least squares (PLSc) algorithm. Table 2 depicts the factor loadings for each of the four construct scales. Several items loaded close to, but below the 0.70 threshold. MT3 (new customers have needs that differ from those of existing customers), PLC3 (high likelihood of a crisis associated with facilities), and CR2 (adequate budget to manage a crisis) produced loadings of 0.637, 0.659 and 0.682. MT3 and PLC2 were retained (pending subsequent reliability and validity assessments) to avoid two-item scales, whereas CR2 was retained because it is part of a longer, established scale. The variance inflation factor (VIF) scores presented in table 2 were below 3.0 for all items, suggesting that collinearity was not a significant concern.

Insert table 2 about here

Cronbach's alphas exceeded 0.700 for all four scales (see table 2), thus meeting the construct validity standard set forth by (Nunnally, 1978). We evaluated composite reliability by examining the convergent validity of the scales. Scores for all items exceeded 0.700, which meets the criterion set by Hair et al. (2018). The average variance explained (AVE) scores exceeded 0.500 for all constructs, thus meeting the standards set by Ashill, Carruthers, and Krisjanous (2005). The Fornell-Larcker matrix and hererotrait-monotrait (HTMT) output suggest discriminant validity in all four constructs (Sleimi & Emeagwali, 2017).

The consistent bootstrapping algorithm in SmartPLS was utilized to test each hypothesis, with the results depicted in table 4. While there was support for all hypotheses, the effect sizes are worth noting as these indicate the impact each variable had on the R^2 corresponding path variable (J. Cheah et al., 2018). Effect sizes were assessed with f^2 values and interpreted following Cohen's benchmarks of 0.02 (small), 0.15 (moderate), and 0.35 (large) (Cohen, 1988).

H1a: Market turbulence had the greatest effect on its path variable, perceived likelihood of crisis (PLC), with a path coefficient of .437 and an f^2 value of .243. This effect size is considered moderate using the benchmarks presented above. Hence, as perceived market turbulence increases, so does the perceived likelihood of crisis (PLC).

H1b: Market turbulence revealed a path coefficient of .432 and an f^2 value of .231 on its path variable, innovative capacity. This effect size is considered moderate. Hence, a rise in perceived market turbulence is associated with an increase in innovative capacity.

H1c: Market turbulence revealed a path coefficient of .253 and an f^2 value of .081 on its path variable, crisis readiness. This effect size is considered moderate. Hence, a rise in perceived market turbulence drives an increase in crisis readiness.

H2: Managers in small and medium-sized enterprises (SMEs) revealed a path coefficient of .159 and an f^2 value of .081 on the path variable, the perceived likelihood of crises (PLC). However, this effect size is considered small by Cohen's standards.

H3: PLC revealed a path coefficient of .367 and an f^2 value of .191 on its path variable, crisis readiness. This effect size is considered moderate. Hence, a rise in PLC provides an impetus for higher crisis readiness on the part of the surveyed managers.

H4: Managers in small and medium-sized enterprises (SMEs) revealed a path coefficient of -0.099 and an f^2 value of .017 on the path variable, crisis readiness. Hence, the effect is considered non-existent because it is below the .02 limit set by Cohen (1988). Although the hypothesis is supported statistically in that the t-statistic (2.041) is above the required 1.96 threshold, one should interpret the relevance of this result cautiously.

H5: Innovative capacity revealed a path coefficient of .254 and an f^2 value of .081 on the path variable, crisis readiness. This effect size is considered moderate. Hence, crisis readiness increases with management perceptions of innovative capacity.

Insert table 4 about here

The resulting path model is depicted in figure 1. The path coefficients and the associated p-statistics are provided on the pathways. The resulting R^2 values are provided within the variable circle. Market turbulence and SME orientation account for 21.4% of the variance in PLC, while market turbulence explains 18.8% of the variance in innovative capacity. Overall, 44.9% of the variance in crisis readiness was explained by variables included in the model.

Insert figure 1 about here

All the indirect effects in the model were significant. The market turbulence > innovative capacity > crisis readiness path revealed a coefficient of .11 with a significant t-statistic of 2.223. The market turbulence > perceived likelihood of crises > crisis readiness path revealed a slightly higher coefficient of .161 with a significant t-statistic of 3.053. The SME > PLC > crisis readiness path revealed a coefficient of .059 with a t-statistic of 2.381.

The predictive power of the model was assessed with R^2 and Q^2 values. Crisis readiness produced the highest R^2 value (0.445), followed by PLC (0.214) and innovative capacity (0.189). Q^2 values were calculated with a blindfolding test with seven iterations. Q^2 values over zero indicate the variable has predictive relevance (Sarstedt et al., 2014). Crisis readiness produced the highest Q^2 value (0.211), followed by PLC (0.096) and innovative capacity (0.088), suggesting small predictive relevance for each of the three dependent variables.

Discussion

This study examined four variables we expected to impact crisis readiness. The hypothesized variables—market turbulence, perceived likelihood of a crisis, innovative capacity, and size of the organization (i.e., SME)—were found to hold valid and significant paths to crisis readiness. These findings contribute to the growing body of empirical work and have both theoretical and managerial implications.

Theoretical Implications

An importance-performance map analysis (IPMA) was conducted to assess the implications of the tested model (Ringle & Sarstedt, 2016). Values in the first three columns in table 11 represent each target construct's importance. The importance values are calculated using the unstandardized regression coefficients of the designated variable paths and hence, reflect the direct and indirect effects of each latent variable on the endogenous variable, crisis readiness.

Values in the far-right column represent each construct's performance. The performance values are the standardized responses to each latent variable (construct) provided by the respondents in the study. In our study, performance represents the perceptions of the surveyed managers. Because these values are standardized, a score ranging from 0 to 100 was applied to each construct.

The resulting IPMA map provides the corresponding importance and performance for each latent variable on crisis readiness (see figure 2). Market turbulence is the most important variable in this study that influences crisis readiness (importance = 0.420). The perceived likelihood of a crisis was the second most important variable, with an importance value of 0.255. Innovative capacity was the third most influential variable on crisis readiness, with an importance value of 0.242. Finally, an organization's SME status had a relatively minor level of importance at 0.087. In other words, SMEs place a slightly higher importance value on crisis readiness than do non-SMEs.

Insert figure 2 about here

Conclusions drawn from the IPMA reinforce those inferred from the path model; market turbulence is most important, and SME status is least important when predicting crisis readiness. The IMPA visualizes these findings and can further be subdivided into a 2x2 matrix (Ringle & Sarstedt, 2016) with the axis lines depicting means of importance (x-value) and performance (y-value) for the study variables. With this position, figure 2 shows an x-axis line at 0.251 and a Y-axis line at 48.700 and presents four quadrants. All four measures lie close to the axis means, rather than in the center-point of each quadrant. The PLC and innovative capacity constructs hold similar positions along the upper half of the y-axis mean line. However, the SME and market turbulence variables lie at opposite ends of the x-axis mean line, with SME on the low end and market turbulence on the high end.

Following these results, market turbulence is most closely associated with increased or decreased crisis readiness, whereas innovative capacity and PLC are only moderately related to crisis readiness. Being a member of an SME has a modest impact on crisis readiness when compared to other variables in the study.

Innovative capacity appears to represent a positive managerial strategy. The collective score of 76.997 is above the mean line and supports this observation. However, PLC, which also had a performance score above the mean at 67.458, assessed an external phenomenon. With regards to their importance in predicting crisis readiness, both constructs are moderately important as their importance scores are slightly below the mean.

Figure 2 also reveals that market turbulence is the most important predictor of crisis readiness, with an importance score of 0.420, well above the mean line of 0.251. Regarding performance, it lies just above the mean with a score of 50.2562. However, the performance score does not mean that management should take action. Market turbulence, like PLC, reflects an assessment of the external environment. Figure 2 also indicates that being a member of an SME is only slightly associated with crisis readiness. Regarding importance, it shows a score of .0870, well below the mean.

Figure 3 provides the IPMA results with the scores for each survey question mapped on the graph. The innovative capacity and PLC scores are tightly clustered. Both constructs show high performance for all the survey questions; the scores depict a tight range from 0.057 (CAP1) to 0.098 (PLC2). However, the scores for market turbulence are widely distributed. The most apparent separation shows MT1 in the bottom right quadrant of the map, with x,y coordinates at

0.141, 7.933. MT2 and MT3 are clustered in the top right quadrant, with close performance scores of 70.937 for MT3 and 72.066 for MT2. Separation in terms of performance is limited, with MT2 slightly higher than MT 3 (0.156 vs. 0.124).

Insert figure 3 about here

Interpreting this dispersion is essential. On the surface, it may appear that MT1 and MT2 are assessing a similar item, but they are not. MT1 seems to indicate that customer preferences are more long-standing and hence, less susceptible to change. MT2 suggests that products, not customer preferences, are more malleable. MT3 continues along the same vein as MT2, but distinguishes between new and existing customers. The performance scores are divergent. Still, the importance scores are more compact, suggesting that all three are the most important indicators in the study to be linked with changes in crisis readiness. This observation is indicated by their positions on the right side of the graph.

Explaining exactly why market turbulence affects crisis readiness is more challenging. Given the pathways in figure 1, market turbulence has both a direct and two indirect effects through innovative capacity and perceived likelihood of a crisis; hence, its influence is multi-dimensional. However, the critical commonality in the market turbulence construct is its focus on the customer. All three survey questions begin with the customer’s perspective, inferring that the customer drives the turbulence in the market. The notion that customers can retaliate against businesses and create a crisis is nothing new. In the short run, customers can resort to social media and shame a company publicly if there is a disconnect between customer expectations and the ability of the business to deliver a product or service.

Furthermore, customers are also external stakeholders who can create or exasperate a crisis via social media, which can later bring in legacy media to cover an incident at the firm (Cheng, 2018; Greyser, 2009). In the long run, customers can leave a company altogether and vow never to return; social media provides outlets for such proclamations. Coffee giant Starbucks has endured several publicly oriented crises in the last five years, all of which included these elements (Coombs & Laufer, 2018).

Management Implications

1. Market turbulence increases the PLC. There are multiple explanations for this finding. Intuitively, as customer preferences change, businesses are pressured to modify product and service offerings. This is not always a smooth process, as forces resistant to change are embedded in the organization as well. Indeed, the entire field of strategic management examines why some companies fail, and others thrive as they react to market turbulence (Jauch & Kraft, 1986; Lalonde, 2004). Inevitably, crises may erupt as firms craft market responses.

Many firms are grappling with a crisis of slavery in the supply chain. This crisis occurs in industries where supply chains cross national borders, and sourcing is often based solely on costs. Hidden deep in these supply chains are companies that “purchase” their employees via a labor broker who brings in migrants from other countries. Once the migrants are working, their employers exploit them by forcing them to work off the clock or not paying them at all. Indeed, migrants in foreign countries are relatively easy to exploit. The fast fashion industry, where companies are pressured to offer the newest styles at the lowest cost possible, is especially prone to this type of slavery.

2. Market turbulence increases innovative capacity. Market turbulence can be addressed through research and development (R&D) and, ultimately, innovation. This strategy, though, is not just for firms in high technology. All firms must ramp up their innovative capacity to the degree needed in their industry. The Volkswagen "diesel gate" crisis in 2015 illustrates how a company let its innovative capacity slide in the wake of market turbulence. While other carmakers were pursuing hybrid and alternate fuel strategies to save on oil usage requirements, Volkswagen attempted to stretch the limits of its diesel fuel engines program. The automaker met strict U.S. fuel requirements by using software that deceives testing stations (Coombs & Laufer, 2018; Painter & Martins, 2017), resulting in a costly global crisis.

3. PLC promotes crisis readiness. Our model underscores a strong link between PLC and crisis readiness. This nexus is intuitive, as the threat of a crisis should lead to preparation. The strong link between PLC and crisis readiness reinforces the notion that management awareness of and expectations about prospective crises drive efforts to prepare for them (Chew Abdullah & Khairuddin, 2013; Wong, 2019). The investments required to improve crisis readiness vary across organizations, but fundamental measures such as forming a CMT and developing a CMP can improve readiness substantially. Although crisis readiness is more expensive in SMEs because of reduced scale (Kurschus et al., 2017; Vargo & Seville, 2011), the costs associated with basic crisis preparation are usually modest (Crandall et al., 2013). Indeed, numerous courses, seminars, workshops, and books bring the field of crisis management into the grasp of the practicing manager.

Given the link between PLC and crisis readiness, crisis training should begin with crisis awareness, as managers who do not anticipate a crisis are less motivated to prepare for one (Ali & Al-Aali, 2016; Nizamidou, Vouzas, & Gotzamani, 2019). Our analysis suggests that the need for more effective crisis planning is especially acute among SMEs. Indeed, managers in SMEs are concerned about prospective crises and seek more preparation. While there are similarities, the crisis challenges faced by SMEs and large firms can differ.

Conclusion, Limitations and Future Directions

Our analysis of survey responses from 284 managers in the United States reinforced the link between PLC and crisis readiness. We also found that managers in SMEs were more likely to expect a crisis in their organizations, but less prepared to address one when it strikes. Managers in innovative firms exhibited a higher crisis readiness as well.

Our study has two primary limitations that should be acknowledged. First, the sample includes working managers with various functional backgrounds, including accounting, finance, general management, human resource management, law, marketing, production, and information technology (see table 1). Moreover, it includes managers in various manufacturing and service industries. Due to sample size constraints, we were not able to control or identify any prospective influences resulting from functional backgrounds or industry membership.

We have identified several viable research directions. First, the results presented herein are based on a sample of U.S. firms and include a limited number of constructs. Other factors influence crisis readiness and can be evaluated in other nations (Coombs & Laufer, 2018). Consideration of crisis self-efficacy would be helpful as well (Park & Avery, 2019).

Second, the SME links to PLC and crisis readiness were significant, but the effect sizes were small. Additional work is necessary to identify how firm size influences crisis readiness. Measuring firm size with revenues could provide complementary results.

Third, while this study treats PLC and crisis readiness as reflective constructs, developing formative measures could lend additional insight. PLC assesses three broad crisis categories, not specific crises, while crisis readiness assesses the preparation for crises in general. Reorienting these scales to include an array of potential crisis events could produce robust, formative measures that could help explain the differences between SMEs and large organizations (Bundy et al., 2017; Crandall et al., 2013). Models that include two or more formative measures or a combination of reflective and formative measures could be assessed with higher-order models (J.-H. Cheah et al., 2018; Van der Stede, Chow, & Lin, 2006).

Fourth, more longitudinal work on crisis readiness is needed. Because it is difficult to predict when a crisis will strike, savvy managers build crisis readiness over the long term. Doing so can be challenging because securing the resources required to support crisis readiness when others in the organization do not perceive a threat can be difficult (Parnell & Crandall, 2016).

Finally, this study treats crisis readiness as a reflective construct. While our findings support this conceptualization, developing a formative measure could lend additional insight. Crisis readiness assesses the preparation for crises in general, not the preparation for specific crises. Nonetheless, many crisis events are linked to industry factors and require precise planning (Hunter et al., 2016; Vouzas & Nizamidou, 2018). A formative crisis readiness index that includes a variety of potential crises events could produce formative measures that explain more accurately how and why some organizations are better prepared for some crisis events but not others (Bundy et al., 2017; Crandall et al., 2013).

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Table 1. Sample Demographics.

Variable	n=284	%
Management Level		
Lower	26	9.2
Middle	162	57.0
Upper	96	33.8
Functional Background		
Accounting/Finance	52	18.3
General Management/HR	78	27.5
Law	8	2.8
Marketing/Sales	30	10.6
Production/Engineering	65	22.9
Information Technology	26	9.2
Other	23	8.1
(missing)	2	0.7
Gender		
Male	145	51.1
Female	136	47.9
(missing)	3	1.1
Industry		
Manufacturing	74	26.1
Hospitality	20	7.0
Healthcare	30	10.6
Services	100	35.2
Other	59	20.8
(missing)	1	0.4
Firm Size		
Small (11-50 employees)	53	18.7
Medium (51-250 employees)	98	34.5
Large (251+ employees)	133	46.8

Table 2. Factor Loadings and Collinearity Statistics.

Variable		Loading	VIF
Market Turbulence (alpha=0.792)			
MT1	Customer preferences change quite a bit over time	0.771	1.849
MT2	Customers look for new products all the time	0.840	1.815
MT3	New customers have needs that differ from those of existing customers	0.637	1.499
Perceived Likelihood of a Crisis (alpha=0.815)			
PLC1	High likelihood of a crisis associated with customers	0.787	1.742
PLC2	High likelihood of a crisis associated with employees	0.865	1.947
PLC3	High likelihood of a crisis associated with facilities	0.659	1.758
Innovative Capacity (alpha=0.879)			
CAP1	Innovation, backed by research, is readily accepted in our company	0.727	1.950
CAP2	Management activity seeks innovative ideas	0.754	2.740
CAP3	Innovation is readily accepted by management	0.773	2.314
CAP4	New ideas are quickly accepted in our company	0.940	2.161
Crisis Readiness (alpha=0.914)			
CR1	Accessibility to crisis management resources	0.762	1.896
CR2	Adequate budget to manage a crisis	0.682	2.366
CR3	Adequate crisis management plan (CMP)	0.748	2.439
CR4	I am well informed about crisis response resource and tools	0.742	2.278
CR5	Crisis management viewed as an organizational goal	0.794	2.104
CR6	Training to manage a crisis	0.799	2.297
CR7	Rewards employees for detecting and reporting crisis signs	0.741	1.811
CR8	Key employees well informed about crisis response resource and tools	0.766	2.262

Table 3. Tests of Hypotheses.

Hypothesis	Original Sample	Sample Mean	Std. Dev.	T-stat.	p-value	Support	f^2 value
H1a: Mkt. Turb. → PLC	0.437	0.440	0.074	5.875	0.000	Yes	0.243
H1b: Mkt. Turb. → Innov. Cap.	0.432	0.439	0.091	4.742	0.000	Yes	0.231
H1c: Mkt. Turb. → Crisis Read.	0.253	0.248	0.098	2.580	0.010	Yes	0.081
H2: SME → PLC	0.159	0.159	0.060	2.678	0.007	Yes	0.032
H3: PLC → Crisis Read.	0.367	0.369	0.084	4.350	0.000	Yes	0.191
H4: SME → Crisis Read.	-0.099	-0.096	0.048	2.041	0.041	Yes	0.017
H5: Innov. Cap.→ Crisis Read.	0.254	0.258	0.078	3.251	0.001	Yes	0.081

Figure 1. Tests of Hypotheses and the Path Model

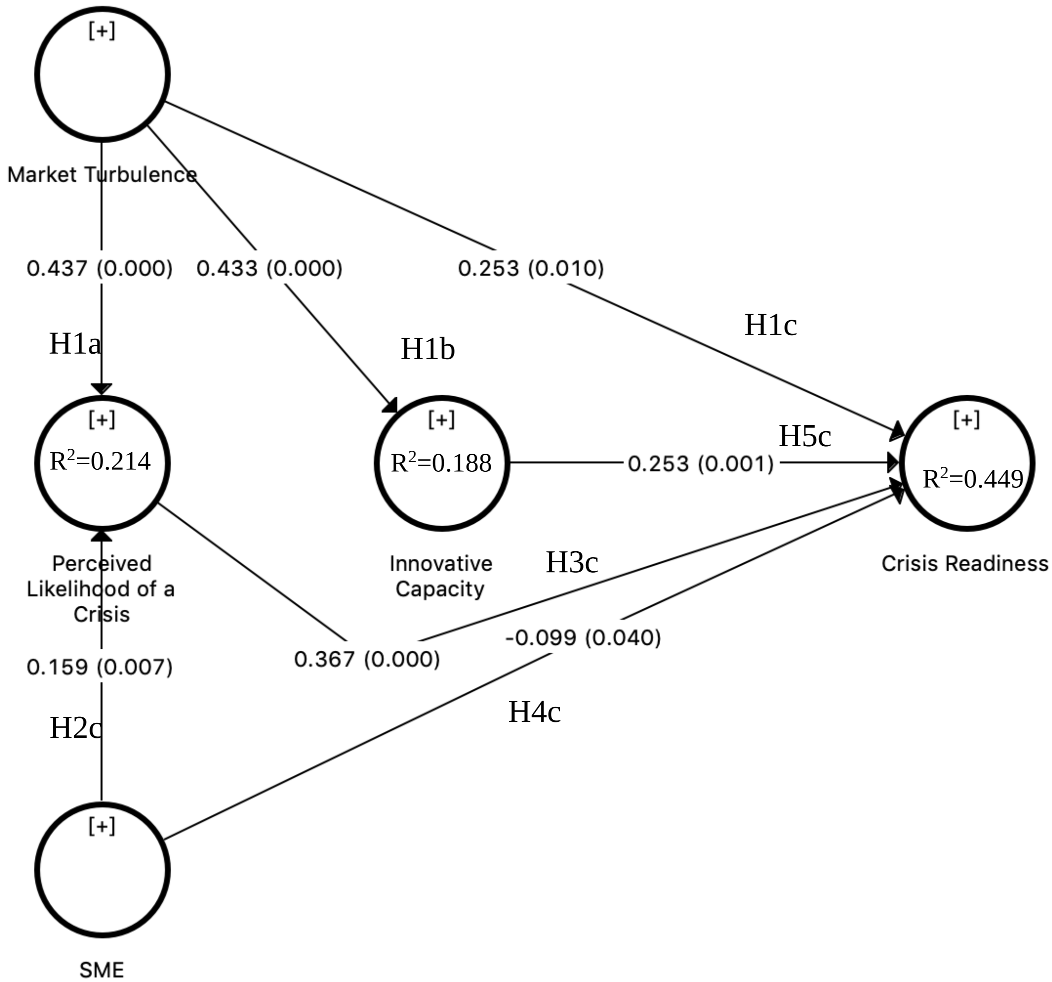


Figure 2. IPMA Results: Crisis Readiness

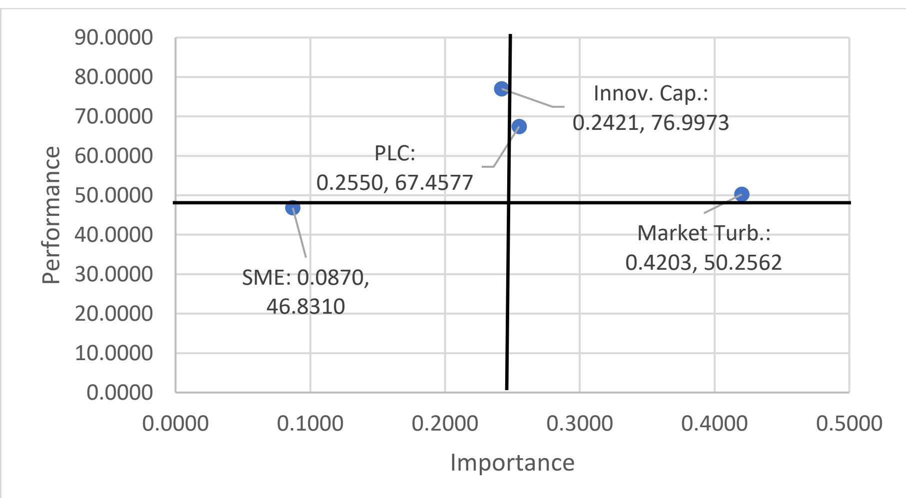
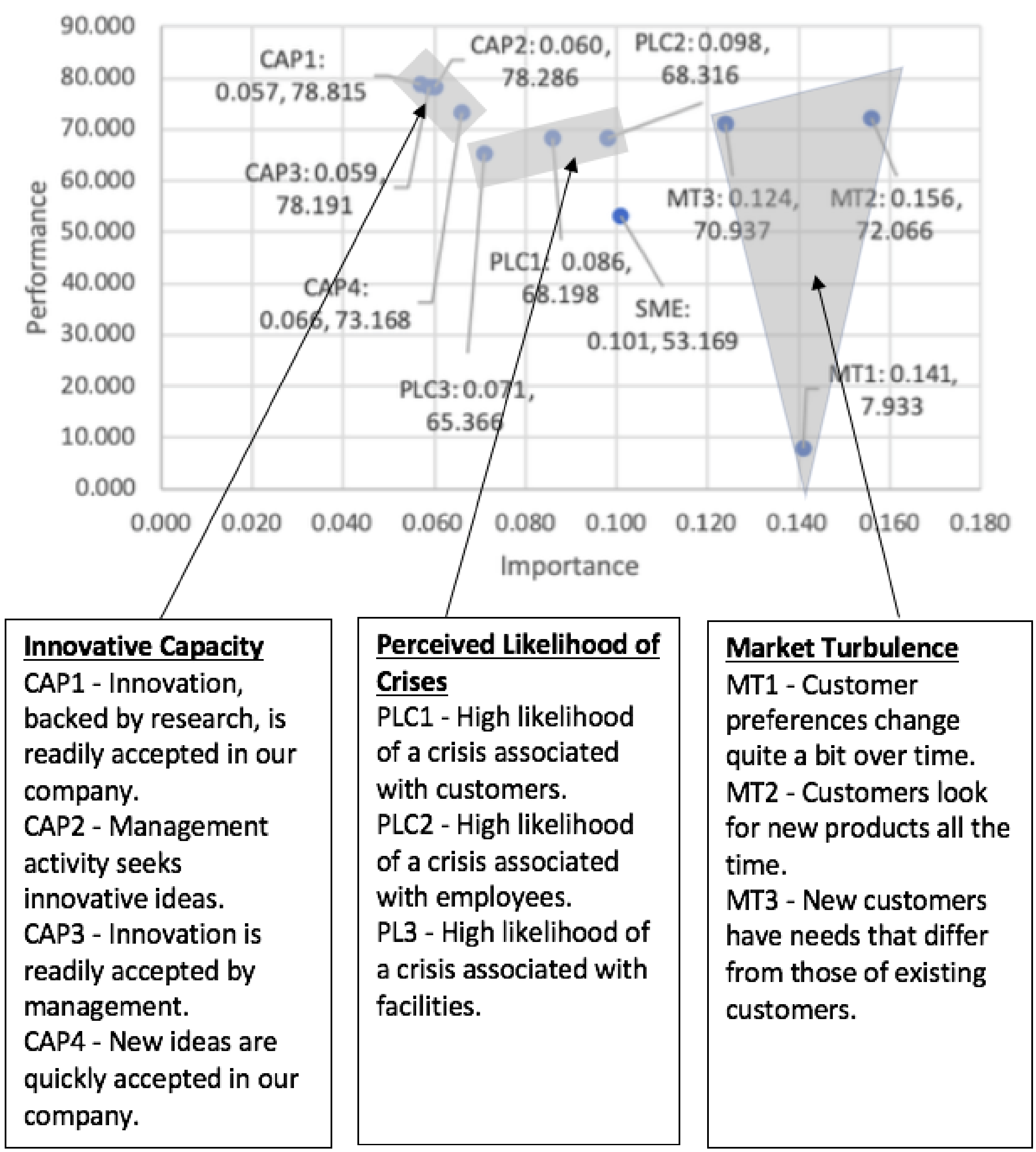


Figure 3. IPMA Results for Indicators: Crisis Readiness.



Surviving the incubation stage and beyond: Entrepreneurs’ personal network, degree of involvement, and start-up survival in India and the U.S.

Draft dated January 05, 2020
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Surviving the incubation stage and beyond: Entrepreneurs' personal network, degree of involvement, and start-up survival in India and the U.S.

Abstract

We explore how the entrepreneurs' personal network and degree of involvement in their new venture differentially affect the firm's ability to survive the incubation and post-incubation stages in India and the U.S. Relying on data from the Global Entrepreneurship Monitor (GEM) dataset to demonstrate the key contextual differences between India and U.S., we find that an entrepreneur's personal network helps the start-up survive both the incubation stage and the post-incubation stage. However, the effect is significantly different for the U.S. firms than for Indian firms during the two stages. We also find that while startups of self-employed entrepreneurs are more likely to survive the incubation stage in India, whereas startups of entrepreneurs who are employed full-time elsewhere are more likely to survive the incubation period and even beyond incubation in the U.S.

Keywords: Personal Network; Degree of Involvement; Startup survival; Incubation stage; Post-incubation stage; Comparison of India and the U.S.

Introduction

Following Schumpeter's (1942) thesis, scholars have explored the causal mechanisms that drive the success and failure of new ventures (see e.g., Beaver, 1966). Subsequent research has underscored factors such as entrepreneur's gender, ethnic origin, management experience, education, and age (Seshadri, 2007; Hayward, Shepherd and Griffin, 2006) affect the startup's survival chances. More recently, growing attention has been paid to the entrepreneurs' personal networks, where social capital in terms of resource, information and advice, is embedded (Hoang and Antoncic, 2003; Klyver, K., Hindle, K., and Meyer, D., 2008; Hoang, H. and Yi, A. 2015).

Moreover, researchers have found that one of the persistent challenges faced by entrepreneurs is surviving the incubation stage (Agarwal, Moeen, and Shah, 2017) during which time an entrepreneur's activities are often "chaotic, unpredictable, and unstructured" (Mugge and Markham, 2013; p.39). Highlighting the importance of the incubation stage, Cooper & Kleinschmidt (1988) have observed that nascent firms that survive the front end have higher rates of success during the later stages of their venture often described as the post-incubation stage. However, another stream of research also has found surviving longer in an incubator would have a negative effect on post-incubation firm survival due to over-dependence on support from incubator (Schwartz, 2012; Hytti and Maki 2007). The disagreement of scholars on survival in incubation and post-incubation highlights the differences in entrepreneurial activity and organizational growth between incubation and post-incubation period.

Evidence also suggests that entrepreneurial activities are critical in both a developed economy such as the U.S. -- where small businesses have created 64% of the new jobs (United States Small Business Administration (SBA) estimates) -- and in emerging economies such as India-- where the entrepreneurial new ventures have been instrumental in bridging the "employment gap" of around 200 million (The Economic Times; Jan. 6, 2009). Literature has also established that entrepreneurial activity varies across geographies (see e.g., Lee, Florida and Acs, 2004). This evidence, coupled with the fact that the cultural and social norms, market dynamics, and public policy varies across the developed and emerging economies, raises the intriguing possibility that country specific differences in context are likely to impact an entrepreneurial firm's chances of surviving the incubation and post-incubation stages, thereby motivating our research.

In this study we explore the differential impact of an entrepreneur's strategic choices, during the incubation and post-incubation stages on the firm's survival between a developed economy the and an emerging economy. We focus on these two countries because the U.S. and India—the third and fourth largest economies in the world (in Purchasing Power Parity) -- have a vibrant entrepreneurial culture. Recent studies have documented the causes and consequences of entrepreneurial success in developed countries (Shane and Venkataraman, 2007; Miettinen and Littunen, 2013). Surprisingly, however, little attention has been devoted to a comparison of the challenges faced by entrepreneurs in these two countries during the incubation and post-incubation stages as well as the effects of these differences on the entrepreneurial firm's survival. This motivates us to ask the questions — "*how do the entrepreneur's personal network and his/her degree of involvement in the nascent firm differentially affect the survival of the firm during the incubation and after incubation stages in the U.S. and India? Are the factors that impact survival different between the incubation and the post-incubation stage?*

To seek answers to our research questions, we define the incubation stage as the time period when a startup entrepreneurial firm seeks expertise in developing business and marketing plans as well as helping to fund fledgling businesses. We define the post-incubation stage as one where entrepreneurs turn business ideas into prototypes, and eventually into products that are sold to the customers. We concentrate on the entrepreneur's *personal network* and *degree of involvement* for several reasons. First, the literature underscores that entrepreneurs strategically utilize their *personal network* to improve their firm's performance. Personal networks not only allow entrepreneurs to access capital from angel investors and venture capitalists, but also benefit entrepreneurs by providing them with information and advice (Hoang and Yi, 2015).

Second, the entrepreneurship literature also explores the effect of another strategic choice variable—the founder's *degree of involvement* in the early stages of the firm. We define the degree of involvement as being self-employed (i.e., being more fully involved in the nascent firm), being part-time employed, or being a full-time employee elsewhere (i.e., being less involved directly with the nascent firm). Our choice of the entrepreneur's *degree of involvement* in the early stages of the firm is motivated by Reynolds (2010; p. 39), who highlighted the strategic importance of employment for founders of nascent firms and observed that "[t]hose with full time or part time jobs are much more likely to be involved in start-ups than those not working." Recent studies and anecdotal evidence (Reynolds, 2010; Petrova, 2012) suggest that when compared to self-employed entrepreneurs, those who are part-time entrepreneurs are unlikely to completely burn through savings "while figuring out the viability of the business" (Fastcompany.com; Nov. 30, 2016). Not surprisingly, Business Insider (April 12, 2016) also reported that full-time entrepreneurs risk "ruining their finances." Despite these findings, entrepreneurship researchers are yet to systematically investigate the impact of the degree of involvement on the survival chances of a nascent firm during the incubation and post-incubation stages.

To seek an answer to our research question, we use the GEM database, which has been instrumental in researchers' understanding of the differences in entrepreneurial activity across different countries (Reynolds *et al.*, 2005). Our findings suggest that personal networks and being a full-time employee elsewhere favors the survival of the entrepreneur's business in the U.S, while being self-employed favorably impacts survival in India during the incubator stage. We also notice difference in the factors that impact survival in the post-incubation stage when compared to the incubator stage between India and the US. Consequently, the policy choices that are relevant in the U.S. may not to be as critical in India. Our paper also expands the burgeoning non-Western management philosophy to explain the factors that foster entrepreneurship and innovation in the South Asian economies.

Literature Review

New venture survival and success

Researchers acknowledge that although entrepreneurial startups are more agile than established companies, they often lack the necessary in-house resources to bring new products and services to the market in a profitable and scalable fashion (Furr and Kapoor, 2018). To reach the stage of value appropriation, startups commonly require external resources including debt financing (e.g., loans), equity financing (e.g., angel investors and venture capital), and crowd funding (Leach & Melicher, 2014). These factors, however, vary significantly across geographies. Entrepreneurs in India, often lack the organized sources of venture funding and consequently rely on subsidized sources, such as the financing schemes offered by the Central Government of India and the World Bank Group's InfoDev, further strengthening the idea that the chances of a nascent firm surviving the incubation and post-incubation stages is likely to vary across countries.

The evolution of a new venture occurs as a systemic process with three transition points - conception, firm birth, and persistence of the firm (Reynolds, 2005). Studies exploring the evolution of new ventures often use survival as a measure of success (Nassereddine, 2012;). Other studies Littunen, Storhammar, and Nenonen (1998) have compared the persistent firms to those that did not survive the critical first 3 year period.

Incubation and post-incubation stages of new entrepreneurial ventures

Khurana and Rosenthal (1998; p. 72) noted that the incubation stage, i.e., the front end of a new venture, includes product strategy formulation and communication, opportunity identification and assessment, idea generation, product definition, project planning, and executive reviews. They noted that the front end is "inherently 'fuzzy' because it is at the crossroads where complex information processing [and] a broad range of tacit knowledge" meet."

Researchers have highlighted the importance of the incubation stage for firms in the emerging economies such as India (see e.g., Arora *et al.*, 2001). In their investigation of the Indian software entrepreneurs, Sonderegger and Taube (2010; pp. 387-388) observed that "many indigenous software firms have sprouted…. over the last decade;" and highlighted that these firms had reached the "reputation levels previously uncommon to Indian companies." However, it remains unclear specifically how the Indian entrepreneurs navigate the incubation stage.

In the theory of sustaining entrepreneurship the long-term survival of entrepreneurs is important, and research has partially overlooked that fact that survival during the incubation phase is not a guarantee to survive thereafter. According to Sutton (1984), if business owners and managers are good at managing their businesses, then they will do well in terms of ensuring their continuous survival of their businesses. However, Schwartz (2012) suggested that graduation from an incubator can sometimes negatively affect the survivability that lasts up to 3 years after graduation.

The Role of Entrepreneurial Networking

Researchers generally envision entrepreneurial opportunity exploitation as a social process and emphasize that the opportunity for value creation and capture relies in embeddedness within social networks (Klyver, Kindle & Meyer, 2008) because it influences the entrepreneur's subjective norms (Krueger, Reilly, & Carsrud, 2000). The role of social networks in the incubation and post-incubation stages of a new venture is critical for several reasons. First, entrepreneurs use personal ties to venture capitalists and professional organizations as a mechanism to seek talent new ideas and market information (Ozgen and Baron 2007; Hoang and Yi 2015;) Next, startups also rely on networks to gain access to partners, suppliers, early adopters, angel investors and venture capitalists to get critical information and advice--that affect the performance of the nascent firm (Stuart, 2000; Hsu and Lim, 2013). Finally, social capital was more indicative of startup success than intellectual property (Hayton, 2005). Highlighting the importance of the network effect, Powell et al. 1996 (pp. 120-121) observed that "a firm grows by being a player; it does not become a player by growing."

Recently, growing attention has been paid to personal networks within the scope of social network. Hoang and Gimeno (2010) suggest that personal ties to others can facilitate the process related to starting a new business. Nicolaou and Birley (2003) argue that having strong ties outside the university context increases the likelihood that an academic will leave to start a new business. Klyver, Hindle, and Meyer (2008) have concluded that knowing other entrepreneurs increases the possibility of becoming an entrepreneur.

Scholars also underscore that interpersonal relationships within social network are media through which one actor can gain access to a variety of resources held by other actors. A number of recent studies find that entrepreneurs leverage their social ties to gather ideas and information to recognize entrepreneurial opportunities (Anderson et al., 2007; Ozgen and Baron, 2007). Finally, personal networks also provide emotional support for the risky entrepreneurial ventures (Bruderl and Preisendorfer, 1998), which could enhance persistence to remain in the business (Gimeno, Folta, Cooper, and Woo, 1997).

Effect of entrepreneur's degree of involvement

Recent anecdotal evidence highlights the trade-offs involved in the strategic choice of an entrepreneur—being someone who is a full-time employee elsewhere versus being a self-employed entrepreneur. Fast Company report (dated Nov. 16, 2016) suggests that full-time employed entrepreneurs enjoy the income and financial stability that self-employed entrepreneurs often lack. Full-time employees that have startup businesses do not completely burn through savings as they are figuring out the viability of the startup business. Consistently, evidence suggests that, in the U.S., "73% of founders of startup businesses make $50,000 per year or less" (Business Insider report, April 2016)—implying that in the U.S. entrepreneurs who are not full-time employed elsewhere run the risk of "ruining their finances." Not surprisingly, Petrova (2012) noted that entrepreneurs that are full time employed have higher social capital, level of confidence, and access to financial resources.

Entrepreneurship Ecosystem in the U.S. and India

<u>The Role of Regional Support:</u> In the U.S., entrepreneurs have access to a wide range of services from educational opportunities to advanced strategizing from institutions such as the Ewing Marion Kauffman Foundation. Additionally, the U.S. federal government also provides loans

through the SBA and grants through the Small Business Innovation Research program (Leach & Melicher, 2014). To foster international competitiveness of U.S. firms and entrepreneurs, the U.S. federal government also sponsors The Global Entrepreneurship Program (GEP), The Global Entrepreneurship Week (GEW), and exchange programs such as the TechWomen and the J-1 Internship Program which allows participants interact with some of the most innovative companies in Silicon Valley.

Less discussed is the Indian government's assistance for its entrepreneurial community. Over the last decade or so, India has made progress, providing assistance to entrepreneurs through institutions such as the ICICI Bank and the State Bank of India (SBI) that has launched bank kiosks with retailers such as Oxigen and MFI Sahyog Microfinance Foundation. Others, such as the International Finance Corporation's (IFC) have invested in Indian banks to provide loans to entrepreneurs. Private micro-loans through microfinance have also helped several entrepreneurs. To address the trade-off whereby the banks lack the incentive to finance most early startups and the amounts available through microfinance are often inadequate for an entrepreneur's requirements, a few innovative solutions have been devised by the social support organizations, leading to "an alternative to the traditional financial sector" (Sonne, 2012; p.639).

<u>Social and Culture Influence</u>: (about US). An emerging literature has explored the role of social networks for the success of Indian entrepreneurs in the context of the software industry and entertainment industry (Patibandla and Petersen 2002; Lorenzen & Mudambi, 2013) and these studies have found knowledge spillovers within a social network increase the competitive and product market information improving the available pool of skilled manpower.

Although limited, literature provides a hint that the opportunity cost for Indian entrepreneurs are different than those in the U.S. In an investigation of the Indian software industry, Sonderegger and Taube (2010) found that the knowledge transfer from Silicon Valley by the Indian diaspora as well as by the Silicon Valley venture capital firms with partners of Indian origin have helped Indian entrepreneurs. Aggarwal (2006) noted that there were 44 India funds raised by US-based VCs with an average investment pool of USD 100 million each. Given the fledgling state of India's venture capital industry, researchers have yet to systematically explore how an entrepreneur's degree of involvement affects the firm's ability to survive.

Theory and Hypotheses

Effect of personal network on performance of entrepreneurial firm

Personal networks help a nascent firm in a variety of ways. First, personal network contribute to "information exchange" and the rapid diffusion of novel ideas and techniques, not only among manufacturers and service providers in the developed economies (Holbrook et al., 2000; p. 1020), but also in developing economies (Opper and Nee, 2015) leading to social learning among entrepreneurs.

Second, the role of personal network in funding new ventures is important (Shane and Cable, 2002). Ties to others facilitate the transition process related to starting a new business and becoming a founder (also Hoang and Gimeno, 2010; Hoang & Yi, 2015). Personal networks also act as "prisms" that shape an entrepreneur's relationships to other people as well as influence their "adjustment to their environment."

Third, personal network reinforces entrepreneurs' identity (Nicolaou and Birley, 2003) by providing access to role models (Kacperczyk, 2013; Nanda and Sorensen, 2010). Klyver, Hindle, and Meyer (2008) found that having other entrepreneurs in the personal network increases the possibility of starting a new firm, and that this effect varies across countries. Finally, network participants can enhance the reputation of an entrepreneur as well as signal the quality of products and services (Deeds, Mang, and Frandsen, 1997; Higgins and Gulati, 2003).

In particular, Gulati and Higgins' (2003) find that the usefulness of endorsements varies with market conditions and that leads us to believe that the relative importance of an entrepreneur's personal network is likely to vary between the countries - U.S. and India and anecdotal evidence supports this intuition. Given the disproportionate importance of entrepreneurship communities in the U.S. when compared to India (approximately 1500 incubators vs. 140 incubators, respectively[1]), it is reasonable to assume that an entrepreneur's personal network plays a more critical role in early stages of venture in the U.S., as the incubator directly as well as indirectly provide access to resources via networking among entrepreneurs (Peters, Rice and Sundararajan, 2004). -- we do not expect the personal network of an entrepreneur in India to play as critical a role in the survival of the startup during the incubation stage, as it does in the U.S. Therefore:

H1a: During the incubation stage, the entrepreneur's personal network will have a lower effect on the survival of entrepreneurial firms in India as compared to the survival of entrepreneurial firms in the U.S.

However, in the post-incubation stage, of a new venture, the entrepreneur's personal network on survival will be reversed in India and the U.S. We expect the personal network would be relatively more important during this period in India than in the U.S. Our assertion builds on the fact that the India business culture has a lower tolerance for founder's missteps, so companies don't have a long time to prove their value proposition and test products extensively[2] and many business decisions were based on social connections and prior relationships, rather than the

[1] "E-comparison: US vs Indian Startup Ecosystem", March 2018, available at https://www.tandongroup.com/2018/03/07/ecomparison-us-vs-indian-startup-ecosystem/
[2] Ajay Yadav, "How Startup Culture in India Differs from The U.S.", 2016, available at https://www.forbes.com/sites/ey/2019/11/06/unleashing-ambition-inside-eys-strategic-growth-forum/#408900cc340f

actual business function itself[3]. Consistent with Panda (2015) and Morris et al. (2006), we expect the entrepreneurs in India are likely to rely on the personal network to forge the relations necessary to get access to the suppliers if raw materials as well as to establish contacts with new customers to increase market share in the post-incubation stage. Thus, —

H1b: During the post-incubation stage, the entrepreneur's personal network will have a higher effect on the survival of entrepreneurial firms in the India as compared to the survival of entrepreneurial firms in the U.S..

Effect of the degree of involvement on performance of entrepreneurial firm

Research has explored the trade-offs associated with the degree of involvement of the entrepreneur. Naudé (2009) found that the higher number of entrepreneurial opportunities and demand for entrepreneurship in developing countries was matched by the higher rates of survival of self-employed entrepreneurs. Consistently, Naude (2010; p. 4) noted that as compared to developed economies, the "start-up rates, self-employment, and opportunity for entrepreneurship are all much higher in India."

In line with Naude's research, Temkin (2009; p. 137) observed that self-employed informal entrepreneurs in developing countries— whom he referred to as *incipient entrepreneurs*--preferred higher degree of involvement with informal trade for the lack of other opportunities. This is consistent with Kodithuwakku and Rosa's (2002; p. 443) study of Sri Lankan farmers in which they observed that successful self-employed farmer-entrepreneurs had converted their labor into "income-generating activities." Acharya et al., 2007 also notes that rural entrepreneurship is the dominant form of entrepreneurship in India. Such entrepreneurship should lead to more self-employed entrepreneurs in India as compared to the U.S., who are

[3] AJ Agrawal, "The Difference between Entrepreneurship in India and in the U.S.", 2016, available at https://www.inc.com/aj-agrawal/the-differences-of-entrepreneurship-in-india-compared-to-the-u-s.html

motivated by the lack of other opportunities to make their business survive the incubation stage. The motivation of self-employed entrepreneurs is also supported by anecdotal evidence that states that entrepreneurial activities might be undertaken by Indian youth with fewer job opportunities. India has 300 million youth, but it can only offer 100 million jobs (The Economic Times, Jan. 6, 2009).

The previous discussion suggests that in the incubation stage, the opportunity cost (such as the risks of bankruptcy due to medical emergencies) of being a self-employed entrepreneur is much higher in the U.S. than in India. On the other hand, given the high levels of bureaucracy in India, entrepreneurs with a low degree of involvement (i.e., with full-time employment) are likely to forego the critical activities necessary to navigate the bureaucratic hurdles to raise money from governmental sources. This leads us to predict that:

H2a: During the incubation stage, the effect of lower degree of involvement (full-time employment) on the survival of entrepreneurial firms will be lower in India compared to the U.S.

H2b: During the incubation stage, the effect of higher degree of involvement (self-employment) on the survival of entrepreneurial will be higher in India compared to the U.S.

In post-incubation stage, however, we do not expect any difference in the effects of full-time employment and self-employment in India and the U.S. In the U.S., the pressure on American entrepreneurs to be employed elsewhere for health and other benefits, which are likely to be covered by the VC, will likely decrease. Additionally, in the U.S., the pressure to manage the firm to scale up and increase efficiency will make it more important for the entrepreneur to be self-employed in the startup. Thus, we predict—

H2c: During the post-incubation stage, the effect of lower degree of involvement (full-time employment) on the survival of entrepreneurial firms will be similar in India and the U.S.

H2d: During the post-incubation stage, the effect of higher degree of involvement (self-employment) on the survival of entrepreneurial firms will be similar in India and the U.S.

Research Method

The data and sample

GEM is a global research source that collects data on entrepreneurship directly from individual entrepreneurs and it is a representative and valid survey to measure and examine entrepreneurial attitudes, abilities, aspirations, activities, and their influential factors across countries in a uniform fashion. GEM's Adult Population Survey (APS) provides analysis on the characteristics, motivations and ambitions of individuals starting businesses, as well as social attitudes towards entrepreneurship. The National Expert Survey (NES) looks at the national context in which individuals start businesses. (Reynolds et al. 2005)

The data for this study were obtained from both the NES and APS of the GEM database between the years 2012 and 2014. This time period is appropriate for our study because it was the period of economic prosperity for both India and the U.S. Whereas the U.S. economy had expanded from about $16 trillion to about $17.5 trillion in that period, the Indian economy had expanded from about $1.84 trillion to $2.1 trillion in the same period. The GEM data looks at the country context of 89 countries (NES), and the entrepreneurial behavior and attitudes of individuals across these countries (APS). From the adult population survey, we downloaded data for 23573 respondents.

We focused on two countries in this study - the U.S. and India. Using the NES data, we identified significant contextual differences between these two countries on three specific profile dimensions out of the nine dimensions available in the GEM Data. The three profile dimensions were -- (1) financing for entrepreneurs, (2) internal market dynamics; and (3) social and cultural norms. Other studies that have used NES data as a means of comparing entrepreneurial activity between two countries or two distinct groups include Bobera, Lekovic & Berber 2014 (Serbia versus Montenegro) and Pinho, 2017 (Portugal versus Angola).

Operationalization of Variables

The dependent, independent and the control variables were extracted from the APS (Adult population survey). We used 14513 responses from the U.S. and 9060 from India.

Dependent Variable

Entrepreneurial Firm Survival. The dependent variable extracted from the GEM database, is a measure for entrepreneurial firm survival during the incubation and post-incubation stages. It is a binary variable where the respondents were asked whether they manage and own a new business that is up to 42 months (coded as "1") nor not (coded as "0") or older than up 42 months (coded as "1") nor not (coded as "0"). The incubation stage time period spans 42 months, a measure of new firm ''survival'' based on the Reynolds (2005), the shortest time frame that provided stable survival rates with the 2000 cases in the original sample seemed to occur at about 42 months or 3.5 years. The post-incubation stage defined as survival beyond 42 months.

Independent Variables

Personal Network. We measured personal networks as connections among the entrepreneurs. This variable is dichotomous and is derived from the question: "Do you know somebody that has started a new business in the past two years?" This term was coded "1" for when they answered "yes" which implied that they had a network and "0" for when they did not know anyone that had started a business. Other recent entrepreneurship literature that has used the GEM access to network variable include Urbano & Turro 2013 (personal networks as a capability increase likelihood of becoming corporate entrepreneurs), and Suchart 2017 (personally knowing other entrepreneurs generates positive attitudes toward entrepreneurs).

Degree of Involvement. We also examine degree of involvement that contributed to Entrepreneurial Firm Survival. We created two variables to define whether the respondent had a low degree of involvement (Full-time employment) or a high degree of involvement (Self-employment). Full-time Employment, and Self-employment were coded as "1" for yes and "0" for no. The most critical impact of work and career effects would seem to be on the successful long-term operation and survival of the new firm, rather than a decision to become involved with a start-up. (Reynolds 2010).

Country. We also included country as an independent variable to test differences between U.S. and India. Country was considered was coded "0" for United States and "1" for India. Country was also a moderator in the analysis.

Control Variables

Since we used data between 2012 and 2014, we controlled for Year 2012 and Year 2013, using dummies ("1" for true and "0" for false). We also controlled demographic variables such as Gender, Age range, Education level, and Income level, to reduce unobserved heterogeneity given that we have heterogeneous multi-level data points. The Education level, Income level and Age range had multiple category ranges, where higher number represented higher level or range. Gender was coded as a dummy variable ("1" for male and "0" for female).

Analytical Procedures

Since the dependent variable was categorical, we used binary logistic regression as our method of analysis. Four models were used. Our baseline model used just the control variables - Year 12, Year 13, Gender, Age Range, Education Range, and Income Levels. In Model 2, we included the three independent variables - Personal Network, Full-time Employment, and Self-employment. In Model 3, we included the moderator variable - Country (U.S. versus India). In the final model (Model 4) we used the three interaction terms - Country*Personal Network, Country * Full-time Employment, and Country * Self-employment.

Results

Table 1 presents the means and standard deviations of the key context variables between the U.S. and India. As is evident, the T-tests demonstrate the means are significantly different on all three dimensions -Financing for Entrepreneurs ($t= -2.466$, $p<0.01$), Internal Market Dynamics ($t=-2.49$, $p<0.01$) and Social and Cultural Norms ($t=6.92$, $p<0.001$). These results indicate that there is more public financing available for entrepreneurs in India as compared to the U.S.; the markets are more dynamic in India as compared to the U.S. The social and cultural influence in the U.S. favored entrepreneurship more than in India ($t= 6.92$, $p<0.001$).

Insert Table 1 about here

Table 2 provides the descriptive statistics of the variables and the correlations among the study variables. The dependent variables have skewed distribution; their means 0.03 (incubation stage) and 0.07 (post-incubation stage) are the average survival scores of firms in India and the U.S. The low survival rate identified here is consistent with previous studies of entrepreneurship (Bednarzik, 2000). The percentages of entrepreneurs who have a personal relationship with other entrepreneurs who started a business in the last 2 years, are 26% in U.S. and 27% in India with an average of 26% for both countries. U.S. entrepreneurs have a higher ratio of full-time employment (0.40), comparing with India's full-time employment ratio (0.24), but their self-employed ratios are about the same (0.13). Male respondents and female respondents are almost equally distributed in our data sample. The average for age range is 35 to 50 years, which is typical age of entrepreneurs when they start their business (Azoulay, Jones, Kim & Miranda 2018). The majority of the respondents have at least a secondary degree of education.

Insert Table 2 about here

Tables 3a and 3b provide the results of the logistic regression analysis. The dependent variable in Table 3a is "survival up to 42 months (incubation) and in Table 3b it is "survival beyond 42 months" labeled as post-incubation stage. An analysis of Table 3a shows, Gender, Age Range, Education Level, and Income Level are significant in Model 1. Males that are younger, and of higher education, and income levels tend to be associated with firm survival in the incubation stage. In the post-incubation stage education variable is not significant. When the independent variables are introduced in Model 2, the block Chi-square increased to 1161.13 and 2722.24; and the Cox and Snell R_2 was 0.06 and 0.15 for incubation and post-incubation periods respectively. Personal networks, Full-time Employment, and Self-employment all significantly improved the chances of survival of the entrepreneurial firms both in the incubation and post-incubation stages. Next we introduced Country as a variable and it was significant ($\beta = -0.62$, $p<0.001$, incubation) ($\beta = -0.28$, $p<0.01$, post-incubation). The negative co-efficient is indicative that entrepreneurial firms in the U.S. were more likely to survive than in India both in the incubation and post-incubation stages.

In the final model (Model 4) we ran the interaction terms. We present the results for incubation (Table 3a) and post-incubation (Table 3b). Hypothesis 1a which stated that the effect of personal network on the survival of entrepreneurial firms would be lower in India during the incubation stage, when compared to firms in the U.S. was fully supported (Table 3a, Model 4, $\beta = -1.07$, $p<0.001$). Hypothesis 1b which stated that the impact of personal network would be higher on the survival of firms would be higher in India as compared with the US during the post-incubation stage was also supported (Table 3b, Model 4, β= 0.88, p <0.001). Hypothesis 2a stated that the effect of full-time employment on the survival of entrepreneurial firms would be lower in India when compared to the U.S. during the incubation stage was also fully supported (Table 3a, Model 4, β = -1.00, p<0.05). Finally, Hypothesis 2b that stated that the effect of self-employment on the survival of entrepreneurial firms during incubation stage would be higher in India than in the U.S. was also fully supported (β = 0.77, p<0.01). The Block Chi-square is 59.60 and the Cox and Snell R_2 was 0.07

Insert Tables 3a and 3b about here

Hypothesis 2c that stated the effect of full-time employment would be similar on the survival of entrepreneurial firms in post-incubation stage was not supported. It seemed that like in the post-incubation stage, there continued to be a significant difference between India and the US. In the U.S. entrepreneurs who had full time employment elsewhere had a higher probability of their businesses surviving in the post-incubation stage too. Hypothesis 2d was supported, the effect of self-employment on survival was similar in India and the US.

Robustness checks

Given the rarity of the event in our dependent variable, we checked the robustness of our model specification with the rare event technique (Firth, D 1993; Heinze and Schemper, 2002). We performed firth logistic regression (with firth penalized maximum likelihood method) to increase confidence in our results. The results of firth logistic regression are fully consistent with our results from the binary logistic regression.

Discussion

Our investigation revealed the intriguing finding that the personally knowing other entrepreneurs favor the survival of the entrepreneur's business in the U.S. during the incubation stage but in the post-incubation stage personal network effect are more important in India. Being self-employed favorably impacts the survival in India during the incubation stage, and as expected, in the post-incubation stage there is no difference between the US and India. Entrepreneurs with full time employment elsewhere seem to likely to experience higher survival rates in the U.S, both in the incubation and post-incubation stages as compared to India. This could be because full-time employment elsewhere often affords healthcare coverage which entrepreneurs are loath to give up until their business is in a more established footing.

Although researchers have noted that personal network have benefited smaller firms in industries such as the semiconductor industry (Stuart, 2000) and biotechnology (Baum et al., 2000), ours provides evidence that the effect of personal network varies from an emerging economy to a developed one during the incubation and post-incubation stages. Specifically, our study reveals that when entrepreneurial firms depend on angel investing (incubator stage) networks play a bigger role in providing support than when they rely on other types of government subsidized funding (Seghers, Manigart, & Vanacker, 2012). In the US when the management of the firm becomes more efficiency driven because of VC intervention, the focus more internally driven whereas Indian firms use their personal networks to cross over from government funding to other sources of funds. It seems that US entrepreneurs take longer to get more fully engaged in their business.

We extend the entrepreneurship literature in a variety of ways. First, our exploration of the effects of the strategic choice of the founder—his/her degree of involvement in the early stages of the firm—on the survival of the firm. Ours is one of the first systematic studies to address the differences between the impact of the degree of involvement in the incubation and post-incubation stages in a developed economy and in an emerging one. Second, we extend previous findings on founder imprinting (Hsu and Lim, 2013) by clarifying that the effect of founder imprinting on a startup survival varies from a developed economy to an emerging one.

Despite the contributions, our paper has some limitations. Our theory is yet to be tested for other prominent emerging economies, such as China, Brazil, and Russia. Further research with survey-based data can increase the robustness of the findings. Nonetheless, our research reveals that academics and policy makers need to be cognizant of the structural factors that affect the survival of entrepreneurial firms in the incubation stage as well as in the post-incubation stage. By providing some evidence that the drivers of survival vary between a developed economy and an emerging one, we underscore the need to explore the policy choices for the emerging economies that are distinct from that of developed economies.

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Table 1: T-Test results for Context variables for U.S. and India.

Variable	Cronbach's Alpha	U.S. Mean	SD	India Mean	SD	T-score	Sig.
Financing for Entrepreneurs	0.76	2.65	0.98	2.9105	0.85	-2.466	.015
Internal Market Dynamics	0.79	2.89	1.23	3.2367	1.19	-2.49	.013
Social and Cultural Norms	0.89	3.88	1.01	3.0532	1.04	6.92	.000

Table 2: Descriptive statistics and correlations

Variable	Mean	Std. Deviation	1	2	3	4	5	6	7	8	9	10	11
1. Entrepreneurial Firm Survival up to 42 months	.03	.17											
2. Entrepreneurial Firm Survival over 42 months	.07	.247	-.031**										
3. Year 2012	.35	.48	-.025**	-.025**									
4. Year 2013	.37	.483	.022**	.052**	-.561**								
5. Gender	.49	.500	.045**	.083**	-0.001	-0.004							
6. Age Range	4.37	1.618	-.022**	.102**	.027**	.078**	-.055**						
7. Education Level	2.35	1.053	.037**	.053**	.065**	.021**	.050**	.095**					
8. Income Level	2.03	.832	.055**	.085**	-.017*	.033**	.075**	0.008	.306**				
9. Personal Network	.26	.439	.167**	.107**	-.040**	.041**	.104**	-.075**	.066**	.099**			
10. Full-time Employment	.34	.473	-.035**	-.091**	.025**	-.058**	.214**	-.115**	.153**	.202**	.044**		
11. Self-employment	.13	.340	.263**	.473**	.017**	.027**	.123**	.051**	0.005	.029**	.196**	-.281**	
12. Country	.38	.486	-.030**	-.061**	-.086**	-.062**	0.008	-.374**	-.333**	-.054**	0.011	-.158**	-0.002

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Table 3a: Logistic regression models for incubation survival

		Model1a		Model 2a		Model 3a		Model 4a	
Variable		Beta	s.e.	Beta	s.e.	Beta	s.e.	Beta	s.e.
Year 2012		-0.28**	0.11	-0.50***	0.11	-0.53***	0.11	-0.58***	0.11
Year 2013		0.08	0.10	-0.18	0.11	-0.15	0.11	-0.18	0.11
Gender		0.49***	0.08	-0.04	0.09	0.04	0.09	0.05	0.09
Age range		-0.07**	0.03	-0.12***	0.03	-0.17***	0.03	-0.15***	0.03
Education Level		0.15***	0.04	0.19***	0.05	0.10*	0.05	0.11*	0.05
Income Level		0.31***	0.05	0.20***	0.06	0.20***	0.06	0.19***	0.06
Personal Network				1.25***	0.09	1.26***	0.09	1.59***	0.12
Full-time Employment				0.96***	0.15	0.81***	0.15	0.86***	0.18
Self-employment				2.97***	0.14	2.91***	0.14	2.65***	0.18
Country						-0.62***	0.11	-0.32	0.27
Country * Personal Network	H1a							-1.07***	0.20
Country * Full-time Employment	H2a							-1.00*	0.42
Country * Self-employment	H2b							0.77**	0.29
Constant		-4.41***	0.19	-5.57***	0.22	-4.86***	0.25	-5.04***	0.27
Block chi-square		129.00		1162.13		34.98		59.60	
Model chi-square		129.00		1291.13		1326.11		1385.70	
Cox and Snell R-squared		0.006		0.062		0.064		0.066	

*: p<0.05; **: p<0.01; ***: p<0.001. (N= 23573; 14513- U.S., 9060- India)

Table 3b: Logistic regression models for post-incubation survival

		Model 1b		Model 2b		Model 3b		Model 4b	
Variable		Beta	s.e.	Beta	s.e.	Beta	s.e.	Beta	s.e.
Year 2012		0.02	0.08	-0.26**	0.10	-0.28**	0.09	-0.31**	0.10
Year 2013		0.40***	0.08	0.30**	0.09	0.30**	0.09	0.20*	0.09
Gender		0.74***	0.06	0.23**	0.07	0.27***	0.07	0.30***	0.07
Age Range		0.27***	0.02	0.33***	0.03	0.30***	0.03	0.30***	0.03
Education Level		0.02	0.03	0.07	0.05	0.02	0.04	0.04	0.04
Income Level		0.40***	0.04	0.34***	0.07	0.34***	0.05	0.35***	0.05
Personal Network				0.14	0.13	0.14*	0.07	-0.16	0.09
Full-time Employment				1.27***	0.12	1.22***	0.13	1.44***	0.15
Self-employment				4.05***	0.12	4.04***	0.12	4.10***	0.14
Country						-0.28**	0.09	-0.38	0.23
Country * Personal Network	H1b							0.88***	0.15
Country * Full-time Employment	H2c							-1.55***	0.35
Country * Self-employment	H2d							-0.13	0.24
Constant		-5.44***	0.15	-7.27***	0.20	-6.94***	0.22	-6.93***	0.24
Block chi-square		560.18		2722.24		11.05		75.41	
Model chi-square		560.18		3282.42		3293.47		3368.88	
Cox and Snell R-squared		0.027		0.150		0.151		0.154	

*: p<0.05; **: p<0.01; ***: p<0.001. (N= 23573; 14513- U.S., 9060 India)

IN-DEPTH VIEW OF EXTERNAL AND INTERNAL DRIVERS OF SELECTIVE REVEALING AFFECTING THE IMPLEMENTATION OF STRATEGIC OPENNESS

ABSTRACT

This study utilizes interdisciplinary research to provide a finer grained view of the internal and external factors affecting the decision to implement strategies of openness. A three-pronged theoretical approach is introduced to examine the macro, mezzo and micro factors affecting the decision-making. This beneficial approach provides a more comprehensive view while looking at the various roles of the external environment, organization and leader. Industry competitiveness, organization age and size and leader's personality are some of the likely drivers that may affect the implementation of strategic openness leading to an improved decision-making.

Keywords: Selective revealing, strategic openness, knowledge revealing, internal and external drivers

INTRODUCTION

Knowledge is one of the most crucial and valuable resources, particularly in innovative organizations (Grant 1996; Kogut and Zander 1992, 1996). Organizations used to accomplish competitive advantage through exclusive ownership and control of innovation-related knowledge (Chesbrough, 2003). Researchers have recognized that such linear approaches to innovation do not sufficiently explain modern innovation activities (i.e., Powell, Koput, and Smith-Doerr, 1996; Teece, 1986; von Hippel, 1988). Realizing that innovation-related knowledge can be dispersed outside any organization blurring the organizational boundaries (Bogers and West, 2012; Chesbrough, 2003 and 2006a; Dahlander and Gann, 2010), in today's knowledge-based economy (Davis and Dingel, 2019; Drahos and Braitwaite, 2017; Powell and Snellman, 2004), many organizations try to adopt "open innovation" by collaborating and exchanging knowledge with their environment to take advantage of complementary assets and capabilities, and to improve the commercialization of innovation (i.e., Chesbrough, 2003; Randhawa, Wilden, and Hohberger, 2016; West and Gallagher, 2006). This "open" approach to innovation through iterative exchanges of knowledge, technology, and resources across organizational boundaries seemed more adequate (Chesbrough, 2003).

However, retaining innovation capabilities (Chesbrough, 2003 and 2006b) as well as capturing innovation value (Pisano, 2006; Teece, 1986 and 2006) are two major concerns complicating the management of such knowledge disseminated outside organizations. Providing ideas to the market and gaining external knowledge are two key factors for success in open innovation (Enkel, Gassmann, and Chesbrough, 2009; Gassmann and Enkel, 2004). Hence, innovation-related exchange of external knowledge can become a complex issue involving intellectual property rights (IPRs). As complex as this exchange of external knowledge is, it is also very important in today’s knowledge-based economy since knowledge-intensive activities rely on intellectual capabilities which then contribute to the enhanced speed of technological and scientific advancement (Davis and Dingel, 2019; Drahos and Braitwaite, 2017; Powell and Snellman, 2004). Therefore, controlling and managing the exchange of external innovation-related knowledge can be considered one of the vital aspects of competitive advantage (Arikan, 2009; Barney, 1991; Pfeffer and Salancik, 1978).

There are numerous avenues to manage this complexity of managing innovation-related knowledge. These IP creation paths can be achieved through trade secrecy, copyright, licensing, publication, and IPRs such as patents, trademarks and design rights (Baldwin & Henkel, 2015; Henkel, 2006; Henkel, Schöberl, and Alexy, 2014; Chesbrough and Ghafele, 2014). It has also been suggested that, strong IPRs are advantageous for the focal firm and sometimes they are essential for open innovation (Chesbrough, 2003 and 2006b). Though these concepts are important, the current study is focused on another way of dealing with this complex issue of controlling and managing innovation-related external knowledge.

Recent research suggests operating without exclusive rights and even waiving some of the IPRs may help enhance open innovation (Henkel, 2006; Henkel et al., 2014), contradicting these various points of views suggesting strong IPRs or secrecy with regards to innovation-related knowledge in the conventional literature. Voluntary, purposeful and permanent revealing of particularly selected knowledge-based resources, referred as selective revealing, can be beneficial under the circumstances of open innovation (Alexy et al., 2013; Henkel, 2006). Although there are various efforts to reconcile this paradox of openness (Arora, Athreye, and Huang, 2016; Foege, Lauritzen, Tietze, and Salge, 2019; Hannigan, Seidel, and Yakis-Douglas, 2018; Laursen and Salter, 2014; Wang, Libaers, and Park, 2017) in the field of strategy (i.e., Resource-Based View)

(Alexy, West, Klapper, and Reitzig, 2018), there is much to examine related to this concept in terms of strategic openness. Protecting the innovation-related knowledge, one of the most vital assets, is necessary for value appropriation, while sharing is also needed to attract collaborators hence these actions need to coexist. Hence, the tensions rise from the intricate balancing act of sharing and protecting knowledge at every level and direction (Foege, Lauritzen, Tietze, and Salge, 2019).

Counter to the tenets of "paradox of disclosure" (Arrow, 1962; Anton and Yao, 1994; Gans and Stern, 2003) or a paraphrased version of it referred as "paradox of openness" (Arora, Athreye, and Huang, 2016; Foege, Lauritzen, Tietze, and Salge, 2019; Hannigan, Seidel, and Yakis-Douglas, 2018; Laursen and Salter, 2014; Wang, Libaers, and Park, 2017), several recent studies have demonstrated that innovators may benefit from waiving some of their IPRs voluntarily in an open innovation process (Alexy et al., 2013; Pisano, 2006; West, 2003) improving efficiency and effectiveness of open innovation (Henkel 2006; Henkel et al., 2014). According to a review conducted by Alexy and colleagues (2013), the originating organization may implement selective revealing strategies to make external parties aware of its willingness to collaborate, to reduce the cost of establishing or coordinating (during collaboration), to eliminate a severe threat of substitution in its competitive environment, and lastly to influence external knowledge with respect to content and structural compatibility as well as the technological trajectories in the industry. On the other hand, the originating organization may not implement selective revealing strategies because of the perception of losing control of valuable resources, difficulty to adjust processes for value creation and capture (organizational learning and absorptive capacity), and finally because of the perception of not profiting from innovation (PFI) associated with loose appropriability regimes. Particularly, if the originating organization doesn't have strong downstream complementary assets, these issues associated with value creation and capture may present a real risk (Pisano, 2007).

One of the most salient examples demonstrating how beneficial waiving or sharing IPRs involved Merck and the Human Genome project funded by the U.S. government (Pisano, 2006). Collaborating with the University of Washington, Merck created Merck Gene Index database and made it public. As philanthropically as it may be seen at the time, Pisano (2006) suggested that this was also a strategic move to prevent privatization of genes debilitating future research possibilities. In line with profiting from innovation, tighter appropriability strategies are not always beneficial (Pisano, 2006; Teece, 1986). Another significant example of selective revealing is the case of embedded Linux (Henkel, 2006). Among various benefits, Henkel (2006) pointed out that selective revealing helped organizations reconcile the issue of protecting intellectual property rights in the open source software ecosystem. Another more recent example is Google revealing its code to public to collect data. Google is gathering any data while public is using its code and is likely to keep the useful portions of this vast amount of data to improve its code. Other examples include operating systems (Microsoft), video games (Sony), aerospace (Lockheed Martin), food spices (McCormick), T-shirts (Threadless), 3-D printing (MakerBot), and shoes (Nike) (Husney, 2014; Jackson, 1999; Parker and Van Alstyne, 2018; Teece, 1988; Wacksman and Stutzman, 2014). These examples mentioned are knowledge specific and the organizations implementing strategic openness are generally large and more established entities working with either universities and/or governmental agencies in their respective industries. The concept of what is being revealed tends to be very tangible in these examples including coding in OSS or the genome sequence.

Such notable aspects are also the limitation of the current conversation regarding selective revealing as an open innovation effort. It is not beneficial to assume that the same characteristics are applicable when selective revealing is implemented in small startups in competitive industries or the knowledge revealed is radical innovation related. If selective revealing is an observable phenomenon outside the currently utilized contexts such as the case for open source software (OSS), the extant literature on selective revealing has merely investigated this phenomenon within the industry of open source software where open and user innovation takes place (Henkel, 2006). However, these current conversations have overlooked the role of the individual while examining the intricate workings of strategic openness. The leadership's innate dispositions may have a role in the implementation of strategic openness. Hence, under these circumstances, selective revealing as a strategy of openness is an underexplored phenomenon. Introducing a three-pronged approach to discuss the effects of the industry, organization and leadership on selective revealing, this study is aimed to extend the research on strategic openness. These are important theoretical contributions to provide a more comprehensive view of the internal and external drivers of selective revealing (Alexy et al., 2013).

DIFFERENT TYPES OF KNOWLEDGE REVEALING

Revealing partial or total knowledge related to innovation is not a new concept. Knowledge spillovers, knowledge transfers, knowledge combination and other similar concepts such as information trading have been researched for many decades demonstrating how firms learn from the environment and increase their innovative activities (Cohen and Levinthal, 1990). However, conceptually, selective revealing is distinct in many ways when compared to the other knowledge related constructs (Please see Table 1). The two unique identifiers of selective revealing are its purposefulness and voluntariness.

Insert Table 1 about here

Knowledge spillovers are perceived as accidental and/or out of manager's control (Arrow, 1962; Mansfield, 1985; Yang et al., 2010). The assumption is that the originating organization has no gain (Kogut and Zander, 1992) and knowledge spillovers benefit recipient firms at the expense of originating firm profitability (Yang et al., 2010) reducing the originating firm's ability to profit from innovation (Jaffe, 1986). Spillovers tend to either increase the productive capacity of a region (Audretsch and Feldman, 1996) or the growth of whole economies (Edwards, 2001). Nonetheless, when the innovator seeks general diffusion and profit, there may be voluntary knowledge spillover which can be referred as free revealing (Harhoff, Henkel and von Hippel, 2003). Similar to knowledge spillovers, knowledge recombination is the recipient organization's ability to create new knowledge through recombination of knowledge by acquiring and synthesizing knowledge across organizational boundaries (Rosenkopf and Nerkar, 2001).

Knowledge transfer occurs when a network member is affected by the experience of another network member (Argote and Ingram, 2000; Inkpen and Tsang, 2005), manifesting as changes in knowledge or performance of the receiving firm. Prior research suggests that intensive social interactions of organizational actors enable knowledge transfers (Inkpen and Tsang, 2005; Lane and Lubatkin, 1998; Yli-Renko, Autio, and Sapienza, 2001; Zahra, Ireland, and Hitt, 2000). Resolving problems through joint efforts promotes innovation (Uzzi, 1997), hence knowledge sharing, a joint effort benefits network firms (Kotabe, Martin, and Domoto, 2003).

Information trading is referred as the open information exchange in a dyadic manner between individuals in organizations (von Hippel, 1987; Schrader, 1991; Dahl and Pedersen, 2004; Henkel, 2006) where the information providing individual expects mutuality when requests information in the future. However, during such trading scenario, the information is provided to one specific recipient assuming mutual trust as well as conditions of acquaintance (Bouty, 2000). Hence, lack of mutuality and/or retaliation can occur between individuals (Henkel, 2006).

Insert Figure 1 about here

Although such concepts benefit mainly the recipient firm and the society (Cohen and Levinthal, 1990; Griliches, 1992), the case for selective revealing is different. It is advantageous for the originating firm when there is high partnering uncertainty, unwillingness to collaborate, and high coordination costs (Alexy et al., 2013) making this construct distinct from the rest. Another conceptual difference of selective revealing is that selective revealing is targeted. It is purposeful, voluntary and intended for public in such ways to encourage collaboration targeting external actors. The term "Selective Revealing" is coined by Henkel (2006) and connotes waiving or not establishing legal rights of innovation-related knowledge as the focal firm's profit-oriented behavior as a purposeful and voluntary strategy (Alexy et al., 2013; Henkel et al., 2014). One of the underlying assumptions that plays a very important role for this strategic openness (Alexy et al., 2018) is that the organization is willing to open itself to external parties (Piller and West; 2014). There are pros and cons to selective revealing of knowledge and the organization should evaluate these aspects while making the decision to reveal or not to reveal the innovation-related knowledge (Alexy et al., 2013; Henkel, 2006; Henkel et al., 2014). The originating organization must regulate what and how much to give away while considering how much it will receive in return from the external parties (Parker and Van Alstyne, 2018). Selective revealing is likely to occur when there are high levels of; 1) partnering uncertainty, 2) high coordination costs, and 3) unwillingness to collaborate (Alexy et al., 2013). Partially opening up its technology and giving away its intellectual property, the originating organization also seeks continuity of innovation in a cumulative manner with expansion of that specific intellectual property (Parker and Van Alstyne, 2018).

Some examples include IBM revealing its patents and Merck disclosing the human gene sequence in public database targeting competitors to induce collaboration (Alexy et al., 2013). Hence, revealing the innovation-related knowledge voluntarily with a specific purpose as a strategy (Alexy, George, and Salter, 2013) and examining it as a strategic openness (Alexy et al., 2018) is a ~~fresh~~ concept. Based on Von Hippel's division (1988) of innovative activity, there are two modes of selective revealing; 1) problem revealing – organization purposefully reveals the current or anticipated future technological problems seeking support, and 2) solution revealing – organization voluntarily and strategically reveals the solution to a problem encouraging imitation and/or diffusion (Alexy et al., 2013). Some of the examples of problem revealing include open research calls and crowdfunding (Afuah and Tucci, 2012; Alexy, Criscuolo, and Salter, 2009; Alexy et al., 2013; Jeppesen and Lakhani, 2010). Solution revealing, on the other hand is less likely to occur (Alexy et al., 2013) however some examples include making patents publicly available (Alexy and Reitzig, 2013), and waiving patents, making all research findings public (Pisano, 2006). A more detailed classification was suggested by Alexy, George, and Salter (2013) combining the modes of revealing (problem or solution revealing) with the innovation goal of the organization (path creation or path extension) demonstrating four archetypes as well as the process of selective revealing strategies as shown in Figure 2.

Insert Figure 2 about here

THE ROLE OF THE INDUSTRY

To connect and integrate open innovation research into several conventional management theories, research should not limit itself to certain contexts but extend into uncharted territories that may help explore open innovation and its theoretical underpinnings, making it more mainstream and providing more insight at different settings. Purposively managing knowledge flows across organizational boundaries (Chesbrough and Bogers, 2014) is accepted as a commonly recognized business strategy in various industries (Dahlander and Gann, 2010; Gassmann et al., 2010; Huizingh, 2011; Mortara and Minshall, 2011). Especially, the increased significance and benefits of user innovation and crowdsourcing throughout many industries (i.e., Afuah and Tucci, 2012; Baldwin and von Hippel, 2011) may drive organizations to rethink their industry practices with regards to the appropriability regimes since opportunities for open innovation are dormant in many industries because of strong IP protection (Henkel et al., 2014). It is unlikely to see organizations implementing strategies of openness in industries restricted by tightly controlled appropriability regimes. Such industry practices hinder the occurrence of open innovation practices. Having a tightly controlled appropriability regime and hoarding the intellectual property keep the organizations' innovation ecosystem small and limit profits. MySpace and Apple are recognized as some of the examples of such managerial mistake (Parker and Van Alystne, 2018). Such strategic openness is at optimal levels of making profits when "externalizing intellectual property and participating in royalties" (Parker and Van Alystne, 2018) from inside-out open innovation and "integrating external resources" from outside-in open innovation (Enkel, Gassmann, and Chesbrough, 2009) to fulfill organizational needs.

Particularly, high technology contexts associated with open innovation practices emphasize the idea of firms developing new business opportunities based on externally sourced new technology (Vanhaverbeke, Chesbrough, and West, 2014). The main assumption of open innovation relating to strategic openness is that knowledge is widely dispersed outside any organization blurring the organizational boundaries (Bogers and West, 2012; Chesbrough, 2003 and 2006a; Dahlander and Gann, 2010). Such assumption underscores the external environment outside the organization. An open innovation practice that may be deemed effective in high technology settings may not work in other settings because of the external environment characteristics.

Transformation and/or implementation of open innovation as strategic openness may likely to occur in certain external environments more so than others. Organizations with external environments that are collaborative in nature are more prone to display strategic openness in the form of selective revealing when compared to the organizations positioned in more competitive external environments. The external environment is important because within that specific external environment, an organization formulates and executes strategies, implements organizational practices (Porter, 1989). The competitiveness of the external environment guides the organization in formulation of strategy (Porter, 1989). Hence, the industry characteristics is likely to influence organizations' strategy regarding the transformation and/or implementation of strategic openness in the form of selective revealing.

Particularly, industry competitiveness, the number of firms competing for the same product market (Porter, 1980; Eisenhardt and Schoonhoven, 1996), is one of the aspects that determine the strategy and behavior of organizations in that specific industry (Luo, 2001; Scherer and Ross, 1990). Hence, the strategy and behavior of the organization is likely to be influenced by the competitiveness of its specific industry during transformation and/or implementation of strategies of openness.

In highly competitive industries, speed to market is vital (Brown and Eisenhardt, 1998), and there is a perception of constant pressure to increase profits and fend off competitive actions (Eisenhardt, 1989; D'Aveni, 1994). The leadership tends to have strong incentives to seek new growth opportunities and to act fast to stay competitive (Aghion et al., 2001). On the other hand, in less competitive industries, organizations can take more time to grow, encountering fewer direct competitive threats and less volatility. This provides more possibilities of choices regarding growth and speed (D'Aveni, 1994). In less competitive industries, there is less clear or consistent information about the adequate response, allowing more room for preferences fueled by personality (Mischel, 1977b; Meyer, Dalal, and Hermida, 2010).

Although it has been suggested that partial or full disclosure of knowledge can be useful in order to "eliminate a severe threat of substitution in its competitive environment" (Alexy, George, and Salter, 2013), the industrial factors are partially explored, particularly when strategies of openness involves small organizations such as new ventures and startups rather than large, multinational organizations that tend to be the focus of mainstream open innovation research (Brunswicker and van de Vrande, 2014; Lee, Park, Yoon and Park, 2010; Schroll and Mild, 2012; Van de Vrande, De Jong, Vanhaverbeke, and De Rochemont, 2009; Wynarczyk, Piperopoulos, McAdam, 2013). Strategies of openness may not be feasible for small organizations in fiercely competitive industries.

Partially or fully disclosing the valuable, rare, inimitable, and nonsubstitutable (VRIN) resource that provides growth opportunities (Alvarez and Busenitz, 2001) and first mover advantages (Peteraf, 1993), may reduce the sustainability of the organization's competitive advantage arising from the VRIN resource in a competitive environment. Technical capabilities, knowledge leading to the development of new products or the entry into new markets (Prahalad &

Hamel, 1990), leaders' cognitive ability to recognize and exploit opportunities (Alvarez and Busenitz, 2001) are a few examples of versatile VRIN resources that creates sustainable competitive advantage hence increasing organizational performance (Barney, 1991; Crook, Ketchen, Combs, and Todd, 2008; Nasun and Wiklund, 2018; Peteraf, 1993; Wernerfelt, 1984).

So, once the organization reveals this type of resource trying to implement strategies of openness, all the qualities of the resource, making it a versatile VRIN resource leading to better performance (Barney, 1991; Crook, Ketchen, Combs, and Todd, 2008; Nasun and Wiklund, 2018; Wernerfelt, 1984), are likely to be eliminated. Although small organizations tend to have flexibility (Fiegenbaum & Karnani, 1991) and the ability to take more risks (Hitt, Hoskisson, and Harrison, 1991; Stewart, Watson, Carland, and Carland, 1999; Woo, 1987), such action of revealing a VRIN resource will not only be detrimental to the small organization but also reduce the competitive advantage and lessen the chances of survival and growth. Afterall, one of the major predictions of organization theory is that firms attempt to become self-sufficient by controlling or gaining access to important resources necessary for survival and growth (Barney, 1991; Pfeffer & Salancik, 1978).

Hence, I posit;

P1) Organizations in fiercely competitive industries are less likely to selectively reveal when compared to organizations in less competitive industries.

THE ROLE OF THE ORGANIZATION

Contradictory to the tenets of various theories such as; 1) Resource-based View that suggests organizations should try to control valuable, rare, inimitable, and non-substitutable resources and organize to capture value (Barney and Arikan, 2001; Barney, 2007) to achieve competitive advantage), and 2) Resource Dependence Theory that suggests organizations should build or acquire the necessary resources (Casciaro and Piskorski, 2005; Pfeffer and Salancik, 1978) to survive and grow), the emergence of strategic openness (Henkel, 2006; Varian and Shapiro, 1999; West, 2003) has been on the rise over the past two decades. Surrendering at least partial control over a portion of a firm's current or future assets (Boudreau, 2010) has become common practice to various forms of strategic openness (Alexy et al., 2018). Typically, stakeholders such as suppliers, complementors, and customers enhance the value of a given system by innovating within or on top of it (Balka, Raasch and Herstatt, 2014; Chesbrough, 2003; Dahlander and Gann, 2010; von Hippel, 1976; West and Bogers, 2013), while the originating organization retains exclusive control over the indispensable portion of the system in order to capture value, making the system partially open (Alexy, George, and Salter 2013; Baldwin and Henkel, 2012; Balka, Raasch and Herstatt, 2014; Henkel, 2006; West, 2003).

Numerous reasons for the organizations to pursue strategies of openness are the associated benefits such as innovation and organizational performance (Stam, 2009; West, 2003; Alexy et al., 2013) by reducing costs (Lakhani and von Hippel, 2003), increasing the diffusion of products leading to beneficial externalities (Varian and Shapiro, 1999), and changing the competitive behavior of others (Alexy et al., 2013). However, such instances of strategic openness have mostly been applied to monopolistic or oligopolistic organizations (Alexy et al., 2018), demonstrating that the current conversations relating to strategy and innovation with regards to openness are exclusive to larger and more established organizations (Brunswicker and van de Vrande, 2014; Lee, Park, Yoon and Park, 2010; Wynarczyk, Piperopoulos, McAdam, 2013).

Examining previous examples mentioned in the literature, it is noticeable that these organizations utilizing open innovation such as NASA, IBM, Merck, etc., are generally recognizable established larger firms that are likely incumbents in their particular industries. This demonstrates that the focus of the mainstream open innovation literature has been on large and multinational organizations (Brunswicker and van de Vrande, 2014; Lee, Park, Yoon and Park, 2010; Schroll and Mild, 2012; Van de Vrande, De Jong, Vanhaverbeke, and De Rochemont, 2009). Although prior research has indicated that small and medium sized organizations “by nature” have an external focus (Baum, Calabrese and Silverman, 2000; Edwards, Delbridge and Munday, 2005), they have been overlooked in current conversations relating to open innovation (Brunswicker and van de Vrande, 2014; Lee, Park, Yoon and Park, 2010; Wynarczyk, Piperopoulos, McAdam, 2013). Theoretically, the organizational characteristics of small organizations such as flexibility (Rothwell and Dodgson, 1994), and simple hierarchy (Teece, 1996) may be advantageous for organizational performance during implementation of open innovation (Ahn, Minshall, and Mortara, 2015). The small size as well as the lack of established market positions provide small organizations with incentives and capabilities for innovation that larger and more established organizations may not have (Acs and Audretsch, 1990; Utterback, 1994; Henderson, 1993; Chandy and Tellis, 2000).

Small organizations and new ventures may likely to have alternative motives for pursuing strategic openness unlike the larger and more established organizations that are the focus of mainstream research relating to openness. A key motive for small organizations to adopt open innovation is the inadequate marketing capacity (Narula, 2004). Small organizations’ and new ventures’ weaknesses in innovation arise from their size (Freel, 2000; Narula, 2004; Teece, 1986). These organizations encounter the challenge of scarce resources such as the funding for innovation, the skills and routines that are necessary for innovation (Katila and Shane 2005), and the complementary assets to profit from innovation (Teece, 1986). Other motives include reacting to market changes, meeting customer demands and/or developing new sale channels and having a weak R&D (Kim and Park, 2010; Lee, Park, Yoon and Park, 2010; Schroll and Mild, 2012; Van de Vrande, De Jong, Vanhaverbeke, and De Rochemont, 2009). Conceptualization to commercialization is a major threshold in the new ventures' life cycle (Kazanjian and Drazin, 1990; Fisher, Kotha, and Lahiri, 2016; Islam, Fremeth, and Marcus, 2018). They encounter difficulties transferring their technologies into product lines to create new products (Teece, 1980, 1982). Inadequate R&D expertise in small organizations and new ventures drive them to either explore a broad range of external knowledge sources (Lee, Park, Yoon and Park, 2010) or utilize other organizations' expertise by forming alliances to access complementary assets (Ahern, 1993; Nooteboom, 1994; Teece, Pisano, and Shuen, 1997; Van Dijk, den Hartog, Menkveld, and Thurk, 1997). Small and new organizations tend to lack the market recognition, economies of scale, and strategic collaborators when compared to larger and more established organizations (BarNir, Gallaugher, and Auger, 2003).

Therefore, supporting the small, new organization by investors, bankers, venture capitalists, and other resource providers (Singh, Tucker, and House, 1986), is "a critical ingredient for new venture success" (Starr and MacMillan, 1990: 83) to increase the likelihood of firm survival and growth (e.g., Aldrich and Fiol, 1994; Delmar and Shane, 2004; Zimmerman and Zeitz, 2002). However, legitimacy is also a vital issue that small and newly formed organizations struggle to possess for acquiring the necessary resources during the earliest developmental stages of their existence (Aldrich and Fiol, 1994; Lounsbury and Glynn, 2001; Zimmerman and Zeitz, 2002; Zott and Huy, 2007). Legitimacy is necessary for these new ventures to transition from conceptualization to commercialization (Kazanjian and Drazin, 1990; Fisher, Kotha, and Lahiri, 2016; Islam, Fremeth, and Marcus, 2018). This socially constructed concept can be defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions" (Suchman, 1995, p. 574).

Lacking legitimacy, small organizations have partial ability to negotiate for technology assets making it problematic to establish symmetric relationships with external entities such as large established organizations (Minshall, Mortara, Valli, and Probert, 2010; Narula, 2004). When the leadership in small startups in an initial public offering (IPO) load up their board with a diverse group of impressive directors to send a message to potential investors about the firm's legitimacy (Certo, 2003; Connelly, Certo, Ireland and Reutzel, 2011; Filatotchev and Bishop, 2002). Also, CEOs can signal the unobservable quality of their organizations to potential investors via the quality of the financial statements (Zhang & Wiersema, 2009). The entrepreneurship literature has also utilized signaling theory by examining the signaling value of board characteristics (Certo, 2003), top management team (TMT) characteristics (Lester, Certo, Dalton, Dalton, & Cannella, 2006), venture capitalist and angel investor presence (Elitzur and Gavius, 2003), and founder involvement (Busenitz, Fiet, and Moesel, 2005). These types of examples demonstrate how one entity may undertake actions to signal its underlying quality – "underlying, unobservable ability of the signaler to fulfill the needs or demands of an outsider observing the signal" – to other entities (Connelly, Certo, Ireland and Reutzel, 2011). As Stiglitz (2002) pointed out "different people know different things." The fundamental idea is to reduce the information asymmetry that arises from private information held between two parties separately (Connelly, Certo, Ireland and Reutzel, 2011; Spence, 2002).

Hence, signaling theory is particularly applicable to the smaller and younger organizations since the liabilities due to being new (Stinchcombe, 1965) and small (Aldrich and Auster, 1986) influence the ability to obtain resources (Cassar, 2004) needed for survival and growth (Barney, 1991; Pfeffer and Salancik, 1978). Potential resource providers consider larger and more mature organizations to be lower risk (Heidrick and Nicol, 2002). In order to overcome these liabilities associated with being new (Busenitz, West, Shepherd, Nelson, Chandler, and Zacharakis, 2003; Ireland, Hitt, and Sirmon, 2003; Lumpkin and Dess, 1996; Navis and Glynn, 2011; Rindova, Barry, and Ketchen, 2009; Stinchcombe, 1965) and small (Aldrich and Auster, 1986; Bell, Moore, and Filatotchev,2012; Busenitz, Fiet, and Moesel, 2005) to gain legitimacy (Singh, Tucker, and House, 1986; Tornikoski and Newbert, 2007; Zimmerman and Zietz, 2002), small and new ventures signal to communicate their unobserved quality assisting the pecuniary and non-pecuniary resource providers interpret and evaluate the small and new venture's viability (Eddleston, Ladge, Mitteness, and Balachandra, 2016; Ozmel, Reuer, and Gulati, 2013; Prasad, Bruton, and Vozikis, 2000; Zimmerman and Zietz, 2002). Consequently, these organizations take initiatives to eliminate the information asymmetry, displaying technology and market potential to distinguish themselves from other organizations (Marcus, Malen, and Ellis, 2013).

Advantageous for all organizations (Navis and Glynn, 2011), legitimacy can be achieved through isomorphism that demonstrates conformity to the mainstream (Deephouse, 1996). This provides the organization with the perception of "desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). However, for small and new ventures, legitimacy through conformity to establishment is a challenging paradox since these organizations come to existence for providing their novel, distinct and nonconforming ideas and solutions to their specific markets (Navis and Glynn, 2011; Rindova, Barry, and Ketchen, 2009). Hence, to achieve legitimacy with their distinctiveness, small and new organizations signal their unobservable quality – their distinctiveness – which can be utilized as strategic openness, expecting the investors, bankers, venture capitalists, and other resource providers to interpret this credible signal as favorable. Since signals tend to convey the inherent quality of the new venture (Arthurs, Busenitz, Hoskisson, and Johnson, 2009; Busenitz, Fiet, and Moesel, 2005), under highly uncertain and ambiguous conditions, signaling their distinctiveness is likely to help the small and new organizations to present themselves as "good risks" for potential resource providers to reduce the information asymmetry (Conelly, Certo, Ireland, and Reutzel, 2011) and to demonstrate the organizations' viability (Jain, Jayaraman, and Kini, 2008; Ozmel, Reuer, and Gulati, 2013; Reuber and Fischer, 2005).

Implementing strategic openness in the form of selective revealing (Alexy et al., 2013; Alexy at al., 2017) is likely to help these newly budding organizations to overcome the liability of newness (Stinchcombe, 1965) as well as the information asymmetry (Connelly, Certo, Ireland and Reutzel, 2011) to a certain extent so that they can be perceived as more attractive - "good risks" for potential resource providers (Navis and Glynn, 2011) when compared to other new ventures seeking similar needed resources provided by the potential investors. These new ventures engaging in strategic openness, are attempting to build legitimacy by selectively revealing their distinctiveness, by signaling their unobserved qualities to reduce the information asymmetry for external entities (Connelly, Certo, Ireland and Reutzel, 2011) such as venture capitalists, angel investors and other larger organizations to gain access to the pecuniary and non-pecuniary resources. The main assumption is that once the external entities receive this credible signal, they are willing to provide access to the needed resources. Signaling the unobservable quality of a small organization or a new venture is vital to obtain the necessary external resources for survival or growth and can be achieved through strategic openness in the form of selective revealing. Therefore, the quality of the selectively revealed innovation-related knowledge is likely to determine whether or not the required resources of the signaler will be fulfilled by the observing external entities.

Therefore, I propose;

P2: The smaller and younger the organization, the more likely to selectively reveal to gain legitimacy.

When the organization is implementing strategies of openness in the form of selective revealing, the assumption is that the organization is trying to open up “just enough” without revealing vital organization-specific details so it can operate without exclusive rights and waive some of the IPRs to enhance open innovation, (Henkel, 2006; Henkel et al., 2014). The organization should reveal just enough to detect potential collaborators and to have emergence of innovative outcomes (Alexy et al., 2013; Alexy et al., 2018) while protecting its core innovation-related assets (Alexy et al., 2013). The revealed innovation-related knowledge should not be detrimental to the value creation so that there is no inherent risk of imitation (Ritala and Hurmelinna-Laukkanen, 2013), making it safer for the organization to engage in collaboration (Yli-Renko, Sapienza, and Hay, 2001).

According to Henkel (2006) in the case of selective revealing of OSS codes, the appropriability regime is just strong enough to reveal the generic portion but protect organization’s main valuable part of the code. Such an example demonstrates that organizations protect their core (existing) innovation-related knowledge that is specific to the organization in order to guarantee profiting from potential future innovations (Ritala and Hurmelinna-Laukkanen, 2013). Tightly controlled appropriability regimes are not optimal when the organizations are searching for that innovation-related external knowledge to improve their internal innovation. Particularly, formal measures of protection such as patenting dampen the likelihood of potential external collaborators of opening up (Wang, Libaers, and Park, 2017). For those organizations that are about to engage in strategic openness in the form of selective revealing, protecting innovation-related knowledge is likely to be less complex than other formal and informal mechanisms (Brunswicker and van de Vrande, 2014). Such protection of organization-specific innovation-related knowledge is similar to various protection mechanisms of radical innovations.

Consequently, another vital element that may affect the occurrence of strategic openness is the type of innovation the organization holds. The type of innovation the organization holds determines the protective power – the tightness of the appropriability regime (Ritala and Hurmelinna-Laukkanen, 2013). As rare in nature as they are, radical innovations are perceived as an unsteady pattern of development of technologies, markets and industries (Colombo, Franzoni, and Veugelers, 2015; Dosi, 1982; Freeman, 1992; Henderson and Clark, 1990) that demonstrate key departures from current capabilities of the organization and establish the basis for entirely new products and services (Garcia and Calantone, 2002; Ritala and Hurmelinna-Laukkanen, 2013; Tushman and Anderson, 1986). The exploration of formerly uncharted areas resulting in a novel solution is at the core of radical innovation, making it easier to protect with various appropriability mechanisms (Hurmelinna-Laukkanen et al., 2008; Levin et al., 1987; Ritala and Hurmelinna-Laukkanen, 2013; Teece, 1986). The creation of radical innovations not only require the organization's existing knowledge base but also utilization of external organizational search for various sources (Abernathy and Utterback, 1978; Ritala and Hurmelinna-Laukkanen, 2013; Tushman and Anderson, 1986), making radical innovation a more rewarding option in terms of profiting from being the first in the market when compared to incremental innovation (Lieberman and Montgomery, 1988; Ritala and Hurmelinna-Laukkanen, 2013; Teece, 1986).

Selectively revealing information related to an incremental innovation creates value for the industry as a whole or a portion of it by improving current products and processes, or the infrastructure (Choi, Garcia, and Friedrich, 2010; Fjelstad et al., 2004; Ritala and Hurmelinna-Laukkanen, 2013; Von Hippel, 1987). On the other hand, selectively revealing information related to a radical innovation may not be helpful when trying to control such a core element of the value chain. Rooted in the fundamental idea that the weak appropriability regime lessens the value created when compared to strong appropriability regime (Teece, 1986), it is not counterintuitive that organizations use various types (formal versus informal) and levels (tightness of control) of appropriability regimes to protect radical innovations. The partial or whole disclosure that lacks the formal appropriability regime in the name of strategic openness may; 1) reduce the bargaining power of the radical innovation, and 2) present a risk of imitation and expropriation after disclosure – claiming that radical innovation was not novel and previously known (Arrow, 1962; Anton and Yao, 1994; Gans and Stern, 2003).

According to a recent review of innovation research conducted by Hopp, Antons, Kaminski and Salge (2018), radical innovation is rooted in the creation of new knowledge and the commercialization of completely novel ideas or products. Reliant on technological advancements, organizational capabilities and human capital, radical innovation may shift current products, affect the relationship between customers and suppliers, and produce completely new product categories (Hopp et al., 2018). A radical innovation is a clear, risky, and significant departure from the organization's existing capabilities, breaking established rules and possibly creating new markets and product classes (Colombo, Franzoni, and Veugelers, 2015; Duchesneau, Cohn, and Dutton, 1979; Ettlie, Bridges, and O'Keefe, 1984; Garcia and Calantone, 2002; Hage, 1980; Mc Dermott and O'Connor, 2002; Ritala and Hurmelinna-Laukkanen, 2013; Tushman and Anderson, 1986).

Several examples of radical innovations comprise the shift from piston aircraft engines to turbojets, the change from steam to diesel electric locomotives, or the move from core to semiconductor memory, magnetic resonance imaging (MRI), microprocessors, cell phones, ranitidine (Colombo, Franzine, and Veugelers, 2015; Mc Dermott and O'Connor, 2002; Utterback and Kim, 1985). These types of radical innovations tend to create the opportunity to further the value creation by entities that possess complementary assets, and/or entities that make gains from other technological and demand externalities caused by the radical innovation (Colombo, Franzine, and Veugelers, 2015).

Since an organization is more likely to receive rewards from its innovation when it is able to protect its core knowledge assets (Ritala and Hurmelinna-Laukkanen, 2013; Van Dijk, 2000), it is a contradictory move for an organization to reveal its radical innovation. Particularly, when minimizing outgoing and maximizing incoming flows is the norm to be perceived as beneficial for the organization (Cassiman and Veugelers, 1998; Ritala and Hurmelinna-Laukkanen, 2013). An organization possessing a radical innovation is not only trying to protect its achieved current core knowledge – which can be a combination of internal and external knowledge – but also is trying to protect its potential future profits derived from radical improvements (Colombo, Franzine, and Veugelers, 2015; Ritala and Hurmelinna-Laukkanen, 2013). The current literature also suggests that organizations minimizing outgoing flows and maximizing incoming flows, can be more advantageous (Cassiman and Veugelers, 1998; Ritala and Hurmelinna-Laukkanen, 2013) when implementing strategies of openness. Therefore, to achieve this objective, a radical innovation is more likely to be tightly controlled by the organization when compared to an incremental innovation. At this stage, a small organization is more prone to seek appropriability regimes that may have an “insurance effect” (Ritala and Hurmelinna-Laukkanen, 2013). Hence, it is less likely that an organization will selectively reveal information related to a radical innovation they possess.

On the other hand, more frequently observed than radical innovations, incremental innovations concern minor changes and modifications to products and technologies (Garcia and Calantone, 2002; Ritala and Hurmelinna-Laukkanen, 2013; Tushman and Anderson, 1986), such as driving new technological standards and infrastructures (Dittrich and Duysters, 2007; Fjelstad, Becerra, and Narayanan, 2004; Ritala and Hurmelinna-Laukkanen, 2013). The current literature demonstrates a consensus among researchers that unlike radical innovations, incremental innovations do not possess “fundamentally transformative nature making prior knowledge largely obsolete and no more influential” (Colombo, Franzine, and Veugelers, 2015; Nelson and Winter, 2002).

Hence, I posit;

P3: The type of innovation the organization holds determines the likelihood of selective revealing.

THE ROLE OF LEADERSHIP

According to the ‘strategic choice’ perspective, organizational characteristics, such as strategy, structure, processes, as well as performance, are influenced by organizations’ top executives (Andrews, 1971; Child, 1972). Strategic leadership reinforces this perspective theoretically and empirically (Brouthers, Brouthers, and Werner, 2000; Eisenhardt and Schoonhoven, 1990; Hrebiniak and Joyce, 1985; Papadakis, 2005; Wiersema and Bantel, 1992) emphasizing the leadership’s role in corporate strategies (Brouthers, Brouthers, and Werner, 2000; Miller and Toulouse, 1986; Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992), as well as innovation (Bantel and Jackson, 1989). Top management’s experiences, values, and personalities potentially influence their field of vision, selective perception, interpretation which then govern their strategic decisions (Hambrick, 2007; Finkelstein, Hambrick & Cannella, 2009). Executives have been noted for their crucial role in recognizing opportunities and making strategic decisions that affect innovation processes (Drucker, 1985; Elenkov, Judge, and Wright, 2005; Finkelstein and Hambrick, 1996; Quinn, 1985). Prior literature suggested that decisions involving innovations are likely to be made if they are supported by the leadership (Meyer and Goes, 1988). Leadership's support for innovation is vital for innovation success (Marshall and Vrendenburg, 1992). Another study conducted by Hage and Dewar (1973) argued that personality characteristics are likely to influence the behavior of individuals towards innovation and change.

In the open innovation literature, the role of leadership is associated with disruption, urgency and influence (Buganza et al., 2011; Slowinski at al., 2009; Mortara and Minshall, 2014). Especially, when contemplating to implement strategies of openness, top management plays a crucial role as the implementers of open innovation at the micro level. Leadership's role in transformation and/or implementation of open innovation is central (Elmquist et al., 2009; Giannopoulou et al., 2010; Mortara and Minshall, 2014), particularly when most of the central impacts regarding open innovation and intellectual property are "determined by managerial decisions" (Chesbrough and Ghafele, 2014). According to Cloyd (2012), P&G's Lafley was the key element as his credibility and commitment to open innovation assisted the organizational transformation to open innovation. Another study has emphasized the importance of BP's Browne in laying foundations of the open innovation principles of Alternative Energy (Boscherini et al., 2010; Mortara and Minshall, 2014). Although Linton (2002) suggested that leadership's responsibility during implementation of open innovation is not bias-free, it is still an essential aspect of open innovation since the leadership is one of the most important elements at the micro level regardless of the success of transformation and/or implementation of open innovation.

The transformation and/or implementation of open innovation practices in large established organizations has been influenced by the leadership's support (Chesbrough and Brunswicker, 2013; Mortara, Napp, Ford, and Minshall, 2011). In small organizations, this influence may be more pronounced since CEOs have greater impact on the strategic decisions (Lubatkin, Simsek, Ling, and Veiga, 2006; Miller and Toulouse, 1986; Thong and Yap, 1995; Papadakis and Bourantas, 1998; Papadakis and Barwise, 2002). CEOs play a crucial role in shaping strategy (Papadakis, 2005; Papadakis and Barwise, 2002). Top management is the focal point of activity with regards to innovation in small organizations (Marcati, Guido, and Peluso, 2008).

Particularly, characteristics of CEO such as the CEO's personality can affect strategic decision processes (Peterson, Smith, Martorana, and Owens, 2003) and strategic actions (Carpenter, Sanders and Gregersen, 2001; Miller and Toulouse, 1986; Nadkarni and Narayanan, 2007) having implications for firm performance (Nakarni and Hermann, 2010). CEO personality permeates through many aspects of the organization from strategy to structure and culture (Kets de Vries, 1984; Miller and Droge, 1986; Miller, Kets de Vries and Toulouse, 1982) affecting organizational performance (Peterson, Smith, Martorana, and Owens, 2003). In addition to this, it has been suggested that there is congruence between the CEO personality and the strategy (Nightingale and Toulouse, 1977; Miller, Kets de Vries and Toulouse, 1982).

Leaders may be empowered or restrained based on their personalities, irrespective of the objective managerial discretion they have (Carpenter and Golden, 1997; Gupta, Nadkarni and Mariam, 2018; Wangrow, Schepker, and Barker, 2015). Assuming that the objective discretion is based on the environmental and the organizational constraints, executives vary noticeably in their willingness and ability to exercise influence (Finkelstein, Hambrick, and Cannella, 2009). This idea of CEOs acting on the same level of external contextual discretion with such variation and choosing to exercise different levels of influence is based on the enactment and strategic choice perspectives that emphasizes the top management's influence (Dearborn and Simon, 1958; Child, 1997) and their personalities affecting many aspects of organizations (Kets de Vries, 1984; Nightingale and Toulouse, 1977; Miller, Kets de Vries and Toulouse, 1982).

Although personality psychology is a key division of psychology and there is plethora of evidence demonstrating that top executives' personalities influence their strategic decisions, theoretical perspectives of innovation and strategy research have not considered how executives' different personalities may limit or lead them to implement strategies of openness and utilize open innovation practices to its full extent. Existing research on open innovation and strategic openness has not exploited one of the important dispositional characteristics of the leadership – CEO personality. CEO personality determines the degree of managerial discretion (Hambrick and Finkelstein, 1987; Peterson, Smith, Mortorana, and Owens, 2003), especially, when there is noticeable variation between CEOs' willingness and ability to exercise influence having the same level of external contextual discretion based on the environmental and the organizational constraints (Finkelstein, Hambrick, and Cannella, 2009). Hence, CEO's personality, a dispositional source of managerial discretion, can be vital for the organization to pursue strategic openness in the form of selective revealing. As Hogan and Kaiser suggested (2005, p. 175), "who we are determines how we lead." CEO personality not only enhances his or her ability to exert influence, but also determines the influence on the strategic actions (Carpenter and Golden, 1997; Chatterjee and Hambrick, 2007; Gupta, Nadkarni and Mariam, 2018).

CEOs serve an unparalleled organizational role, their personality traits are likely to affect the extent to which the organizations' strategies, structure and performance reflect CEO's strategic choices, preferences and values (Finkelstein and Hambrick, 1990; Gupta, Nadkarni and Mariam, 2018; Hambrick and Mason, 1984; Schneider, Goldstein, and Smith, 1995; Schein, 2004). Leadership in many organizations encounter so much ambiguous stimuli that their personalities, values, and experiences impact their interpretation of events, decisions, and actions (Finkelstein and Hambrick, 1996; Hambrick, 2007). Predominantly, when making strategic decisions involving strategic openness such as the transformation and/or implementation of open innovation, the CEO's personality can be an influential aspect having implications for organization's strategy as well as performance. Applied psychology as well as strategy literatures have established that executive decision making is likely to be formed by the different dimensions of the personality (Benischke, Martin, and Glaser, 2018; Bono and Judge, 2004; Boudreau, Boswell, Judge, and Bretz, 2001; Judge and Bono, 2000; Judge, Bono, Ilies, and Gerhardt, 2002; Gupta, Nadkarni and Mariam, 2018; Herrmann and Nadkarni, 2014; Nadkarni and Herrmann, 2010; Peterson, Smith, Martorana, and Owens, 2003). Hence, the leader's personality is likely to have an influence whether or not the leader will implement strategies of openness in the form of selective revealing. Besides being an indicator of the types of individuals who rise to top management levels, personality aids the research in explanation of how executives lead organizations once they are in charge (i.e., Hogan, Raskin, and Fazzini, 1990; Giberson, Resick, and Dickson, 2005; Judge, Bono, Ilies, and Gerhardt, 2002; Resick, Whitman, Weingarden, and Hiller, 2009; Peterson, Smith, Martorana, and Owens, 2003). It is vital that innovation literature does not neglect but utilizes the role of CEOs and the personality to understand the likely individualistic differences in strategic decision making that pull or push the CEOs to implement strategies of openness.

Therefore, I propose;

P4) Leader's personality determines the likelihood of selective revealing.

DISCUSSION

The current study extends the understanding of the strategies of openness by triangulation of the interdisciplinary literatures. This three-pronged approach utilizes the roles of the external environment, organization and leader to provide not only a bigger picture but a better one that is more comprehensive with regards to strategic openness for the innovation, strategy and entrepreneurship literatures. When arriving at the decision to whether or not to implement strategies of openness, internal and external drivers are crucial (Alexy et al., 2013) at micro (individual), mezzo (organizational) and macro (industrial) levels with regards to strategic openness as demonstrated in Figure 3.

Insert Figure 3 about here

Although several research studies have demonstrated that waiving some of the IPRs voluntarily and sharing in an open innovation process is advantageous (Henkel, 2006; Pisano, 2006; West, 2003), the implementation of selective revealing strategies should be case specific, not only weighing the pros and cons of the possible implementation outcomes (Alexy et al., 2013; Alexy et al., 2017) but also examining the internal and external drivers at macro, mezzo and micro levels. Following in the footsteps of Henkel (2006) and Alexy, George, and Salter (2013) and combining various interdisciplinary frameworks, I have endeavored to provide a more detailed view of the selective revealing of innovation-related knowledge. This finer grained view of selective revealing displays the intricate workings of the internal and external drivers that are initially proposed by Alexy and colleagues (2013).

The intent of this study is not to argue the points made by the notable research (i.e., Alexy et al., 2013; Henkel, 2006) but to demonstrate that a more detailed, in-depth view of the internal and external drivers are necessary in order to improve the ability to come to the decision of implementation of strategies of openness.

The current study is not without limitations. Further investigation is needed for empirical testing of selective revealing, and the internal and external drivers that assist the decision-making. Also, I do not argue that the internal and external drivers utilized in this study present the entire array of factors affecting the decision-making process.

CONCLUSION

It is valuable to advance the literature relating to strategic openness in the form of selective revealing and tighten Alexy, George, and Salter's (2013) proposed conceptual model empirically as well examining the internal and external drivers. One of the significant questions to be addressed is whether future research can relate selective revealing to different types of innovation. More work is necessary in the field to improve and fully comprehend the dynamics of this intriguing construct referred as selective revealing.

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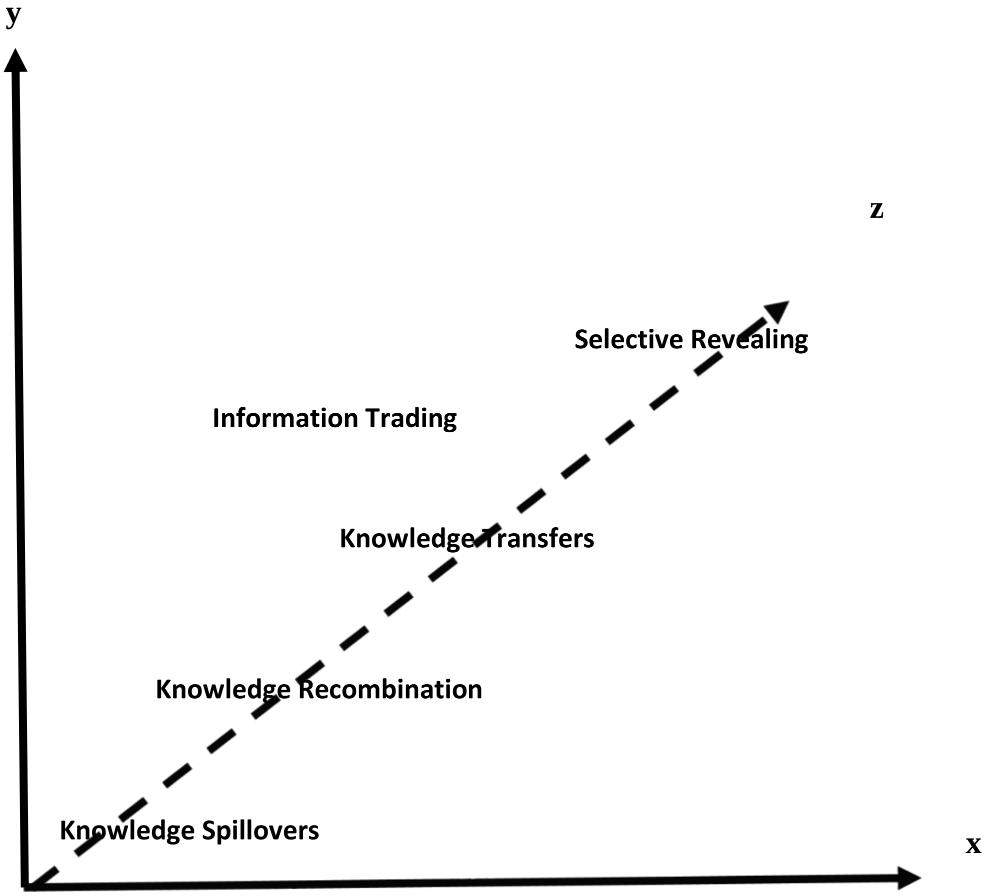
TABLE 1

Comparison of Various Knowledge Constructs

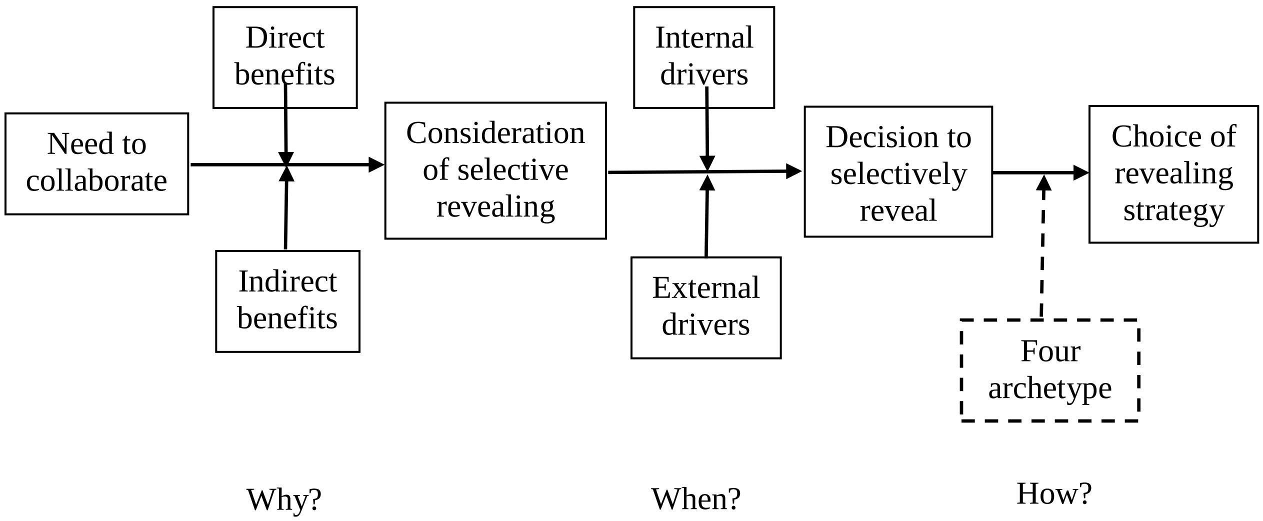
Selective Revealing	Knowledge Spillovers	Knowledge Transfers	Information Trading	Knowledge Recombination
Purposeful, voluntary, and permanent disclosure (full or partial) of innovation-related knowledge as a strategy of openness (Alexy, George, and Salter, 2013) Waiving or not establishing legal rights to innovation-related knowledge (Henkel, 2006)	Perceived as accidental and/or out of manager's control (Arrow, 1962; Mansfield, 1985; Yang et al., 2010) with the assumption that originating organization has no gain (Kogut & Zander, 1992). Benefits recipient firm at the expense of originating firm profitability (Yang et al., 2010) & reduced ability PFI (Jaffe, 1986).	Network member is affected by the experience of another network member (Argote & Ingram, 2000; Inkpen & Tsang, 2005), manifesting as changes in knowledge or performance of the receiving firms	Open information exchange in a dyadic manner between individuals in organizations (von Hippel, 1987; Schrader, 1991; Dahl and Pedersen, 2004)	Organization's ability to create new knowledge through recombination of knowledge – acquiring and synthesizing knowledge across boundaries Rosenkopf & Nerkar, 2001) focusing on the recipient firm

FIGURE 1
3D Representation of Purposefulness, Voluntariness and Benefit



x – Voluntariness
y – Purposefulness
z – Benefit starting from recipient to originating firm

FIGURE 2
Four Archetypes of Selective Revealing Strategies by Alexy, George & Salter (2013)

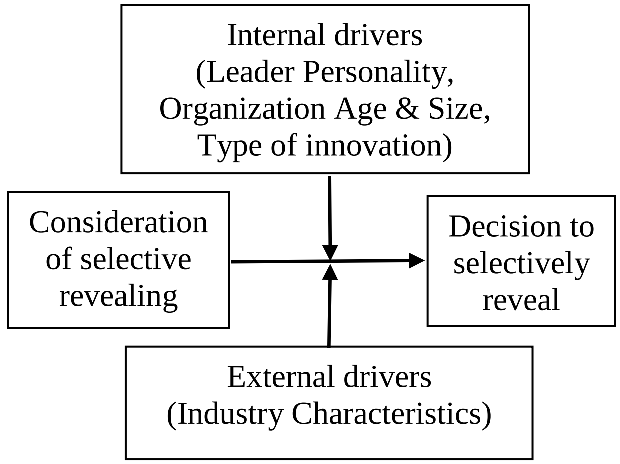


Four Archetypes of Selective Revealing

		Mode of Selective Revealing	
		Problem	Solution
Goal of Innovation	Path Extension	Issue spreading (Broadcast search)	Product enhancing (Open source software)
	Path Creation	Agenda shaping (Open research calls)	Niche creating (Academic publishing)

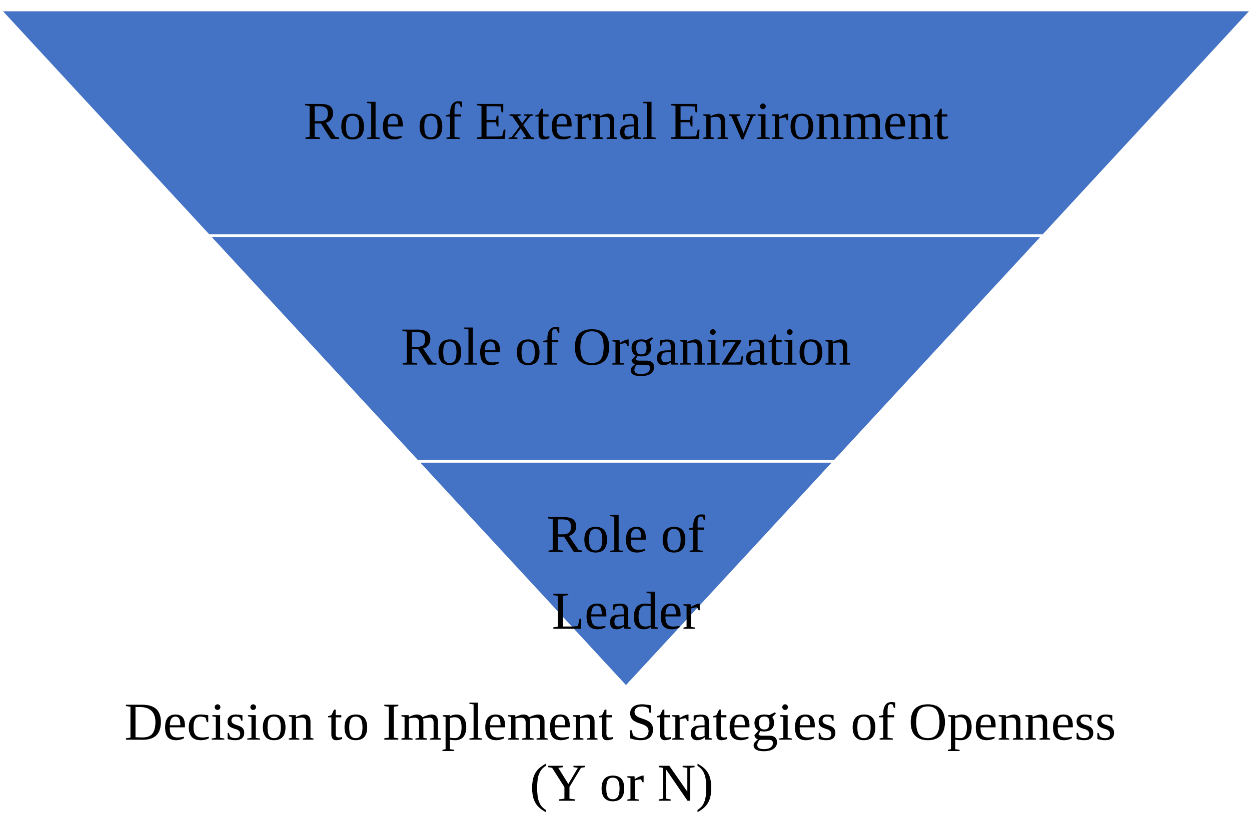
FIGURE 3

Proposed Expansion of Internal and External Drivers



When?

In-Depth View of Three-Pronged Approach – Macro to Micro Levels



Budding Entrepreneurs:
The Effects of Parental Role Models

Abstract

This paper addresses the effects of parental role models on the strategic actions of entrepreneurial firms. Based on the Theory of Planned Behavior, and Social Learning Theory, this paper explores the following three variables as mediators to the relationship 1) attitude toward business ownership, 2) perceived family support, and 3) entrepreneurial self-efficacy. By addressing strategic actions at the firm-level, this study has the ability to influence vital entrepreneurial tasks such as growth and profitability. The following paper will provide a literature review of relevant constructs and theories, provide a proposed model of relationships, and then discuss implications and areas for future research.

The Strategic Actions of Entrepreneurial Firms:
Do Parental Role Models Have an Effect?

Entrepreneurial firms represent an increasingly dynamic, productive force in the economy and reside at the forefront of adaptation and growth of new markets (Gavron, Cowling, Holtham, & Westall, 1998). Small firms contribute significantly to economic growth and economic prosperity for well-developed countries (Birch, 1987). Such economic growth is a direct result of the creation of new firms and the strategic actions of entrepreneurs managing existing firms. Because of the social and economic value of entrepreneurial enterprises (Birch, 1987; Schumpeter, 1934), models leading to an improved understanding of the determinants of entrepreneurial strategic actions represent a significant contribution to the literature.

Previous research has identified that childhood experiences, particularly parental employment, are associated with an increased proclivity to entrepreneurial work roles and decisions (e.g., Krueger, 1993; Matthews & Moser, 1996; Morrison, 2000; Ireland, Hitt, Camp, & Sexton, 2001; Aldrich & Cliff, 2003; Drennan, Kennedy, & Renfrow, 2005; Colombier & Masclet, 2008). This paper extends such research by exploring the relationship between parental role models and the strategic actions of the second-generation entrepreneur. It is through previous research findings that we know parental role models have the ability to influence the occupational decisions of their offspring; however, in an effort to better understand this relationship, it is imperative that we, as researchers, address the mechanisms through which this relationship is supported. By addressing the strategic actions of entrepreneurs, and exploring beyond nascent entrepreneurial intentions, this study has the ability to influence vital entrepreneurial tasks such as growth and profitability. It can also assist educators in the structuring of entrepreneurship curriculum; enable business practitioners interested in encouraging the entrepreneurial mindset in youth; benefit other individuals interested in facilitating entrepreneurial strategic actions through supportive mentoring relationships; and enlighten parents regarding the impact they have on their children's entrepreneurial actions.

It is important for the entrepreneurship literature to look at strategic decisions and actions at the firm level because they lead to growth and profitability—the principal goals of entrepreneurial businesses (Olson, 1987). Past research has used the entrepreneur as the primary source of information (e.g., Busenitz and Barney, 1997; Ndemo and Maina, 2007) for strategic decisions of an organization, and actions are a result of such decisions. According to Covin and Slevin (1991), firm-level analysis is imperative for future models of entrepreneurial research. It can be argued that the effectiveness of an entrepreneur can be measured by assessing the performance of his or her firm; or that the effectiveness of the firm is based on the behaviors of the entrepreneur/individual. Covin and Slevin state, "admittedly, individual-level behavior on the part of the entrepreneur may affect an organization's actions, and in many cases the two will be synonymous" (1991: 13).

The intentions of this paper are to address the following research questions. First, using Social Learning Theory, what is the relationship between parental role models and each of the following: 1) attitude toward business ownership, 2) perceived family support, and 3) perceived entrepreneurial self-efficacy? Additionally, what relationship does each of these variables (attitude, family support, and self-efficacy) have with the strategic actions of the entrepreneurial firm, using a Theory of Planned Behavior lens? Specifically, do attitude, family support, and self-efficacy have a mediating effect on the relationship between entrepreneurial parental role models and the strategic actions of the second-generation entrepreneur?

Theoretical Background

Several researchers (e.g., Carsrud & Johnson, 1987; Sexton, 1987; Scherer, Adams, & Wiebe, 1989) have brought to the forefront the importance of adopting "well-supported theoretical frameworks" from various academic fields to assist in conceptually developing the entrepreneurial stream of research. Both Social Learning Theory (Bandura, 1977) and the Theory of Planned Behavior (Ajzen, 1991) are well recognized as organizational psychological frameworks currently being used in the entrepreneurship literature (Segal, Borgia, and Schoenfeld, 2005). Thus, while additional theories are briefly addressed in the following paragraphs, Ajzen's Theory of Planned Behavior and Social Learning Theory create the theoretical framework of this paper.

Several theories coming out of the entrepreneurship literature pertain to behaviors, intentions, and other process models (see Segal et al., 2005), but the two most dominant are Ajzen's Theory of Planned Behavior and Shapero's Model of Intentions (see Krueger, Reilly, and Carsrud, 2000, for a comparison of the two models). The Theory of Planned Behavior was used for this article because it goes beyond the scope of career intentions to address more specific entrepreneurial behaviors. In the last three decades, research has supported the use of Ajzen's Theory of Planned Behavior as a foundational model for predicting actual behavior (i.e., Krueger, 1993; Kikul, Wilson, Marlino, & Barbosa, 2008); additionally, Kolvereid (1996) demonstrated that the Ajzen's Theory of Planned Behavior framework is a solid model for explaining and/or predicting entrepreneurial behaviors.

The Theory of Planned Behavior is grounded in Social Learning Theories, Expectancy-Value Theories, and Attribution Theory (Fishbein and Ajzen, 1975). Expectancy-Value Theories were created to explain and predict individual attitudes based on beliefs and values (Fishbein, 1963). Attribution Theory deals with the way people attribute, explain, or perceive the behaviors of themselves and the behaviors of others (Heider, 1958). Because Social Learning Theory is used and agreed upon throughout the literature as a foundation for exploring role model influence (e.g., Boyd and Vozkis, 1994; Scherer et al. 1989a), it will be used in this paper as a theoretical basis for looking at the impact of entrepreneurial parents.

Ajzen's (1991) Theory of Planned Behavior

The Theory of Planned Behavior was developed from the previous work of Fishbein and Ajzen (1975) and the Theory of Reasoned Action (TRA). This theory (TRA) suggested that people who evaluated the proposed behavior with a positive attitude and felt that significant others wanted them to perform the behavior would be more motivated to ultimately perform the intended behavior. TRA argued behavioral intention as the outcome variable, but several researchers critiqued the link between intention and actual behavior stating that intention could not be an exclusive determinant of behavior without conditions (Sheppard, Hartwick, and Warshaw, 1988). Thus, in 1985, Ajzen proposed The Theory of Planned Behavior, which added the new component of "perceived behavioral control," overcoming many of the criticisms of TRA and going beyond the prediction of behavioral intentions to actual behavior.

The Theory of Planned Behavior has three motivational factors—also known as pillars or antecedents—which influence behavior. The first, attitude (or personal attitude) is the degree to which an individual has a positive or negative personal valuation about the intended behavior (Ajzen, 2001; Autio, Keeley, Klofsten, Parker, & Hay, 2001; Kolvereid, 1996). The second, subjective norms, measures the perceived social support of performing (or not performing) the intended behaviors. The final pillar is perceived behavioral control. This construct refers to an individual's perception of the ease or difficulty of fulfilling the intended behavior.

Building on Ajzen's Theory of Planned Behavior, this paper proposes that the development of entrepreneurial capital – cognitive, environmental, and behavioral factors that facilitate entrepreneurial behaviors – is associated with intergenerational transfer of knowledge. Drawing on earlier research (e.g., Dunn & Holtz-Eakin, 2000; Hundley, 2006; Lentz & Laband, 1988), it is proposed that such transfer of knowledge will affect second-generation entrepreneurs in three main areas:

attitude toward behavior, subjective norms, and perceived behavioral control. This study will address entrepreneurial businesses with a single individual making the decisions of the firm.

Social Learning Theory

Social Learning Theory (SLT) proposes that through the observation of others, referred to as role models, learning can occur. The emphasis of entrepreneurial socialization (Cooper, 1989) is grounded in social learning theory (Bandura, 1977), which serves as an explanation of entrepreneurial behavior (Scherer et al., 1989b). An individual's socialization occurs in a family setting, transmitting social norms, language, and educational aspirations—while shaping career decisions (Bandura, 1977). As a result of the child's observation, a variety of response patterns are applied to social cues; thus, observable "habit hierarchies" (also known as personality or enduring characteristics of behavior) are formed (Scherer et al., 1989a).

Social Learning Theory is particularly concerned with the cognitive, environmental, and behavioral factors that affect personality development. An investigation by Scherer et al. (1989a) found that the presence of an entrepreneurial parent, serving as a role model, was positively associated with increased training and education aspirations, self-efficacy, and expectancy of an entrepreneurial career preference. Additionally, individuals with parental entrepreneurial role models were perceived as higher performers and were found to be significantly different from individuals who did not possess an entrepreneurial role model. A study by Wiebe and Scherer (1987) also demonstrated the effects of parental entrepreneurial role models on personality development. Specifically, second-generation entrepreneurs with a parental role model were higher in achievement motivation, risk-taking propensity and innovation, and had a stronger internal locus of control when compared to individuals who did not have this type of primary role model to observe. This research stream points to the impact of parental role models in the upbringing of practicing entrepreneurs, and goes to show that behaviors thought to be associated with an entrepreneur seem to be affected by role model exposure (Brockhaus & Horwitz, 1986; Hisrich & Brusch, 1984). According to Scherer et al., "the process of observational learning, with its emphasis on behavioral models and socialization, may help to explain the impact of parental entrepreneurial role models on the budding entrepreneur's behavioral development" (1989a: 57). Thus, with a foundation in Social Learning Theory, this paper will use Ajzen's Theory of Planned Behavior as a lens to explore the relationships between parental role models, the mediating variables (attitude, perceived family support, and entrepreneurial self-efficacy), and the strategic actions of the entrepreneurial firm.

Literature Review

Strategic Actions

Strategic actions are defined as "the pathway through which a concept or idea is moved from the invention stage to its positioning in a competitive arena" (Hitt, Ireland, & Hoskisson, 2001). A firm's strategic actions can be viewed in the following two knowledge domains: exploration, the creation of new ideas or knowledge; and exploitation, the ability to leverage knowledge of a firm for commercialization or the creation of new organizational processes (Miller, Bierly, & Daly, 2007). Exploration is most likely to result in a long-term maximization of firm success, while exploitation will likely maximize profits in the short-term, therefore presenting a trade-off (March, 1991). Other benefits and costs associated with exploration include the increased likelihood of a sustainable competitive advantage, higher costs, increased risks for the firm, and slow development or refinement of the skills and processes related to the current competencies of the firm (Miller et al., 2007). Exploitation has potential costs as well; namely, the potential to become experts in obsolete areas, or to get good at things no longer valued by customers (March, 1991). Exploration and exploitation are components of strategic actions that can lead to profitability and growth for an entrepreneurial firm.

Ireland, Hitt, Camp, and Sexton state that strategic actions "provide a foundation for long-term competitive success for firms of all types competing in multiple countries across several different market economies" (2001: 23). In a world that increasingly revolves around change, firms in all sectors and industries must make strategic decisions wisely in order to survive; thus, the strategic actions of an entrepreneur are typically aimed at finding new markets or "competitive space" in which the business can grow and increase profitability (Ireland, Hitt, Camp & Sexton, 2001).

Proposition 1a: Attitude Toward Business Ownership will be positively associated with the Strategic Actions of the entrepreneurial firm.

Proposition 1b: Perceived Family Support will be positively associated with the Strategic Actions of the entrepreneurial firm.

Proposition 1c: Entrepreneurial Self-efficacy will be positively associated with the Strategic Actions of the entrepreneurial firm.

Parental Role Models

A role model is defined as, "a person considered a standard of excellence to be imitated" (Wright, Wong & Newill, 1997: 53). Role models are individuals who are looked up to and valued by others. Common role models include local heroes like firemen, teachers, and family members—particularly parents (Conger, Williams, Little, Masyn, & Shebloski, 2009). This paper focuses specifically on parental role models in entrepreneurship. The Scherer studies (1989a & 1989b) concluded that the performance of the role model's business operation, whether a success or failure, was not as important as simply having a role model; and that the association with a role model was sufficient for developing the desire to become an entrepreneur. Thus, for purposes of this paper, parental role models will be discussed as the entrepreneurial mother and/or father and the extent of their influence. Sub-components in the measurement of this construct include the ability of each parent (mother and father) to serve as a leader or model to the child and to others.

The use of SLT in previous research emphasizes that socialization occurs within families as a way to aid children in accepting the necessary societal roles and behaviors (Brim, 1968). Role models can serve as a social comparison or referent whereby individuals compare their own abilities and actions to that of their role model, in order to create an image of what is possible in their future (Buunk, Piero, Griffioen, 2007; BarNir, Watson, & Hutchins, 2009). Role models have the ability to serve as a resource that provides information and support because they are individuals whose opinions we value (Bandura, 1986; Scherer et al., 1989a; Rivera et al., 2007; BarNir et al., 2009; BarNir & McLaughlin, 2009). Individuals learn of their possibilities, of the "right" way to do things, and of how to obtain resources from their role models (Scherer, Brodzinski & Wiebe, 1990; BarNir et al., 2009; BarNir & McLaughlin, 2009). Furthermore, in the context of Entrepreneurship, approximately 70 percent of individuals have at least one entrepreneurial role model (Scherer et al., 1989a).

For the purpose of this paper, the focus will be on the theoretical underpinning of intergenerational influence (IG) as developed by Mead (1934). IG suggests that the effects of past behavior can be explained by mechanisms such as prior family business experience (Carr & Sequeira, 2007; BarNir & McLaughlin, 2009). The effects of entrepreneurial parents suggest an intergenerational transfer of knowledge and the development of the human capital necessary for entrepreneurial tasks (e.g., Lentz & Laband, 1988; Dunn & Holtz-Eakin, 2000; Hundley, 2006; BarNir & McLaughlin, 2009). Individual self-development occurs through a continuous process of reflection and subsequent actions; this process, in turn, stimulates attitudes and behaviors that people express in their interactions with others and their business decisions (Carr & Sequeira, 2007). Substantial research supports the theory of IG influence on subsequent behavior (e.g., Hoge, Petrillo, & Smith, 1982; BarNir & McLaughlin, 2009); and has specifically provided evidence that parental work experiences have significant effects on children—they internalize their parents' behaviors as acceptable societal norms (Menagham & Parcel, 1995).

Proposition 2a: Exposure to Parental Role Models will be positively associated with Attitude Toward Business Ownership.

Proposition 2b: Exposure to Parental Role Models will be positively associated with Perceived Family Support.

Proposition 2c: Exposure to Parental Role Models will be positively associated with beliefs of Entrepreneurial Self-efficacy.

Attitude Toward Business Ownership

Ajzen (1988: 4) defines attitude as, “a disposition to respond favorably or unfavorably to an object, person, institution, or event;” and attitude toward business ownership entails “a mental position or emotional feelings about becoming a business owner.” Such attitudes can be influenced by numerous exogenous variables like demographics, social values, and personality. As an entrepreneur attempts to evaluate possible strategic actions, he or she will develop an attitude regarding business ownership decisions. Because this construct is attitude specific to business ownership, it only has one dimension; thus, there are no sub-components.

Early socialization to entrepreneurial endeavors can also contribute to the forming of values and attitudes toward business ownership (Light and Bonacich, 1999). As depicted in Ajzen’s Theory of Planned Behavior, it is the formation of expected values through such socialization that lead to the formation of an attitude toward the behavior. Generally speaking, individuals will have a more positive attitude toward business ownership, and the strategic action decisions involved in continuing their entrepreneurial business, if they have been socialized by people important to them—often family, close friends, and/or role models (Carr and Sequeira, 2007). For example, Dick and Rallis (1991) in their research on the theory of career choice emphasized that an individual’s beliefs or attitudes regarding a career are influenced by past experience as well as the attitudes and expectations of ‘socializers’ or role models within their environment. It is a widely held view that the development of entrepreneurial-related attitudes is influenced by family background, childhood experiences, exposure to others in business, and previous job experiences (Morris and Lewis, 1995). Influencing agents found within an individual’s environment include the strong ties that exist in parental role model relationships.

Proposition 3a: Attitude Toward Business Ownership will mediate the relationship between Parental Role Models and the Strategic Actions of the Entrepreneurial firm.

Perceived Family Support

Perceived family support is concerned with the likelihood that important referent family members (i.e., parental role models) will approve or disapprove of performing a particular behavior. According to Carr and Sequeira (2007), children's self-identities are built through a reflective and action-oriented socialization process. In the reflective appraisal process, role models communicate appraisals of the target individual's behavior, which are then used by that individual to better understand who they are and their behaviors. Shrauger and Schoeneman (1979) initiated this line of reasoning stating that reflected appraisals are filtered through an individual's self-perceptions.

Dalton and Holdaway (1989) found that many entrepreneurs started entrepreneurial ventures during their youth, perhaps as early socialization in a family business. Such socialization at a young age contributes to the formation of subjective norms. When an individual is confronted with these subjective norms, they must weigh them in terms of their personal motivation to comply with the social norms created. Thus, the expectations or social norms created by family, close friends, and role models play an important factor in entrepreneurial behavior and decisions (Krueger, Reilly, & Carsrud, 2000). For example, Oyer (1992) found that individuals who were not surrounded by supportive family became discouraged and ultimately did not proceed with the entrepreneurial business venture. The sub-components of this measurement scale are support received, support provided, and family intimacy.

Proposition 3b: Perceived Family Support will mediate the relationship between Parental Role Models and the Strategic Actions of the Entrepreneurial firm.

Perceived Entrepreneurial Self-Efficacy

The theory of self-efficacy stems from the work of Bandura (1986, 1997) on social learning theory and represents the belief in one's ability to execute an intended act and the belief that one is personally capable of implementing or engaging in an intended behavior. More specifically, self-efficacy is defined as "…belief in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands…" (Wood & Bandura, 1989). Self-efficacy pertains to beliefs regarding one's capabilities for the successful implementation of specific goals or tasks, which can be varied and extend to multiple areas within a specific task domain (Bandura, 1986; 1997; Gist, 1987). In the context of the present study, the focus is on entrepreneurial self-efficacy (ESE), which is the perceived capability of an individual regarding the performance of functions necessary in effectively accomplishing specific entrepreneurial roles or tasks (Boyd & Vozikis, 1994). Stated differently, ESE is a specific form of efficacy beliefs targeted at entrepreneurial behaviors. Relevant entrepreneurial tasks were adapted from Chen, Greene, and Crick (1989) consisting of the following sub-components: marketing, innovation, general management, risk management, and financial management.

Previous research suggests that the presence of an entrepreneurial parent increases entrepreneurial self-efficacy (Kickul et al., 2008). Entrepreneurial self-efficacy is developed over time and influenced by internal and external factors like upbringing, economic circumstances, personality, and values (Cox, Mueller, & Moss, 2002). Therefore, exposure at a young age makes children more aware of the rewards and obstacles present in entrepreneurial tasks. As children observe the entrepreneurial tasks completed by their parental role models, they build confidence in their ability to complete the tasks and assume an entrepreneurial role.

According to Bandura (1992), self-efficacy can be enhanced through mastery experiences and/or modeling, whereby opportunities allow individuals to gain confidence when experiences and role modeling are prevalent. Mastery experiences are crucial in increasing perceptions of self-efficacy in specific task domains (Cox, Mueller, & Moss, 2002) and commonly referenced as "learning by doing." Modeling entails social persuasion, positive encouragement, and/or feedback from role models; all of which have been found to enhance self-efficacy (Cox et al., 2002).

Proposition 3c: Entrepreneurial Self-efficacy will mediate the relationship between Parental Role Models and the Strategic Actions of the Entrepreneurial firm.

Discussion

As previously mentioned, the purpose of this study is to explore the means by which parental role models impact the strategic actions of entrepreneurial firms through a Social Learning Theory and Theory of Planned Behavior approach. Results are expected to depict that parental role model influence serves as an important intergenerational influence on the strategic actions of second-generation entrepreneurs. With the social and economic value of entrepreneurial firms, this paper contributes to the literature by exploring variables that will increase our understanding of the determinants of strategic actions that small businesses pursue. According to Van Ryn and Vinokur (1990), attitude, subjective norms, and perceived behavioral control unveil numerous aspects of behavior that serve as research paths for understanding actions and making efforts to change them.

Implications

These findings have implications that can inform both theory and practice. First, the study extends previous research on the influence of entrepreneurial parental role models by exploring the relationship with the strategic actions. By addressing firm-level strategic actions, this study has the ability to influence the entrepreneurial goals of profitability and growth. Using a sample of established entrepreneurial firms provides 1) information on the processes underlying entrepreneurial organizations where a single individual makes the decisions of the business, and 2) serves to answer the call to explore role model influence beyond start-up activities and into the strategic decisions of existing entrepreneurial firms (Carr & Sequiera, 2007).

The implications of this study extend to practitioners as well, and may be of particular importance to educators when considering entrepreneurial curriculum. For instance, university course material should include information on mentoring and encouraging entrepreneurial careers. Strong mentoring relationships with business owners interested in encouraging the profession, and consultants who council and provide support to entrepreneurs, may serve as an alternative means for building the skills and abilities some individuals receive from their self-employed parental role models. In the university realm, students could be paired with these encouraging entrepreneurs for internships or course projects. Supportive entrepreneurial professionals could focus on the experiences necessary to assist interested individuals in building an entrepreneurial attitude, gaining family support for their endeavors, and controlling their behaviors. Active involvement in a mentoring relationship between established business owners making strategic action decisions and aspiring entrepreneurial students could be beneficial for both parties involved (Van Auken, Fry, & Stephens, 2006).

Limitations and Future Research

This paper has three major limitations. First, because the study is exploratory by nature, it does not include a comprehensive model. A predominance of past research suggests a mediating effect between the observational learning from role models and the subsequent entrepreneurial behaviors (e.g., Scherer et al., 1989a, 1989b; Krueger, 1993; Ireland et al., 2001; BarNir et al., 2009). While it is recognized that other variables may play an important role in mediating and/or moderating the relationship between parental role models and the strategic actions of entrepreneurial firms, the intentions of this paper were to explore and shed light on the some variables impacting the relationship. Once the relationships have been empirically explored, a clearer image of the effects should emerge and a more comprehensive model should be developed.

The second limitation involves the use of individual- and firm-level variables in the same model. However, it is important to note that the firm-level variable (strategic action) is all perception-based. Because these are perceptions of actions taken at the firm level, and based on a specific definition, it is more difficult to be biased. The strategic actions did or did not occur, and the respondent was responsible for that decision; thus, if any bias exists, it would be minimal. As mentioned in the introduction, previous research has shown that perception based measures are acceptable for measuring entrepreneurial decisions and actions at the firm level (e.g., Busenitz and Barney, 1997; Ndemo and Maina, 2007). Like using CEOs as a proxy for knowing the most about top-level decisions of a corporation, the entrepreneur knows the most about the top level decisions (i.e. strategic actions) made regarding their small business enterprise. Since the goals of an entrepreneurial organization are profitability and growth (Olson, 1987), analysis at the firm level is imperative. Therefore, future research should consider using event studies or case studies and create vignettes that document the strategic actions taken.

Finally, although previously used in the literature, strategic actions may not be fully encompassed by the exploration and exploitation activities of the firm proposed by Miller et al. (2007). Future research should address the dimensions and items proposed analyzing reliability and the validity of these measures. By qualitatively analyzing detailed explanations of entrepreneurs' strategic actions, future researchers may be able to identify additional items in the entrepreneurial realm that relate to the exploration and exploitation activities of the firms. Additional research may also identify other dimensions and items more reliable for measuring strategic actions of entrepreneurial firms.

In closing, the primary goal of this paper was to explore the effects of parental role model exposure on the strategic actions of entrepreneurial firms. This is particularly important in a globally competitive environment because the intersection between entrepreneurship and strategic management sheds light on the variables that promote growth and profitability, and the strategic actions of entrepreneurial firms create a context for exploration and exploitation activities (Hitt et al., 2001). Other objectives included an exploratory investigation of the following mediating variables which may impact the relationship: attitude toward business ownership, perceived family support, and entrepreneurial self-efficacy. Thus, the implications—both theoretical and practical—warrant further investigation as they have the ability to extend current knowledge on the strategic actions of entrepreneurial firms.

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Appendix

Strategic Actions

5-point Likert scale
(1 = strongly disagree to 5 = strongly agree)

Explorer Scale Items
In order to move our ideas from the invention stage to the competitive arena…
1) we frequently experiment with radical new ideas (or new ways of combining existing resources).
2) employees frequently come up with creative ideas that challenge conventional ideas.
3) a high percentage of our firm sales come from new products launched within the past three years.
4) we are usually one of the first companies in our industry to use new, breakthrough technologies.

Exploiter Scale Items
In order to find new markets or maintain a "competitive space" in the industry…
1) our firm must continually improve our existing products.
2) our firm must maintain a strong emphasis on improving efficiency.
3) our firm has to excel at refining existing technologies.
4) our firm must frequently adjust our procedures, rules and policies to make things work better

Parental Role Model Influence

5-point Likert scale
(1 = strongly disagree to 5 = strongly agree)
Option for "Not Applicable"

My (insert mother/then father) __________:
(1) provides a good model for me to follow (for me)
(2) leads by example (for others)
(3) exhibits the kind of work ethic and behavior that I try to imitate (for me)
(4) sets a positive example for others to follow (for others)
(5) acts as a role model for me (for me)
(6) is seen by others as a role model (for others)

Attitudes towards an entrepreneurial career

5-point bi-polar adjective pairs

In general, starting a business is:
1. Harmful – Helpful
2. Negative – Positive
3. Worthless – Worthwhile
4. Bad for me – Good for me
5. Disappointing– Rewarding

Perceived family support

5-point Likert scale
(1 = extremely negative to 5 = extremely positive)

1. My immediate family gives me the moral support I need in my business decisions.
2. I get good ideas about how to do things or make things from my immediate family.
3. Most other people are closer to their immediate family than I am.
4. When I confide in the members of my immediate family about my business endeavors, I get the idea that it makes them uncomfortable.
5. My immediate family enjoys hearing about my business.
6. Members of my immediate family share many of my business interests.
7. Certain members of my immediate family come to me when they have problems or need business advice.
8. I rely on my immediate family for emotional support.
9. There is a member of my immediate family I could go to if I were feeling down about my business decisions, without feeling funny about it later.
10. My immediate family and I are very open about business endeavors.
11. My immediate family is sensitive to my personal business needs.
12. Members of my immediate family come to me for emotional support.
13. Members of my immediate family are good at helping me solve business problems.
14. I have a deep sharing relationship with a number of members in my immediate family.
15. Members of my immediate family get good ideas about how to do things or make things from my business.
16. When I confide in members of my immediate family about business, it makes me uncomfortable.
17. Members of my immediate family seek me out for companionship.
18. I think that my immediate family feels that I'm good at helping them solve business problems.
19. I don't have a relationship with a member of my immediate family that is as close as other people's relationships with family members.
20. I wish my family were much different.

Entrepreneurial self-efficacy

5-point rating scale (1 = very little confidence to 5 = complete confidence)

Items are preceded by the statement "How certain do you feel that you will be able to perform the following tasks well?"

1. Set and meet market share goals
2. Come up with new venture ideas
3. Manage the company to reduce overall risks
4. Take calculated risks
5. Perform financial analyses
6. Set and meet sales goals
7. Develop and introduce new products / services
8. Engage in strategic planning and developing of information system
9. Make decisions under uncertainty and risk
10. Develop financial systems and internal controls
11. Set and attain profit goals
12. Break into new markets and geographic territories
13. Manage time by setting goals
14. Take responsibility for ideas and decisions
15. Control costs
16. Establish a position in product market
17. Introduce new methods of production, marketing, and management
18. Establish and achieve goals and objectives
19. Work under pressure and conflict
20. Conduct market analysis
21. Define organizational roles, responsibilities, and policies
22. Expand the business

**Paper and research funded in part by the Logan Grant at Missouri Western State University.

DO COLLEGIATE BUSINESS SCHOOLS INFLUENCE STUDENT ENTREPRENEURIAL PROPENSITY?

ABSTRACT:

Entrepreneurs flourish from China to the U.S. and yet little is known about the influences acting on an individual's motivation to risk personal finances, relationships, and professional reputation to pursue entrepreneurial activities. Motivation and behavior theories have been offered as a partial explanation, but knowledge of the influences acting on these motivations and behavior tendencies remains sparse. We theorize there are multiple exogenous forces acting on entrepreneurial propensity, and despite changing perceptions, values, and behaviors of the newer generation of students, collegiate schools of business continue to play a relevant role in the process. Testing this theory requires a dual construct approach. We propose combining Ajzen's TPB model with Bolton and Lane's IEO, as a platform for a new paradigm to assess B-School entrepreneur-related influences. This model focuses on perceptions of entrepreneurial behavior and on acquired behavior tendencies. The objective of the model is to provide a durable framework for future empirical studies of B-School efficacy in nurturing latent entrepreneurial propensity.

Keywords: Entrepreneurial Propensity, Business Education, Student Entrepreneurship

"An investment in knowledge pays the best interest." Benjamin Franklin

INTRODUCTION & RATIONALE:

Why is it compelling to research the potential relationship between knowledge gained by Collegiate Business students and their entrepreneurial propensity? Even a cursory review of the impact that entrepreneurs have had on economies can, at least in part, answer the question. Entrepreneurship is a potent economic force (Costanza, 2019; Kuratko, 2005; Van Ness and Seifert, 2016) and entrepreneurial activities are widely considered vital contributors to strong and growing economies throughout the world (cf. Folster, 2000; Henderson and Weiler, 2010; Zachary and Mishra, 2011). Further, the activities of entrepreneurs are given credit for the economic transition of one of the most populous countries in the world (cf. Stephens and Partridge, 2011; Tse, 2016; Wei and Wong, 2018). In 1978, Chinese leader Deng Xiaoping decided to unleash the country's entrepreneurial energies by encouraging and supporting individuals with this penchant. From 1978 to 2017, China's economy grew by over 5000% and there are more than 10,000 new business startups every year. And, although the current leader of China, Xi Jinping, is not as pro-entrepreneurship as Mr. Xiaoping, still by 2030, China is expected to surpass the United States to become the largest economy in the world (Kline, 2017).

The vitality of the United States economy, like that of China, is buoyed by entrepreneurial activity and the employment opportunities it provides. Since it is estimated that 50 million Americans will be job-displaced during the next decade (McKinsey, 2017), the U.S. may become even more dependent upon a continuous flow of new entrepreneurs. However, while educational institutions, long considered crucial engines for awakening, reinforcing, and supporting entrepreneurial interests in students (cf. Peterman and Kennedy, 2003; Turker and Selcuk, 2009), they may be facing an entirely new challenge in accomplishing this objective.

The emerging generational cohorts are thought to possess profoundly different beliefs, attitudes, values, behaviors, and perceptions of the place of work in their lives (cf. Baird, 2015; Campione, 2015; DeVaney, 2015; Levenson and Deal, 2016). Further, the most recent statistical data from the U.S. Census Longitudinal Business Database may be sounding the alarm, since it shows a significant slowing of new business startups (United States Census Bureau, 2017). Since the momentum of entrepreneurial activity appears to be slowing, while the need for new generations of innovators and job creators is increasing, there is a growing dependency on educational institutions to inspire more entrepreneurially oriented graduates (cf. Taatila, 2010).

LITERATURE REVIEW AND THEORETICAL BACKGROUND

The role education plays in the entrepreneurial intentions of students is an important domain for research and yet, the extant literature is limited in studies of that relationship (Nabi and Holden, 2008; Zhang, Duysters, and Cloodt, 2014). Much remains unknown and findings are often controversial and/or they lead to new questions (Parry and Urwin, 2011). For example, a study comparing business education in the United States to similar programs in France, discovered that the propensity to engage in entrepreneurship was stronger in U.S. students than in French students (Boissin, Brancchet, Emin, and Herbert, 2009). This finding gives rise to more questions, such as does the apparent difference between the two countries arise from formal educational differences or have students in the two countries been influenced by other experiences?

A series of studies have been designed in an attempt to answer questions surrounding the entrepreneurial propensity (EP) and educational influence relationship. In 2014, Zhang, *et al.*, used Ajzen's (2002), Theory of Planned Behavior and Shapero's (1982) model for explaining entrepreneurial intentions and attitudes, as a framework for investigating EP. Their study focused on two entrepreneur-engagement perceptions: desirability and feasibility. They discovered a significant positive relationship between entrepreneurial-oriented education and the perceived desirability of engaging in entrepreneurial activities. A second 2014 investigation concurred with Zhang's findings by discovering a relationship between B-School learning and the positive perception of the desirability of entrepreneurial engagement, (Hattab, 2014). Perception of desirability, while an important component of entrepreneurial propensity, does not by itself, suggest the propensity to engage in entrepreneurial activities. Entrepreneurial propensity evolves from multiple crucial antecedents such as inspiration and self-confidence (Duval-Couetil, Reed-Rhods, and Haghighi, 2012), and these have a positive correlation with knowledge gained from business education (Pihie, 2009; Souitaris, Zerbinati, and Al-Laham, 2007). In addition to stimulating the desirability of a specific career path such as entrepreneurship, new learning activities can facilitate the release of innovative energies, inspire proactiveness, enhance self-confidence, and enable learners to become less risk-reluctant (cf. Korthagen, Kim, and Greene, 2013; Souitaris, *et al.*, 2007; Taatila, 2010).

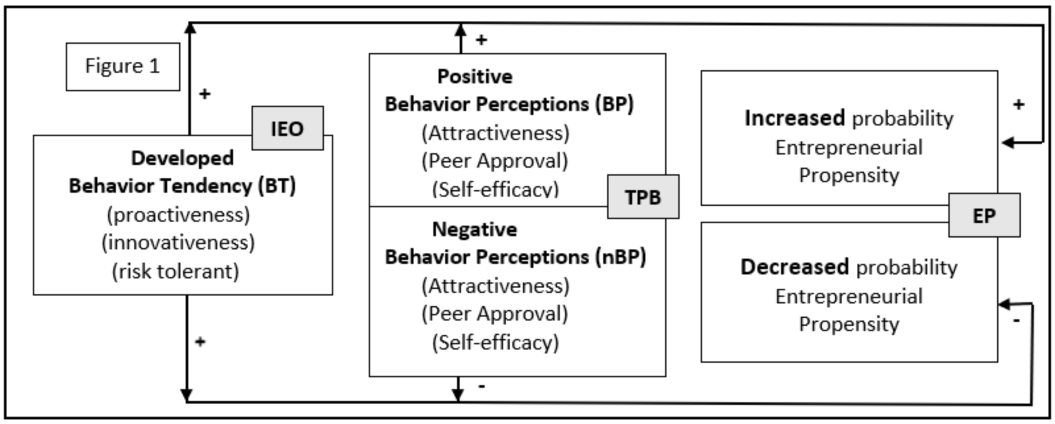
A 2006 investigation of entrepreneurial related behavior perceptions and behavior tendencies identified similarly related commonalities among students who had developed an entrepreneurial propensity. These included: (1) locus of control, the perception or belief that one can control events affecting them (similar to self-efficacy), (2) achievement orientation (similar to proactiveness), (3) innovativeness, and (4) risk-taking propensity (Gürol and Atsan, 2006). The mechanisms provoking both behavior perceptions and tendencies are contextually embedded (cf. Randerson, 2016), and while it is likely multiple exogenous influences are acting on these, collegiate business education may or may not continue to be a significant factor (cf. Tae, Qian, Miao, and Fiet, 2014).

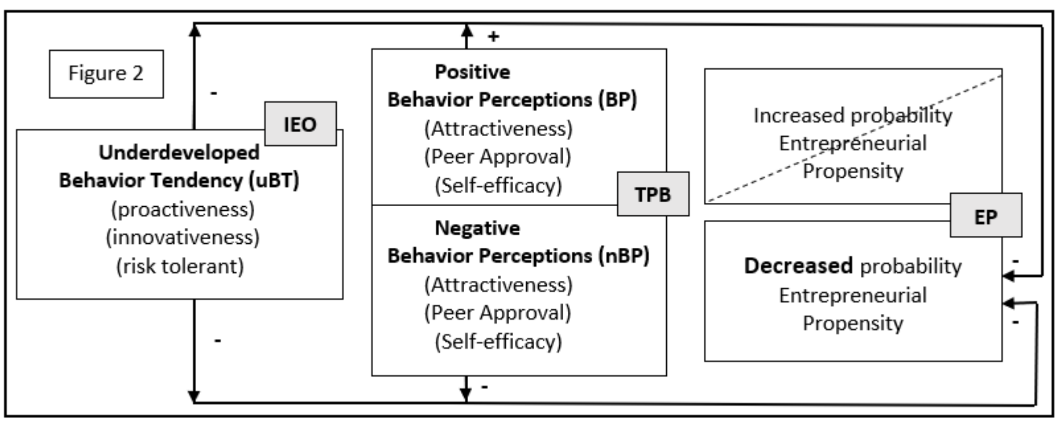
Behavior perceptions (BP) and behavior tendencies (BT) consist of idiosyncratic characteristics, and some of these are well within the potential "influence zones" of collegiate schools of business. We conceptualize these influence zones as analogous to the proverbial inflection points since they offer an opportunity for a directional change in behavior perceptions and behavior tendencies. Business education has the potential of playing a significant role in both perceptions and tendencies (cf. Taatila, 2010), thus focusing on these influence zones offers a unique opportunity to examine the impact B-Schools have on student behavior perceptions, behavior tendencies, and entrepreneurial propensity.

BEHAVIOR PERCEPTIONS (BP) AND TENDENCIES (BT): INFLUENCE ZONES

Propensity is the mental preparation and intensified inclination to engage in a behavior (cf. Peterman and Kennedy, 2003). It is a culmination of acquired behavior perceptions and developed behavior tendencies. Entrepreneur behavior propensity (EP) has an increased likelihood of occurring when an individual possesses both positive perceptions of entrepreneurship and behavior tendencies that are positively associated with entrepreneurial activities.

Although behavior perceptions (BP) and behavior tendencies (BT) are distinct constructs, they are also symbiotic to the extent that they must act in concert. For example, a negative behavior perception (nBP) would likely dissuade positive tendencies toward that behavior. Likewise, if an individual has positive perceptions of a specific behavior such as entrepreneurship and yet, has underdeveloped behavior tendencies associated with that behavior (uBT), entrepreneurial propensity becomes less likely. Fortunately, formal business education has the capacity to simultaneously act positively on BP and BT. New business knowledge can strengthen perceptions of entrepreneurship as it reinforces the learner's sense of self-confidence and energizes their determination to act in proactive, innovative, and risk-tolerant ways, in an entrepreneurial environment. If B-Schools are not exerting a positive influence on both BP and BT, their influence on student entrepreneurial propensity is likely minimal to nonexistent (Figures 1 & 2). Further, in this case, if it is hypothesized B-Schools are acting positively on student entrepreneurial propensity, studies that focus only on BP or BT but not both, run the risk of a Type II error. Therefore, we believe investigations are strengthened by the inclusion of both.





BEHAVIOR PERCEPTIONS (BP)

Behavior Perceptions (BP) represent a subjective process of interpreting and giving meaning to information. In the context of entrepreneurship, we frame BP within Ajzen's Theory of Planned Behavior (TPB) (1991; 2002). These are represented by: (1) the perception of the attractiveness of engaging in entrepreneurial behaviors (attitude); (2) the perception of how one’s social network values self-employment (subjective norm), and (3) the perceived degree of difficulty of engaging in self-employment (perceived behavioral control - similar to self-efficacy) (cf. Ajzen, 1991, 2002; Liñán, Rodríguez-Cohard, and Rueda-Cantuche, 2011; Krueger, Reilly, and Carsrud, 2000). Although it is possible that B-School learning could exert some level of influence on each of Ajzen's three dimensions of behavior perceptions, we suggest the most significant influence centers on self-efficacy, which we categorize as Zone 1 (Z-1) (Figure 3).

(Z-1) Behavior Perceptions: Self-efficacy (Figure 3)

Business courses generally include learning components that assist students in developing the knowledge, skills, and abilities to analyze, assess, and strategically engage in business-related activities, thus in terms of perceptions, formal business education may have its most significant influence on self-efficacy. Specifically, entrepreneurial self-efficacy is represented by the belief in one's potential for successfully starting and managing a business (cf. Awang, Amran, Md Nor, Ibrahim, and Mohd Razali, 2016; Peng, Lu, and Kang, 2012). Self-perceptions of one's ability to successfully accomplish a task is a powerful actor on the individual's planned behavior (Baron, Tang, and Hmieleski, 2011; Leutner, Ahmetoglu, Akhtar, and Chamorro-Premuzic, 2014). In other words, self-perceptions of capabilities motivate or dissuade planned behaviors (Van Gelderen, Kautonen, and Fink, 2015). When the perception of entrepreneurial self-efficacy is present, it provides a partial explanation of why some individuals consider self-employment as a career option (Ajzen, 2002; Caliendo, Fossen, and Kritikos, 2014; Sipe, Larson, McKay, and Moss, 2016). Since business schools have been shown to have a positive influence on the self-efficacy of students (Davidsson, 1995), it should be considered a crucial construct in entrepreneurship research (Miao, Qian, and Ma, 2017) and we consider it a vital dimension for investigating the influence of B-Schools on student entrepreneurial propensity.

BEHAVIOR TENDENCIES (BT)

Behavior Tendencies (BT) represent an inclination toward acting or reacting in predictable ways (Chen and Bargh, 1999). In an entrepreneurial context, we frame BT within the Bolton and Lane (2012) model, which identifies BT as the tendency to act: (1) Proactively, (preemptive, vigorous, and dynamic); (2) Innovatively, (creative, imaginative, and individualistic); and (3) with Risk-tolerance, (resilient, self-assured, and adventuresome) (Bolton and Lane, 2012). When individuals exude the tendency to act proactively, they are more likely to initiate and energize environmental change (Li, *et al*., 2010); when they tend to be innovative, they are more likely to champion new ideas (Ferreira, Marques, Bento, Ferreira, and Jalali, 2015); and when they are willing to act despite inherent risks, they are likely to be more optimistic about the pursuit of untested opportunities (Hung, Tangpong, Li, and Li, 2012). Each of these behavior tendencies requires an element of self-confidence, which is facilitated by experiential and formal learning. Since entrepreneurial oriented activities generally require a significant degree of business acumen, it is expected that formal business education can play a significant role in strengthening the self-confidence of students to be proactive (Z-2), innovative (Z-3), and risk tolerant (Z-4).

(Z-2) Behavior Tendencies: Proactiveness (Figure 3)

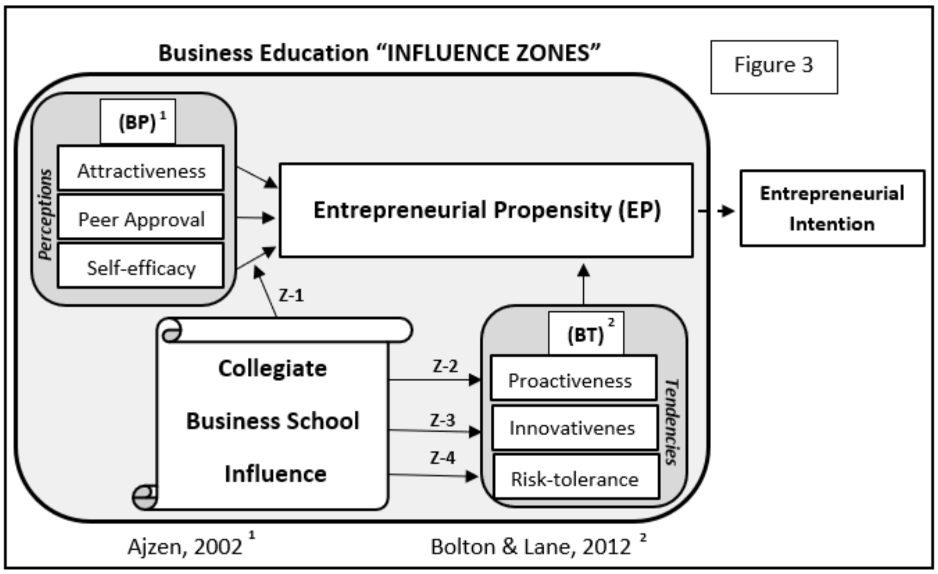
Proactiveness is characterized by the tendency to challenge the status quo. Proactive individuals demonstrate the tendency to quickly identify opportunities and act on impulses (Crant, 2000), and they are willing to influence their environments to advance their intentions (Li, Liang, and Crant, 2010). Entrepreneurial oriented education has been shown to positively influence an individual to pursue untested territories and reinforce latent tendencies to advance entrepreneurial intentions (Pittaway and Cope, 2007). Business education in general, has the capacity to reinforce personal initiative, an antecedent of proactiveness and a characteristic crucial to the entrepreneurial process (cf. Frese and Gielnik, 2014). Proactivity is important to individual success, particularly where individuals face significant obstacles and support for new ideas is lacking (Geertshuis, Jung, and Cooper-Thomas, 2014). Proactive individuals are more likely to recognize opportunities and less likely to let them escape (Frese and Gielnik, 2014) and proactivity has been linked to leadership and personal achievements, which are considered vital characteristics of entrepreneurs (cf. Seibert, Crant, and Kraimer, 1999). Collegiate business as well as other higher educational experiences have the potential of providing students with the self-confidence to identify, solidify, and sustain their commitments to the pursuit of new entrepreneurial opportunities (cf. Geertshuis, *et al.*, 2014), and this represents the essence of entrepreneurial proactiveness.

(Z-3) Behavior Tendencies: Innovativeness (Figure 3)

Inclination to innovate is associated with the tendency to champion or support new ideas (Ferreira, *et al.*, 2015), and there is a positive linkage between entrepreneurial innovation and formal business education (Dickson, Solomon, and Weaver, 2008). Innovation is a creative process through which entrepreneurs are distinguishable from non-entrepreneurs (Shane, Locke, and Collins, 2003). They have learned to be more adaptive and innovative in their creative styles (cf. Baron and Tang, 2011; Buttner and Gryskiewicz, 1993). Although all entrepreneurs are not innovative (Autio, Kenney, Mustar, Siegel, and Wright, 2014), innovativeness is widely considered an important behavior trait of entrepreneurs (cf. Lee, Wong, Foo, and Leung, 2011). Entrepreneurship can be interpreted from an emancipatory perspective whereas the individual has developed the self-confidence to break free to express his or her own innovativeness; it represents an acquired sense of individualism (cf. Rindova, Barry, and Ketchen, 2009; Tiessen, 1997). Education is an environment of shared ideas and idea development, and business education plays a significant role in this process. As business students gain technical competence and mastery of competitive strategies, their potential for innovation grows (cf. Baumol, 2005). Education stimulates curiosity and challenges students to consider new and improved ways of achieving objectives, (Schumpeter, 2000). We believe B-Schools have the potential for significant influence on student innovativeness, and they have a unique opportunity to nurture students with latent entrepreneurial inclinations.

(Z-4) Behavior Tendencies: Risk-tolerance (Figure 3)

General risk propensity is a behavioral tendency that influences decision-making processes and can be conceptualized as an individual's comfort in making choices regarding change (Hung, *et al.*, 2012). Entrepreneurs are generally believed to be more willing to risk change since they often gamble their careers, personal finances, personal relationships, and professional reputations (cf. Stewart and Roth, 2001; Stewart, Watson, Carland, and Carland, 1998; Van Ness, Seifert, Marler, Wales, and Hughes, 2019). Risk-tolerance is considered a distinct dimension of entrepreneurial propensity and it is positively associated with proactiveness and innovation (Naldi, Nordqvist, Sjöberg, and Wiklund, 2007). The risk-tolerance of entrepreneurs, particularly those who are expansion-oriented, is distinguishable from non-entrepreneur managers who have been found to be more risk averse (Stewart, *et al.*, 2001). Tolerance to risk has been found to be a significant predictor of self-employment intentions (Douglas and Shepherd, 2000; Segal, Borgia, and Schoenfeld, 2005) and the more risk-tolerant individuals are, the greater the likelihood of self-selecting entrepreneurial engagement (Stewart, *et al.*, 2001). And, the lack of risk-tolerance has been found to be a significant deterrent of entrepreneurial engagement (Wang and Wong, 2004). Although all risk takers are not necessarily destined to become entrepreneurs, the literature strongly suggests that individuals who are generally risk averse are less likely to pursue this as a career option (cf. Miner and Raju, 2004). Since learning has been shown to diminish the sensitivities to some risks, knowledge acquired from collegiate business school experience is believed to have a positive influence on student risk-tolerance (cf. Antonites and Wordsworth, 2009). In other words, new knowledge and understanding of business environments may provide some students with the self-confidence to consider entrepreneurial engagement more in terms of the consequences of their success rather than in terms of the consequences of failure.



SUMMARY

Entrepreneurs are widely considered dynamic energizers of economies (Zachary and Mishra, 2011), and a continuous influx of these individuals is crucial. Collegiate Schools of Business have long been an essential source of encouragement to students with latent entrepreneurial tendencies and it is important that this trend continue. However, since each emerging generation of students possesses different beliefs, values, and perceptions (cf. Levenson and Deal, 2016; Thompson and Gregory, 2012), B-Schools need to be vigilant to potential changes in how students are being influenced. Epistemologically, B-School learning assists students in recognizing the difference between opinions and justified believes. It provides them with the opportunity to open their minds and reconsider perceptions and assumptions, which in turn facilitates the unbiased assessment of a wider range of career options. Collegiate Schools of Business provide a dual path learning journey as they emphasize the development of judgment and reasoning, as well as the advancement of expertise in functional areas of business (cf. Van Ness, Ferrara, Van Ness, and Hughes, 2010). In other words, a formal business education can prove beneficial to all students as they prepare for their careers, and in the case of students with latent entrepreneurial inclination, it can be the spark that starts the engine.

We believe routine examination of B-School influence on students is a compelling domain for research. In terms of entrepreneurial oriented investigations, we propose four discrete zones for review, including entrepreneurial self-efficacy, proactivity, innovativeness, and risk-tolerance. There are a range of validated instruments for investigating these proposed zones of influence. For example, to examine (Z-1), entrepreneurial self-efficacy, we recommend the NGSE scale (*New General Self-Efficacy*) by Chen, Greene, and Crick, (1998), or the ESE instrument developed by Schjoedt and Craig (2017). Additionally, for investigating (Z-2, 3, 4) proactiveness, innovativeness, and risk-tolerance, the IEO (*Individual Entrepreneurial Orientation*) instrument by Bolton and Lane, (2012) is suggested.

The objective of our work is to contribute to and advance the continuing conversation of the influence of B-Schools on student entrepreneurial propensity. It is our hope that the proposed model which combines the models of Ajzen's (TPB) and Bolton and Lane's (IEO) can prove useful to future researchers.

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Outcomes of Entrepreneur Calling on Employees and the Organization: Social vs Commercial Entrepreneurs

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ABSTRACT

Social entrepreneurs are distinguished from commercial entrepreneurs by their prioritized concern to create social value. This research examines entrepreneurs from the lens of callings since this lens permits an examination of how people with a deep sense of purpose are likely to act and to impact their employees and organizations. This research tests whether social entrepreneurs may have a stronger sense of calling than commercial entrepreneurs and whether they may experience greater engagement at work, communicate their visions more, and therefore have a greater positive effect on their employees and organizations.

The survey method was used to test outcomes of callings in entrepreneurship. A total of 341 entrepreneurs completed the main survey. Employees from 83 of those ventures participated in an employee survey. Outcomes of entrepreneur calling included increased entrepreneur engagement, greater entrepreneur communicated vision; reduced employee turnover intentions; increased employee callings; and greater social impact growth. Social entrepreneurs experienced these outcomes to a greater degree than commercial entrepreneurs.

This paper therefore identified outcomes of callings in entrepreneurship and identified differences between social and commercial entrepreneurs as examined in the domain of callings.

Key words: calling, work orientation, social entrepreneur

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INTRODUCTION

In a world where governments often lack the resources and ability to meet the needs of their citizens, social entrepreneurs play a big role in identifying and serving social needs (Zahra, Gedajlovic, Neubaum & Shulman, 2009). A distinctive mark of social entrepreneurs is that they seek to simultaneously create economic value and social value (Mair & Martí, 2006). Given the important role that they play by venturing where other entrepreneurs and governments do not always go, it is not surprising that social entrepreneurs have been the subject of a new and rising field of study. Still a young field, social entrepreneurship welcomes research into explanations for the behaviors and attitudes of social entrepreneurs (Short, Moss & Lumpkin, 2009).

This paper examines social entrepreneurship under the lens of work orientation – the relationship people have with their work as a job or career or calling (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). There is a striking similarity between the sense of social purpose that social entrepreneurs have in their ventures (Mair & Martí, 2006) and the desire to create a better world that people with a calling orientation have in their work (Wrzesniewski et al., 1997). We therefore investigate whether social entrepreneurs will have a strong calling orientation. We also contribute to the field of entrepreneurship, by investigating whether callings in entrepreneurs will have an effect on the entrepreneurs themselves, their employees, and their organizations. Finally, we compare social and commercial entrepreneurs to see if there are significant differences in the effects that their callings have on them, their employees and their organizations.

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Work Orientation and Social Entrepreneurship

In this section, we briefly review the state of the field in work orientation (job, career and calling orientations) and social entrepreneurship drawing links between the two. We then raise research questions pertaining to the outcomes of callings in the entrepreneurs themselves, in their employees and in their organizations.

Work Orientation

In the book *Habits of the Heart* by Bellah, Madsen, Sullivan, Swidler, and Tipton (1985), it was suggested that most Americans view their work as a job or a career or a calling. People with a job orientation see their work primarily as a source of income. They therefore work for extrinsic rewards like pay and they have little further attachment to their work, seeking life satisfaction in other domains like family life or leisure. People with a career orientation to work are motivated mostly by the desire to achieve a higher status or prestige through their work (Wrzesniewski et al., 1997), but they also enjoy the challenge component in their work (Berg, Grant & Johnson, 2010). Finally, people with a calling orientation to work find fulfillment in their work (Duffy, Dik, Steger, 2011; Wrzesniewski et al., 1997) and are also keen to have a positive impact on the world (Wrzesniewski et al., 1997). Calling orientation to work is therefore defined by two key elements – fulfillment at work, and desire to create a better world. In sum, people relate to their work in these three ways and predominantly see their work as a job or career or calling.

Empirical studies subsequent to Bellah and colleagues (1985) have confirmed that people usually fall into these three categories of job, career and calling orientation when they are asked about what work means to them (Berg et al., 2010; Peterson, Park, Hall & Seligman, 2009; Wrzesniewski et al., 1997; Davidson & Caddell, 1994).

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To the best of our knowledge, the only other authors who have published studies of work orientations in the domain of entrepreneurship are Da Palma, Lopes and Alves (2018) who examine whether entrepreneur callings will affect the networks entrepreneurs have and their search strategies to get resources. We therefore now set out to investigate consequences of calling orientation in entrepreneurs, in their employees and in their organizations.

Entrepreneur Calling

Management authors have come up with various but closely related definitions of calling. Dik and Duffy (2009) see callings as a transcendent summons to live a life of purpose with other-oriented values and goals. The domain in which such a calling is lived could be various, including work, family and leisure. Hagmaier and Abele (2012) see callings as a career that one strongly identifies with, that contributes to one′s sense of meaning and that is guided by a transcendent force. Dobrow and Tosti-Kharas (2011) see callings as a consuming and meaningful passion. These conceptions of callings have common threads, especially the notion of meaning or purpose in several definitions. Wrzesniewski et al (1997) use the word calling mostly in the domain of work, and aptly write about calling orientation to work – the viewing of one′s work as the place where one will find fulfillment and where one will help create a better world. What is clear from these various definitions of calling is that callings are a powerful force of identity and sense of purpose or meaning propelling one to engage in altruistic activities that could impact society or the planet. This leads us to our first research question.

Research Question One: What is the influence of entrepreneur callings on the behavior of entrepreneurs, on their employees and on their organizations?

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Social Entrepreneurship

A contentious issue in the field of social entrepreneurship is the definition of the term itself which is given many different meanings (Short, et al., 2009; Simms & Robinson, 2009; Mair & Martí, 2006). Whereas the actual content of social entrepreneurship is disputed, conceptually social entrepreneurship refers to the process or behavior, while social entrepreneurs are the founders of social enterprises which are the outcome of social entrepreneurship (Mair & Martí, 2006). Some scholars recognize that social entrepreneurs may have mixed motives for engaging in business, from making profits, to altruistic motives, to seeking personal fulfillment (Mair & Martí, 2006). Taking up the mixed motives discussion, Simms and Robinson (2009) theorize that social entrepreneurs have a dual identity – an identity that seeks to create social value (which these authors dub as the "activist identity") and an identity that pursues economic value (which they dub an "entrepreneur identity").

Zahra et al (2009) highlight the diversity that there is among social entrepreneurs. Though they are all united by having social and economic goals, they differ according to the relative balance of their motives (more social than economic or vice versa), the kind of ventures they found (non-profit or for-profit), and the strategies and activities that they follow in order to create social value. Our research applies a psychological lens to the study of entrepreneurship and investigates whether some of the variety among entrepreneurs can be explained by work orientation. We expect social entrepreneurs to exhibit stronger calling outcomes in their behavior than commercial entrepreneurs. This therefore leads us to ask our second question.

Research Question Two – Are the outcomes of callings in entrepreneurs, in their employees and in their organizations stronger in the case of social entrepreneurs than in the case of commercial entrepreneurs?

THEORETICAL FRAMEWORK

We conceptualized our research into these two questions within the framework of two related theories: meaning of life theory, and work meaning theory. We provide a brief review of both theories in this section.

Meaning of Life Theory

According to holocaust survivor, Viktor Frankl (1959), humankind's ultimate concern is not the search for pleasure and the avoidance of pain, but rather the search for a meaning in one's life. Baumeister and Vohs (2002) see meaning as humanity's way of imposing stability on life by forming a stable conception of a changing process. Baumeister (1991) elaborates on what he calls the four needs for meaning, which he identifies as purpose, value, efficacy and self-worth. Purpose refers to striving after particular concrete goals or striving for a condition of fulfillment. Value refers to judgement of one's actions or life as good or bad. Efficacy refers to one's belief that he/she can accomplish their purpose and goals. Lastly, self-worth is about judging that one has earned self-respect. Thus a person who satisfies all four needs will feel that his or her life is full of meaning. Since social entrepreneurs engage in activities that are highly positively regarded by society's standards, they will likely derive greater meaning from their work than commercial entrepreneurs who only seek a profit. Of the three work orientations dealt with so far in this paper, calling orientation is the one most closely connected with seeking a life of meaning. It is therefore worth investigating if the sense of a life calling is greater in social entrepreneurs than in commercial entrepreneurs, and if additionally, the effects of calling in social entrepreneurs is greater than in commercial entrepreneurs.

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Meaning of Work Theory

Work occupies a significant portion of our waking lives (Berg et al., 2010) and so the meaning and meaningfulness that we experience at work is of great importance to us. Meaning of Work scholars study questions about how people find meaning and meaningfulness at work, how different people might find different meanings in the same job, how meanings change over time, and the outcomes of meaning of work (Rosso et al, 2010).

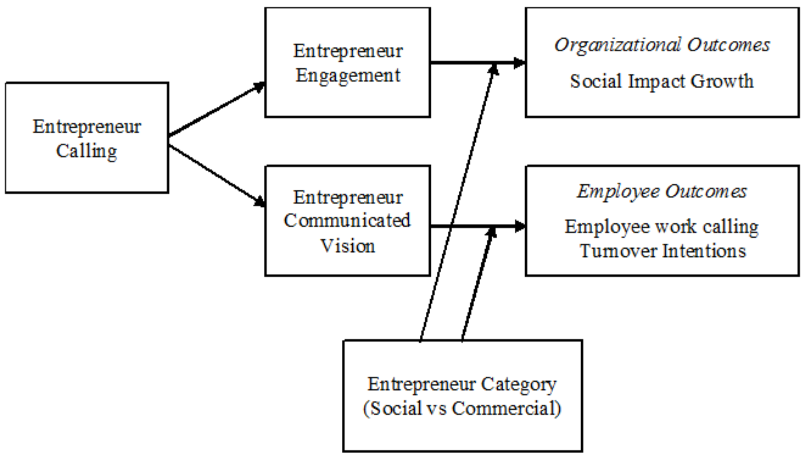
In a review about meaning of work, Rosso and colleagues (2010) identified both sources of meaning of work and processes by which those sources generate meaning. They listed the sources of meaning as being the self (values, beliefs, motivation), others (leaders, family, colleagues), work context (job design, mission, culture) and spirituality (connecting to a divine being, or a force or energy, from whom/where one's mission originates). The processes or mechanisms through which these sources of meaning act were given as authenticity, self-efficacy, self-esteem, purpose, belongingness, transcendence and lastly cultural and interpersonal sense-making (Rosso et al, 2010). These processes or mechanisms are the how and why that enable a person to form meaning from the sources already mentioned. Thus, authenticity which is the sense of alignment or coherence between a person's behavior and perception of one's true self (Markus, 1977; Rosso et al, 2010), will lead a person to see her or his work as more or less meaningful to the extent that that work is in accordance or not with one's values (values being one of the sources mentioned earlier).

Meaning of Work Theory, helps us understand how entrepreneurs might find meaning in their work (thus impacting their own attitudes or behaviors and impacting on their organizations). This theory also helps us understand the mechanism by which an entrepreneur with a calling might influence or pass on meaning to an employee, thus possibly influencing the employee's own attitude and behavior.

CONCEPTUAL MODEL AND HYPOTHESES

The figure below illustrates our conceptual model.

Figure 1: Conceptual Model



In the model above, Entrepreneur Calling will correlate with characteristics of the entrepreneur (Entrepreneur Engagement and Entrepreneur's Communicated Vision). Also entrepreneur characteristics will mediate the relation between Entrepreneur Calling, and employee and organizational characteristics. Lastly, Entrepreneur Category (social vs commercial entrepreneur) will moderate the effect of entrepreneur characteristics on both employee and organizational characteristics.

The hypotheses that form the basis of this study are therefore developed as follows, starting with Organizational Outcomes (Hypotheses 1 to 3), then Outcomes in the Employee and Entrepreneur himself/herself (Hypotheses 4 to 6) and then finally the overall comparison between social and commercial entrepreneurs (Hypothesis 7).

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Organizational Outcomes

Entrepreneur Callings and Social Impact Growth

People with a calling orientation are concerned with creating a better world (Wrzesniewski et al, 1997). It is therefore to be expected from Meaning of Life Theory that entrepreneurs who have a calling orientation will focus more on living out the purpose that gives them greatest meaning (that of having a social impact) compared to entrepreneurs with a job or career orientation. Over the years, the growth in social impact will therefore be greater in organizations that are run by entrepreneurs who are high in calling. We therefore hypothesize that:

H1: Entrepreneur Calling will be positively related with Social Impact Growth

Entrepreneur Calling, Entrepreneur Engagement, and Social Impact Growth

In order for entrepreneurs with a sense of calling to translate their desire to create a better world into action, they will need to be more engaged at their work. Work engagement is a positive state, that has three dimensions (Schaufelli & Bakker, 2006): the dedication dimension, which is cognitive and emotive (capturing the pride, inspiration, enthusiasm and meaning one finds in one's work), and; the vigor and absorption dimensions which are more behavioral in that they capture the vigor, energy and degree of immersion that a person experiences in their work. The first dimension of engagement, dedication, is therefore related to callings because both engagement and callings have an element of experiencing meaning and purpose. Through the process of authenticity explained in Meaning of Work Theory, we would expect that entrepreneurs who experience a sense of calling would be more dedicated to their mission, and as a consequence be more engaged with their work. Since engagement is related to performance, we would then expect this high engagement to help entrepreneurs to achieve their goal of creating a better world (social impact growth). We therefore hypothesize that:

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H2: Entrepreneur Engagement will mediate the positive relation between Entrepreneur Calling and Social Impact Growth

Entrepreneur Category: social vs commercial entrepreneurs

Given that social entrepreneurs are primarily motivated by the desire to create social value, they are more likely to focus on having a social impact in their organizations than commercial entrepreneurs who are more focused on creating economic value for themselves. We therefore expect that social entrepreneurs will achieve greater social impact growth in their organizations than commercial entrepreneurs. This leads us to hypothesize that:

H3: Entrepreneur Category will moderate the positive relation between Entrepreneur Engagement and Social Impact Growth such that the relation will be stronger for social entrepreneurs than for commercial entrepreneurs

Outcomes in the Employees and in the Entrepreneur

Impact of Entrepreneur Calling on Employee Calling orientation and Turnover Intention

According to Ashforth (1998), an individual's workplace identity "reflects an ongoing interaction between the self and the situation". If there is a strong link between work identity and self-identity where callings are concerned (Bunderson & Thompson, 2009), and the interaction between one's self-identity and one's work is an ongoing process, this could possibly mean that calling orientations can change, by becoming weaker or stronger, depending on the result of this interaction. This is in line with the position taken by calling scholars like Dobrow and Tosti-Kharas (2011) who conceptualize callings as not being binary (having or not having a calling), but rather as being a continuum from weaker to stronger callings, and so as one gets pulled more by discovery of one's purpose (Dik & Duffy, 2009; Frankl, 1959), one could conceivably strengthen one's sense of calling.

We therefore suggest that calling orientations in employees may change over time. Meaning of Work Theory explains that leaders and colleagues and the organization context (its mission) are a source of meaning, so we think it plausible that entrepreneurs with a calling orientation would as leaders influence their employees to develop similar meanings to theirs and hence acquire a calling orientation themselves. We further theorize that in an organization where the entrepreneur has a calling orientation, their commitment to social impact will be seen by employees as attractive, thus lowering their turnover intentions. We therefore hypothesize that:

H4: Entrepreneur Calling will have (a) a positive direct effect on Employee Calling Orientation and (b) a negative direct effect on Employee Turnover Intention

Entrepreneur's communicated vision

Venkantaraman (1997) sees entrepreneurship as a nexus between enterprising individuals, and what are seen to be lucrative opportunities. Entrepreneurs therefore mobilize resources that will enable their ventures to be realized. Employees are an important resource through whom entrepreneurs achieve their purpose. Dik and Duffy (2012) have explained that people with a sense of calling show a greater sense of purpose, so we would expect entrepreneurs with a sense of calling to make greater efforts to enlist their employees in implementing the venture's purpose by communicating their vision to them more. Indeed, Da Palma et al (2018) showed that entrepreneurs with a calling are more likely to actively search for resources than entrepreneurs without a sense of calling. As was explained above (in Hypothesis 1), entrepreneurs with a calling are likely to have high engagement. People who are engaged at work display more energy and enthusiasm for their work (Schaufelli & Bakker, 2006) and so entrepreneurs with a calling will likely communicate their vision to their employees in exciting and compelling terms. This regular and intense communication of vision will likely attract employees to want to stay (lower turnover intention) and develop a sense of calling themselves. We therefore hypothesize that:

H5: Communicated Vision mediates the relationship between (a) Entrepreneur Calling and Employee Calling Orientation and (b) Entrepreneur Calling and Employee Turnover Intention

Entrepreneurs with a calling orientation find purpose in the work itself, unlike commercial entrepreneurs who work primarily for profit. They are therefore more likely to sound compelling when communicating their vision to employees compared to commercial entrepreneurs since the vision they communicate is their very own life purpose. We therefore hypothesize that:

H6: Entrepreneur Category will moderate the impact of Communicated Vision on (a) Employee Calling Orientation and on (b) Employee Turnover Intention such that the impact will be stronger for social entrepreneurs than for commercial entrepreneurs

Overall comparison of social and commercial entrepreneurs

Having compared social entrepreneurs and commercial entrepreneurs this far, we are persuaded to believe that there will be significant differences between them such that social entrepreneurs will exhibit stronger callings, engagement, communicated vision and social impact compared to commercial entrepreneurs. Our last hypothesis is therefore:

H7 Social Entrepreneurs will differ from Commercial Entrepreneurs by having stronger (a) Entrepreneur Callings (b) Entrepreneur Engagement and (c) Social Impact Growth

METHODS

Survey Approach

This research project therefore followed a quantitative approach which allowed us to test the validity of relationships in our model above and to generalize (Creswell & Clark, 2011; Jick, 1979; Yin, 2009). It consisted of a survey administered to a wide group of entrepreneurs from all over the US and another survey administered to their employees.

Sample and Procedures

Two online surveys were administered on the Qualtrics online survey platform. The first survey targeted entrepreneurs and the second targeted their employees. Participation was voluntary. A snowballing strategy was adopted in which the first author of the study first reached out to entrepreneurs he had met over a period of two years in events for entrepreneurs. He also reached out to entrepreneurs who had been featured in the news or on podcasts.

Out of the 411 entrepreneur respondents who started the survey, 329 completed it (a completion rate of 80%). Of these 329 entrepreneurs, 110 agreed to nominate employees to take the second survey (33%), and from this pool, 83 organizations actually participated in the survey for employees. The information from the second survey was therefore placed in a database with 83 cases, each case representing a separate organization. Wherever more than one employee took the survey in an organization, an average of the employees' data for that organization is what was placed as a single record in this second database.

In the first survey Entrepreneurs answered questions about their entrepreneur calling, engagement, and the social impact growth of their venture. The Employee survey, on the other hand, included questions measuring vision communication, turnover intention, and employee calling orientation.

Measurements

The measurements used are provided in Appendix 1 below.

Analysis and Results

Explanatory and Confirmatory Factor Analysis

Before testing the hypotheses, we first examined the psychometric properties of the scales in order to come up with an appropriate measurement model. An Exploratory Factor Analysis (EFA) was performed using all the indicator items used to measure the constructs in the conceptual model. A six factor model was obtained that had the three calling dimensions (presence, seek, and prosocial), entrepreneur engagement, communicated vision, and employee turnover intention. A subsequent Confirmatory Factor Analysis (CFA) was then performed in AMOS with the inducted six factor model. The six-factor measurement model fit the data well ($\chi 2$ = 167.60 df = 137, n = 83, CFI = .96, TLI = .95, RMSEA = .05). All items significantly loaded on their intended factors (p < .01). We used the composite scale scores for the subsequent analyses.

Descriptive statistics

Table 1 presents the means, standard deviations, and zero-order correlations among the variables. Entrepreneur calling is positively correlated with entrepreneur engagement (r =.28, p < .01) and social impact growth (r =.31, p <.01), but not significantly correlated with vision communication and employee outcome variables. Entrepreneur engagement is also positively correlated with social impact growth (r =.23, p < .05). Vision communication is positively correlated with employee calling (r = .28, p < .05) and negatively correlated with employee turnover intention (r = -.26, p <.05).

Table 1 Means, standard deviations and correlations

	Mean	*s.d.*	1	2	3	*4*	*5*	*6*
1. Entrepreneur Calling	5.43	0.99	1.00					
2. EntEntrepreneur Engagement	6.65	0.53	0.28**	1.00				
3. Social Impact Growth	5.75	1.21	0.31**	0.23*	1.00			
4. Vision Communication	5.70	1.09	-0.05	0.28*	0.01	1.00		
5. Employee Turnover Intention	2.36	1.39	0.08	-0.22*	0.05	-0.26*	1.00	
6. Employee Calling Orientation	4.83	1.71	-0.14	0.10	-0.06	0.28*	-0.38*	1.00

n = 83 ,*p<.05,**p<.01

Hypothesis Testing

Direct effect hypotheses (H1, H4) were tested by using path analysis in AMOS. To test mediation hypotheses (H2, H5), we used the bootstrapping technique in AMOS (Preacher & Hayes, 2008). The results for the mediation effects reported here are based on regression analysis with 95 % bias corrected bootstrap confidence on 5000 bootstrap samples. To test the moderated mediation hypothesis (H3, H6) we used the PROCESS macro by Andrew F. Hayes (http://www.afhayes.com).

Hypothesis 1 suggested a positive relationship between entrepreneur calling and social impact growth. The path coefficient was positive and significant (b = .32, p < .05) so Hypothesis 1 was supported.

Hypothesis 2 tested the entrepreneur engagement as a mediator of entrepreneur calling and social impact growth. Although the path from engagement to social impact growth is not significant when entrepreneur calling is controlled for, indicating H2 is not supported, the bootstrap parameters indicate that engagement has a marginally significant effect on social impact growth (b = .39, p < .10) when tested across 5000 bootstrap samples and entrepreneur calling has a significant indirect effect on social impact growth through engagement (b = .06, p < .05, .001 to .182). Because the mediation effect is significant in the larger entrepreneur-only data set (n =304) including for mediation of effects on employee turnover, and because statistical power is low in the smaller employee-only data set due to small number of cases there (n =83) we conclude that Hypothesis 2 was only partially supported.

Hypothesis 3 states that the impact of engagement on social impact growth will be moderated by the entrepreneur category (social vs. commercial) with the impact being stronger for social entrepreneurs. We tested this hypothesis using PROCESS macro by Andrew Hayes. Moderation was not found; hence Hypothesis 3 was not supported.

Hypothesis 4 posits that entrepreneur calling will have a positive direct effect on employee calling orientation (H4a) and a negative impact on employee turnover intention (H4b). The path coefficient from entrepreneur calling to employee calling and turnover intention were not significant and hence Hypothesis 4 was not supported.

Hypothesis 5 posits that communicated vision will mediate the relation between entrepreneur calling and employee calling orientation (H5a) and turnover intention (H5b). As indicated above the direct paths from entrepreneur calling to employee calling orientation and turnover intention are non-significant. The path from entrepreneur calling to vision communication was also non-significant indicating that there was no mediation effect. However, the results indicate that vision communication had a significant positive effect on employee calling orientation (b = .42, p < .01) and significant negative effect on turnover intention (b = -.32, p < .05), when entrepreneur calling was controlled for. These results suggest that entrepreneur calling does not necessarily affect employee outcomes directly nor through vision communication, however when vision is communicated it had a significant effect on employee calling orientation and turnover intentions.

Hypothesis 6 states that the impact of vision communication on employee calling orientation (H6a) and turnover intention (H6b) will depend on the entrepreneur category (social vs.

commercial). We tested this hypothesis using the PROCESS macro by Andrew Hayes. The moderation effect was not significant ($b = .34$, $p > .10$) for the employee calling outcome, and hence Hypothesis 6a was not supported. Results indicate that, when entrepreneur calling is controlled for, entrepreneur category moderates the relationship between vision communication and employee turnover intention such that the negative effect of vision communication on turnover intention was significant for social entrepreneurs ($b = -.71$, $p < .01$, -1.161 to -.255) but non-significant for commercial entrepreneurs ($b = -.12$, $p > .10$). Hence, Hypothesis 6b was supported.

Hypothesis 7 is concerned with showing differences in attributes between social and commercial entrepreneurs. To test whether the mean differences are significant between the social and commercial entrepreneurs (H7a-H7c) we performed independent sample t-tests. The results indicate that social entrepreneurs have a stronger calling compared to their commercial counterparts (5.86 vs. 5.14, $t(3.43)$, $p < .01$), supporting H7a. Social entrepreneurs also had a stronger social impact growth in their ventures compared with commercial entrepreneurs (6.18 vs. 5.46, $t(2.77)$, $p < .01$), which supported H7c. The engagement levels of social entrepreneurs were stronger than commercial entrepreneurs only at a marginally significant level (6.78 vs. 6.56, $t(1.82)$, $p < .10$), indicating H7b was only partially supported.

DISCUSSION

The aim of this research was to establish the influence of entrepreneur calling orientations on the entrepreneurs themselves, on their employees and their organizations. This research also aimed at comparing social and commercial entrepreneurs from the perspective of callings and their effects.

Outcomes of Entrepreneur Calling on Employees and the Organization: Social vs Commercial Entrepreneurs

Apart from Da Palma et al (2018) which studied how calling orientations in entrepreneurs affect their search for resources, calling orientations had not been studied in the domain of entrepreneurship. It was therefore important to test other areas in which callings in entrepreneurs could make a difference.

From the point of view of impact on the entrepreneurs themselves, it was established that entrepreneur callings led to greater entrepreneur engagement. From the point of view of organizational outcome, it was found that entrepreneur callings were associated with greater social impact growth in organizations. We only found partial support for the impact of entrepreneur calling on social impact growth as mediated by entrepreneur engagement. These findings were consistent with our hypotheses.

We had hypothesized that entrepreneur callings would have a positive influence on employee callings and a negative influence on employee turnover, and that this influence would be mediated by communicated vision. While the mediation was not supported, the influence of communicated vision on employee turnover and on employee calling was found to be significant. This seems to suggest that it is not so much a question of whether the entrepreneur has a calling or not that will influence the employees, but rather the communicated vision the employees are exposed to that will influence them. A possible inference from this is that an entrepreneur with a calling may not succeed in influencing his employees if he does not communicate his vision to them. A less intuitive inference here that needs to be researched further is that even entrepreneurs without a calling may succeed in reducing turnover and inducing a calling in their employees if they communicate their vision right.

This research compared social and commercial entrepreneurs with respect to callings, engagement and social impact growth. Social entrepreneurs were significantly higher than commercial entrepreneurs in life calling, and social impact growth, as hypothesized. The application of calling literature to the field of entrepreneurship therefore helped us show why social entrepreneurs could be expected to show more dedication and sense of purpose in their work – because they have a higher sense of calling than commercial entrepreneurs. We had hypothesized engagement in social entrepreneurs to be higher than for commercial entrepreneurs but this was only partially supported. A possible explanation for this partial support is the issue of using a small database for employees (83 cases where we had access to both the entrepreneur and their employees). When we perform the same test in the bigger entrepreneurs-only database (341 cases), we find the difference in engagement to be significant.

Whereas previous research studies of other populations have tended to show an even split among the three work orientations (in the region of 30% having callings), the survey data we had in the bigger database with entrepreneurs showed almost all the social entrepreneurs as having a calling orientation to work, and about half of the commercial entrepreneurs as having a calling orientation to work, both categories being significantly higher in callings than other demographic populations. Several implications could be inferred from these findings. As just said above, the level of engagement will likely not be very different between social entrepreneurs and commercial entrepreneurs since both are much higher in calling orientation than the average population. A second inference is that since social entrepreneurs tend to have a stronger calling than commercial entrepreneurs, it is probably more important to them than to commercial entrepreneurs that they realize their life calling at work. This is a double-edged sword in the sense that it makes social entrepreneurs more likely than commercial entrepreneurs to find fulfillment at work if their work has the necessary conditions for them to find it meaningful. It is, however, also possible for them to experience greater frustration than commercial entrepreneurs if the conditions they face are not conducive to realizing their social mission. A third inference could explain why our hypothesis was not supported when we predicted that the impact of entrepreneur engagement on social impact growth would be moderated by entrepreneur category (social vs commercial entrepreneur). This could be explained by effect size considering that both social and commercial entrepreneurs have a disproportionately high percentage of callings, thus eroding the significance of the difference that could be found in their social impact growth when a social/commercial group differences test was performed.

This research had several limitations. The number of cases of employee data was fairly small giving us low power to make inferences. As was pointed out, similar analyses carried out in the larger entrepreneur-only database proved to be significant compared to when performed in the smaller database with employee-only data. This research was carried out in the restricted domain of entrepreneurship and may not be readily generalizable to other populations. It does, however, represent a starting point for any researcher seeking to understand how entrepreneur callings affect the behavior of entrepreneurs and the subsequent impact on their employees and organizations.

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Appendix 1
Measurements

Social vs Commercial Entrepreneur: The grouping variable for social entrepreneurs was based on a measure that was used by both Gras & Lumpkin (2012) and Xu, Robinson, Germak, & Huang (2014). The two items were: "Why did you start this business?" and "What are the one or two main opportunities that prompted you to start this business?" A list of 12 reasons for starting a business was provided (for instance "Earn a larger personal income"), and respondents were asked to choose as many of the reasons as applied to them, then to rank their choices. If any of three prosocial reasons were selected among the top two choices ("Enhance the well-being of others", "Improve the environment," and "Create social change") then that person was deemed to be a social entrepreneur (dummy code1=social entrepreneur, 0 = commercial entrepreneur).

Entrepreneur Calling: Nine items from the Prosocial Presence and the Summon-Presence dimensions of the Calling and Vocation Questionnaire (CVQ) by Dik, Eldridge, Steger & Duffy (2012) were used to measure entrepreneur calling.

Entrepreneur Work Engagement: This measure was sourced from Schaufeli, Salanova, González-Romá, & Bakker (2002). Four items were obtained from the "Dedication" factor of this measure and modified to suit a general work domain rather than a specific career, the scales being 1 (strongly disagree) and 7 (strongly agree) e.g. "My work inspires me" ($\alpha = .82$).

Venture's Social Impact Growth: Entrepreneurs were asked to rate the degree to which they thought their venture's social impact had grown by comparing the last business year with their first business year. They were asked "Comparing your business last year to how it was a year after it started, how much do you think your social/environmental impact has grown?" with response scales 1=It has declined, 2=Not at all, 3= Not much 4=Little, 5=Somewhat, 6=Much, and 7=A great deal.

Vision Communication: Three items were adapted from Baum & Locke (2004) (e.g., “To what extent has the organizational vision been communicated to employees?”) and from Larwood, Falbe, Kriger, & Miesing (1995) (e.g. “To what extent do employees at your organization share organizational vision?”) ($\alpha = .89$) with response scales ranging from 1 (never) to 7 (all the time).

Employee Turnover Intention: The measure used was based on Blau (1985), which consists of three items - thoughts of quitting, seeking another job, and intention to quit- measured on a Likert scale ranging from 1 (very unlikely) to 7 (very likely) ($\alpha = .87$).

Employee Calling Orientation: Respondents were shown the three vignettes from Wrzesniewski and colleagues (1997) that describe people with a job, career and calling orientation respectively. They were asked to rate how similar or dissimilar they were to each of those people on a 7 point Likert scale from 1 (not at all like me) to 7 (very much like me). The rating they chose for the vignette that corresponded to callings was taken as the measure of their calling orientation.

Controls: We controlled for *venture economic growth* which was conceptualized as the compound percentage growth in annual income from the year of foundation of the business (its first year of operations) to the last business year before the survey. *Age* of the venture and entrepreneur *work experience* were the other controls in the entrepreneur survey. In the second survey we controlled for employee *education* and *work experience*.

Cultivating Social Enterprise in the Entrepreneurial Ecosystem

Abstract

This paper evaluates the entrepreneurial ecosystem construct, and the ways in which entrepreneurial ecosystems, through their resources, supports, and relationships may support local social entrepreneurial activity. Using an interorganizational citizenship behavior framework, this paper considers ecosystem actions and activities through the perspective of member social entrepreneurs, specifically by examining the ways in which ecosystem interactions and relationships - including interorganizational altruism, interorganizational loyalty, interorganizational compliance, and relational embeddedness - strengthen the entrepreneurial self-efficacy and entrepreneurial orientation of member social entrepreneurs. Social entrepreneurship is increasingly pursued as a viable alternative to solving some of the world's longstanding social problems. However, social entrepreneurs are challenged with creating market driven business models that are both financially sustainable, and deliver a positive social impact. Entrepreneurial ecosystems are designed to promote entrepreneurship and economic growth within the local business milieu. By leveraging the resources, supports, and relationships within the ecosystem, member social entrepreneurs may gain an advantage during the turbulent business start-up phase as they pursue dual objectives of financial sustainability and social impact. This research contributes to the literature on social entrepreneurship, interorganizational citizenship behavior, social entrepreneurial self-efficacy, and entrepreneurial ecosystems.

Keywords: Entrepreneurial Ecosystems, Social Entrepreneurship, Entrepreneurial Self-Efficacy, Entrepreneurial Orientation, Interorganizational Citizenship Behaviors

Introduction

The ones who are crazy enough to think that they can change the world

are the ones who do. - Steve Jobs

Climate action, quality education, zero hunger, gender equality, sustainable cities and communities, reduced inequalities - these are a sampling of the United Nations 2030 Seventeen Sustainable Development goals (Nations, 2015) that challenge social entrepreneurs to dream big when tackling the world's most difficult social problems. The paradigm of social entrepreneurship has grown in awareness and popularity over the last decade with increasing numbers of aspiring entrepreneurs starting social ventures, each with a desire to make an impact on a personally meaningful social problem. In parallel, scholarly research has sought to understand social entrepreneurship as a standalone phenomenon, as well as understand how established theories of management apply or evolve in the social entrepreneurial context.

Within the literature, social enterprises have been described as hybrid organizations (Santos, Pache, & Birkholz, 2015) who must embrace an entrepreneurial orientation (Morris, Coombes, Minet, & Allen, 2007) and use market based techniques (Luke & Chu, 2013) to create new business models, and commercial activities (Moizer & Tracey, 2010), in order to achieve social impact. Many scholars agree that these organizations possess dual missions of financial sustainability and social purpose (Doherty, Haugh, & Lyon, 2014), that they should be self-sustaining from their entrepreneurial endeavors (Chell, 2007), and that their true value comes in the form of extensive transformation that benefits a segment of society (Martin & Osberg, 2007).

While social entrepreneurs are heroized in popular culture, these organizations are particularly challenging because social missions and commercial ventures are associated with divergent goals, values, norms and identities; and such institutional complexity creates tensions, competing demands, and ethical dilemmas (Smith, Gonin, & Besharov, 2013) which much be addressed. Social entrepreneurs are also challenged with creating market driven sustainable business models while simultaneously making a discernible impact on the social problem. Further complicating this matter is the fact that many social entrepreneurs don't have formal business education and pursue entrepreneurship out of passion for the cause (Urban, 2015).

In addition, social entrepreneurs are advised to embrace an entrepreneurial orientation (Liu, Takeda, & Ko, 2014), one that is consistent with taking risks, being proactive, innovative, and aggressively competitive (Covin & Slevin, 1991; G. T. Lumpkin & Dess, 1996) to increase the economic viability of the entity while meeting the needs of its constituents. Thus, participation in an entrepreneurial ecosystem, one that offers capital investment, education, business network access, talent pool, infrastructure, as well as professional and other support services, is increasingly becoming part of a social entrepreneur's business strategy.

Entrepreneurial ecosystems are viewed within the academic and business communities as fundamental for entrepreneurial innovation and successful economic development policy (Soto-Rodriguez, 2015; Spigel, 2015; E. Stam, 2015). Resources within the ecosystem are typically dedicated to helping both start-ups as well as potential high growth firms succeed (Mason & Brown, 2014). Research on entrepreneurial ecosystems has sought to: define the entrepreneurial ecosystem (Bernardez & Mead, 2009; Mason & Brown, 2014; F. Stam & Spigel, 2016; Van de Ven, 1993), identify the components or attributes within ecosystems (Isenberg, 2011; Neck, Meyer, Cohen, & Corbett, 2004; Vogel, 2013), understand the ecosystem framework and systemic conditions (Audretsch & Belitski, 2017; E. Stam, 2015; F. Stam & Spigel, 2016), understand ecosystem inputs, resource flow, and outcomes (Feld, 2012; Malecki, 2009; Spigel & Harrison, 2018), identify the relationships and connections within the ecosystem (Motoyama &

Knowlton, 2014; Spigel, 2017), and understand the ways in which ecosystems evolve or change over time (Mack & Mayer, 2016; Malecki, 2018).

Despite the rise of social entrepreneurship and the proliferation of entrepreneurial ecosystems, there is a gap in the literature about the interrelationships between entrepreneurial ecosystems and social entrepreneurs. Conceptually, it seems that resources within the entrepreneurial ecosystem could help social entrepreneurs establish and scale their ventures; however, we don’t understand how ecosystem actors view social entrepreneurship, and how the relationships and connections within the ecosystem have changed or evolved in support of social entrepreneurship. We lack a framework that helps us evaluate the relationship, including underlying motivations and intentions of ecosystem players such as their rationale for supporting social enterprise versus traditional high-growth firms. We also don’t understand from a theoretical viewpoint how their support may benefit the social entrepreneur.

Literature Review

Entrepreneurial Ecosystems

The entrepreneurial ecosystem perspective offers a holistic understanding of how clusters of economic activity are formed, and a novel perspective about organizational growth which emphasizes the organization’s external environment (Mason & Brown, 2014). Entrepreneurial ecosystems are described as a localized phenomenon; they possess unique taxonomies based upon geography as well as the core focus of the ecosystem (Brown & Mason, 2017). In their 2004 study of the ecosystem in Boulder, Colorado, Neck and colleagues identified nine essential components of entrepreneurial ecosystems. These components included university participation, government support, availability of professional/support services, capital sources, talent pool, the presence of large anchor corporations with significant financial and human capital assets, physical infrastructure, and a thriving entrepreneurial culture (Neck et al., 2004). Further, Isenberg (2011) identified six domains of the entrepreneurial ecosystem, which includes markets, policy, finance, culture, supports, and human capital.

Entrepreneurial ecosystems are theorized as difficult to replicate; one cannot just copy or imitate the complexity ingredients of another ecosystem (McKelvey, 2016). Ecosystems can be industry specific, such as the high-technology ecosystem in Boulder, Colorado. Ecosystems may also be geographically specific such as the ecosystem in Victoria, British Columbia (Kenney & Patton, 2005). Entrepreneurial ecosystems emerge in places that have place-specific assets, such as the availability of investment capital in New York City, or as a natural evolution from previous local industrial traditions such as San Diego's U.S. Naval base and its support industries, which have evolved into a hub of biotech and life sciences (Neck et al., 2004). Ecosystems are viewed to have a specific typology that is the basis of ecosystems dynamics and interactions, e.g. a focus on firm embryonic growth vs. scaling a business venture (Brown & Mason, 2017).

In addition, ecosystems emerge in places where there is a high quality of life. These cities have stable economies, job opportunities, quality school systems, and cultural and outdoor attractions where enterprising individuals, dubbed the "creative class", want to work, live, raise their families, and invest in the future (Florida, 2002; Neck et al., 2004).

Further, entrepreneurial ecosystems are described as multi-layered, (1) among entrepreneurs, (2) among support organizations, and (3) between entrepreneurs and key support organizations. A 2016 study of the St. Louis ecosystem found that ecosystems allowed for cross-organizational collaboration and strategic structuring of resources that influenced the ways in which entrepreneurs interacted with one another and with the support organizations (Motoyama and Knowlton 2016). Ecosystems are best understood and managed as coupled social-ecological systems such that these phenomena need to adopt a systems approach to account for its different sectors, as well as its ecological and social dimensions in an integrated way (Berkes, Folke, & Colding, 2000; Biggs, Westley, & Carpenter, 2010; Norberg & Cumming, 2008).

Of greater importance are the ways in which organizations within the entrepreneurial ecosystem interact with each other through formal and informal networks (Motoyama & Knowlton, 2014). The "codependency of elements" (Van de Ven, 1993) includes mentorship of new ventures (Kenney & Patton, 2005), supportive policy and governance towards economic growth and competitiveness, (Isenberg, 2011; Soto-Rodriguez, 2015), as well as the availability and willingness of investors ranging from family to angel investors and venture capitalists (Malecki, 2009).

Social Entrepreneurship

Malecki describes entrepreneurship as both "a process and a phenomenon." Social entrepreneurship presents a novel, inspiring, and potentially sustainable approach to tackling the world's longstanding social problems (Malecki, 2009). These ventures are viewed as financially sustainable alternatives that address pervasive social problems where public policy, advocacy, and other interventions have failed (Frank, 2006). The study of social entrepreneurship in its conceptual form requires an interdisciplinary approach; current scholarly investigation bridges the domains of organization theory, management practice, public policy, sociology, geography, political science, environmental science, and economics (Doherty et al., 2014).

Social enterprises are considered as an evolution business sectors, that of the private social and public sector (Shuayto & Miklovich, 2014) and is labelled by some as the fourth sector. Social entrepreneurship is distinguishable from corporate social responsibility and traditional charitable endeavors because of the primacy of a social mission, the importance of continuous innovation, and the role of earned income to support financial sustainability (Lepoutre, Justo, Terjesen, & Bosma, 2013) as part of the firm's core business model. These organizations are described as hybrid entities, drawing upon the logics, structures, and value systems of multiple sectoral paradigms: the public, private, and non-profit Social enterprises possess both a social welfare logic which guides the social mission and a commercial logic which requires profits sufficient to support ongoing operations (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011; Pache & Chowdhury, 2012)

Social enterprises strive to create impact, that is, the degree to which there is progress or improvement toward an identified social problem, which may include the reduction in the identified pain the social problem causes in a local community (Luke & Chu, 2013). A social innovation lens conceptualizes social entrepreneurship as being a process of change in the delivery of public and social goods and social/environmental services. Social enterprises that embrace social innovation through a social value orientation (Miles, Verreynne, Luke, Eversole, & Barraket, 2013) have decision-makers who proactively take the risks to innovate their products, processes, strategy, or business propositions to more effectively and efficiently meet the social need (Miles et al., 2013). Researchers further seek to understand the ways in which these organizations coalesce business models in order to achieve a double bottom line (Dees, 2007) of financial and social objectives, and/or a triple bottom line of people, planet, and profits (Nissan, Castaño, & Carrasco, 2012). These organizations typically adopt a diversified revenue model which may include income from any or all of the following sources; commercial activities, philanthropy, venture capital, and public services funding in order to pursue their social missions (Liu et al., 2014).

Some contend that social entrepreneurship is in many ways more complex than traditional entrepreneurship (Levie & Hart, 2011). Lumpkin, Moss, Gras, Kato and Amezcua analyzed entrepreneurial processes within social contexts and the antecedents and outcomes that make social entrepreneurship unique. They pointed to the presence of a social mission and the motivation to pursue a social purpose, multiple stakeholders linked to the purpose or mission, and a perspective that opportunity-identification processes may be different when directed toward social problems. (G. Lumpkin, Moss, Gras, Kato, & Amezcua, 2013) These organizations are noted to have a higher failure rate than traditional small businesses as they try to achieve a double bottom line. Another unique challenge faced by leadership is that entrepreneurial activities are typically negotiated and managed in the turbulent environment of public service delivery (Seanor, Bull, Baines, & Ridley-Duff, 2013). Further, these organizations rely upon the support and resources from a variety of diverse internal and external stakeholders. Leadership must attend to the needs of all stakeholders, which may at times contradict one another, while simultaneously achieving social and business objectives. "Social enterprises may be better prepared for market pressures if they are established with active processes of acculturation towards blended norms and values in which the social and economic factors can be more satisfactorily reconciled" (p.30) (Balta, Darlington, Stephen Lloyd, & Cornelius, 2012).

Social Enterprise and the Entrepreneurial Ecosystem

While social entrepreneurs are unique from conventional entrepreneurs (Austin, Stevenson, & Wei-Skillern, 2006), there is considerable overlap in the nature of their activities such as recognizing opportunities in the market, mobilizing resources to exploit those opportunities, and creating business structures to organize their activities. (Roundy, 2017). The resources within an entrepreneurial ecosystem are designed to support entrepreneurs with those activities, however it is unclear if ecosystem resources can embrace and augment the social mission inherent in social enterprise.

There are several examples of ecosystems created specifically to support social entrepreneurship including the complex system created in Scotland that supports organizations and encourages the growth of more social enterprises. These include Social Enterprise Scotland, Social Entrepreneurs Network for Scotland, Social Firms Scotland, the Development Trust Association of Scotland, Community Business Network for Scotland, CEi Scotland, Co-operative Development of Scotland, and Social Enterprise Academy. These social entrepreneurial ecosystems provides education, financing, community engagement, procurement assistance, and lobbying on behalf of the social entrepreneurial community. (Roy, McHugh, Huckfield, Kay, & Donaldson, 2015) Several examples of well-known U.S. based technology oriented ecosystems like Silicon Valley, Massachusetts Rt. 128, and Research Triangle, Raleigh-Durham, have developed entrepreneurial ecosystems with a focus on local job creation and economic growth (Audretsch & Belitski, 2017; Mason & Brown, 2014; Motoyama & Knowlton, 2014). In addition, a new breed of entrepreneurial ecosystems dedicated to helping social entrepreneurs such as the Halcyon Incubator in Washington D.C., ReSET in Hartford, CT, and ImpactHub Seattle are increasing in prominence.

Research on the intersection of entrepreneurial ecosystems and social enterprises is limited. Roundy, 2017 asserts that entrepreneurial ecosystems may influence the operations and effectiveness of social entrepreneurs through the relationships and components of the ecosystem including its opportunities for learning, other resources and support providers, infrastructure, as well as its culture and diversity (Roundy, 2017)

One theoretical article which evaluated virtual ecosystems as a means to promote social business creation argued that virtual ecosystems offers a larger range of information diffusion, idea sharing, entrepreneurial empowerment, and global networks as well as funding resources. However, the authors note that virtual ecosystems are unstructured and not designed to promote local business growth (Ariza-Montes & Muniz, 2013).

A 2016 case study of the social entrepreneurial ecosystem in Morocco, considered an emerging economy, suggested that the components of the ecosystem should align in order to build a culture supportive to social innovation creation (Kabbaj, EL OUAZZANI ECH HADI, Elamrani, & Lemtaoui, 2016). Most recently, a 2018 longitudinal study of the social entrepreneurial ecosystem in Seattle examined how social entrepreneurial ecosystems take form within a traditional commercial business context. The authors identified the importance of social interaction as a catalyst to the formation and development of an ecosystem, and that traditional market capitalist systems interfere with creation and evolution of ecosystems which support the goals of social ventures. The researchers concluded that social entrepreneurial ecosystems form and sustain through the everyday interactions of individuals striving to create shared meaning, resources, and infrastructure needed to support their new ventures, particularly when organizational focus is on creating social impact over high returns traditionally expected in a market-based capitalistic system (Thompson, Purdy, & Ventresca, 2018).

Entrepreneurial Self-Efficacy and Social Entrepreneurship

Self-efficacy is an important psychological construct that influences individual decisions, aspirations, emotional demeanor, reactions, stamina, coping and persistence (Bandura, 1986) and has been explored extensively in the literature. More recently, a newer stream of self-efficacy research focusing on entrepreneurial self-efficacy has captured the interest of scholar.

Entrepreneurial self-efficacy encompasses an individual's belief in his/her capability to perform tasks and roles aimed at entrepreneurial outcomes (C. C. Chen, Greene, & Crick, 1998). Thus far, research indicates that those with higher entrepreneurial self-efficacy perceive the opportunities inherent in their environment, embrace creativity and risk taking, and believe in themselves and in their ability to achieve set goals (G. Chen, Gully, & Eden, 2001; De Noble, Jung, & Ehrlich, 1999; Newman, Obschonka, Schwarz, Cohen, & Nielsen, 2019).

It has been proposed that entrepreneurial self-efficacy incorporates dimensions of social enterprise activity including social vision, networking, innovation, and a keen focus on organizational sustainability, and financial returns (Nga & Shamuganathan, 2010). In addition, higher levels of entrepreneurial self-efficacy supports social entrepreneurs' belief that the creation of the venture is possible, thus reinforcing behavioral intentions and actions (Mair & Noboa, 2006). Urban's 2015 study of South African social entrepreneurs found that the evaluation of social enterprise outcomes was associated with higher levels of entrepreneurial self-efficacy (Urban, 2015). The Social Entrepreneurial Antecedents Scale developed by Hockerts proposed social entrepreneurial self-efficacy as a measure of an individual's belief of whether he or she can create real impact within the context of large, complex social problems (Hockerts, 2015). Moreover, recent research suggests that an individual's ESE may be elevated through training and education, resources typically offered within entrepreneurial ecosystems, with the potential of improving the frequency and success of entrepreneurial activities (Florin, Karri, & Rossiter, 2007; Mueller & Goić, 2003; Zhao, Seibert, & Hills, 2005).

Theory Development

Entrepreneurial Orientation and Social Entrepreneurship

The construct of "entrepreneurial orientation" denotes the processes, practices, and strategic decisions that lead to new business activity and market entry. (Liu et al., 2014) Entrepreneurial orientation was originally proposed by Danny Miller and later refined by his contemporary Jeff Covin. They considered behavioral dimensions of entrepreneurial activity, specifically a firms innovativeness, willingness to take risks, and proactive actions in the marketplace (Covin & Slevin, 1991; Miller, 1983). In addition, a firm's level of competitive aggressiveness, and autonomy (more specifically defined as the extent to which an organization supports entrepreneurial exploration and intentions by its employees) is an integral component of entrepreneurial orientation (G. T. Lumpkin & Dess, 1996). Research has proposed that social enterprises must adopt an entrepreneurial orientation in terms of firms positioning and strategic orientation in order to be competitive in the marketplace (Balta et al., 2012).

Social entrepreneurs, within the scope of their commercial activity, are typically competing with other small local businesses for customers, as is the case of Bitty & Beau's Coffee Story in Charleston, South Carolina, a social enterprise who competes directly with local Starbucks and other coffee shops. Scholars assert that social entrepreneurs must adopt an entrepreneurial orientation in order to achieve double bottom line objectives of social impact and financial performance (Miles et al., 2013). Social entrepreneurs must consider their market positioning in relation to other firms, and adopt a for-profit market strategy where business decisions are repeatable and scalable in order to achieve sustainability (Shuayto & Miklovich, 2014). Further, an entrepreneurial orientation has often been suggested by scholars-as a path for social entrepreneurs to more effectively and efficiently achieve their social mission through enhanced organizational performance (Davis, Marino, Aaron, & Tolbert, 2011; Kusa, 2016; Morris et al., 2007)

The taxonomy of an entrepreneurial ecosystem includes domains such as policies, leadership, finance, markets, human capital, infrastructure (Isenberg, 2011), other components such as university participation, anchor firm industry presence, supportive government policies (Neck et al., 2004; E. Stam, 2015) as well as its relationships, and interconnections (Motoyama & Knowlton, 2014), can benefit all entrepreneurs, including social entrepreneurs, who are considering new venture activity. In addition, an entrepreneurial ecosystem's culture is an important part of an ecosystem's taxonomy (Isenberg, 2010; Neck et al., 2004; Spigel, 2017). Entrepreneurial ecosystem culture embraces the shared interests and knowledge of its citizens, and the collective sprit of the community in support of entrepreneurship (Cohen, 2006), including social entrepreneurship, as a novel, viable, and worthwhile entrepreneurial pursuit. Social entrepreneurs, who feel supported by the ecosystem culture, and are able to leverage the resources, relationships, and infrastructure of the ecosystem may develop a stronger entrepreneurial orientation.

The following proposition is proposed.

P1: *Social entrepreneur self-efficacy is positively related to entrepreneurial orientation*

Interorganizational Citizenship Behaviors, Self-Efficacy, and Entrepreneurial Orientation

Interorganizational citizenships behaviors (ICBs), which derive from the organizational citizenship behavior research, are behaviors that are voluntary, not directly or explicitly recognized by any formal compensation system between organizations, and promote business relationships that result in improved organizational effectiveness (Organ, 1988; Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Interorganizational citizenship behaviors are also discretionary behaviors, that are neither directly nor explicitly included in formal agreements among organizations, but promote *the functioning of an organization or interorganizational unit in the aggregate* (Organ, 1988, p.4).

Interorganizational citizenship behaviors frequently occur between different types of local cluster organizations. These behaviors are motivated by a level passion, interest, and initiative between organizations and demonstrated by employees, who go above and beyond the scope of their traditional job descriptions and organizational boundaries, in an effort to help other organizations (Gerke, Dickson, Desbordes, & Gates, 2017).

The study of ICBs initially focused on a supply chain relationship context; it was in this context that numerous interorganizational citizenship behaviors were conceptualized by researchers. These ICBs included interorganizational altruism, interorganizational tolerance, interorganizational loyalty, interorganizational conscientiousness, interorganizational compliance, and interorganizational constructiveness. (Autry, Skinner, & Lamb, 2008). However, to date, researchers have developed valid measures for only specific ICB behaviors: interorganizational altruism, interorganizational loyalty, interorganizational compliance, and interorganizational tolerance (Skinner, Autry, & Lamb, 2009). Research is now extending the study of ICB beyond the traditional supply chain context, and into various industry clusters, such as Gerke et. al.'s case study of the New Zealand marine industry (Gerke et al., 2017).

This research will consider three dimensions of ICBs; interorganizational altruism, interorganizational loyalty, and interorganizational compliance, and how they are connected to the entrepreneurial ecosystem literature.

Interorganizational altruism is defined as actions or behavior directed at helping a partner firm solve problems, acquire needed skills & knowledge, and/or loaning expertise that will help partner firms solve problems and advise personnel (Autry et al., 2008). It is considered theoretically parallel to the organizational citizenship behavior of helping behavior (George & Brief, 1992; George & Jones, 1997) which reflect a firms generous efforts to assist partner firms in solving organizational problems and developing strategy.

Interorganizational loyalty is defined as the level of allegiance toward other firms within the ecosystem, either through the development of supply chain partnerships, introduction of potential new business partnerships, and/or through promotion of the company by positive word of mouth and other communications (Autry et al., 2008; Skinner et al., 2009).

Both interorganizational altruism and interorganizational loyalty are self-less behaviors that are directed at helping other cluster members acquire skills, knowledge, relationships, and resources (Skinner et al., 2009). Within the entrepreneurial ecosystem, interorganizational altruism and interorganizational loyalty can enhance a social entrepreneur's self-confidence and self-efficacy so that they can cultivate impactful social ventures. The ways in which these behaviors are directed within the ecosystem, through mentorship, knowledge and resource sharing, consultation, firm promotion, etc. among ecosystem members can also enhance social entrepreneur entrepreneurial orientation.

Therefore, the following propositions are proposed.

P2: *The relationship between interorganizational altruism and entrepreneurial orientation is mediated by social entrepreneur self-efficacy.*

P3: *The relationship between interorganizational loyalty and entrepreneurial orientation is mediated by social entrepreneur self-efficacy.*

The interorganizational compliance ICB is defined as orientation toward the rules, policies, and processes of the focal firm within the ecosystem, as well as participant firms in the course of exchange activities (Autry et al., 2008; Skinner et al., 2009). Interorganizational compliance considers the ways in which organizations partner together, under the institutional norms (DiMaggio & Powell, 1983) of exchange within the ecosystem, while observing the policies and processes of all participant firms. Entrepreneurial ecosystems are designed to increase innovation and economic growth by enhancing the quality of entrepreneurship in a given geographic location (E. Stam, 2015). Entrepreneurial ecosystems, in conjunction with local government policy and available infrastructure, have developed operational norms, policies and processes directed towards achieving economic and entrepreneurship growth goals. Therefore, interactions among ecosystem organizations and social entrepreneurs, in accordance with interorganizational compliance, will enhance the entrepreneurial orientation of social entrepreneurs. The following hypothesis is proposed.

P4: *Interorganizational compliance in the ecosystem is positively related to entrepreneurial orientation.*

Relational Embeddedness and Entrepreneurial Orientation

Relational embeddedness is defined as the degree to which alliance relationships are driven by social attachment and interpersonal ties (Granovetter, 1985). It is associated with frequent, face-to-face interactions that support the exchange of context specific and granular information through the familiarity associated with close relationships (Uzzi, 1996). Relational embeddedness can help partners realize value creation opportunities by sharing and developing specialized knowledge (Dyer & Nobeoka, 2000) and by fostering interaction among individuals around mutually beneficial objectives (Heide & Miner, 1992; McEvily & Marcus, 2005). Previous literature has looked at the social network context of entrepreneurship including work by Zimmer and Aldrich who emphasized the critical importance of the embedded nature of entrepreneurial activity in a surrounding social context, as well as the ways in which an entrepreneur's social capital within the network can facilitate access to resources (Aldrich & Martinez, 2007; Zimmer, 1986).

Social network interactions were considered in Motoyoma's & Knowlton's study of the St. Louis entrepreneurial ecosystem by looking at this construct through a social network approach. In his research, he evaluated the connections at multiple ecosystem layers, specifically: (1) among entrepreneurs, (2) among support organizations, and (3) between and among entrepreneurs and key support organizations. They found that the ways in which entrepreneurs interact and form relationships which results in support, learning, and growth, was influenced by the way the ecosystem was structured to provide support, and in the ways that support organizations interacted with each other (Motoyama & Knowlton, 2014).

An indicator of embeddedness within an ecosystem is measured by the cohesion amongst individual entities, emboldened by a shared vision, which links the entities to each other and to the group as a whole. (Russell, Huhtamäki, Still, Rubens, & Basole, 2015) Further, relational embeddedness should be viewed in the context of the ecosystem in order to understand how it can be drawn upon as a resource (Chandler & Wieland, 2010). The amount of interaction among individuals and firms within the ecosystem, and the quality of the relationships has been shown to both positively and negatively impact the entrepreneur's experience (McGowan, Cooper, van der Sijde, Ahmad, & Ingle, 2011). Thus, relational embeddedness, and the process of value co-creation among organizations within the ecosystem can help social entrepreneurs embrace an entrepreneurial orientation as they build their social ventures. Therefore, the following hypothesis is proposed:

P5: *Relational embeddedness in the ecosystem is positively related to entrepreneurial orientation.*

A proposed model of Interorganizational Citizenship Behavior, Entrepreneurial Ecosystems, and Social Entrepreneurship is presented in Figure 1 in the Appendix.

Discussion

Entrepreneurial ecosystems and social entrepreneurship have both been conceptualized and empirically explored in the literature, however, theory that considers the intersection of entrepreneurial ecosystems and social entrepreneurship is currently underdeveloped. Given the proliferation of entrepreneurial ecosystems, specifically incubator organizations that offer education, financial support, network access, and mentorship, in order to help new ventures start up and scale up, as well as the increasing prominence of social entrepreneurship as a potentially sustainable way to address social problems, it is crucial for scholars and practitioners alike to understand the relationships between these constructs.

It is theorized that an interorganizational citizenship behavior framework, including interorganizational altruism, interorganizational loyalty, and interorganizational compliance, as well as relational embeddedness, applied to the entrepreneurial ecosystem, explains how these ecosystems can positively enhance the self-efficacy and entrepreneurial orientation of member social entrepreneurs. In addition, the interorganizational citizenship behavior framework, also helps to explain the underlying motives of ecosystem actors, and their rationale for supporting social entrepreneurs.

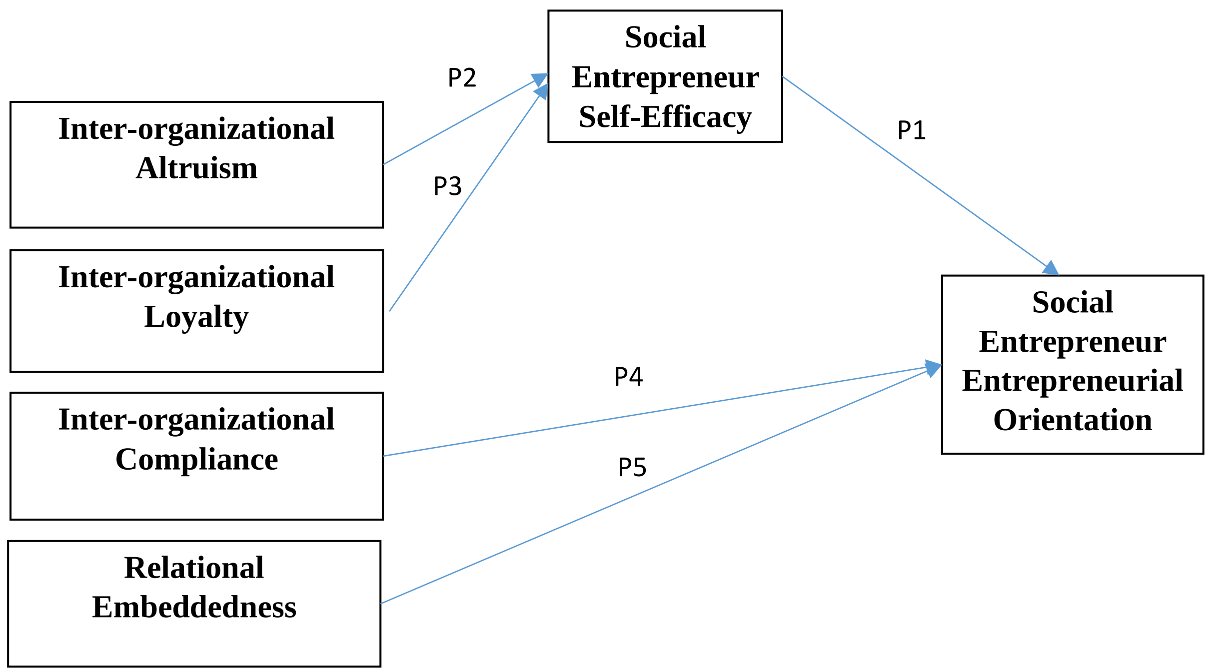
Another consideration is the way in which social entrepreneurs can also benefit the entrepreneurial ecosystems in which they participate by influencing the heterogeneity of ecosystems' participants, drawing positive attention to ecosystems, and increasing their attractiveness to internal and external stakeholders.

This paper contributes to both the literature on social entrepreneurship as well as entrepreneurial ecosystems by considering how these constructs converge to advance understanding of both phenomena using an interorganizational citizenship behavior framework. Future empirical research that examines the propositions in this paper, using both quantitative and qualitative methods could help scholars better understand the intersection between entrepreneurial ecosystems and social entrepreneurship. It would also offer scholars the opportunity to extend the concept of Interorganizational Citizenship Behaviors beyond the supply chain and alliance literatures through its application to entrepreneurial ecosystems. In addition, future research can practically help policy makers and ecosystem architects design and allocate resources to meet the unique needs of social entrepreneurs so that these "crazy dreamers" may create thriving ventures that address important, localized social issues.

Appendix

Figure 1

Model of ICB Framework and Social Entrepreneurship



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Introduction

At a macro-level, Americans are happier in states where taxpayer money is spent on public goods, including parks. The relationship between public goods spending and happiness is substantively large and holds across income, education, gender, and race/ethnicity lines – indicating that public goods spending has broad benefits across society. Part of the reason for this relationship appears to be the fundamental nature of sharing, since public goods [like parks] are things you can't exclude people from using -- and one person using them doesn't stop another from doing so. (Flavin, 2019).

More specifically, public parks can help build a sense of community, while also giving people a break from the general, constant grind of daily life. According to Flavin (2019), even though higher government spending on public goods like parks is usually accompanied by higher property taxes, people's happiness seems to outweigh the increased associated costs. It could be a selection effect, where happier citizens self-select by moving to states that spend comparatively more on public goods. Or the causality could run the other way, where happier citizens support higher spending on public goods and elect state and local officials to deliver on that policy.

Recent data from the American Enterprise Institute explores and supports relationships between parks and citizens at the city and neighborhood level. Cox and Streeter (2019) found that when given a choice, most people prefer to live close to the basics of community life—schools, stores, parks, and restaurants. Their findings also suggest that living in communities rich in amenities positively affects social goods such as trust, sociability, and neighborliness, while decreasing social maladies such as loneliness. Intriguingly, their findings hold in suburban and small-town locales, as well as in cities. In fact, in the American Enterprise Institute Survey on Community and Society (SCS), people living in amenity-rich suburban communities often have similar levels of community satisfaction as people in dense, urban neighborhoods. Proximity to amenities seems to matter more than where someone lives.

And, Cox and Streeter found that access to more community-oriented spaces is also associated with increased confidence in local government. Americans living closer to neighborhood restaurants, bars, parks and libraries are nearly twice as likely to say they trust local government as those living in places where these things are largely absent -- 39 percent vs. 22 percent. (Cox and Streeter, 2019). The findings on community cohesion, in particular, expands on work done about ten years ago, where Harnik and Welle (2009) found that city parks provide multiple economic benefits, including boosting property values, increasing tourism, increasing direct use, health benefits, community cohesion, and enhancing clean water and clean air.

Park space is often expensive to develop, and it can be challenging to create a park in a fully developed and built out town or city. Because of the desire to increase livability, the limited availability of open space near developed areas, and increasing land prices, government agencies and advocacy groups began to consider and evaluate land not generally associated with parks. Efforts to add smaller green spaces have included developing public plazas, civic squares, greenways, gardens, pocket parks, and linear parks or rail trails. Many types of manmade corridors, such as causeways, canals, street rights-of-way, and utility access corridors, and abandoned railroads (Bentryn and Hay, 1976) were recycled for park and trail development. Abandoned infrastructure segments tend to come into contact with more private land than do traditional parks, and require complex coalition-building efforts throughout the development process.

In Swampscott, Massachusetts, the Town of Swampscott's Community Development Office (SCDO) is attempting to create a public-private coalition to re-purpose existing abandoned infrastructure, at street level, into an innovative urban, green space. This kind of linear park, in particular, serves as a reminder of how aging former infrastructure might be reused and recycled into something new, which can change the way people interact with and think about their own neighborhoods. Studying how the SCDO uses discourse as a strategic tool to develop the park is important, since the Rail Trail supporters are trying to get people to think differently about spaces they see, and are having to do so over long periods of time.

Success in these ventures depends upon this government entity and its supporters acting as entrepreneurs to "sell" their proposed projects to the coalition of actors required to make it a reality. For organizations to successfully manage institutional settings to create innovative public spaces, they must consistently present and discuss key discourse themes at multiple levels, for years, strategically, often using different media. Evaluating how these entrepreneurial organizations speak about and present their projects, over time, can help explain why some ventures become viable (Battilana & Dorado, 2010; Tracey, Phillips, & Jarvis, 2011, Besharov and Smith, 2014) and some do not. Discourse in the context of re-purposing physical objects is also interesting because the objects themselves carry meanings, intended or not.

Theoretical Background: Institutional Theory, Institutional Entrepreneurship and Institutional Logics: A Review

At the heart of institutional theory is the notion that institutions (the state, the church, family, etc.) affect and determine organizational structure; organizations are embedded in a series of social structures (Friedland & Alford, 1991; Thornton & Ocasio, 1999). The level of analysis focuses on the organization and its links to its operational field, or set of organizations interacting with and influencing one another. DiMaggio and Powell (1983) argue that once a set of organizations emerges as a field, a counterintuitive situation develops: rational actors make their organizations increasingly similar to each other as they try to change them in response to the pressure of the environment. This kind of homogenization, known as isomorphism, is based on a constraining process that forces one unit in a population to resemble others facing the same set of environmental conditions.

Meyer & Rowan (1977, p. 340) outlined these mechanics of isomorphism: "[O]rganizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized society. Organizations that do so increase their legitimacy and their survival prospects, independent of the immediate efficacy of the acquired practices and procedures." The (SCDO) group studied here has to behave in ways expected of traditional local (Town) government entities while also act as a project manager to develop a park not yet built, in a space not typically considered ‘a park’.

Similar-looking organizational forms have an easier time gaining and maintaining legitimacy -- which is “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.” (Suchman 1995, p. 574). The implication is because so many other organizations look like each other, if one looks different, at least in form, that organization risks losing perceived legitimacy. This becomes an issue when an organization like the SCDO studied here tries to create something new while also trying to gain legitimacy in support of their project. Looking too different from other local government entities, or trying to do something unusual and unexpected for such a group, may make their search for legitimacy harder. It may become harder for townspeople to take the SCDO seriously as an organization developing the park, when their stated duties include other items, as posted on their website :

(http://www.swampscottma.gov/community-and-economic-development)

- Technical and administrative support to the Planning Board in the form of residential, commercial and subdivision project review and approval procedures as set forth under the Massachusetts General Laws and the Town of Swampscott Zoning Bylaw and Subdivision Rules and Regulations;
- Technical and administrative support to the Renewable Energy Committee in the form of energy efficiency programs and grants - for both municipal and private benefit;
- Coordinating project review with other Town officials and agencies;
- Assisting petitioners with Planning Board procedures and requirements;
- Meeting with abutters and other interested parties to elucidate applicable bylaws and regulations for projects proposed in their neighborhoods;
- Acting as a liaison between the Planning Board, the public and other town departments, boards and committees as needed.

Socially constructed belief systems and normative rules exercise control over organizations, affecting what they think they need to do to be considered legitimate, how organizations structure themselves, and how they carry out their work. Institutional logics illustrate how these socially constructed broader belief systems in turn shape organizations' behavior in a given environment. Thornton & Ocasio (1999, p.804) define institutional logics as "the socially constructed, historical patterns of practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality." Because institutional logics refer to a set of belief systems and associated practices, they define the content and meaning of institutions (Reay & Hinings, 2009).

There is a growing body of work arguing that reconciling or manipulating institutional logics, particularly when they are overlapping, competing, plural in nature, or only partly developed (Barley & Tolbert, 1997; Phillips, Lawrence, & Hardy, 2004), is a key mechanism to explain how institutions change, and how our definitions of what a legitimate organization looks like can change over time, as well. Lounsbury (2007) shows how two competing institutional logics within the mutual funds industry--one based on trust and the other on performance--influenced firms' boundary decisions -what actions to engage in, and what not to engage in. Marquis and Lounsbury (2007) extend this discussion of competing logics to community banking practices. The presence of multiple logics within organizations is common across a wide variety of fields, including social enterprise (Dacin, Dacin, & Tracey, 2011), health care (Dunn & Jones, 2010),), life sciences (Murray, 2010), professional services (Smets, Morris, & Greenwood, 2012), and manufacturing (Greenwood, Díaz, Li, & Lorente, 2010).

Other accounts of meaning within the institutional entrepreneurship literature have returned to the concept of legitimacy, particularly how institutional entrepreneurs actively engage in symbolic management to influence the legitimacy of their emerging field (Zott & Huy 2007b). Based on Battilana, Leca, & Boxenbaum's 2009 review article, I define institutional entrepreneurs as actors who leverage resources to create new or transform existing institutions (Hardy and Maguire, 2008, Hardy and Maguire, 2017) and apply this definition to the SCDO group studied. Swampscott's Community Development Office is trying to gain legitimacy as the organization with the right to speak for the space in question, and be known as the group that can determine what happens to the space. They are trying to transform something that was not a park into a park, while attempting to reconcile competing institutional logics of park development and town management.

Those competing logics inflict different pressures on the SCDO in terms of what to discuss, who to target with their messaging, and how to (attempt to) influence project development. Combining these institutional logics into a coherent narrative is made more difficult when the process is one of redefinition or recreation (Lawrence & Suddaby, 2006), making something new out of the shell of something existing, as in the case of industrial infrastructure. In addition, these entrepreneurs face the challenge of solving a complex problem in an urban setting; no single organization, public or private, could undertake such a project on its own and hope to solve it. They need to build a coalition of multiple public and private entities, operating under distinct belief systems, and using different, often competing logics to guide their own behaviors (Plavin-Masterman, 2018).

The extent to which these entrepreneurs resolve competing logics affects their venture's viability and sustainability (Battilana & Dorado, 2010; Tracey, Nelson, & Phillips, 2011). Interest in competing logics has extended to investigating differing organizational mechanisms designed to manage these competing logics (Pache & Santos, 2010; Reay & Hinings, 2009), along with how entrepreneurs successfully broker among different logics (Bjerregaard &Lauring, 2012; Saz-Carranza & Longo, 2012). Researchers are also more aware that conflicting pressures stemming from brokering among different institutional logics creates ambiguity for organizational leaders and participants (Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011).

Discourse and visual artifacts in support of organizational change

In organizational settings, the meanings of visual artifacts are affected by how they are handled (Heracleous and Jacobs, 2008). Images presented by visual artifacts help construct social reality, since the visuals are interpreted within a specific cultural context (Kuasirikun, 2011). Aspects of visual artifacts, particularly in the case of Swampscott's abandoned railroad tracks, are more difficult to ignore compared to aspects of verbal texts (Meyer et al, 2013).

The SCDO group is trying to change shared meanings around these physical, grounded spaces through management or influence of the discourse around the spaces themselves. This presents a challenge, since the spaces can only be what they are; they cannot be wider, longer, or in a different location. The interaction between space and theme is complex – the theme must make sense given the space as it currently exists, which is literally not a tabula rasa, and yet must change what and 'how' the space means (Yanow, 2005, Vilnai-Yavetz et al, 2005) in a dynamic environment. The space then must support the new theme, and aid the SCDO in translating the imagined meanings into real ones.

Rafaeli and Vilnai-Yavetz (2004) talk about the process of interpreting physical artifacts, particularly those linked to organizational change, as being a process of sense-making. Based on their case study of an Israeli bus company's change in colors, and how that change was received, they argue that this process occurs along three independent and important dimensions. The first dimension the authors describe is instrumentality – does the artifact serve a functional purpose? The second dimension is aesthetics – how does it look? And the third dimension is symbolic – what does it represent – and to whom? This use of dimensions is a way of addressing Berg and Kreiner's (1990) question: "How do we know that a certain design will evoke a certain emotional, aesthetic, or intellectual collective response?" (p. 43). The SCDO group is trying to evoke a positive response in community members, potential donors, etc., in their attempts to make the proposed park a real park.

The visual mode of sense-making and its role in discourse is relevant for research focusing on legitimation and logics (Kress and Van Leeuwen, 2001, Meyer et al, 2013). The visual and the verbal forms of discourse are integrated, and need to be interpreted and understood together. In addition, discourse analysis in institutional entrepreneurship can illuminate the processes through which the entrepreneur can use rhetoric to fashion, communicate, and embed stories that support the creating, maintaining, or disrupting of institutions (Zilber, 2007, Harmon, Green, and Goodnight, 2015). The process of using stories and discourse in institutional work is particularly important in work related to advocacy and constructing identities (Lawrence & Suddaby, 2006), as with the advocacy group studied here.

Evaluating discourse themes at multiple levels of analysis is important in order to understand institutional change in support of a physical public amenity. How and if the SCDO group actually brings the park into existence depends to a great extent on their ability to determine the narratives that are used in discussing their potential project and plan for the physical thing they are trying to change; whether they can change the conversation along multiple dimensions while ensuring they appeal successfully to multiple stakeholders. Thus, examining an in-process case can shed light on how discourse is linked to the process of institutional entrepreneurship.

Methods and Approach

The process by which the SCDO brings the park into existence is related in large part to the group’s use of Instrumentality, Aesthetics, and Symbolic discourse themes to reconcile competing institutional logics. Two related research questions were developed to evaluate this intertwined process:

1) How do the institutional entrepreneurs use discourse themes to reconcile competing logics of Town management and neighborhood amenity developer?

2) What is it about discourse themes and IAS dimensions that matter, and how does that change over time?

A case study made sense for this topic, since it is a contemporary phenomenon unfolding in real time (Yin, 2013). In addition, qualitative data is critical given the complicated nature of public/private coalition building efforts, the limited existing empirical research in the area (with the exception of Saz-Carranzo & Longo, 2012), and the emphasis on narrative (Creswell &Poth, 2017) and discourse as concepts linked to institutional change efforts. Data collection occurred in several stages, along the lines of Yin's sources of case study evidence (2013), which is similar to Yanow's (2005) framework of inquiry processes for accessing data about the physical built environment:

1. Observing the site and accessing it physically. This work included site visits, and was supplemented with census tract level GIS mapping, designed to compare demographics of the areas immediately adjacent to these parks with those of the surrounding cities and overall state, based on the 2000 and 2010 censuses, along with American Community Survey data through 2018.
2. Identifying, locating, and closely reading documents. This part of qualitative data collection involved analyzing the discourse and narratives (Wood & Kroger, 2000; Creswell and Poth, 2017) around each of these projects, as described in documents and captured in images. The documents in question consisted of primary data, such as

memos, blogs, correspondences, and presentations. They also included secondary data, such as city reports, reports prepared by other parties, newspaper accounts, films, maps, and photos. In total, approximately 100 documents were reviewed, from 2001, when the project was first mentioned, through June of 2019.

Transcribed interviews, photos, presentations, and secondary sources were imported into a qualitative coding program, reviewed, and then coded into dimensions according to the different forms of institutional work that the entrepreneurs performed: Then, I examined the materials in each dimension for the most common themes, based on words and phrases. Next, I evaluated the discourse in both cases for consistency or difference in how these themes were treated over time, and particular unusual patterns in the data. Table 1 shows a list of themes within each dimension.

INSERT TABLE 1 ABOUT HERE

Brief Summary of Case:

If completed, the Swampscott Rail Trail will be a 2.1 mile, 10-foot wide linear park, running in a 10-foot wide easement along a National Grid utility corridor and connecting to the Marblehead Rail Trail in the adjacent town of Marblehead, Massachusetts. The utility corridor is the former Marblehead branch of the Boston & Main Railroad, a service which ended 60 years ago. The Trail would become part of the East Coast Greenway, which, when completed, would connect 15 states, 450 cities and towns, and 3,000 miles of trails from Maine to Florida, becoming the country's longest biking and walking route. Figure 1 shows the proposed Swampscott Trail, in black on a green background. The green background is the existing National Grid utility corridor.

INSERT FIGURE 1 ABOUT HERE

In 2002, Swampscott's annual Town Meeting[1] created a Rail Trail Study Committee (RTSC), and charged that committee with carrying out a feasibility study regarding turning the utility corridor into a Rail Trail. One year later, the Town of Swampscott commissioned a Recreational Trail Study Committee Report, in parallel to the RTSC, and identified the Rail Trail as a primary option. In 2005, based on the feasibility study by the RTSC, Town Meeting authorized a recreational easement along the corridor and created the Rail Trail Implementation Committee (RTIC).

In 2006 and 2009, Town Meeting confirmed the authorization for a recreational easement for the Rail Trail. In 2013, The Rail Trail was identified as a priority in the Town's 2013 Open Space & Recreation Plan, and an integral part of the Town's Green Corridor Network. In 2014-15, the Town's RTIC began discussions with National Grid representatives regarding the easement. In 2016, the Rail Trail was identified as a priority in the Town's 2025 Master Plan; title work was performed for the corridor properties, and an initial site assessment was performed.

In May 2017, the Swampscott Town Meeting approved (by a vote of 210 to 56) a warrant article requesting $850,000 to be used for the design and engineering of the Trail site as well as the legal fees and costs for the acquisition of the easement rights. This warrant article was unanimously sponsored by the Town's Board of Selectmen and supported by the Town's Finance Committee, Capital Improvement Committee, School Committee, Planning Board, Open

[1] The Town of Swampscott has a representative Town Meeting. In a representative Town Meeting, all of the town's voters may vote for what are called Town Meeting Members. After the voters elect the Town Meeting Members, the Town Meeting Members act as the Town Meeting legislative body by conducting and voting on the business of Town Meeting, and deciding three major things -- setting salaries for the elected officials, appropriating money to run the town, and voting on the town's local statutes, known as by-laws.

Space & Recreation Plan Committee, and Conservation Commission. Many abutters opposed the Trail and spoke at the Town Meeting (Town Meeting, 2017). Opponents of the Trail forced a town-wide election in hopes of stopping the project. In June 2017, a town-wide election was held to bring the question of the Rail Trail project to the entire community. The month between May and June 2017 was a contentious one in the town, with signs on many lawns and editorials in the local paper passionately arguing both sides. Swampscott voters affirmed Town Meeting's approval by a margin of 12% and the project began moving forward in earnest.

Design firm Stantec was selected in September 2017 to design the Trail. To date, the firm has held design charrettes in November 2017, completed a Base Plan in January 2018, and presented a Trail Alignment in April 2018, based on working with Trail abutters. Bid documents are ongoing. The town also retained LEC, an environmental consulting firm, to interface with the Conservation Commission, since the Trail runs very close to certain protected Wetlands. (LEC Environmental Consulting, 2019).

In April 2019, National Grid agreed to convey ownership of certain portions along the utility corridor to the Town of Swampscott in return for a permanent utility easement. This allows National Grid to continue to use that property forever as a utility corridor to provide electricity to the residents of Swampscott, which is in the company's primary interest. This agreement greatly simplified an otherwise lengthy process of determining the relevant abutting parties (and associated compensation costs) for the rail trail recreational easement, which will run along the utility corridor easement. In June 2019, the Town of Swampscott received $100,000 from Massachusetts' MassTrails grant program to help construct Segment 1 of the Rail Trail, between the Swampscott Middle School and Humphrey Street. Segment 1 also has $175,000 in matching private funds.

Results:

Community support matters for the success of these projects; people who participate in the development process are more likely to feel invested in the resulting public spaces (Cox and Streeter, 2019). Over time, SCDO must do outreach with Trail abutters, learn why different parts of the community feel special or unique, and ensure that the discourse around the proposed Rail Trail acknowledges those particularities. Their efforts to design and advocate for the park rely on both place-specific themes and more global themes in the discourse. Evaluating the Swampscott case, there are three ways these entrepreneurs attempt to reconcile competing institutional logics, and change the conversations around the abandoned industrial space, summarized in Table 2:

INSERT TABLE 2 ABOUT HERE

Enhancing Approach to Reconciling Logics (or not)

Instrumentality discourse can work with or against discourse in the Symbolism dimension, and different properties of the artifact may be differentially relevant for Instrumentality versus Symbolic discourses. The path to ownership is a property of the artifact directly related to the ease of site redevelopment and by extension to Instrumentality discourse. Sometimes the path to ownership serves to highlight the capacity of the SCDO and their ability to make the park a reality, sometimes not.

In the case of the Swampscott Rail Trail, the path to site ownership and control is complicated, to say the least. There is disagreement about how many Trail abutters there are, and thus how many people could expect any compensation via eminent domain, let alone what that value would be (Town Meeting, 2017). This disagreement plays out in the Symbolism discourse about the impact on an individual's taxes, property, or safety, given that people will in theory be walking by houses along the Trail. There is also substantial disagreement about what will be built, and how much land will be taken to build this. That said, as mentioned earlier, National Grid signed over their portion to the SCDO, with the service easement. That simplifies a portion of the negotiations with abutters. It also strengthens the Symbolic part of the discourse by making it clear that the Town is proceeding with development.

Connect Approach to Reconciling Logics: Balance and Consistency

Entrepreneurs need to communicate often, and communicate along a variety of themes. (Tracey et al 2011); the more radical the idea, the more communication is required. The distribution of discourse along the three dimensions of work, as well as the consistency of message within each dimension, reflects the ability of the advocacy group to develop coalitions of support behind the project. Balance matters, to a point; even getting the design part perfect is not enough to make a project successful. The entrepreneur has to make a connection with people and the design has to clearly communicate the intended change (Prahalad, 2010). The Swampscott discourse is unbalanced, with the majority (nearly half) in the Symbolism Dimension, as shown in Figure 2.

INSERT FIGURE 2 ABOUT HERE

The discourse is also unbalanced in tone, with most of the discourse in each dimension being negative, as shown in Figure 3.

INSERT FIGURE 3 ABOUT HERE

However, with the exception of 2017, with 107 negative entries, the discourse was overwhelmingly Positive or Neutral in all dimensions. It seems that with the Town Meeting vote, and the opponents' push for a 'do-over', or town-wide vote, a great deal of effort was expended to push the vote away from development. After the failed attempt to override Town Meeting in June 2017, the discourse becomes overwhelmingly neutral or positive.

Flex Approach to Reconciling Logics: Using the Power of the Office, Acknowledging and Responding to the Demographic Reality of the Sites Surrounding the Proposed Park

This approach is very much in line with the work done by Bjerregard and Lauring (2012), when they describe how effective entrepreneurs dealing with contradictory institutional logics both maintain and change their institutions to balance the tensions caused by competing logics. Demographically, Swampscott's 15,000 residents in some ways look very different from the overall state of Massachusetts. As shown in Table 3, the town's residents are older, wealthier, better educated, more likely to be born in the United States, more likely to own a home, but have seen lower increases in median household income and property values than Massachusetts overall. These differences can matter when individuals who live near the Trail express concerns that part of their property will be taken by eminent domain. Those individuals are losing something of value in the Trail's development.

INSERT TABLE 3 ABOUT HERE

In addition, the Trail runs through all three census tracts for the town, but not equally. Figure 4 shows the Trail in context of the three Swampscott census tracts. The Trail, shown in blue within the census tracts, runs through the least and most wealthy of Swampscott's three census tracts. This means two things. First, the least wealthy have the most to lose in terms of their property being taken by eminent domain. It also means the wealthiest town residents probably have the fiscal means to fight any property takeovers if they choose to do so. As we've seen thus far, this results in organized opposition for the SCDO to deal with.

INSERT FIGURE 4 ABOUT HERE

And, at the 2017 Town Meeting, opponents presented a list of competing demands for the Town to fund, including maintenance items related to the schools and Fire Department. It was clear during the meeting that Rail Trail opponents believed the Town should be spending its money on these existing items instead of starting a new project. Figure 5 shows images from that Powerpoint presentation:

INSERT FIGURE 5 ABOUT HERE

On the flip side, the Town Community Development Office provides a unique vehicle for Town efforts to develop the Swampscott Trail. It gives Trail supporters built-in legitimacy, because an assumption about the Town government is that they are working to improve the town, and making decisions that will result in improved quality of life for Swampscott residents. It also makes it easier to gain outside support from State government (like the 2019 $100,000 MassGrant), again because the project is seen as clearly benefiting the town. The Town's direct involvement in developing the Trail rightly or wrongly puts a thumb on the scale. It enables Town leadership to appeal to Symbolic themes – they're elected officials, doing things on behalf of the Town, to improve the Town, etc. So, there's a level of pressure that's removed from the overall coalition-building process. Swampscott officials don't have to spend as much time on discourse themes related to making the trail look nice – instead they can focus on how the project will get completed.

But, the SCDO has a tough job in convincing the large number of Swampscott Trail opponents that the town will benefit even though they may not (or at least they think they will not). And, while having people walk by your house may not seem like a big deal, many Trail abutters bought or rent along the National Grid easement to avoid having people walk by (Town Meeting, 2017). This is a huge change for those people.

It is also true, as opponents have pointed out (Town Meeting, 2017) that the initial funding approved by Town Meeting will likely not cover the total cost of Trail construction. "Each mile of greenway built costs about $1 million, and is mostly funded by the federal government (which often partners with states and cities). But the return on investment is extremely strong -- it's not just building more connection. It'll relieve gridlock from busy roads, bring more enjoyment and health to people's lives, enhance tourism and increase property values." (Kaplan, 2019). The town's efforts to get grant money and private donations, as an entrepreneur, is another area where the logics are being flexed, and the power of the SCDO office is being used in support of an activity not typically in its wheelhouse.

Discussion:

This manuscript examined institutional entrepreneurs' use of discourse themes to build support for reclaiming and reshaping abandoned urban infrastructure. By exposing how, and under what circumstances, discourse themes can reconcile competing institutional logics, I provided preliminary yet promising evidence that discourse represents a powerful reconciliation mechanism for competing institutional logics in public-private settings.

In the case studied here, the institutional entrepreneurs are trying to repurpose an abandoned industrial space into a public green space, and connect it to other, similar spaces in neighboring towns. Their project is relatively expensive for the town, and the entrepreneurs must balance a logic of park development vs. a logic of town management if they hope for success. As mentioned earlier, project success could translate into increased community satisfaction in addition to the environmental, health, and direct economic benefits of the trail. There are also ancillary benefits related to connecting to other Towns' Rail Trails, and forming more connections with neighboring towns. But these benefits will likely not be experienced equally by all Town residents, and the SCDO must continue to engage with Trail abutters in an effort to address their concerns, where possible.

To return to the Rafaeli and Vilnai-Yavetz dimensions mentioned earlier, all three dimensions of discourse matter for a venture's viability. We know language has power, reflecting and contributing to social meanings and patterns. The words we use can affect how people make decisions about the distribution of urban rights and resources. As cities like Philadelphia, London, Charleston, Atlanta, Vancouver, Mexico City, and others look to reclaim unused industrial spaces in support of community building and economic development, they will, increasingly, turn to sites like the one Swampscott is working with for lessons learned. If the conversations around abandoned sites change to support their transformations, the process will require advocacy groups, "with their ongoing…and embedded activities, …[to] provide [literal and metaphorical] spaces in which meaning is generated, making explanations possible from which we can build…expectations." (Fine, quoted in Sassatelli, 2010, 91). As advocacy groups provide the space to generate meaning, they also, hopefully, provide the space to use the meanings generated to change the conversations around their projects.

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Table 1: Dimensions and Themes of Discourse

Dimension	Themes
Aesthetics	• How the design works • What the Rail Trail will look like • Where the location is • How it looks now
Instrumentality	• Is the process being followed? • What will this cost? • Who is working on this project? • Ease of use of the space/ease of access
Symbolism	• Impact on the neighborhood • What will happen to my property? • What will happen to my taxes if this project is done? • Links to other towns and their similar projects • Who will use the Trail?What powerful and important entities support this project? • Does the Town have the right to take my land via eminent domain? • Environmental connections and impact

Table 2 : Strategies for reconciling competing logics

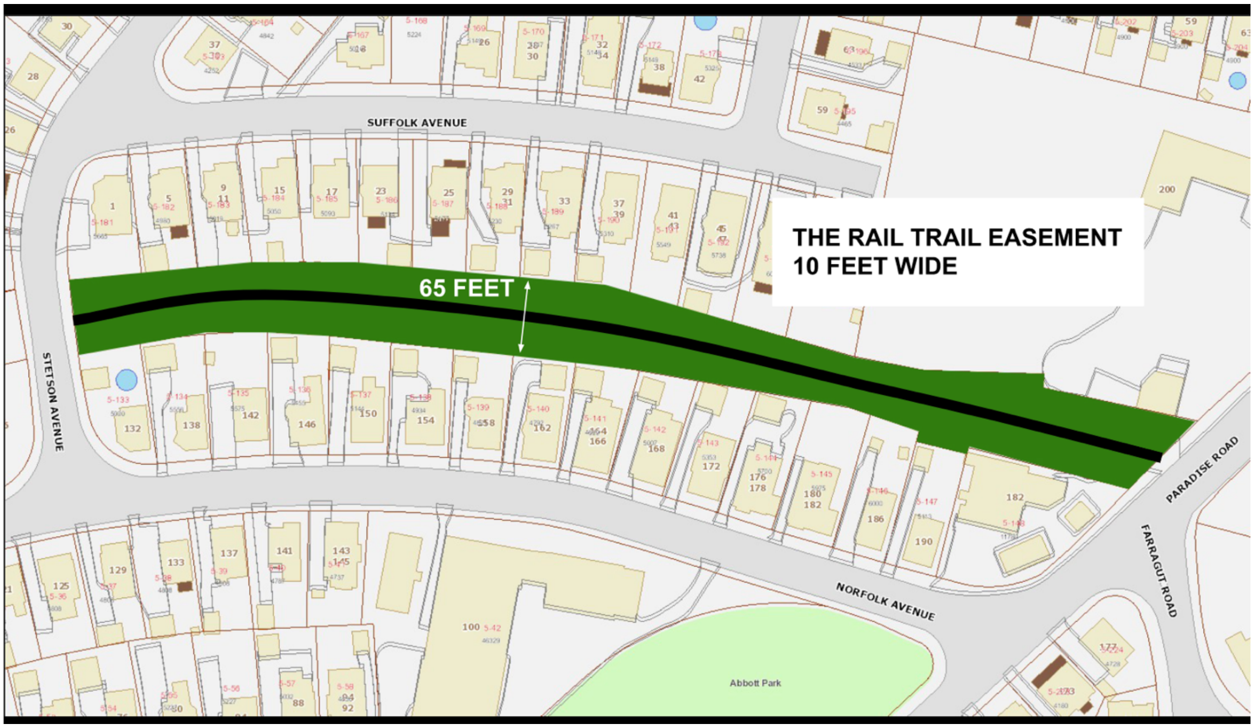
Strategy for reconciling competing logics	Swampscott discourse
Enhance (or not)	• Instrumentality and Symbolic discourses weakening each other
Connect (or not)	• Discourse balanced and consistent across themes and dimensions
Flex (or not)	• Symbolic neighborhood themes involving the impact on the neighborhood, balancing with the Instrumentality themes of the process of development (with the Town's Community Development Office as entrepreneur)

Table 3: Demographic Comparisons, Swampscott and Massachusetts

Demographic Category (2017 ACS data)	**Swampscott**	**State of Massachusetts**
Median Age	44.4	39.5
Median Household Income	$103,244 4.7% increase since 2016	$75,297 6.6% increase since 2016
Median Property value	$447,400 2.9% increase since 2016	$366,900 4.2% increase since 2016
% owning a home	76.9% 1.3% increase since 2016	62.1% 0.5% increase since 2016
% foreign-born	11.40% -0.9% decline since 2016	16.20% 2.5% increase since 2016
% of population 25 years or older with at least bachelor's	56.5%	41.3%
Racial categories		
% White	92.7%	72.4%
% Hispanic	3.2%	11.4%
% Asian	1%	6.4%
% African-American	.6%	6.7%
% All other	2.5%	3.1%

Source: American Community Survey Data

Figure 1: proposed Rail Trail, Swampscott, Massachusetts



Source: Town of Swampscott

Figure 2: Swampscott Percentage of Discourse in each Dimension, 2001- June 2019
(n=273 entries)

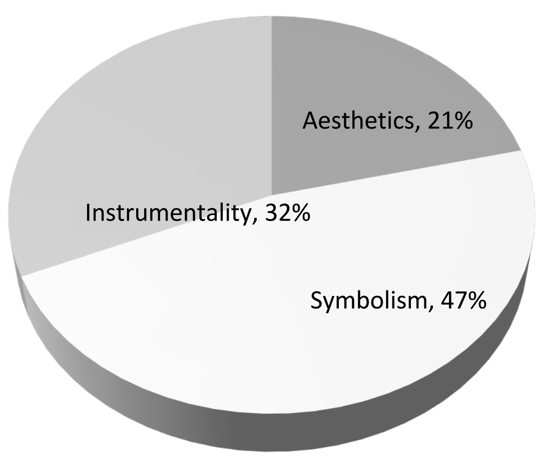


Figure 3: Percentage of the Discourse by Tone and Dimension, 2001-June 2019 (n=273 entries)

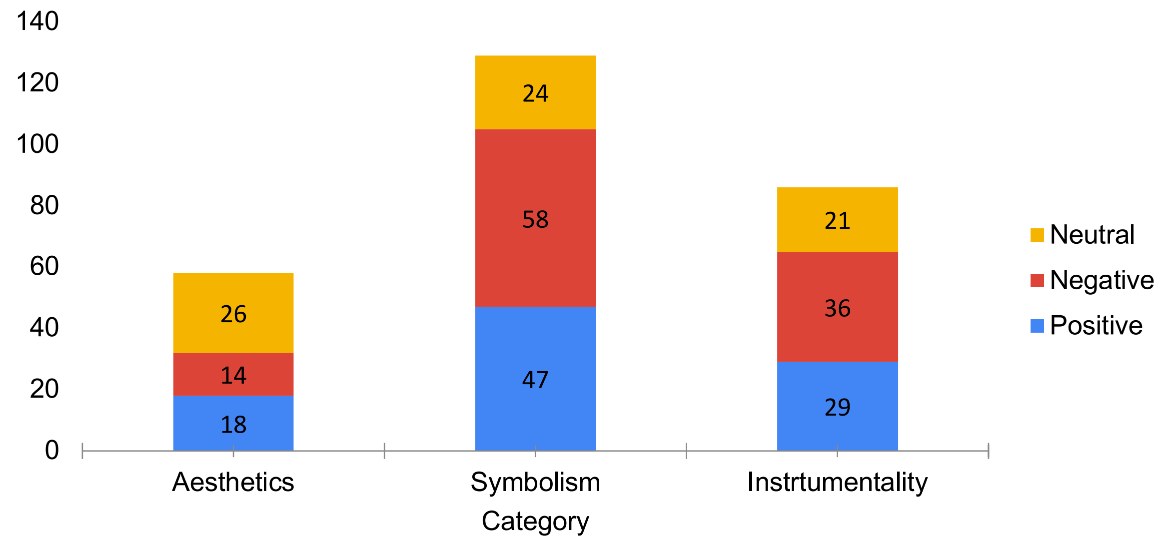
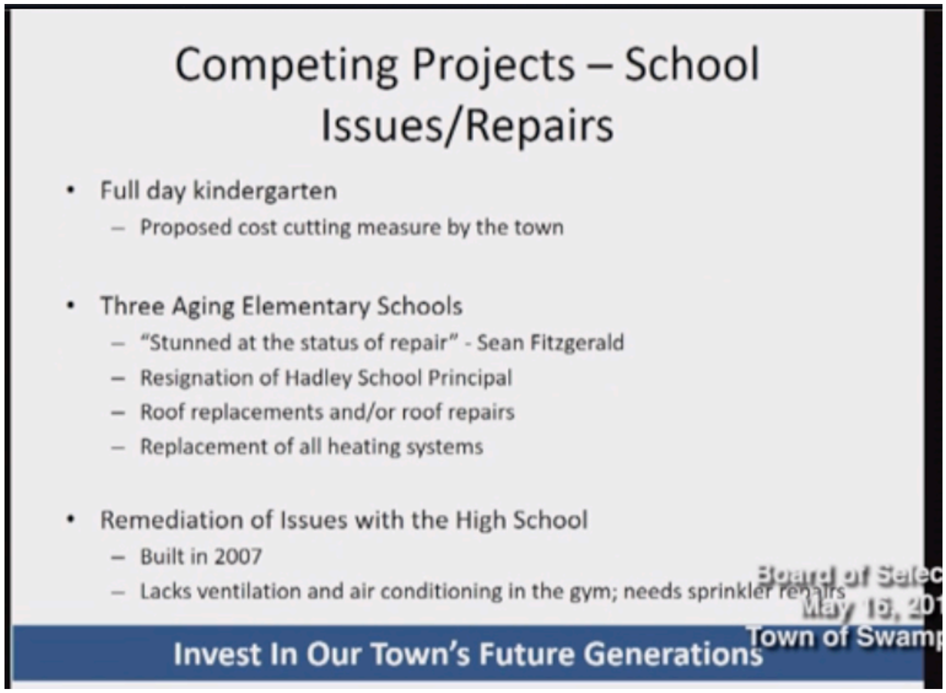
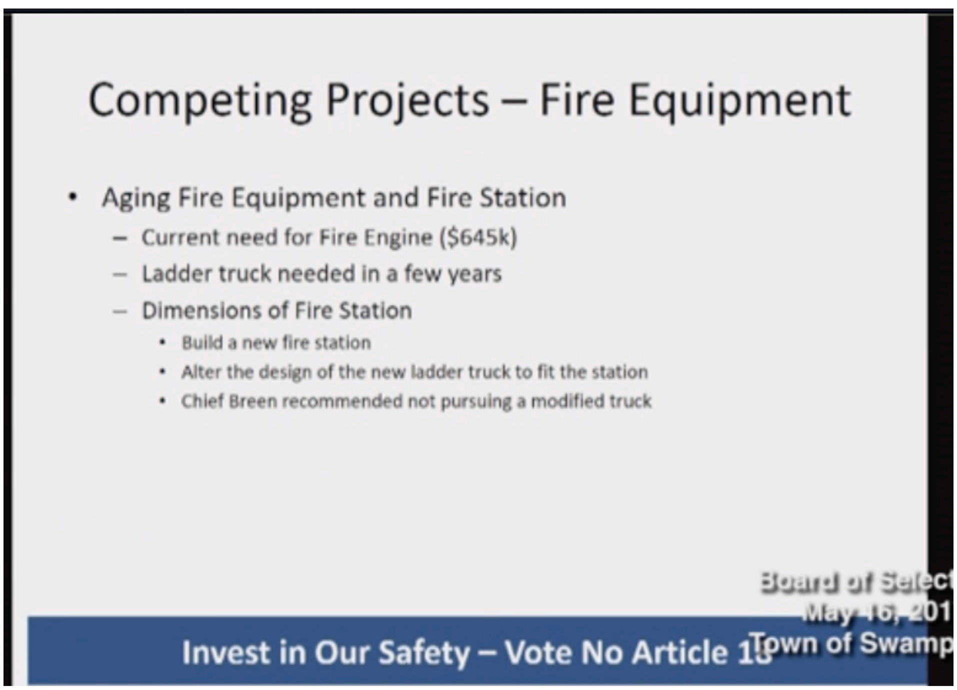


Figure 4: Census tracts and Rail Trail

Source: American Community Survey, 5 year estimates

Figure 5: Swampscott Items that Need Funding, FY 18





Source: Town Meeting, May 2017

A MATHAMATICAL FRAMEWORK, BASED ON REGULATORY FOCUS THEORY, OF ANGEL INVESTORS' RISK-REWARD PROFILES AND STRATEGIC INVESTMENT PREDISPOSITIONS

Abstract:

This paper proposes a mathematical framework that characterizes Angel investors' strategic inclinations accounting for the risk and reward uncertainties inherent in funding entrepreneurial ventures. The paradigm is applied to analyze how these strategic inclinations affect Angels' funding decisions and their fit with entrepreneurs, entrepreneurial ventures, and entrepreneurs' presentations. The model is based on Regulatory Focus Theory (Higgins, 1997), which divides persons into two different orientations, a Promotion Regulatory Focus and a Prevention Regulatory Focus.

The existing literature considering the application of Regulatory Focus Theory to Angel investing proposed that an Angel's Regulatory Focus orientation affects their funding decisions (Brockner, Higgins and Low, 2004; Mitteness, Sudek and Cardon, 2012). For example, Brockner et al. (2004: 212) proposed that the greater the congruence or match between the Regulatory Focus orientation (Promotion or Prevention) of an Angel and an Entrepreneur, the stronger the Regulatory Fit, and the greater probability of a positive funding decision.

However, the existing literature has not considered the issue at the level of how, within matching Regulatory Focus orientations, the juxtaposition of the relative magnitudes of each separate gain and loss function (sub-components of Regulatory Focus) results in Regulatory Fit or does not produce a Regulatory Fit; and how this thereby affects an Angel's funding decisions.

This paper compliments the existing literature by proposing that:

(1) Angels' strategic inclinations are modeled by the mathematical framework set forth in this paper that deconstructs Angels' Regulatory Focus gain and loss functions into separate root

and power functions. This provides a new perspective to understand how Angels' underlying risk and gain components produce an overall Regulatory Focus, which furthers the theoretical understanding of why and how it influences an Angels' funding decisions.

(2) The proposed mathematical framework provides an additional perspective to analyze the Regulatory Fit between Angels and Entrepreneurs at a level deeper than simple congruencies; to the level of juxtaposing the magnitude of the separate gain and risk profiles underlying Angels' and entrepreneurs' Regulatory Focus. This analysis discloses that not all incongruences or asymmetries result in negative funding decisions.

Keywords: **Angel Investing; Regulatory Focus Theory; Mathematical Model; Regulatory Fit; Risk; Uncertainty.**

1. Introduction

Angel investors are presented with the opportunity to invest their own money into entrepreneurial ventures at the early stages of a venture's lifecycle (Morrissette, 2007). This is fraught with uncertainty since "Early stage investments typically involve unproven technologies, unfinished products and services, as well as unverified market demand" (Parhankangas and Ehrlich, 2014: 543). Approximately one-half of such investments fail to produce returns (DeGennaro, 2010). Accordingly, Angels must cull future successful investments from the ventures destined to underperform or fail; they must distinguish the madmen and the conmen from the next true visionaries and transformational entrepreneurs.

Furthermore, Angel investing is an essential component of entrepreneurship since it provides the majority of initial funding to start-up ventures (Maxwell, Jeffrey and Levesque, 2010). Morrissette (2007) provides a review of academic articles considering the topic. A growing subset of this research applies Regulatory Focus Theory to entrepreneurs (Brockner et al., 2004; Azia & Foo, 2008; McMullen and Zahra, 2006; Tumasjan and Braun, 2011). More limited attention has been devoted to the subject of Regulatory Focus Theory as it applies to Angel investors (Mitteness, Cardon and Sudek, 2010).

Two articles are particularly relevant to this subject. Brockner (2004: 212) proposed "that the greater the congruence between the style of the request (with respect to the strategies being advocated) and the regulatory focus orientation of would-be supporters, the more likely it is that support will be provided." This is consistent with reasoning of Mitteness et al. (2012: 593) that RFT applies to the proposition that "funding potential depends not only on the attributes of the person being judged (i.e. the entrepreneur) but also on the attributes of the person making the judgment (i.e. the angel)."

The instant article compliments this prior literature by proposing a detailed mathematical framework that explains the mechanisms of Regulatory Fit from the perspective of the Angel investor. Specifically, the mathematical framework divides an Angel's strategic inclinations into two separate and distinct mathematical root and power functions that model their propensity for gain and aversion to the risk of loss. This detailed mechanism provides a new understanding as to how and why each risk and gain dimension contributes to overall Regulatory Focus and to Regulatory Fit with entrepreneurs and ventures, and thereby affects Angels' investment decisions.

While both Brockner et al. (2004) and Mitteness et al. (2012) referred to the match-up between the Regulatory Focus of Angels and entrepreneurs, they did not provide details as to how negative or positive of incongruences between the underlying risk/gain profiles affects Regulatory Fit and thereby affects Angels' funding decisions. Accordingly, the mathematical framework presented in this article further expands on these articles by deconstructing incongruence into Negative Regulatory Value Mismatches and Positive Regulatory Value Mismatches. These asymmetries are derived by comparing the primary risk or gain profile of Angels and Entrepreneurs with similar Regulatory Focus orientations.

From the perspective of the Angel investor, Negative Regulatory Value Mismatches do not result in Regulatory Fit and therefore have a negative effect on Angel's funding decisions. Positive Regulatory Value Mismatches are analogous to states of congruence. The foregoing is key because Angels often believe that they make funding decisions based on their "gut instinct" (Van Osnabrugge & Robinson, 2000) and these congruencies and incongruences shed light on potential mechanisms that produce such positive or negative instinctual feelings.

Finally, this article compliments Brockner, et al. (2004) by expanding on the proposition that their Regulatory Foci predispose certain Angels to invest at the earliest stages of an entrepreneurial venture. The mathematical model provides a detailed theoretical explanation for this conclusion. This further complements the work of Maxwell, Jeffrey, and Levesque (2010), which found that Angels apply different decision-criteria at different stages of the investment process.

The proposed framework also has important implications for practitioners. The mathematical framework provides a new perspective to consider the Regulatory Fit between Angels and entrepreneurs. This helps entrepreneurs to identify the Angel investors with a Regulatory Focus that leaves them predisposed to support their ventures. It also provides a method to consider the potential working relationship between an Angel and entrepreneur by providing a basis to consider the affect of high Positive Mismatch Values or the Regulatory Fit.

With regard to Angel investors, Mitteness, Cardon and Sudek (2010: 9) reason that they "should become more aware how their characteristics may impact their perception of an investment opportunity." By providing a different perspective of the interaction between an individual's Promotion and Prevention components, the mathematical framework proposed in this article provides Angel investors with further tools to engage in such an analysis.

3. Literature Review

3.1 Angel Investors

"The field of entrepreneurship is of growing interest to organizational scholars and practitioners" (Brockner et al., 2004: 205). An underlying reason for this attention is the growing recognition that entrepreneurship is a fundamental component of the United States and global economies (Morrissette, 2007). For example, small companies are responsible for over 75% of all new jobs, over 90% of all employers are small businesses, and over 95% of the wealth in the U.S. has been created by entrepreneurial firms founded since 1980 (Morrissette, 2007: 52).

Angel investing is an essential component of entrepreneurship and, thus, fundamental to the global economy. In this regard, the economic importance of Angel investing is demonstrated by the fact that it accounts for more than 70% of the capital provided to new entrepreneurial ventures (Morrissette, 2007). Fairchild (2011: 360) noted that Angels "tend to provide much more financing than VCs to startup ventures…. between $10 billion and $20 billion in around 30,000 firms annually. This compares with around $6.6 billion committed in the venture sector …" Accordingly, Angel investors "are much more important investors in the early stages …." (Maxwell, 2011: 212).

One important characteristic of Angel investing (that distinguishes it from venture capital) is that Angels risk their own assets (Mitteness, Sudek, and Cardon, 2012; DiGennara, 2010; Benjamin and Margulis, 2000; Sudek, 2006). As a result, Angels incur the full liability of their risk-infused funding decisions. Yet, Angels' due diligence considerations are less analytical, less extensive, and more personal than those engaged in by venture capital investors (Morrissette, 2007; Van Osnabrugge and Robinson, 2000).

Studies have examined the motivations for Angel investing (Morrissette, 2007; Sullivan and Miller, 1996); the tangible factors considered by Angels (Morrissette, 2007); the influence of intangible factors (such as the affect of perceived entrepreneurial passion) on Angels' funding decisions (Mitteness, Sudek, and Cardon, 2012; Tyebjee and Bruno, 1984); and archetypes that characterize Angel investors (Sullivan and Miller, 1996; Gaston, 1989; Hill and Power, 2002; Benjamin and Margulis, 1986; Maxwell and Levesque, 2014).

3.2 Regulatory Focus Theory

An important aspect of Regulatory Focus Theory (Higgins, 1997) is that it addresses decision-making under circumstances involving uncertain gains and the risk of loss (the exact circumstances facing Angel investors). The paradigm was originally derived from the perspective of the discipline of psychology, and "implies that differences in performance, emotion, decision making, and so on could occur as a function of regulatory focus …." (Higgins, 1997: 1282).

Regulatory Focus Theory categorizes individuals into two distinct and separate predispositions or strategic profiles, (1) a promotion-focus, and (2) a prevention-focus (Higgins, 1997, Crowe and Higgins, 1997; Shah & Higgins, 1997). Promotion focused individuals are characterized by a state of eagerness for gains, and their strategic inclination is to avoid overlooking opportunities that could succeed. In contrast, prevention-focused individuals are characterized by their state of vigilance against errors. Negative outcomes are salient to prevention-focused individuals and their strategic inclination is to proceed in a cautionary manner that limits the risk of losses. An important aspect of Regulatory Focus Theory is that an individual's regulatory focus is predominantly fixed and invariable (Shah & Higgins, 1997; Higgins, 2000; Scholer, Kentaro, Zou, Stroessner, and Higgins, 2010). These predispositions are respectively referred to as a chronic promotion focus or a chronic prevention focus (Shah, J., Higgins, T., & Friedman, R. S., 1998).

Numerous studies have supported the applicability of Regulatory Focus Theory to a wide array of circumstances (e.g. Higgins, 1987, 1997; Crowe and Higgins, 1997; Shah and Higgins, 1997; Higgins, 2000; Scholer et al., 2010; Higgins, Idson, Freitas, Spiegel, and Molden, 2003;

Keller, 2006). For example, Crowe and Higgins (1997) found that a person's regulatory focus has an important influence on their strategic profile. In the underlying research, participants were required to solve anagrams, identify hidden objects in embedded-figures, and to perform counting backwards tasks. The study concluded that promotion-focused individuals generated more word permutations that solved more anagrams, while prevention-focused individuals were more concerned with avoiding non-words. Promotion-focused individuals were also more persistent in meeting the challenges of the embedded-figure problems and counting backwards tasks. As a result, the article concluded, "regulatory focus … can influence strategies or decision patterns …." (Crowe and Higgins, 1997: 131).

An additional example is provided by Higgins et al. (2000), which applied RFT to the specific context of business decisions. The article used RFT to explain how strategic inclinations affect a person's decisions with regard to sunk costs. In the study, participants were presented with a hypothetical that they were the president of a company that had invested $10 million in a new airplane design. The new design was 90% complete with $9 million invested when a competitor developed a more economical and technologically superior aircraft. The study found that prevention-focused individuals were less likely to continue to invest the last ten percent of the funds and, therefore, more likely to avoid a sunk costs error.

Another important and relevant aspect of RFT is the application of Regulatory Fit to the context of persuasion. "People experience a *regulatory* fit when they pursue a goal in a manner that sustains their regulatory orientation" (Cesario, Grant, and Higgins, 2004: 389). Such a regulatory fit "feels right" to an individual (Cesario et al., 2004: 289). Thus, when there is regulatory fit between the source of persuasion and a decision maker the resulting "feel[] right" increases the likelihood of support for the persuader's position. Furthermore, Higgins et al.

(2003) found that when there is fit between the individual and the regulatory process applied to evaluate an object, the individual perceives higher value in the object. When there is an absence of fit, individuals assign lower values.

"Feeling right from regulatory fit … has been shown to transfer to monetary evaluations …." (Cesario et al., 2004: 389). For example, in Higgins et al. (2003), individuals were asked to engage in an evaluation process to assign values to coffee mugs. When the evaluation process matched the individual's regulatory focus, subjects assigned higher monetary values to the mugs. However, subjects that were forced to employ an evaluation process that did not match their regulatory focus assigned lower monetary values to the same mug.

The foregoing provides an overview of the research applying RFT Theory to strategic and business circumstances. The following section reviews the literature that applies RFT Theory the specific context of Angel investing and enterprise.

3.4 Regulatory Focus Theory, Angels and Entrepreneurs.

A growing body of literature has considered the application of RFT to aspects of entrepreneurship (Aziz and Foo, 2008; Baron, 2004a; Baron, 2004b; Brockner et al., 2004; Bryant, 2009; Bermeister-Lamp et al., 2012; Farmer, et al., 2011; Fitzsimmons and Douglas, 2011; Hmieleski and Barron, 2008; Mitteness, Sudek, and Cardon, 2012; McMullen and Zahra, 2006; Murnieks et al., 2011; Short et al., 2009; Trevelyan, 2008; Tumasjan and Braun, 2011).

Mitteness, Sudek, and Cardon (2012) considered how Angel investors' perceptions of entrepreneurs' passion influences Angels' funding decisions. The study found, *inter alia*, "that the relationship between perceived passion and evaluations of funding potential was stronger for angels with prevention dominated regulatory focus … than for angels with promotion dominated regulatory focus ….” (Mitteness et al., 2012: 601-602). The article reasoned that this unexpected finding resulted from the fact that prevention-focused Angels were “more critical of entrepreneurs they perceive as low in passion” and their increased perceptions of risk made passion a more important consideration (Mitteness et al., 2012: 603).

Brockner, Higgins and Low (2004) applied Regulatory Focus Theory to the context of “the entrepreneurial process,” including the issue of the fit between the regulatory foci of Angels and entrepreneurs. The Brockner et al. (2004) theory paper proposed, *inter alia*, that RFT predicts and explains that a promotion-focused entrepreneur would have greater success during early stages of the entrepreneurial process (e.g. conceiving, creating, and inventing), while a prevention-focused entrepreneur would have an advantage as the venture moves to “the screening or reality-testing stage” (Brockner et al., 2004: 209-210).

Directly relevant to the instant subject, Brockner et al. (2004: 211-212) also considered the issue of matching the Regulatory Foci of Angels and entrepreneurs:

> A plan simply ‘‘feels right’’ to a person when there is a fit between his or her own regulatory focus and the plan’s strategic style, such as an eager plan that is presented to a promotion person or a vigilant plan that is presented to a prevention person * * * we predict that the greater the congruence between the style of the request (with respect to the strategies being advocated) and the regulatory focus orientation of would-be supporters, the more likely it is that support will be provided.

This mathematical model proposed in this paper compliments this proposition by deconstructing an Angel’s Regulatory Focus into underlying power and root functions that characterize their gain and risk profiles to further breakdown the concept of congruent and incongruent Regulatory Foci into Negative Regulatory Value Mismatches and Positive Regulatory Value Mismatches (both considered from the perspective of the Angel investor).

Negative Regulatory Value Mismatches result in a lack of Regulatory Fit, which has a negative effect on an Angel’s funding decision. In contrast, Positive Regulatory Value

Mismatches are analogous to the states of congruence considered in Bruckner et al. (2004). This is key because Angels often believe that they make funding decisions based on their "gut instinct" (Van Osnabrugge & Robinson, 2000). The "feel[ing] right" or not "feel[ing] right" (Brockner et al., 2004) that results from these congruencies and incongruences provides an explanation of such instinctual decision making.

4. The Theoretical and Mathematical Framework

4.1 The Mathematical Framework that Characterizes of Prevention and Promotion Focused Angel Investors' Strategic Profiles.

When presented with the prospect of funding an entrepreneurial venture, Angel investors must decide whether to risk the loss of their own assets and intangibles (e.g. time, emotional commitment, and reputation) (DeGenaro, 2010). Approximately 77% of Angel investments result in no positive returns and almost one-half of Angels' investments result in a total loss (DeGenaro, 2010: 55-56). A typical Angel has a net worth of over one million dollars and "allocates 5% - 20% of their portfolio for new venture funding" (Morrissette, 2007: 54, 56). Thus, at any time, the average Angel has a 50% risk of loosing between $50,000 and $200,000 that they have invested in entrepreneurial ventures. Furthermore, they must wait an average of more than five years to realize any gains that might materialize (Morrissette, 2007).

Investing in early stage entrepreneurial ventures also provides the possibility of realizing substantial financial gains, including the possibility of achieving great wealth. DeGenaro (2010) provides several examples. In 1903, five individuals invested a total of $41,500 with Henry Ford. The value of this investment was more than $145 million by 1918. One Angel turned a $100,000 investment in Amazon into at least $26 million. Still another Angel invested $4,000 British Pounds into Body Shop. This investment yielded returns valued at least $42 million

Pounds. More modestly, Angels' average expected return is 20% to 30% (Morrissette, 2007). Approximately 20% of the entrepreneurial ventures funded yield returns of more than 100%, and more than 10% yield returns of more than 300% (DeGenaro, 2010: 55-56).

The forgoing demonstrates that Angel investing is characterized by the juxtaposition of the uncertainty of any gains against the risks of substantial losses. This corresponds to the components of Regulatory Focus Theory. Applying Regulatory Focus Theory to the context of Angel results in dividing Angel investors into two categories, prevention-focused Angels and promotion-focused Angels.

Promotion-focused Angels concentrate on potential positive tangible and intangible returns. They are predisposed to emphasize the aspects of ventures that produce the possibilities of success and substantial returns. These characteristics correspond to the archetypical Hedonistic and Altruistic Angel investors proposed by Sullivan and Miller (1996). Such Hedonistic and Altruistic Angels derive fulfillment from their involvement with entrepreneurs and their ventures. Altruistic Angels obtain further satisfaction by advancing socially beneficial products and services.

Under the same risk-of-loss/possibility-of-gain factors, prevention-focused Angels are characterized by a state of vigilance to prevent losses. Their strategic profiles predispose prevention-focused Angels to act in a precautionary manner to avoid investing in ventures that will fail. This corresponds to the Economic Investor archetype of Sullivan and Miller (1996), which describes individuals that are principally concerned with their own financial motivations and the tangible financial aspects of entrepreneurial ventures.

When the Angel Investor archetypes are considered in conjunction with Regulatory Focus Theory, certain patterns emerge. Hedonistic and Altruistic Angels are promotion focused, with a predominant emphasis on rewards or gains. Economic Investors are prevention focused, with vigilance against the risk of loss. The following mathematical framework, based on the risk of loss and uncertainty of gains precepts of Regulatory Focus Theory, characterizes these strategic profiles.

Prevention-focused Angels' strategic inclinations are proportional to a power function of the potential losses juxtaposed to a root function of the potential gains [(*Value* $\propto$ $\sqrt[n]{\textit{Potential Gains}}$) / (*Value* $\propto$ (- |*Potential Losses*^{m}|)]. Promotion-focused Angels' strategic inclinations are proportional to a power function of the potential gains juxtaposed with a root function of the potential losses [(*Value* $\propto$ (*Potential Gains*^{n})) / (*Value* $\propto$ (- $\sqrt[m]{|\textit{Potential Losses}|}$))].

> **PROPOSITION IA: An Angel investor's strategic inclination profile accounting for risk-reward uncertainty factors (i.e. Regulatory Focus) is characterized by the following mathematical functions:**
>
> **For prevention-focused Angels:**
>
> **Loss Function: *Value* $\propto$ (-|*Potential Losses*^{m}|) or - |L^m|,**
> **Gain Function: *Value* $\propto$ ($\sqrt[n]{\textit{Potential Gains}}$) or $\sqrt[n]{G}$.**
>
> **For promotion-focused Angels:**
>
> **Gain Function: *Value* $\propto$ (*Potential Gains*^{n}) or G^n.**
> **Loss Function: *Value* $\propto$ (-$\sqrt[m]{|\textit{Potential Losses}|}$) or -$\sqrt[m]{|L|}$.**

The mathematical models of Angel Investors' strategic profiles set forth in the prior section are composed of two independent variables and one dependent variable. Angels' perceived potential tangible and intangible gains, and perceived potential pecuniary and intangible losses are separate and distinct independent variables. They correspond to the promotion and prevention dimensions of an Angel's regulatory focus. Gains are represented in the mathematical model by *G* and losses by *L*.

The independent variables (prospect of gain and risk of loss) are plotted on the X-axis of a Cartesian plane. The dependent variable is Perceived Value. It is plotted on the Y-axis of the Cartesian plane. Gains yield positive Values and losses provide negative Values. Each Angel has a unique strategic inclination profile that corresponds to their Regulatory Focus, which is composed of the collection of Values for each unit of Gain and Loss.

For promotion-focused Angels, the full mathematical equations or functions are:

For range 0 to +a, $V = f(G) = G^n$ (primary gain profile.
For range +a to +∞, $V = f(G) = \sqrt[q]{G}$. (secondary gain profile)
For range 0 to –b, $V = f(L) = -\sqrt[m]{|L|}$ (primary loss profile).
For range –b to - ∞, $V = f(L) = -|L^o|$. (secondary gain profile)

For prevention-focused Angels, the mathematical model is:

For range 0 to ∞, $V = f(G) = \sqrt[n]{G}$ (primary gain profile).
For range 0 to -∞, $V = f(L) = -|L^m|$ (primary loss profile).

In the foregoing equations, V is the Perceived Value that an Angel anticipates deriving from investing in a particular entrepreneurial venture; G represents the perceived potential tangible and intangible gains that an Angel will receive as a result of the potential investment (over the positive range); L is the perceived potential tangible and intangible losses (over the negative range); n is the power exponent for promotion-focused Angels' primary gain profile, and the index for the root function for prevention-focused Angels' gain profile; m is the power exponent for prevention-focused Angels' loss profile, and the index for the root function for promotion-focused Angels' primary loss profile in the negative or loss range; q is the index of the radical in the positive range for promotion-focused Angels secondary gain profile; p is the exponent of the power function of promotion-focused Angels over the secondary loss profile; a is the point of intersection of the two positive range functions of promotion-focused Angels; and $-b$ is the point of intersection of the two negative range functions for promotion-focused Angels.

Appendix A, Figure 1 is the graphs of promotion-focused Angels' functions and Figure 2 the graphs of prevention-focused Angels.

Given that potential gains and losses are separate and distinct independent variables, two separate functions are plotted. Potential gains and their resulting positive Values are plotted in quadrant I of the Cartesian plane, the upper right quadrant. Potential losses and the resulting negative values are plotted in quadrant III of the Cartesian plane, the lower left quadrant (*see* Appendix A, Graphs of Functions). Values in the upper right quadrant are referred to as the gain profile (*see* Appendix A, Figures 1-3). The gain profile is comprised of the permutations of positive Values that an Angel could receive if they elect to fund an entrepreneurial venture. All Angels derive at least some positive Value from potential gains. Thus, the gain profile Values are always positive.

Values in quadrant III are referred to as the loss profile (*see* Appendix A, Figures 1 & 2). The loss profile represents the permutations of negative Values that an Angel would suffer if the venture results in losses. All losses result in negative Value or decreases in total net Value.

For Promotion-Focused Angels (*see* Appendix A, Figure 3), the gain profile is the dimension aligned with their Regulatory Focus, and the loss profile is non-aligned. For the Prevention-Focused Angel (*see* Appendix A, Figure 2), the aligned-dimension is the loss profile and the non-aligned is the gain profile.

The gain dimension of Promotion-Focused Angels is the most influential range (their principal gain profile), from 0 to +a is characterized by increasing marginal Value (*see* Appendix A, Figure 1, Series 1, the blue segment of the curve). Over this range, the second derivative ($f''(G^n)$) is always positive and increasing. This means that the magnitude of change in Value received by the promotion-focused Angel constantly increases for each successive unit of potential gain.

This range represents promotion-focused Angels' chronic predisposition towards gains – their eagerness to invest in, and participate in the entrepreneurial process as an Angel investor. It suggests that over an extended range, gains received by, and the prospect of additional gains stimulates Promotion Focused Angels' predispositions for more and larger gains. This corresponds to the fact that despite the fact that the typical Angel has a net worth of over one million dollars, Hedonistic and Altruistic Angels continue to gain Value from engaging in the entrepreneurial process, from receiving additional pecuniary gains, and/or by advancing socially beneficial products and services (Morrissette, 2007; Sullivan and Miller, 1996). It also demonstrates that a significant disincentive for promotion-focused Angels is the prospect of too little gain.

The magnitude of the promotion focus is distinct for different Angels. For example, Appendix B, Chart 2B depicts the power function (G^n) of promotion-focused Angels with different magnitudes in their gain profile. The greater the exponent, the stronger the promotion profile. The first derivative of the promotion profile function (the slope of promotion dimension function) provides the marginal Value (the extra units of Value derived from each unit increase in potential gain). The increasing marginal Value over the primary promotion dimension (range 0 to +a) characterizes the strength of a promotion-focused Angel's gain profile and, thus, of their promotion focus.

Eventually, at some point (represented by point a in Figure 1 of Appendix A), diminishing marginal Value sets-in and the curve changes character such that Value becomes a root function of potential gains (i.e. $V = \mathrm{f}(G) = \sqrt[q]{G}$). Over this range, the magnitude of change in Value increases, but at a decreasing rate, such that each successive unit of increase in potential gain yields a smaller increase in Value. However, this range does not have a dominant influence on most decisions made by promotion-focused Angels since it usually beyond the range of expected gains.

Promotion-focused Angels' loss profiles are also composed of two separate functions over two different ranges (*see* Appendix A, Figure 1). The loss profile forms a root function over the range from 0 to –b ($V = f(L) = - \sqrt[m]{|L|}$) (*see* Appendix A, Figure 2 – the green segment of the curve). It is important to note that the second derivative, or rate of change of the slope over this range is decreasing (e.g. for m = 1/3, $V=L^{1/3}$, $V' = -1/3L^{-2/3}$, $V'' = -2/9L^{-5/3}$), which describes diminishing negative marginal Value as the magnitude of potential loss increases (i.e. each unit of risk or loss yield a smaller extra unit of disincentive to invest).

This corresponds to the fact that Angels risk only approximately 20% of their substantial net worth, and generally less then 10% of their wealth in any one venture (Morrissette, 2004). The diminishing marginal negative value produced by losses conforms to the fact that promotion-focused Angels are somewhat risk tolerant and generally accept the potential loss of this discrete component of their wealth. Over this range of acceptable loss, additional proportional units of risk of loss cause smaller and smaller decreases in Value and do not provide correspondingly larger disincentives to fund ventures.

At some point (generally approximately 10% of the net worth or less), the potential losses are too great even for promotion-focused Angels and the loss-dimension function becomes a power function (i.e. increasing negative marginal Values). This is represented by a power function of such losses (for range –b to -∞, $V = f(L) = - |L^p|$).

The essential components of promotion-focused Angels' strategic inclinations (the eagerness towards gains and their substantial risk tolerance) are represented by two of the four functions from the full Value function: The power function in the gain dimension and the root function in the loss profile (for range 0 to a, $V = f(G) = G^n$; for range 0 to –b, $V = f(L) = -\sqrt[m]{|L|}$). These are referred to as the primary gain and primary loss profiles, respectively. This essential character of promotion-focused Angels is depicted in Appendix A, Figure 3.

For prevention-focused Angels, the aligned dimension – the loss profile, is represented by an equation in which Value is proportional to the negative absolute value of a power function of the potential losses (for range 0 to $-\infty$, $V = f(L) = -|L^m|$). Over this range, the absolute value of the second derivative is increasing through its range (e.g. for n=4, $V = L^4$, $V' = -|4L^3|$, $V'' = -|12L^2|$). This corresponds to the fact that as the perceived risk of loss increases a prevention-focused Angel's propensity to fund a venture decreases at an increasing rate.

In the non-aligned, gain profile there is no region of increasing marginal Value (*see,* Appendix A, Figure 2). This is modeled by a root function of perceived potential gains ($V = f(G) = \sqrt[n]{G}$) over the range 0 to ∞. Throughout this range, marginal value (the first derivative), is continually decreasing. Thus, every unit of perceived potential gain results in a correspondingly smaller increase in Value.

Thus, the mathematical framework for prevention-focused Angels is characterized by increasing negative marginal Values throughout the loss profile and decreasing marginal Values through the gain profile (for range 0 to $-\infty$, $V = f(L) = -|L^m|$, for range 0 to ∞, $V = f(G) = \sqrt[n]{G}$). The increasing negative marginal Value for potential losses captures prevention-focused Angels' chronic state of vigilance against losses.

The following sets forth the similarities between the functions of promotion-focused and prevention-focused Angels: The Value produced by investing in an entrepreneurial venture is proportional to a power function in their aligned dimension ($V \propto A^n$, where A is the aligned gain or loss) and proportional to a root function in their non-aligned dimension ($V \propto \sqrt[m]{NA}$, where NA is the non-aligned gain or loss).

The foregoing analysis leads to the following proposition.

PROPOSITION IB: The full mathematical framework of an Angel investor's strategic inclination profile or Regulatory Focus is:

For promotion-focused Angels, the full mathematical equations or functions are:

For range 0 to +a, $V = f(G) = G^n$ (primary gain profile).
For range +a to +∞, $V = f(G) = \sqrt[q]{G}$.
For range 0 to –b, $V = f(L) = -\sqrt[m]{|L|}$ (primary loss profile).
For range –b to - ∞, $V = f(L) = -|L^p|$.

For prevention-focused Angels, the mathematical model is:

For range 0 to ∞, $V = f(G) = \sqrt[n]{G}$ (primary gain profile).
For range 0 to -∞, $V = f(L) = -|L^m|$ (primary loss profile).

4.3 The mathematical framework of entrepreneurs' strategic profiles and Regulatory Foci.

Although Angel investors are the primary focus of this paper, Angels' RFT matches and mismatches (e.g. interaction biases) and Regulatory Fit with entrepreneurs are important issues that affect funding decisions (Brockner et al., 2004). Accordingly, to assess the effects of such interaction biases or Regulatory Fit requires considering the mathematical frameworks of entrepreneurs' Regulatory Foci.

Regulatory Focus Theory has been applied to profile entrepreneurs (*see, e.g.,* Brockner et al., 2004). For example, Bermeister-Lamp et al. (2012: 460) stated, "RFT provides a well-developed framework to better understand the different motives beliefs, and behaviors of entrepreneurs." The study found support for its RFT hypotheses.

Like Angels, entrepreneurs operate in an environment of uncertainty regarding gains and losses (McKelvie et al., 2009). They generally invest substantial time and financial resources into their ventures. Entrepreneurs forgo the opportunity to earn money from other sources, including salaried jobs (Bermeister-Lamp, 2012). There is countervailing opportunity for substantial gains if the enterprise succeeds.

Brockner et al. (2004) applied Regulatory Focus Theory to propose that a promotion-focused entrepreneur would have greater success during certain stages of the entrepreneurial process (e.g. the early stages of conceiving, creating, and inventing), while a prevention-focused entrepreneur would have an advantage as the venture moves to "the screening or reality-testing stage" (Brockner et al., 2004: 209-210).

The foregoing supports the following proposition.

PROPOSITION II: The equations for entrepreneurs' Strategic Inclinations and Regulatory Foci are the same as those set forth in Proposition I.

4.3 Congruence between the Regulatory Foci of Angels and Entrepreneurs.

As noted by Mitteness, Sudek, and Cardon (2012: 594), Angels "tend to make investment decisions more personally, performing less professional due diligence …, investing more opportunistically, relying more on instincts, and without calculating internal rates of return."[1] Cardon, Wincent, Singh, and Drnovsek (2009) found that passion is important component of entrepreneurship, and Mitteness, Sudek and Cardon (2012) found that perceived entrepreneurial passion affects Prevention Focused Angels' funding decisions. Fairchild (2011: 360) determined

[1] *See also,* Morrissette, 2007; Van Osnabrugge and Robinson, 2000; Baty, 1991.

that angel-entrepreneur empathy appears to “promote[] trust, which reduces double-sided hazard problems ….” (Fairchild, 2011: 360).

The forgoing prior research supports the conclusions of Cesario, Grant, and Higgins (2004) that individuals are more willing to support a course of action or plan when the strategic style of the proposal fits their own chronic strategic preference. Cesario et al., (2004: 389) explained that such a match between regulatory foci “feels right and increases the value” to the decision maker, and noted that “Feeling right from regulatory fit … has been shown to transfer to monetary evaluations of a chosen object …. (see Avenet & Higgins, 2003; Camacho, Higgins, & Lugar, 2003; Higgins, Idson, Fretas, Spiegel & Molden, 2003).”

These findings directly apply to the circumstances of Angel investing, in which entrepreneurs attempt to persuade Angels to invest money and other resources in start-up or early stage business ventures. Bruckner et al. (2004), citing Cesario and Higgins (2001), used the concept of congruence to propose that the Regulatory Focus match between an Angel and Entrepreneur affects the funding decisions of Angel investors. Applying the concept of congruence to the matches between Angels’ and entrepreneurs’ regulatory foci requires a clear definition. The Merriam-Webster Dictionary defines congruent as “mathematics: having the same size and shape.” It follows that the congruence and Regulatory Fit proposed by Bruckner et al. (2004) occurs not simply when an Angel and entrepreneur have the same Regulatory Focus, but when the underlying functions set forth in proposition IA are the same for an Angel and entrepreneur.

The foregoing characteristics are accounted for by the proposed mathematical framework. The equations of Proposition IB demonstrate that the most important match for promotion-focused Angel is their primary gain profile (for range 0 to +a, $V = f(G) = G^n$) and for prevention-focused Angel is their principle risk profile (for range 0 to –b, $V = f(L) = -\sqrt[m]{|L|}$).

A match in these dominant profiles represents a circumstance in which the Angel and entrepreneur have the greatest empathy and trust (Fairchild, 2011). The non-dominant profiles have less influence since, as set forth in proposition IB, promotion-focused Angels are relatively risk tolerant and prevention-focused Angels are relatively vigilant against the risk of loss and not predominantly swayed by gains (both are characterized by root functions, $\sqrt[n]{G}$ for prevention focused individuals and $-\sqrt[n]{|L|}$ for gain focused individuals.

Thus, congruence will be achieved when the dominant Regulatory Focus of the Angel and Entrepreneur are matched. Such a match occurs when the integral of the relevant principle gain or loss functions of the Angel and Entrepreneur equilibrium are equal. For promotion-focused Angels and entrepreneurs, the mathematical framework represents this congruence with the following equation: $\int_0^{+a} G_{Angel}^n \cong \int_0^{+a} G_{Entrepreneur}^n$; for prevention-focused Angels and Entrepreneurs, the equation is: $\int_0^{-\infty} -|L_{Angel}^m| \cong \int_0^{-\infty} -|L_{Entrepreneur}^m|$). These states of congruence "feel[ ] right and increase[] the value" of an entrepreneurial venture to an Angel (Cesario, Grant, Higgins, 2004); and, thus, has a positive effect on Angels' funding decisions.

When there is congruence in the dominant Regulator Focus profile, Regulatory Fit will exist even if there is a certain range of incurrence in the subdominant Regulatory Profile

The foregoing analysis supports the following proposition.

PROPOSITION III. A state of congruence in Regulatory Foci and in the relevant primary gain or loss profile has a strong positive affect on Regulatory Fit, which has a positive effect on Angels' funding decisions. A state of congruence occurs when the aligned primary gain or loss profiles of an Angel and entrepreneur have the same size and shape.

a. For a prevention-focused Angel, the equation for equilibrium is:

$$\int_0^{+a} G^n_{Angel} \cong \int_0^{+a} G^n_{Entrepreneur}$$

b. For a promotion-focused Angel, the equation for equilibrium is:

$$\int_0^{+a} G^n_{Angel} \cong \int_0^{+a} G^n_{Entrepreneur}.$$

4.3 Negative Regulatory Value Mismatches.

Prior studies predicted that congruence between Regulatory Foci increase the likelihood of positive funding decisions (Brockner et al., 2004: 211-212). However, it is axiomatic that the probability of exact mathematical congruence is low. Thus, even for Angels and entrepreneurs that share a Regulatory Focus orientation, it is necessary to examine the possible incongruences from the perspective of the Angel investor. For example, consider the circumstances where an entrepreneur is more risk tolerant than a corresponding Angel investor. The mathematical framework models this incongruence for a Prevention Focused Angel as follows:

$$|(\int_0^{-\infty} -|L^m_{Angel}|)| > |(\int_0^{-\infty} -|L^m_{Entrepreneur}|)|.$$

Under these circumstances, one issue is that the entrepreneur's risk tolerance exceeds the Angel's risk tolerance. Such a Negative Regulatory Value Mismatch drives a prevention-focused Angel to perceive too great a risk. Additionally, the chronic character of the Regulatory Focus (Shah, Higgins, & Friedman, 1998) results in a fixed primary loss function (for range 0 to $-\infty$, $V = f(L) = -|L^m|$). Thus, such a Negative Regulatory Value Mismatch produces circumstances that do not "feel right" to the Angel (Cesario, Grant, & Higgins, 2004). Thus, this Negative Value Mismatch has a negative effect on an Angel's funding decision.

In summary, a Negative Regulatory Value Mismatch occurs under two circumstances. First, when the primary gain profile of a promotion-focused Angel is greater than the primary gain profile of the entrepreneur or venture $[(\int_0^{+a} G^n_{Angel}) > (\int_0^{+a} G^n_{Entrepreneur})]$. Second, where a prevention-focused Angel is less risk tolerant than the entrepreneur or the project exceeds the prevention-focused Angel's risk tolerance [$|(\int_0^{-\infty} -|L^m_{Angel}|)| < |(\int_0^{-\infty} -|L^m_{Entrepreneur}|)|$]. As previously explicated, these Negative Regulatory Value Mismatches produce particular states of "feeling wrong" that do not result in Regulatory Fit. Under these circumstances, Negative Regulatory Value Mismatches have a negative affect on Angel investors' funding decisions.

The following proposition follows.

PROPOSITION IV.

Negative Regulatory Value Mismatches have a negative affect on Angel's funding decisions. The mathematical framework models Negative Regulatory Value Mismatches as follows:

For Prevention Focused Angels:

When $|(\int_0^{-\infty} -|L^m_{Angel}|)| < |(\int_0^{-\infty} -|L^m_{Entrepreneur}|)|$ it has a negative affect on an Angel's funding decisions.

For promotion-focused Angels:

When $(\int_0^{+a} G^n_{Angel}) > (\int_0^{+a} G^n_{Entrepreneur})$ it has a negative affect on an Angel's funding decisions.

4.7. Positive Regulatory Value Mismatches.

As previously reviewed, Brockner et al. (2004) predicted, *inter alia*, that congruencies between the Regulatory Focus of Angel Investors and the style of entrepreneurs is positively associated with funding decisions. This could be interpreted to imply that the greater the deviation from the state of congruence the weaker the Regulatory Fit and the less likely a positive funding decision. The proposed mathematical resolves this ambiguity by demonstrating that some incongruences do not have a negative impact on Angels' funding decisions.

For example, consider the circumstances presented by the mismatch caused by an entrepreneur who is more risk averse than a Prevention Focused Angel. The mathematical framework represents this circumstance as follows:

$$|(\int_0^{-\infty} -|L_{Angel}^m|)| < |(\int_0^{-\infty} -|L_{Entrepreneur}^m|)|.$$

This simply describes a circumstance in which the risk tolerance of the Angel is greater than the risk tolerance of the entrepreneur which does not prevent the Angel from "feeling right" and achieving significant Regulatory Fit.

Analogous conditions exist for Angels with a promotion focus orientation. As to promotion-focused Angels, they are chronically eager for gains (Shah, Higgins, & Friedman, 1998). Accordingly, an incongruence in which the primary gain profile of the entrepreneur is greater than the primary gain profile of Angel does not prevent the Angel from "feeling right," and attaining Regulatory Fit. The mathematical framework explains this situation as follows:

$$(\int_0^{+a} G_{Angel}^n) < (\int_0^{+a} G_{Entrepreneur}^n).$$

These circumstances are referred to as Positive Regulatory Value Mismatches. The mathematical framework demonstrates that the greater the magnitude of these Positive Regulatory Value Mismatches, the greater the likelihood of a positive funding decision (e.g., stated colloquially, greater gains are ok for Angels with a Positive Regulatory Focus, and less risk is ok for those with a Prevention Regulatory Focus).

The following proposition follows.

PROPOSITION V.

1. **Positive Regulatory Value Mismatches have a positive affect on Angels' funding decisions. They result in Angel Investors "feeling right," achieving significant Regulatory Fit, and therefore have a positive effect on an Angels' funding decisions. The mathematical equations for Positive Regulatory Value Mismatches as follows:**

For Prevention Focused Angels:

$$|(\int_0^{-\infty} -|L^m_{Angel}|)| > |(\int_0^{-\infty} -|L^m_{Entrepreneur}|)|.$$

For promotion-focused Angels:

$$|(\int_0^{+a} G^n_{Angel}) < (\int_0^{+a} G^n_{Entrepreneur})|.$$

4.8 Promotion focused Angels are predisposed to invest at the earliest stages of entrepreneurial ventures.

Brockner et al. (2004: 204) proposed that promotion-focused entrepreneurs are predisposed to, and better suited to "certain aspects of the entrepreneurial process (e.g., generating ideas with the potential to be successful;" while prevention-focused entrepreneurs are predisposed to, and better suited to "other aspects of the entrepreneurial process (e.g., doing the 'due diligence' when screening ideas) …." This reasoning transposes to the circumstances of Angel investors.

In this regard, researchers have found that Angel investors "are quite deliberate about the stage of opportunities in which they invest" (Wiltbank et al., 2009). For Angels with a chronic prevention focus, the earliest stages of entrepreneurial ventures are rife with too great a risk of loss. This risk derives from several sources. One-half of Angel investments yield no positive returns (DeGennaro, 2010). At the earliest start-up stage, there is generally a paucity of historical empirical data regarding a venture's performance. This absence of financial data precludes a thorough empirical analysis.

The salience of the lack of a substantial financial track record, considered in conjunction with the higher failure rate of start-up stage investments, militates against prevention-focused Angels participating in the funding of very early stage ventures. This corresponds to findings of other studies. First, one-half of Angels are Economic investors focused on financial and empirical components of the investment (Sullivan and Miller, 1996) that are not available at the early stages of an entrepreneurial venture's life. Second, one half of Angels' investments occur after start-up stages of ventures' lifecycles (Morrissette, 2007).

In contrast, promotion-focused Angels are not as influenced by the negative aspects of the lack of data and track record or the potential for losses. This is consistent with the non-financial considerations that characterize Hedonistic and Altruistic Angels (Sullivan and Miller, 1996). Approximately one-half of Angels fall into these categories, one-half of the investments transpire at early stages, and one-half of investments provide some returns (Morrissette, 2007).

The mathematical framework helps to explain these factors and conclusions. The power function of the loss dimension amplifies the influence that the absence of information has on a no-fund decision for prevention-focused Angels. For promotion-focused Angels, potential gains are amplified by the gain dimension's power function; the risk attributable to the absence of financial data and the lack of a track record is minimized by the loss-dimension's root function.

The foregoing analysis supports the following proposition:

PROPOSITION VI. Promotion Focused Angels are predisposed to invest in the earliest stages of funding entrepreneurial ventures; Prevention Focused Angels are not predisposed to invest in the earliest start-up stages of entrepreneurial ventures.

5. Conclusions and Implications

Perhaps the preeminent characteristic of Angel investing is the risk of losses and the uncertainty of gains. Yet relatively little attention has been devoted to how these fundamental factors affect Angels' strategic inclinations, and how the fit between Angels' and Entrepreneurs' strategic inclinations affects Angels' funding decisions. By providing significant insight into these fundamental factors, the proposed theoretical and mathematical framework aids in the understanding of Angels' investing process.

For example, the detailed analysis of states of congruence and incongruence of Angels and Entrepreneurs Regulatory Fit provides an understanding of how and when they contribute to an Angel “feeling right” about an investment opportunity. This helps explain the instincts or gut feelings that are sometimes cited as the basis for Angels’ funding decisions (Van Osnabruge and Robinson, 2000).

It also builds upon the proposition of Brockner et al. (2004) that Regulatory Focus congruence between an Angel and entrepreneur has a positive effect on funding decisions. In this regard, the mathematical framework deconstructs the states of incongruence between Angels, entrepreneurs, entrepreneurial projects, and/or the style of presentation by entrepreneurs into Negative and Positive Regulatory Value Mismatches. This sheds further understanding on why certain asymmetries referred to as Negative Regulatory Value Mismatches have a negative effect on funding decisions, while other asynchronies referred to as Positive Regulatory Value Mismatches have a positive effect on Angel’s funding decisions. This provides a finer grained understanding of these relationships, which builds upon the simple congruence and incongruence set forth in Brockner et al. (2004)

This also compliments a proposition derived from Brockner et al. (2004): That promotion focused Angels are predisposed to invest at the earliest stages of entrepreneurial ventures. The mathematical framework and its root function for a promotion focused Angel’s risk profile demonstrates why increasing magnitudes of risk result decreasing of Value. This models a promotion focused Angel’s significant risk tolerance and explains their ability to focus on the possibility of gain (rather than the risk of loss) that underlies early stage investments.

By providing a mathematical framework to explain regulatory fit, this article helps entrepreneurs understand the importance of identifying Angels with corresponding regulatory focus and then tailoring their presentations to emphasize the risk or gain profile depending upon the Angel's strategic inclinations. Such a presentation increases the possibility of precipitating the feeling right that characterizes a state of Regulatory Fit and, thus, a positive funding decision. This implicitly expands upon the finding of Van Osnabrugge and Robinson (2000) that Angels' make certain funding decisions based on "gut feeling."

As to Angels, the mathematical model helps understand their own RFT risk-reward profiles, which helps them to better understand the basis of their "gut instinct" funding decisions and thereby arrive at better evaluations of the risk-reward profiles of their investments.

With regard to areas of further study, the theories proposed herein would benefit from initial empirical testing through research in which subjects are first identified as prevention or promotion focused individuals. Subsequently, with one regulatory focus profile held constant (either gain or risk), vary the other profile and measure the RFT scores. Plotting the results and subjecting them to descriptive statistical analysis would allow for determining whether the propositions are supported as hypotheses.

The study would apply the regulatory focus scale developed by Lockwood et al. (2002). As noted by Mitteness, Sudek and Cardon (2012), this scale was developed to measure the extent to which individuals vary on the two subscales of promotion and prevention focus, as theorized by Higgins (1997). Accordingly, it is an appropriate scale for measuring the individual gain and loss regulatory focus magnitudes.

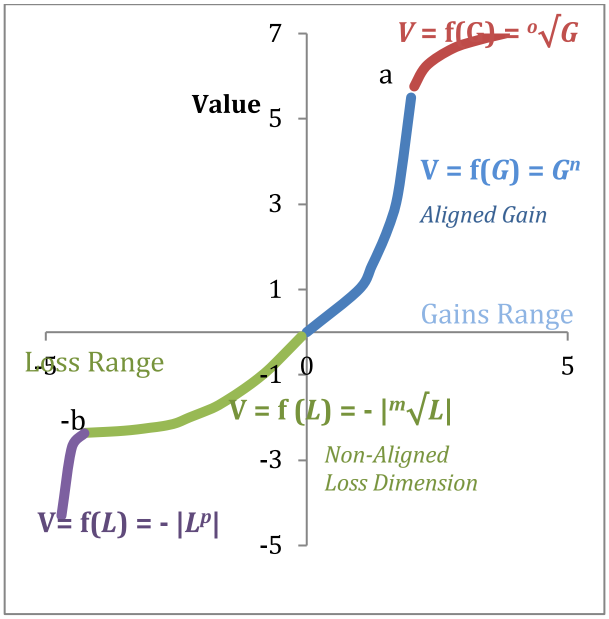
These relationships would first be studied through an experiment in which different aspects of the model would be controlled while others would be varied. This would allow for measuring the impact of the different components of the model. Thereafter, further evidence regarding the mathematical framework would be gained by survey-based research of Angel investors. The field research will provide insights into how active Angels perceive these differences.

As with all such research, the student research suffers from the issue that none of the subjects have engaged in Angel investing activity, while the Angel surveys suffers from the risks of self-reporting errors.

One area for further study is the affect of framing on Angel's investment decisions. For example, if an Angel is contemporaneously presented with entrepreneurs or ventures with a low degree of regulatory fit just prior to a subject entrepreneurial venture, will this cause the Angel to invest in projects or with entrepreneurs with less fit than when presented contemporaneously a group of circumstances with closer fit.

APPENDIX A - FIGURES

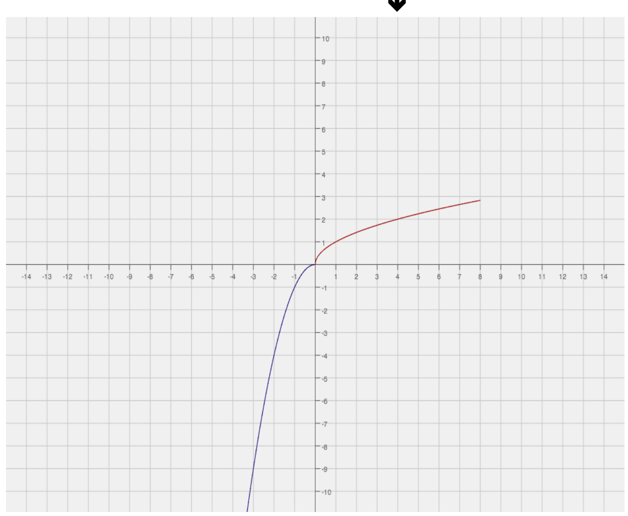
Figure 1
Promotion-Focused Angels
Complete Model



*Please note that the shapes of the curves are exaggerated in this figure for the purposes of explaining the complete model of Promotion Focused Angels

Figure 2
Prevention-Focused Angels

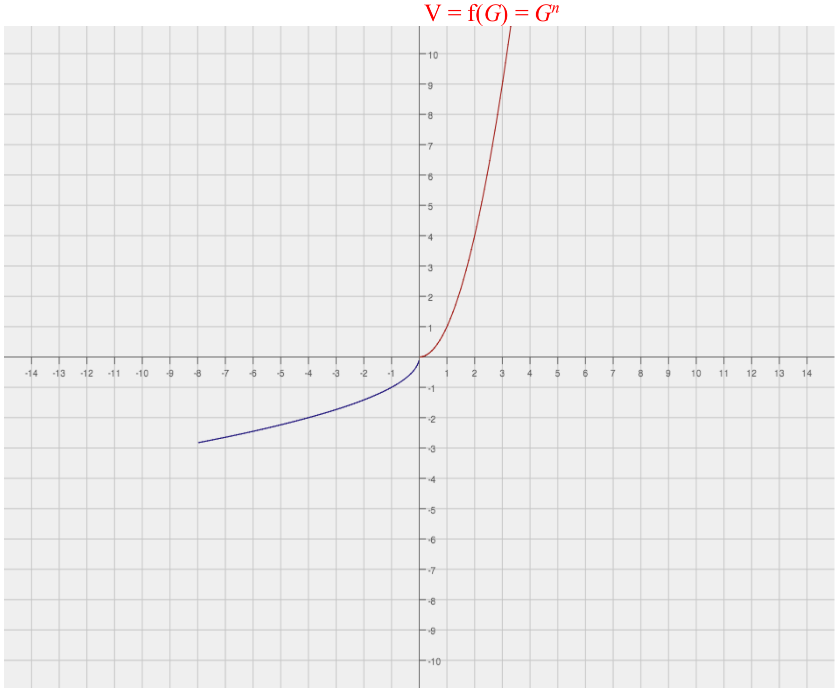
V = f(G) = $\sqrt[n]{G}$ – *Non-Aligned Gain Dimension*



V = f (L) = - | L^m |
Aligned Loss Dimension

Figure 5
Value Function of Promotion Focused Angels
(Essential Components)

$V = f(G) = G^n$



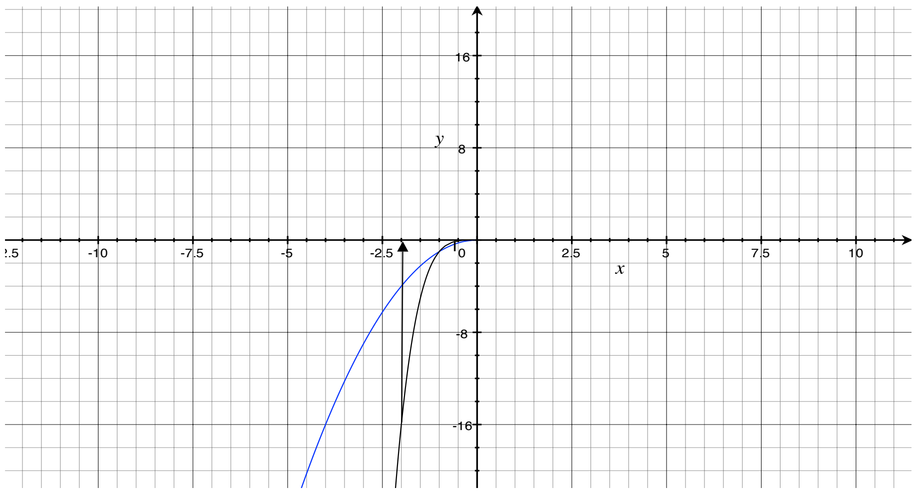
$V = f\,(L) = -\sqrt[m]{|L|}$

Figure 6

Incongruences that Result in Regulatory Focus Dissonance

a. Prevention Focused Angel/Entrepreneur Incongruence

$$|(\int_0^{-\infty} -|L^m_{Angel}|)| < |(\int_0^{-\infty} -|L^m_{Entrepreneur}|)|$$

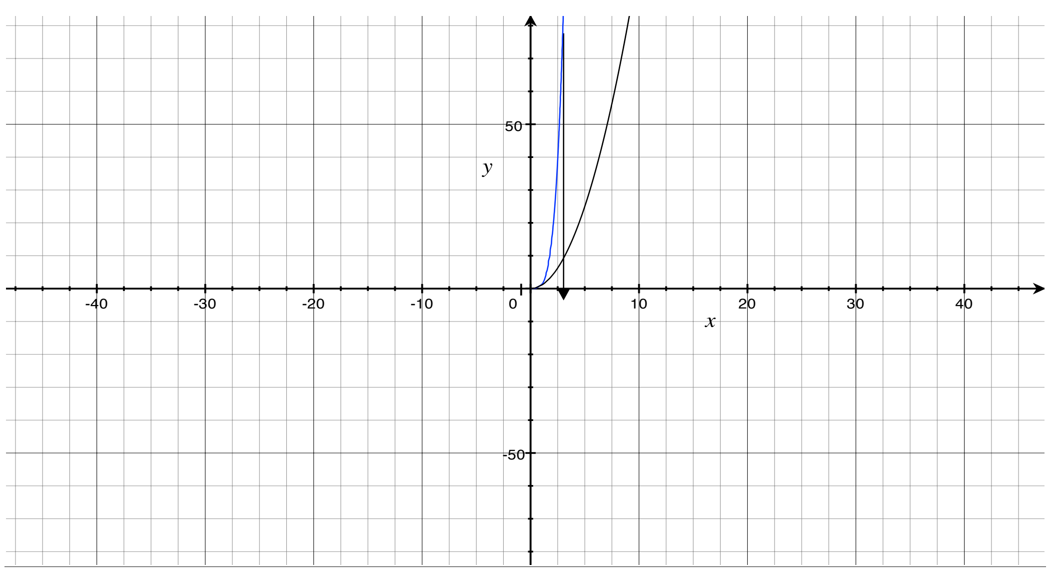


Blue = Entrepreneur

Black = Angel

a. Prevention Focused Angel/Entrepreneur Incongruence

$$(\int_0^{+a} G^n_{Angel}) > (\int_0^{+a} G^n_{Entrepreneur})$$



APPENDIX B – EQUATIONS

CHART 1B
Equations for Promotion and Prevention Focused Angels

For Promotion Focused Angels, the full mathematical functions are:

For range 0 to +a, $V = f(G) = G^n$
For range +a to +∞, $V = f(G) = \sqrt[q]{G}$
For range 0 to -b, $V = f(L) = -\sqrt[m]{|L|}$
For range –b to - ∞, $V = f(L) = -|L^p|$

For prevention-focused Angels, the mathematical functions are:

For range 0 to ∞, $V = f(G) = \sqrt[n]{G}$
For range -∞ to 0, $V = f(L) = -|L^m|$

V is the Value derived by an Angel from the potential gains and losses;
G represents potential tangible and intangible gains that will inure to the benefit of the Angel as a result of the investment (over the positive range);
L is the potential tangible and intangible losses;
n is the power exponent for promotion-focused Angels and the index for the root function for prevention-focused Angels in the positive or gains range;
m is the power exponent for prevention-focused Angels and the index for the root function for promotion-focused Angels in the negative or loss range;
q is the index of the radical in the positive range for promotion-focused Angels;
a is the point of intersection of the two positive range functions of promotion-focused Angels;
p is the exponent of the power function of promotion-focused Angels over the negative range; and
–b is the intersection of the point of intersection the two negative range functions for promotion-focused Angels.

CHART 2B
Examples of permutations of promotion-focused Angel investors.

For range, 0 < X < a, $V = f(G) = G^n$, larger exponents model a person with a stronger gain dimension influence and, generally, a stronger promotion focus.

Promotion Focus:	Strong	Promo	Moderate
Value of n:	$n = 4$	$n = 3$	$n=2$
Function:	$V=g^4$	$V=g^3$	$V=g^2$
Slope:	$V'=4g^3$	$V'=3g^2$	$V'=2g$
Change Rate:	$V''=12g2$	$V''=6g$	$V''=2$

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Organizational Benefits of Dyadic Mentoring

Submitted to the Eastern Academy of Management

January 2020

Organizational Benefits of Dyadic Mentoring

ABSTRACT

The benefits of mentoring for protégés and mentors has been investigated fairly extensively. However, the benefits to the organization have received less empirical attention. This situation is a bit puzzling, given that organizations often sponsor mentoring programs in order to obtain benefits. The organizational benefits of mentoring, including organizational commitment, professional commitment, felt obligation to mentor, protégé sense of competence, and organizational citizenship behaviors were investigated in a sample of firefighters from a fire station in the southwest U.S. In addition, the moderating effects of the quality of the mentoring relationship were considered. Results indicated that there are some benefits to the organization resulting from mentoring and that these effects are enhanced when the mentoring relationship is high quality.

There has been a great deal of scholarly attention directed toward mentoring in the past several decades, beginning with the seminal work by Levinson and colleagues (1978) and Kram (1985). The field has developed from an initial focus on exploring the benefits of mentoring primarily for the protégé to identifying benefits for the mentor as well. In addition, the potential "dark side" of mentoring has been explored for both the protégé and the mentor. The third party to these relationships—that is, the organization in which such exchanges take place—has received limited attention (Laiho & Brandt, 2012).

A cursory look at the literature indicates that there is a great deal of empirical evidence that protégés enjoy greater benefits in the work setting than do non-protégés. Individuals in mentoring relationships report better organizational outcomes than non-mentored individuals, including more promotions and higher salaries (Allen, Eby, Poteet, Lima, & Lentz, 2004; Kammeyer-Mueller & Judge, 2008; Orpen, 1995; Scandura & Schriesheim, 1994) as well as higher supervisor performance ratings (Scandura & Schriesheim, 1994). Protégés also enjoy a more satisfying organizational experience than non-proteges. For example, compared to non-protégés, protégés report greater job satisfaction (Eby, Allen, Evans, Ng, & DuBois, 2008; Baugh & Scandura, 1999; Koberg, Boss, Chappell, & Ringer, 1994), higher subjective career success (Turban & Dougherty, 1994; Waters, McCabe, Kiellerup, & Kiellerup, 2002), and higher levels of organizational and professional commitment (Baugh & Scandura, 1999; Ragins, Cotton, & Miller, 2000).

Mentors, as well, benefit from the mentoring relationship. Mentors may gain satisfaction, a sense of accomplishment, and a greater meaning in their work life by helping less experienced colleagues and sharing their accumulated knowledge and wisdom (Arnold & Clark, 2016; Grima, Paillé, Mejia, & Prud'homme, 2014; Kram, 1985; Levinson, Darrow, Klein, Levinson, &

McKee, 1978; Ragins & Scandura, 1999). They may gain new or updated skills sets (Lankau & Scandura, 2002), esteem from peers and superiors (Allen, Poteet, Russell, & Dobbins, 1997), and an enhanced reputation in the organization (Kram, 1985). In terms of objective career success, mentors may become more effective and efficient by delegating to protégés (Ghosh & Reio, 2013; Nykodym, Freedman, Simonetti, & Nielsen, 1995), developing leadership skills in the process (Chun, Sosik, & Yun, 2012).

Scholars have directed much less attention toward the benefits to the organizations in which such mentoring relationships take place. Organizations can benefit from increased organizational socialization and learning, enhanced employee motivation, and executive development and retention (Kram & Hall, 1989; Viator & Scandura, 1991). In addition, mentoring facilitates the transfer of tacit knowledge (Swap, Leonard, Shields, & Abrams, 2001). Mentoring may also benefit organizations by ensuring continuity of organizational culture (Wilson & Elman, 1990), making the organizational more attractive to potential employees (Allen & O'Brien, 2006) and creating higher levels of commitment and reducing turnover (Payne & Huffman, 2005.

We conducted this research in order to explore the influence of mentoring on organizationally-valued outcomes among protégés. We identified several outcomes of mentoring that might be beneficial to the organization. In addition, based on findings that suggest that outcomes are enhanced in strong mentoring relationships (Ragins, Cotton, & Miller, 2000), we included an assessment of the quality of the mentoring relationship.

Mentoring Effects on Organizations

In order to explore the beneficial effects of mentoring for organizations, we selected five outcomes that have a positive influence for the organization. These five outcomes are organizational commitment, professional commitment, felt obligation to mentor, sense of competence, and organizational citizenship behaviors. The influence of the three dimensions of mentoring—instrumental mentoring, psychosocial mentoring, and role modeling—are examined separately in order to determine if their effects on mentoring outcomes are different.

Organizational Commitment

There are a number of reasons that employee affective commitment can be beneficial to the organization. Organizational commitment has been empirically related to outcomes with financial implications, such as absenteeism, turnover, and job performance (Flint, Haley, & McNally, 2013; Mowday, Steers, & Porter, 1978, 1979; Yousaf, Sanders, & Abbas, 2015). However, organizational commitment can be a valuable outcome in itself. Individuals who are higher in organizational commitment are better organizational "ambassadors," both within and outside of the organization, than those with low commitment. Employees with higher commitment will present a more positive image of the organization both internally (to other employees) and externally (to the community). Attitudes, like emotions, can be "contagious" to others, creating a more positive work atmosphere for employees.

Organizational commitment has been studied as an individual outcome for protégés (e.g., Baugh, Lankau, & Scandura, 1996). However, commitment also represents a benefit to the company. Formal mentoring programs within organizations often has as one of the goals enhancing employee well-being in the organizational setting. Organizational commitment represents one such aspect of well-being with respect to the employee's work setting.

Professional Commitment

Professional commitment represents the employee's attachment to the line of work that he or she has chosen. While organizational and professional commitment have often been viewed as conflicting, they can also be complementary (Baugh & Roberts, 1994). That is, attachment to the profession represents a commitment to the line of work that the organization has hired the individual to perform (Yousaf, Sanders, & Abbas, 2015). Thus, a high level of professional commitment suggests that the individual has a strong concern about the professional nature of the work that he or she performs for the organization (Dwivedula & Bredillet, 2010; Perry, Hunter, & Currall, 2016). Further, many professions have external ethical standards that reinforce the organizational code of ethics. Thus, a high level of professional commitment will be beneficial to the organization due to the care and attention the employee gives to both quality of the work itself as well as the effect of that work on others, including external constituencies (Perry, Hunter, & Currall, 2016).

Felt Obligation to Mentor

Individuals who have benefited from a mentoring relationship in the workplace may experience a need to reciprocate those benefits (Maynard-Patrick & Baugh, 2019). However, it may not be possible to reciprocate directly to the mentor for a number of reasons. For example, the mentor is generally more highly placed in the organization than the protégé, so the mentor has more resources to utilize to the protégé's advantage (Bailey, Voyles, Finkelstein, & Matarazzo, 2016; Grima, Paillé, Mejia, & Prud'homme, 2014; Haggard, Dougherty, Turban, & Willbanks, 2011). With fewer resources at his or her disposal, the protégé may be left with a feeling that the reciprocation is incomplete. Thus, the former protégé will experience a general sense of needing to "return the favor, " but may do so in a more generalized manner by serving as a mentor to others in the organization. Given that one of the difficulties in developing a mentoring program may be a lack of individuals willing to assume the role of a mentor (Leiho & Brandt, 2013), this outcome can be highly desirable for an organization.

While the sense of indebtedness represented by felt obligation to mentor does not suggest a responsibility directly to the organization (Maynard-Patrick & Baugh, 2019), the organization will nonetheless benefit from this sense of obligation. If individuals who have experienced a mentoring relationship feel that they should reciprocate for the benefits received by mentoring others, the organization in which they are employed will benefit from the attention given to less experienced employees. The benefits of mentoring for the organization will be multiplied as former protégés serve as mentors to newer employees.

Sense of Competence

The protégé's sense of competence also represents a benefit to the organization. Mentoring can enhance the protégé's belief that he or she is capable of performing required activities in the organizational setting (Eddy, Tannenbaum, Alliger, D'Abate, & Givens, 2001; Koberg, Boss, Chappell, & Ringer, 1994). A greater sense of competence means that the individual has the ability to work autonomously, without requiring close supervision or feeling a need to check in with the supervisor frequently. While a high sense of competence does not ensure that the individual truly possesses the requisite skills to perform the job (Eddy et al., 2001), a low sense of competence will undermine the individual's job performance. Further, individuals with a low sense of competence will drain time and energy from superiors or coworkers, as they will need continual reassurance with regard to job performance.

Individuals with a high sense of competence are more likely to take on the difficult tasks required on the job. Further, they are more likely to use time efficiently by immediately engaging in the task, rather than engaging in avoidance behavior. Thus, if mentoring results in a greater sense of competence among protégés relative to non-protégés, the organization will benefit from this outcome

Organizational Citizenship Behaviors

Organizational citizenship behaviors are those employee activities that are important to the organization, but are not required in the employee's job description (Organ, 1988). Organizational citizenship behaviors have been studied for some time (Organ, 1987). These behaviors represent a benefit to the organization, especially given that they cannot be required of the employee (Organ, 1988). While employees can be evaluated and even disciplined for substandard job performance, the same cannot be said of failure to perform organizational citizenship behaviors. These activities are highly desirable to employing organizations. Further, the mentor models the provision of extra-role behaviors by providing mentoring functions. Thus, as is the case with supervisory behavior (Yaffe & Clark, 2011), the protégé may be motivated to follow suit.

Based on the rationale provided, the following three hypotheses are offered:

Hypothesis 1: Instrumental mentoring will be positively associated with (a) organizational commitment, (b) professional commitment, (c) felt obligation to mentor, (d) sense of competence, and (e) organizational citizenship behaviors.

Hypothesis 2: Psychosocial mentoring will be positively associated with (a) organizational commitment, (b) professional commitment, (c) felt obligation to mentor, (d) sense of competence, and (e) organizational citizenship behaviors.

Hypothesis 3: Role modeling will be positively associated with (a) organizational commitment, (b) professional commitment, (c) felt obligation to mentor, (d) sense of competence, and (e) organizational citizenship behaviors.

Effect of Quality of Mentoring Relationship

While mentoring can result in many benefits to the protégé and to the organization, the strength of these relationships is dependent on the quality of the mentoring relationship. As previous research has shown a low quality mentoring relationship may not have the same positive benefits as a high quality relationship and may be no better than no mentoring relationship at all (Ragins, Cotton, & Miller, 2000). Thus, the effects of the relationships can be expected to be stronger as the quality of the relationship increases. As a result, the following hypotheses are offered:

> Hypothesis 4: Quality of mentoring relationship will moderate the effect of instrumental mentoring such that the relationship with (a) organizational commitment, (b) professional commitment, (c) felt obligation to mentor, (d) sense of competence, and (e) organizational citizenship behaviors will be stronger as the quality of the relationship increases.

> Hypothesis 5: Quality of mentoring relationship will moderate the effect of psychosocial mentoring such that the relationship with (a) organizational commitment, (b) professional commitment, (c) felt obligation to mentor, (d) sense of competence, and (e) organizational citizenship behaviors will be stronger as the quality of the relationship increases.

> Hypothesis 6: Quality of mentoring relationship will moderate the effect of role modeling such that the relationship with (a) organizational commitment, (b) professional commitment, (c) felt obligation to mentor, (d) sense of competence, and (e) organizational citizenship behaviors will be stronger as the quality of the relationship increases.

Method

Participants for the study were employed by a fire department within a city in the Southwestern United States. The fire department required all new employees to be mentored and each new employee was assigned a mentor. As a result, new entrants to the organization were paired (as protégés) with current employees who had been mentored in the past and then became mentors themselves. Individuals seeking promotion were required to have served as a mentor. As a result, the top managers of the organization encouraged and supported mentoring in order to meet these requirements. However, there was no active program of training for mentors nor was there any formal follow-up with respect to the success of the mentoring relationships.

Procedure

The surveys both for the protégés who then became mentors and for the current protégés were distributed to personnel in training sessions over the span of three weeks. In these sessions, two individuals involved in the project explained the purpose of the research, the survey itself, and the option to participate. The potential participants were assured that their individual responses would remain confidential and procedures for ensuring confidentiality were explained. Any questions from potential participants were answered and participants were given time to respond to the surveys. After each session, the surveys were collected and sealed in envelopes.

Supervisors of the participants were also included in the study. Surveys developed for supervisors were distributed to them at a supervisor meeting several weeks after the employee surveys were completed. Supervisors were given a month to complete their ratings and return them in the envelopes provided. The surveys were returned in three batches, and so the complete data collection was accomplished after two and half months.

Sample

The sample was comprised of 95 participants, all in the role of protégé. The participants in the study included firefighters, emergency medical services personnel, and administrative employees. The majority of employees (95%) were male due to the nature of the organization and the jobs under study. The respondents were also primarily Caucasian. The average age was 35.5 years. Organizational tenure ranged from 6 months to 24 years. Tenure in the occupation ranged from 6 months to 24 years, so the respondents had limited experience as firefighters outside of the current employer.

The present study is a part of a larger study of mentoring in a professional setting. Only a subset of the measures were used for this study. These measures are described next.

Measures

As a part of the development of the survey used in this research, two focus groups were consulted. One group consisted of the fire chief and senior officers (n = 9) and the other comprised lower level firefighters (n = 16). These focus groups offered suggestions about the information to be collected as well as items within scales that did not pertain to the fire station context.

In this section we will provide information about the measures used in the study, including a sample item or items and the scale reliability. All response scales ranged from “1” (strongly disagree) to “7” (strongly agree). Any necessary reversals in coding of items occurred prior to analysis.

Predictor variables. The protégés provided information regarding mentoring functions received in their current or most recent mentoring relationship. Protégés rated the extent to which their mentor performed mentoring functions using the Mentoring Functions Questionnaire (Castro & Scandura, 2004; Scandura & Ragins, 1993). The Mentoring Functions Questionnaire (MFQ) was a nine-item scale with three items each assessing the subcales of instrumental, psychosocial, and role modeling functions.

The subscales, rather than the overall MFQ, were used in this research in order to provide more detailed information about the predictors of organizational benefits. All subscales demonstrated good internal consistency reliability. The instrumental mentoring subscale exhibited an internal consistency reliability of .92. An example item from this subscale was “My mentor has devoted special time and consideration to my career.” The psychosocial mentoring subscale had an internal consistency reliability of .91. An example item from this subscale was "I exchange confidences with my mentor." The role modeling subscale showed an internal consistency reliability of .85. An example item from the role modeling subscale was "I try to model my behavior after my mentor."

Moderator variable. The quality of the mentoring relationship was assessed with six items developed by Allen and Eby (2003). Protégés responded with respect to the quality of the current or most recent mentoring relationship. However, the items were originally written to collect data from mentors on protégés, so the items were reworded to indicate the quality of the protégé's relationship with the mentor. In previous studies using this approach, coefficient alphas of .90 to .92 were obtained. In addition to these changes, an item originally stating "Both my protégé and I benefited from the mentoring relationship" was reworded to "I feel I benefited from the mentoring relationship." We were concerned about the "double-barreled" item as well as the protégé's ability to speak to the mentor's assessment of the relationship. An example item from this scale was "My mentor provided me with meaningful benefits." The internal consistency reliability for this scale was .94.

Dependent variables. The dependent variables in this study included protégé responses with respect to the work experience as well as supervisor assessments of the protégé's extra-role performance. The dependent variables included affective organizational commitment, professional commitment, perceived supervisor support, sense of personal competence, and organizational citizenship behaviors. Protégés reported all dependent measures with the exception of the measure of organizational citizenship behaviors, which was reported by the supervisor. In all cases, the construct assessed represented a benefit to the organization—either positive attitudes or beliefs as reported by the protégé or extra-role effort as reported by the protégé's supervisor.

In the larger study, supervisors assessed in-role as well as extra-role performance. However, in a situation such as a fire station, there was very limited variance with respect to in-role job performance. There were very high standards for entry into the job and a high level of performance was required post-entry. Any individual who did not meet these high standards was dismissed quickly, because any lapse in performance might result in a co-worker's injury or fatality. Due to the very limited variation in assessed in-role performance, we opted not to include this outcome variable in the study.

We assessed affective commitment using the scale developed by Allen and Meyer (1990). This 8-item scale assesses the respondent's feelings of commitment to the organization. Allen and Meyer reported an internal consistency value of .87 for the scale. In the current study, the internal consistency value was .90. An example item from the scale was "I really care about what happens to the organization."

Aranya, Pollock, and Amernic (1981) introduced a measure of professional commitment that was a modification of the organizational commitment questionnaire (OCQ; Mowday, Steers, & Porter, 1978, 1979). The professional commitment was shorter than the OCQ with only six items. Further, these items were revised slightly to refer to the respondent's profession rather than the employing organization. An example item was "I am proud to tell others that I am a part of this profession." The internal consistency reliability of the measure in this sample was .77.

The measure assessing felt obligation to mentor was recently introduced into the literature (Maynard-Patrick & Baugh, 2019). This scale addresses the respondent's feeling of obligation to pass on the benefits of mentoring received in his or her own mentoring relationship by becoming a mentor to others. An example item from the scale of perceived supervisor support was “I should provide others with the opportunities my mentor presented to me.” The internal consistency reliability in the present study was .92.

The scale assessing the protégé’s sense of competence was first presented by Wagner and Morse (1975) and was designed for use in organizational settings. The six items included in this study comprised the task knowledge and problem-solving subscale that has been used in previous research (e.g., Aryee, Chay, & Tan, 1994). An example item from the scale was “I honestly believe that I have all the skills necessary to perform this job.” The internal consistency reliability in the present study was .76.

To assess extra-role performance, the seven items presented by Wayne, Shore, and Liden (1997) were used. Supervisors of the protégés provided their assessment of the protégés’ willingness to engage in extra-role behaviors. An example item from this scale was "This employee volunteers to do things not formally required by the job." A previous study using these items reported an alpha of .76 (Bishop, Scott, & Burroughs, 2000). In this study, the internal consistency reliability was .88.

Control variable. We used organizational tenure as a control variable because of its relationship to a number of organizational outcomes and the importance with respect to mentoring relationships (Colarelli & Bishop, 1990; Ragins, Cotton, & Miller, 2000). We did not include sex as a control variable due to its very limited variability in this study.

Analyses

The hypotheses were tested using five moderated regression analyses with xx, xx, xx, and xx as the dependent variables. In the first step of the regression analysis, the protégé’s assessment of mentoring functions performed by the mentor was entered. In the second step, the protégé's assessment of the quality of the mentoring relationship was entered. Finally, the interaction of the protégé's response on the MFQ and the protégé's assessment of the quality of the mentoring relationship was entered. The MFQ and the assessed quality of the mentoring relationship were both centered prior to computing the interaction effect.

Significant interactions were explored using simple slopes analysis. The relationship between the predictor variable (instrumental support, psychosocial support, or role modeling) and the dependent variable was computed for the third of the sample scoring highest on quality of relationship and for the third of the sample scoring lowest. The one-third split was used instead of separating high and low groups using the standard deviation of the quality of the mentoring relationship because of the relatively small sample size.

Results

The intercorrelations among the study variables are presented in Table 1. There were significant bivariate relationships between all three dimensions of mentoring and the outcome variables with the exception of organizational citizenship behaviors. Further, there was a puzzling negative relationship between the quality of the mentoring relationship and supervisor-rated organizational citizenship behaviors.

Results with respect to hypothesis 1 and hypothesis 4 are presented in Table 2. As indicated, a main effect appeared only for professional commitment, indicating that instrumental mentoring is positively associated with professional commitment. Thus, hypothesis 1 received only limited support. However, a significant interaction effect is found for both professional commitment and felt obligation to mentor. A simple slopes analysis showed that in both cases, there was a statistically significant association between instrumental mentoring and the dependent variable (professional commitment and felt obligation to mentor) when relationship satisfaction was high, but not when it was low.

Results with respect to hypotheses 2 and 5 are presented in Table 3. Professional commitment is significantly predicted by psychosocial mentoring. The association is weaker, but marginally significant, for affective commitment and felt obligation to mentor. There are significant interactions between psychosocial mentoring and quality of the mentoring relationship for professional commitment and felt obligation to mentor, whereas the interaction is only approaching significance for sense of competence. Once again, simple slopes analysis indicated that the relationship between psychosocial mentoring and the dependent variables (professional commitment and felt obligation to mentor) was statistically significant when the quality of the mentoring relationship was high, but not when it was low. Given that the interaction was only approaching significance for sense of competence, simple slopes analysis did not reveal a similar pattern for that dependent variable.

Finally, results with respect to hypotheses 3 and 6 are presented in Table 4. A statistically significant relationship was found for role modeling with affective commitment, professional commitment, and felt obligation to mentor. A significant interaction between role modeling and quality of the mentoring relationship appeared for professional commitment and felt obligation to mentor. In this case, simple slopes analysis showed that the relationship between role modeling and felt obligation to mentor was statistically significant when the quality of the relationship was high, but not when it was low. A similar pattern was not observed for professional commitment, however.

Discussion

The results of the study indicate that organizations can anticipate some effects from mentoring that takes place in the organizational setting. Professional commitment was significantly associated with all three forms of mentoring activity—instrumental and psychosocial mentoring as well as role modeling. Psychosocial mentoring was related to organizational commitment and felt obligation to mentor in addition to professional commitment. Role modeling was marginally associated with felt obligation to mentor.

In addition to these direct associations, the quality of the mentoring relationship moderated the relationships. That is, the relationship between all three mentoring functions and professional commitment was significant when the quality of the relationship was high but non-significant when the quality of the relationship was low. The same situation was true for felt obligation to mentor. There was also a similar interaction effect for sense of competence that only approached statistical significance. These results indicate that organizational benefits are not certain results from mentoring, but will only be obtained when the participants develop high quality relationships.

In practical terms, organizations that develop formal mentoring programs or facilitate the development of mentoring relationships (as was the case in the fire station) should direct attention to the relationships that are developed. In formal mentoring programs, there is often support for the development of the relationships. In addition, there is often a mechanism for changing the mentoring partner should early evidence indicate to one or both of the partners that the match is not successful. In settings in which the organization facilitates the relationship but does not formally assign the mentor, program directors should be careful to follow up with respect to the development of the relationship.

The self-report nature of the measures used in this study is a limiting factor. It is disappointing that results were not obtained for organizational citizenship behavior, which was rated by the supervisor rather than the protégé. However, the failure to obtain results may be an artifact of the relatively constrained variance in this outcome measure. Just as was the case with job performance, firefighters were generally willing to engage in extra-role behavior. As a result, the mean of the supervisor ratings was relatively high, resulting in limited variance.

We suggest that more research should be directed toward investigating the benefits to organizations of mentoring. This research is especially important for organizationally-sponsored mentoring programs, given that the company has invested resources into ensuring the development of mentoring relationships. It is particularly important to investigate the long-term effects of such mentoring programs based on the articulated goals. To date, the research on formal mentoring programs has primarily focused on the benefits to the protégé, with the presumption that these protégés will demonstrate their value to the organization. However, evidence of the effects is needed if organizations are to continue to invest resources in these programs.

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Table 1
Correlations of Study Variables

Variable Name	1	2	3	4	5	6	7	8
Instrumental Mentoring	___							
Psychosocial Mentoring	.606***	___						
Role Modeling	.636***	.693***	___					
Quality of Relationship	.733***	.727***	.856***	___				
Affective Commitment	.217†	.345**	.363***	.282*	___			
Professional Commitment	.738***	.320**	.322**	.240*	.390***	___		
Felt Obligation to Mentor	.398***	.485***	.609***	.588***	.405***	.420***	___	
Sense of Competence	.240*	.308**	.208†	.295**	.131	.323**	.385***	___
Organizational Citizenship Behaviors	-.161	-.186	-.158	-.240*	.163	.263*	.038	.027

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Table 2

Regression Analyses for Instrumental Mentoring

Variable	Affective Commitment	Professional Commitment	Felt Obligation to Mentor	Sense of Competence	Organizational Citizenship Behaviors
	Dependent Variables				
Organizational Tenure	-0.042* (.021)	-0.042*** (.011)	0.007 (.014)	-0.016 (.012)	-0.010 (.018)
Instrumental Mentoring	0.029 (.210)	0.340** (.112)	-0.075 (.143)	0.014 (.119)	0.028 (.198)
Quality of Mentoring Relationship	-0.318 (.225)	-0.070 (.118)	0.786*** (.150)	0.231# (.125)	-0.346 (.216)
Instrumental Mentoring x Quality of Relationship	0.061 (.182)	0.230* (.098)	0.256* (.128)	0.127 (.103)	-0.171 (.162)
	$R^2 = .135^*$	$R^2 = .336^{***}$	$R^2 = .399$***	$R^2 = .138^*$	$R^2 = .079$

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 3

Regression Analyses for Psychosocial Mentoring

	Dependent Variables				
Variable	Affective Commitment	Professional Commitment	Felt Obligation to Mentor	Sense of Competence	Organizational Citizenship Behaviors
Organizational Tenure	-0.040† (.020)	-0.043*** (.012)	0.008 (.014)	-0.014 (.012)	-0.010 (.018)
Psychosocial Mentoring	0.254† (.130)	0.198** (.074)	0.170† (.089)	0.130 (.079)	-0.092 (.117)
Quality of Mentoring Relationship	0.049 (.208)	-0.052 (.118)	0.554*** (.142)	0.100 (.123)	-0.203 (.193)
Instrumental Mentoring x Quality of Relationship	0.061 (.100)	0.117* (.057)	0.202** (.215)	0.104† (.059)	-0.118 (.107)
	$R^2 = .176^{**}$	$R^2 = .297^{***}$	$R^2 = .436^{***}$	$R^2 = .169^{**}$	$R^2 = .082$

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 4

Regression Analyses for Role Modeling

Variable	Affective Commitment	Professional Commitment	Felt Obligation to Mentor	Sense of Competence	Organizational Citizenship Behaviors
	Dependent Variables				
Organizational Tenure	-0.037† (.021)	-0.039** (.012)	0.014 (.014)	-0.014 (.012)	-0.013 (.018)
Role Modeling	0.451* (.215)	0.303* (.119)	0.421** (.136)	-0.075 (.166)	0.078 (.189)
Quality of Mentoring Relationship	-0.136 (.281)	-0.128* (.118)	0.314 (.183)	0.348* (.166)	-0.439† (.256)
Role Modeling x Quality of Relationship	0.080 (.128)	0.168* (.057)	0.243** (.085)	0.099 (.076)	-0.159 (.129)
	$R^2 = .184^{**}$	$R^2 = .312^{***}$	$R^2 = .476^{***}$	$R^2 = .148^{*}$	$R^2 = .089$

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Exploring Relationships Between Personality Ratings and Computer-based Analysis of Behaviors in Video Interviews

Abstract: Interviews are conducted with the goal of using interviewee behavior to infer interviewee characteristics. These interviewee behaviors include verbal responses, nonverbal behaviors that accompany those responses, and paraverbal behaviors (e.g., pitch, speech rate) associated with the delivery of the responses. With the rise of video interviews, more companies are seeking to apply computer-based analytics to assess interviewee characteristics. Yet, it is critical to determine the extent specific behaviors are related to interviewee characteristics as well as the types of behaviors that can be retrieved through computer-based analysis. As initial steps toward this goal, we compared existing operationalizations of interviewee behavior with behaviors that computers can extract. Then we conducted 467 asynchronous video interviews, collecting both self-reported and interviewer rated five-factor model personality estimates, and used emotion analytics software and closed vocabulary text mining to extract interviewee verbal, nonverbal, and paraverbal behaviors from the interviews. We examined the extent to which computer-extracted behavioral indicators correlated with self-reported and interviewer rated personality traits, as well as whether those relationships aligned with prior research. This paper applies novel data science methods to advance our conceptual understanding of whether behavior and personality can be inferred by computers in employment interviews.

Keywords: employment interview, interviewee behavior, nonverbal behavior, personality

INTRODUCTION

Employment interviews are widely used in selection contexts because they have been shown to be valid predictors of job performance, and interviews provide employers an opportunity to assess applicant knowledge, skills, abilities, and other characteristics (KSAOs; Huffcutt & Woehr, 1999). In particular, interviews are commonly used to assess applicant personality traits (Huffcutt, Conway, Roth, & Stone, 2001) given the evidence that personality traits are valid predictors of task performance (Barrick & Mount, 1991), organizational citizenship behaviors (OCBs; Chiaburu, Oh, Berry, Li, & Gardner, 2011), and counterproductive work behaviors (CWBs; Carpenter & Berry, 2014). Additionally, it has been proposed that structured interviews can potentially overcome the known shortcomings of self-report personality assessments (i.e., socially desirable responding and outright faking; Levashina, Hartwell, Morgeson, & Campion, 2014). Given these potential advantages, many companies have begun investigating how technological advances, such as asynchronous video interviews, can be used in personnel selection to reach a wider pool of geographically dispersed applicants.

Of significance is that many organizations are not merely utilizing video interviews but are also adopting machine learning algorithms that extract and analyze interviewee behaviors to infer their personality traits (Chamorro-Premuzic, Winsborough, Sherman, & Hogan, 2016). This focus has also come about because an increasing number of companies (e.g., HireVue) are touting their ability to automatically infer interviewee characteristics in place of human raters. There are reasons to believe that with the advances in machine learning, we will be able to computationally analyze relevant interviewee behaviors. Indeed, past work has shown that interviewee verbal behavior (i.e., answers to interview questions), nonverbal behavior (e.g., facial expressions and gestures), and paraverbal behavior (e.g., speech rate, pauses, pitch) are related to *interview performance* (Barrick, Shaffer, & DeGrassi, 2009; Degroot & Motowidlo, 1999).

Despite this, due to several research gaps, there is also skepticism as to whether machine learning algorithms can indeed infer applicant characteristics such as personality traits (e.g., Harris, Murray, & Warren, 2019). The first gap is a conceptual one: to what extent do verbal, nonverbal, and paraverbal behaviors reflect personality traits? We need to use prior research to determine if there is a strong conceptual basis relating these behaviors to personality traits. The second gap is a methodological one: to what extent can computer-based extraction techniques match what is conceptually known about these verbal, nonverbal, and paraverbal behaviors? We need to understand the capabilities and limitations of current computer-based behavior extraction techniques. The final gap is an empirical one: to what extent do the behaviors extracted by computers relate to specific personality traits? This requires using computer software to extract behaviors from video interview data to adjudicate its utility.

To address the conceptual gap, we reviewed existing research linking verbal, nonverbal, and paraverbal behaviors to five factor model (FFM) personality traits (both self-reported and inferred by interviewers). We then address the methodological gap by mapping which of these previously studied behaviors computers can assess, which ones they cannot, and the opportunities computerized behavioral assessments provide. To address the empirical gap, we collected mock asynchronous (or *one-way*) video interviews to examine how computer extracted behaviors relate to self-reported and interviewer rated personality traits. Existing automated assessments maximize prediction without an underlying theoretical framework—this paper takes first steps to conceptually understand computerized behavioral assessments by linking them to our existing operationalizations of interviewee behavior.

INTERVIEW BEHAVIORS AND PERSONALITY TRAITS

Interviewee Behaviors

Interviewee performance consists of three types of behaviors (Huffcutt, Van Iddekinge, & Roth, 2011): interviewee responses to interview questions (i.e., *verbal* behavior), behavior while responding (i.e., facial expressions and gestures, or *nonverbal* behavior), and the delivery of those responses (i.e., speech rate, pitch, tone, and volume, or *paraverbal* behavior; also referred to as *vocalics*, Bonaccio, O'Reilly, O'Sullivan, & Chiocchio, 2016). Nonverbal and paraverbal behaviors carry much of the meaning in our communication (Mehrabian, 1971), and interviewers use all three types of behaviors to assess interviewee KSAOs (e.g., Degroot & Gooty, 2009; Gifford, Ng, & Wilkinson, 1985).

The majority of existing work focused on interviewee behavior has focused on impression management (IM) behaviors (e.g., Barrick et al., 2009)—"conscious or unconscious attempts to control the images that are projected in … social interactions" (Schlenker, 1980, p. 6). IM research includes the study of some nonverbal behaviors like smiling, eye contact, and posture. Relatively less work has focused on the content of interview responses and the way those responses are delivered (i.e., paraverbal behavior). Table 1 summarizes how verbal, nonverbal, and paraverbal behaviors have been operationalized via manual ratings, how they can be operationalized with computer-based behavior extraction, and the relationship between these two methods for scoring interviewee behavior in terms of convergence, gaps, and opportunities.

Research on verbal behaviors has focused primarily on the quality of interviewee responses and the types of IM they utilize. The quality of responses to questions is important for understanding interview outcomes (e.g., Rasmussen, 1984). Indeed, the idea behind behaviorally anchored rating scales (BARS) is that interviewers should judge interviewees based on the quality of their responses, as determined by collecting and scoring example answers (Campion, Palmer, & Campion, 1997). Importantly, however, IM behaviors can be involved in either supporting the quality of response or contaminating the response with irrelevant information. For instance, past behavior questions invite interviewees to engage in self-promotion IM while recalling prior experiences, whereas situational questions that ask about hypotheticals do not (Peeters & Lievens, 2006; Van Iddekinge, McFarland, & Raymark, 2007). On the other hand, deceptive IM may artificially inflate interviewer ratings and reduce interview validity because interviewers struggle to identify deceptive IM (Roulin, Bangerter, & Levashina, 2015). Due to the dearth of research examining interviewee responses, the results presented here may differ from prior research connecting personality to language use, because *what* is said varies across contexts, but *how* things are said tends to be more consistent (Tausczik & Pennebaker, 2010).

Research on interviewee nonverbal behavior has primarily treated nonverbals as a social influence IM tactic. One exception is applicant appearance. Attractiveness and professional dress are not nonverbal behaviors per se, as they are static characteristics (DeGroot & Gooty, 2009), yet they have been studied as nonverbal factors that affect interviewer ratings. Attractiveness and professional dress inflate interviewer ratings, but they are unrelated to job performance (Barrick et al., 2009). Numerous discrete nonverbal behaviors have been studied, although most studies have focused on a select few self-reported or manually rated nonverbals. Eye contact and posture, for example, convey interviewee confidence, and appropriate smiles, nods, and gestures can indicate interest and elicit positive personality inferences from interviewers (DeGroot & Gooty, 2009; Kristof-Brown, Barrick, & Franke, 2002).

Paraverbal behaviors have received the least research attention, and they have sometimes been classified as verbal behaviors (e.g., Barrick et al., 2009). Paraverbal behaviors are difficult and time consuming to manually operationalize. Gallaher (1992) had multiple raters score interviewee pitch, pitch variability, and how rhythmic and smooth voices were, and Feiler and Powell (2016) had multiple raters score interviewee speech rate, number of pauses, and pause duration. When paraverbals are manually operationalized, they are sometimes included in ad hoc factors that include nonverbals, preventing study of their unique effects (e.g., Gallaher, 1992). On the other hand, DeGroot and colleagues (DeGroot & Gooty, 2009; DeGroot & Kluemper, 2007; DeGroot & Motowidlo, 1999) used computers to score paraverbal quality. They added standardized scores of pitch variability and speech rate, then subtracted pauses, amplitude variability, and gender-normed pitch. Good paraverbals affect speaker credibility and liking (Sporer & Schwandt, 2006), and paraverbal quality predicts both interview evaluations and job performance (DeGroot & Motowidlo, 1999). Interviewee paraverbals may be more predictive of job performance than appearance or nonverbals because they affect both interviewer *and* supervisor liking, thus affecting performance appraisals (DeGroot & Motowidlo, 1999).

Personality's Relation to Interviewee Behavior

The FFM is the most researched conceptualization of normal personality. Decades ago, researchers recognized that, through necessity, verbal symbols are developed to describe important aspects of personality that affect interpersonal interactions (Cattell, 1957). Subsequently, the FFM was established through lexical analyses of naturally occurring descriptors (Digman, 1990). Personality, therefore, is an inherently social phenomenon. Personality traits are relatively enduring patterns of feelings, thoughts, and behaviors (Roberts & Jackson, 2008). However, much like the behavior of interviewees is understudied, only a few behaviors have been conceptually and empirically linked to the FFM (Jackson et al., 2010). Personality is most commonly measured by self-reports, which captures a person's inner nature that is tainted by self-presentation processes (especially in applicant contexts), yet personality ratings from knowledgeable others or observers reflect a person's reputation and may be more useful for predicting outcomes in many situations (Hogan, Hogan, & Roberts, 1996). Each of the FFM traits relates to unique psychosocial functions, and we discuss each in turn.

Extraversion-introversion relates primarily to how sociable and gregarious a person is (Watson & Clark, 1997). The more extraverted a person is, the more they enjoy social situations and the more likely they are to appear confident and comfortable in such situations. The more introverted a person is, the more quiet and introspective they tend to be. Additionally, extraversion contains a positive emotions facet which affords individuals a wide variety of personal, educational, and workplace benefits (Wilmot, Wanberg, Kammeyer-Mueller, & Ones, 2019). Extraverts tend to be more emotionally expressive than introverts, whether expressiveness is measured in self-reports, observed in poses, or in spontaneous behavior (Riggio & Riggio, 2002). Therefore, extraversion is considered the most visible and least evaluative of the FFM (McDonald & Letzring, 2016), although the evaluativeness of extraversion may be increasing (cf. Wilmot et al., 2019). In line with these descriptions, self-reported extraverts tend to engage in more self-promotion and other-focused IM in interviews (Kristof-Brown et al., 2002; Roulin & Bourdage, 2017), refer to more social processes and positive emotions in their language (Pennebaker & King, 1999; Yarkoni, 2010), and smile and make eye contact more compared to introverts (Gifford, 1991; Simpson, Gangestad, & Biek, 1993). Additionally, people are judged as more extraverted for smiling and exhibiting good paraverbals (DeGroot & Gooty, 2009).

Agreeableness relates to how considerate, cooperative, and likable a person is (Graziano & Eisenberg, 1997). Whereas extraversion relates primarily to one's preferred quantity of social interaction, the agreeableness-disagreeableness trait has more to do with whether one is socially compassionate or antagonistic (Costa, McCrae, & Dye, 1991). Agreeable individuals tend to engage in more prosocial behavior, reflected in agreeableness's robust negative relationship with CWBs (Carpenter & Berry, 2014) and positive relationship with OCBs (Chiaburu et al., 2011). Agreeableness is a moderately visible trait, but is highly evaluative, making it difficult to judge in others because people are motivated to appear agreeable, even if they are not (McDonald & Letzring, 2016). People who self-report being agreeable tend to engage in more self-promotion IM in interviews (Bourdage, Roulin, & Tarraf, 2018; Peeters & Lievens, 2006), use more inclusive language, talk more about positive emotions and less about negative ones (Hirsh & Peterson, 2009; Kern et al., 2014; Yarkoni, 2010), and engage in more positive nonverbals like eye contact, open posture, and friendly facial expressions (Berry & Hansen, 2000; Kristof-Brown et al., 2002). People are judged as more agreeable the more they smile (Knutson, 1996).

Conscientiousness involves both a proactive component of achievement striving and goal setting , as well as an inhibitive side of orderliness and self-discipline (Costa et al., 1991). More conscientious individuals therefore, tend to follow rules, exhibit greater impulse control, be industrious, and engage in more planning. These behavioral tendencies afford benefits to conscientious individuals in the realms of health, mortality, and achievement both in school and at work (Roberts, Lejuez, Krueger, Richards, & Hill, 2014). Indeed, conscientiousness is a robust predictor of task performance, OCBs, and CWBs (Barrick & Mount, 1991; Carpenter & Berry, 2014; Chiaburu et al., 2011). Conscientiousness is moderately visible, yet is considered moderately evaluative and is highly so in workplace settings, making it somewhat difficult to discern in others (McDonald & Letzring, 2016). Individuals who self-report as conscientious tend to engage in honest self-promotion IM and avoid deceptive IM in interviews (Bourdage et al., 2018; Roulin & Bourdage, 2017), use fewer negations, words related to anger, exclusive words, and more achievement related words in language (Hirsh & Peterson, 2010; Yarkoni, 2010). People are judged as more conscientious when they exhibit positive nonverbals (DeGroot & Gooty, 2009).

Emotional stability-neuroticism is the trait most closely associated with anxiety and negative affect (Widiger, 2009). More neurotic individuals tend to respond poorly to stressors and interpret everyday events in a more negative, threatening manner, whereas emotionally stable individuals tend to be more secure and therefore maintain a steady demeanor in response to stressors. Therefore, emotional stability has been included in core self-evaluations, or the basic conclusions and evaluations that people hold about themselves, and is positively related to job satisfaction, task performance (Barrick & Mount, 1991), OCBs (Chiaburu et al., 2011), and negatively related to CWBs (Carpenter & Berry, 2014). Emotional stability has a slight positive relationship with emotional expressiveness in poses and spontaneous behavior (Riggio & Riggio, 2002). As emotional stability has to do with internal responses to situations and feelings, it is one of the least visible traits and is also considered moderately evaluative (McDonald & Letzring, 2016). Individuals who self-reported being emotionally stable exhibit less defensive IM and more other-focused IM in interviews (Peeters & Lievens, 2006; Van Iddekinge et al., 2007), use less negative emotion and anxiety words (Hirsh & Peterson, 2010; Yarkoni, 2010), fidget less and gesture more (both with hands and nodding), and speak faster with fewer pauses in interviews (Feiler & Powell, 2016). Additionally, people are judged as more emotionally stable when they exhibit positive paraverbals (DeGroot & Gooty, 2009).

Openness represents one's inclination for intellectual and/or cultural novelty. Those high in openness tend to seek a variety of new experiences, including acquiring new knowledge, appreciating art, trying new types of food, interacting with people from different backgrounds, and recognizing their blind spots, resulting in personal growth (Woo, Chernyshenko, Stark, & Conz, 2014). Openness has been associated with creative achievements, academic performance, and positive psychosocial outcomes in the context of racial and cultural diversity (e.g., McCrae, 1987; Noftle & Robins, 2007; Saef, Porter, Woo, & Wiese, 2019; Woo et al., 2014). In the organizational literature, openness predicts task performance in jobs that require independence and innovation/creativity (Judge & Zapata, 2015). However, its meta-analytic correlations with most attitudinal and performance outcomes at the broad construct level tend to be rather weak (e.g., Barrick & Mount, 1991; Woo et al., 2014). As openness relates primarily to internal processes for interpreting phenomena, it is one of the least visible traits and is moderately evaluative (McDonald & Letzring, 2016). Openness is mostly unrelated to IM, but some evidence suggests that it leads to more self-promotion IM in applicant-like settings (Peeters & Lievens, 2006). Individuals who self-reported being more open tend to use fewer first person singular pronouns, more articles, and talk more about perceptual processes (i.e., seeing, hearing, & feeling; Hirsh & Peterson, 2009; Kern et al., 2014; Pennebaker & King, 1999). Additionally, they tend to use more eye contact, hand gestures, and smiles (Berry & Hansen, 2000; Gifford et al., 1985). Additionally, people are judged as more open when they exhibit positive nonverbals and paraverbals (DeGroot & Gooty, 2009; DeGroot & Kluemper, 2007; Gallaher, 1992).

Computer-based Approaches for Measuring Interviewee Behavior

Advances related to big data, machine learning, and computer vision have enabled verbal, nonverbal, and paraverbal behaviors to be extracted at scale by computers. Although our investigation does not utilize ‘big data’, several of the tools and techniques we apply relied on ‘big’ datasets during their development. Additionally, many other tools are available for extracting the behaviors described in Table 1. Although ‘big’ datasets were used to develop some of the technologies we apply, this does not mean these technologies are perfectly accurate. However, compared to humans, they tend to perform almost as well but with considerable time and cost savings (e.g., Hamm, Kohler, Gur, & Verma, 2011).

To analyze interviewee verbal behavior with computers, the first step involves transcribing responses. Manual transcriptions have traditionally been used, yet manual transcription is time and cost intensive and does not guarantee perfect quality. IBM Watson Speech to Text is a cloud-based transcription service that uses deep learning to analyze voice signals, grammar, and sentence structure to transcribe speech to text (IBM, 2019). After transcription, two classes of text mining methods have been developed for analyzing text: closed and open vocabulary (Kern et al., 2014). The closed vocabulary approach consists of developing lists of conceptually related words in order to measure semantic categories or psychological constructs. In these approaches, only the words listed in the dictionaries are counted, and all other text is discarded—hence, *closed* vocabulary. For instance, Linguistic Inquiry and Word Count (LIWC; Pennebaker, Boyd, Jordan, & Blackburn, 2015), which we utilize in the present study, is widely used in management research. Treating related words as a single construct increases measurement reliability and allows for more comprehensible relationships between psychological constructs and language use. On the other hand, open vocabulary approaches count any and all *n*-grams, or phrases of length *n* (generally, n=1, 2, and 3; Kern et al., 2014). These *n*-grams can be used as inputs to topic models that describe both the topics covered in a dataset and how relevant each document is to a given topic (Schmiedel, Müller, & vom Brocke, 2018). For example, topic models have been used in selection research to reliably score achievement record essays (Campion, Campion, Campion, & Reider, 2016).

Nonverbal behaviors are measured by computers using machine learning algorithms that have been trained on example behaviors. These algorithms are then applied to unseen image and video data to classify behaviors. For instance, the first review of vision-based gesture recognition appeared 20 years ago (Wu & Huang, 1999), and the techniques have improved since. In the present study, since the context is video interviews, we adopt approaches for analyzing facial expressions and head position. Ekman's (Ekman & Friesen, 1978) groundbreaking work on facial action units (AUs) forms the theoretical basis for systems that extract facial expressions. Although the universal facial expressions do not appear to reliably correspond to emotions across contexts (Barrett, Adolphs, Marsella, Martinez, & Pollak, 2019), the underlying AUs do indeed describe the facial movements that can be used in social influence attempts. AU12, the zygomaticus major muscle, is well known because it is used to smile (whether faked or genuine), and AU06, orbicularis oculi pars orbitalis, represents the cheek and eye component of genuine smiles. Additionally, AU45 is blinking, which has been manually operationalized in prior research (see: Table 1). We also extracted head pose, which can be used as a proxy for gaze.

Paraverbal behaviors are extracted by quantitatively describing the sounds made when speaking (Bonaccio et al., 2016). Software systems can extract many paraverbal cues, some of which are familiar, like pitch, amplitude, volume, and speech rate. Additionally, less familiar paraverbal cues can be measured that index the smoothness and quality of voice, including the harmonics-to-noise ratio (Ferrand, 2002), jitter, and shimmer (Heiberger & Horii, 1982). These less familiar indices capture elements of voice quality and have been used, for example, to analyze stress and emotions (e.g., Li et al., 2007).

Synthesis

As summarized above and in Table 1, many opportunities exist for studying interviewee behavior. Regarding the first research gap we identified, interviewee verbal, nonverbal, and to a lesser extent, paraverbal behaviors are related to self-reported personality traits. Further, personality judgments have been connected to both nonverbal and paraverbal behaviors. More smiling leads to inferences of extraversion and agreeableness, and other positive nonverbals (including nonverbal IM) lead to perceptions of conscientiousness and openness. Positive paraverbals are associated with several trait inferences, including extraversion, agreeableness, emotional stability, and openness. Together, these findings suggest that personality has strong empirical and conceptual links to interviewee behavior.

Regarding the second gap we identified, computer-extracted behavioral indicators exhibit considerable overlap with our existing operationalizations of interviewee behavior. Nonverbals and paraverbals, in particular, can be extracted by computers much more quickly than human raters and, likely, with comparable or superior accuracy. On the other hand, computerized analysis of verbal behavior cannot necessarily contextualize and interpret interviewee responses in a way that clearly maps onto current taxonomies of interviewee IM. Importantly, this shortcoming is not limited to computerized analyses—interviewers' and human raters' IM judgments do not converge with self-reported IM (e.g., Roulin et al., 2015). It may also be possible to automatically "grade" interviewee verbal responses, as Campion et al. (2016) demonstrated with achievement record essays. Together, the conceptual links between personality and interviewee behavior as well as the overlap in how interviewee behaviors are operationalized suggest that computerized behavior analysis holds potential for helping organizations infer interviewee KSAOs, such as personality.

Empirical Study

To our knowledge, computers have not yet been applied in management research to assess interviewee verbal or nonverbal behavior. DeGroot and colleagues used computers to assess interviewee paraverbal behavior, yet they extracted only five paraverbal behaviors to create a single index of vocal quality. Therefore, the present study addresses the third gap we identified by exploring the relationships that discrete, computer-assessed behaviors have with self-reported and interviewer rated personality. We examine whether the behavioral indicators are distinct for each personality trait as well as whether self-reported and interviewer rated traits share behavioral indicators. Additionally, we explore whether the magnitude of relationships differs as a function of the personality source or the visibility and evaluativeness of traits, and we assess whether the behaviors associated with personality judgments differ for male vs. female interviewees. Then we discuss the extent to which results aligned with existing research connecting personality to behaviors.

METHODS

Procedures and sample. Participants were 490 introductory psychology students at a large university in the Midwestern United States. They completed a video interview consisting of three prompts developed by three subject matter experts well-versed in personality and selection interviews: 1) *Please tell us about yourself*; 2) *Please tell us about a time when you worked effectively in a team;* 3) *Please tell us about a time when you demonstrated leadership*. Participants were randomly assigned to complete the study either proctored in the lab or remotely. Participants were instructed to answer each question for 2-3 minutes (M = 6 min 51 s). 467 participants completed the study in full.

Self-reported personality. Participants completed demographics questions and a 50-item personality scale developed to measure the Big Five markers reported by Goldberg (1992; Cronbach's alpha ranged from .76 for openness to .90 for extraversion). Self-reported traits were available for 390 participants after removing those who failed attention checks (n = 55), had technical difficulties making their recordings (n = 16), or whose videos could not be analyzed by all three software packages (n = 6).

Interviewer rated personality. Undergraduate research assistants participated in frame-of-reference training, wherein the FFM traits were defined, scale anchors explained, practice ratings completed, and specific, observed behaviors that lead to (dis)agreement discussed. Then, at least three research assistants from a pool of eight watched each participants' interview and rated their personality on an observer version of the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003). All available ratings were averaged to create observer trait scores. ICC(C, 8) ranged from .66 (emotional stability) to .89 (extraversion). Observer ratings and objective behavioral assessments were available for 440 mock interviews.

Computer extracted interviewee behaviors. For nonverbal behaviors, we extracted emotion-related features from each video frame including head pose and facial AUs using OpenFace (Baltrušaitis, Robinson, & Morency, 2016). We also calculated facial AU co-occurrences as features (Bosch & D'Mello, 2019) that serve as indicators of facial expression complexes. For paraverbal behaviors, we extracted the Geneva Minimalistic Acoustic Parameter Set (Eyben et al., 2016) audio features from 30-second sliding windows of voice data. Then we summarized the video and audio time series data by calculating the mean, median, standard deviation, kurtosis, skew, and range of each feature for each participant. For verbal behavior, we automatically transcribed the mock interviews using IBM Watson Speech to Text (2019). To summarize verbal behavior, we analyzed the transcriptions with the most recent version of LIWC, which counts conceptually relevant words and scores each as the proportion of overall words spoken (Pennebaker et al., 2015).

Feature importance. Algorithmic uncertainty, or the fact that different algorithms will utilize different inputs for the same prediction task, occurs because the outputs of complex statistical models are difficult to estimate from the inputs (Kennedy & O'Hagan, 2001). In other words, using 10 different predictive algorithms may lead to 10 distinct rankings of the most important variables for a given prediction task. Therefore, in lieu of more complex statistical models, we use the magnitude of bivariate correlations between personality traits and verbal, nonverbal, and paraverbal behaviors as our index of variable importance for a given trait.

RESULTS

Tables 2 through 6 report the ten strongest correlations between self-reported personality traits and computer assessed behaviors. The top ten are used as a convenient limit on how many items to include in each table. Among self-reported traits, openness has the most unique items with eight, and agreeableness and emotional stability have the fewest, each with five. Tables 7 through 11 report the ten strongest correlations between interviewer rated traits and computer assessed behaviors, as well as how they differ by interviewee gender. For interviewer-rated traits, agreeableness has the most unique items with seven, and openness has the fewest with zero. We consider specific relationships between traits and behaviors in the Discussion.

We next examine the overlap in how self-reported and interviewer rated traits relate to behaviors. Although intuitively, similar behaviors should relate to each trait regardless of the source, this held for few behaviors. Openness had no behaviors common to both sources; extraversion, conscientiousness, and emotional stability had one behavior common to both sources; and agreeableness had two behaviors common to both sources. In other words, there was little overlap in the behavioral manifestation of traits and the behaviors used to judge traits.

As mentioned, the two sources of personality traits use different sources of information. On the one hand, self-reports derive from a self-presentation of one's inner nature, and interviewer ratings are based on the reputation gleaned from interviewee behaviors. In other words, interviewer ratings should show higher correlations with computer extracted behaviors compared to self-reports because that same information is used to judge personality. Indeed, the average magnitude of the top 10 correlations for interviewer rated personality traits (M_r = .26) is nearly double the average magnitude of correlations with self-reported traits (M_r = .15).

More visible, less evaluative traits should be easiest to observe and assess. Among self-reported traits, agreeableness had the highest magnitude of correlations with behaviors (*M* = .21), extraversion had the second highest (*M* = .17), and conscientiousness (*M* = .13), emotional stability (*M* = .14), and openness (*M* = .12) had the lowest magnitude of correlations with behavior. Among interviewer rated traits, extraversion had the highest magnitude of correlations (*M* = .36). Agreeableness (*M* = .25) and conscientiousness (*M* = .26) had correlations of middling magnitude, and emotional stability (*M* = .20) and openness (*M* = .20) had the lowest magnitude of correlations.

We also explored whether differences were observed in how behaviors are used to make personality attributions for men vs. women (Tables 7 to 11). For all traits except conscientiousness, there was at least one difference in how a behavior correlates to personality judgments for men vs. women. Specifically, only men were rated as more extraverted for speaking loudly and rapidly (Table 7). Women were rated more agreeable for using positive emotion words, and men were rated more agreeable for using function words (Table 8). Women were rated as less emotionally stable when their pitch and speech rate varied widely during the interview (Table 10). Men were rated as more open for speaking more rapidly but were rated as less open when the peaks of their vocal amplitudes varied widely during the interview (Table 11). Additionally, although agreeableness was related to pitch and frequency in the combined sample, these are statistical artifacts caused by women being rated higher on agreeableness and having higher voices than men. Therefore, the correlation agreeableness exhibited with pitch and frequency disappeared when the relationship was broken down by gender.

DISCUSSION

Our study provided initial evidence relating objectively assessed behaviors to both self-reported personality and interviewer personality judgments. Additionally, we mapped out the relationship between existing operationalizations of interviewee behavior and computer assessed behaviors. Notably, computers can assess interviewee behavior much more quickly and with less expense compared to human raters. Our hope is that these results will help advance our nascent understanding of computerized assessment of interviewees.

Self-reported traits showed more unique relationships with computer assessed behavioral indicators compared to interviewer judgments. Indeed, as summarized above, prior research found that paraverbals affect inferences about all traits except agreeableness, suggesting interviewers may struggle to fully distinguish behavioral manifestations for each trait. Relatedly, self-reported traits and interviewer judged traits exhibited little overlap in their relationships to behaviors, in concordance with the view that self-reported and judged traits have distinct theoretical underpinnings (Hogan et al., 1996). Because interviewer judgments are derived from behaviors exhibited in the interview, interviewer rated personality traits also had stronger relationships to computer assessed behaviors than did self-reports. Additionally, for interviewer judged but less so for self-reported traits, the magnitude of relationships with behaviors was positively related to trait visibility and negatively related to trait evaluativeness. Concerningly, but aligning with prior research, the personality of male vs. female interviewees was judged differently for the same behaviors for all traits except conscientiousness.

Many of the behaviors related to self-reported and interviewer rated traits in our study aligned with our conceptual understanding of each trait and the empirical results of previous research. Interviewees who self-reported higher extraversion spoke more words and used more pronouns and personal pronouns, aligning with the talkativeness of extraverts and evidence that they talk about social processes. Additionally, they used AU06 more, which represents the eye and cheek part of smile in genuine smiles, and were more expressive, activating AU05 (upper lid raiser) more often. Interviewers rated interviewees as more extraverted the more words they spoke, the more they appropriately modulated smiles (AU12 SD), and the louder and faster they talked. Additionally, interviewees were judged as more extraverted when they had smoother sounding voices (higher alpha ratio and lower Hammarberg Index).

Interviewees who self-reported higher agreeableness used an appropriate amount of smiling (AU12 SD), talked more about people (pronouns and personal pronouns), and had friendly sounding voices (harmonics-to-noise ratio). Interviewers judged interviewees as more agreeable when they smiled more and modulated their smiles (AU12 mean and SD); talked more about social processes, positive emotions and less about numbers; and had smooth, friendly sounding voices (higher harmonics-to-noise ratio and lower shimmer).

Interviewees who self-reported higher conscientiousness talked more about work, power, and leisure, and used more words with more than six letters. These make conceptual sense considering the interview context, and work and power are related to achievement words, which related to conscientiousness in prior research. Additionally, they smiled more, likely due to the context. Aligning closely with prior research, self-reported and inferred conscientiousness was negatively related to amplitude variability. Interviewers rated interviewees as more conscientious when they spoke faster, gave longer answers, and used longer words. Positive nonverbals, in the form of less head movement, also led to higher perceptions of conscientiousness.

Interviewees who self-reported higher emotional stability talked more about power and less about hearing processes. Additionally, they had less tension and fake smiling around the eyes (AU07). Surprisingly, harmonics-to-noise ratio mean and pitch range were negatively related to self-reported emotional stability, contrary to previous research on inferred personality. Interviewees were judged as less emotionally stable when the range of their speech rate was higher; when their vocal quality varied (harmonics-to-noise ratio range, harmonic difference SD and range); and when their amplitude variability was higher, aligning with prior research.

Interviewees who self-reported being more open were more facially expressive (more movement around mouth and eyes), used more articles (aligning with prior findings), and had less variability in their vocal quality (harmonics-to-noise SD; jitter). Contradicting prior findings, they spoke less about feeling processes, a subset of perceptual processes. Interviewees were judged as more open when they gave longer answers; spoke loudly; had a faster and consistent speech rate; and less amplitude variability, aligning with prior research. Additionally, interviewees were judged as less open when they talked more about power.

Although this brief discussion cannot address the full nuance of the relationships these behaviors exhibit with personality traits, many of the behaviors align with existing conceptual and empirical understandings of the FFM. Increasing our understanding of how these behaviors relate to personality traits are important not just for advancing our understanding of interviewee behavior, but also because systems for assessing such behaviors are beginning to be applied in practice to automatically score interviewee KSAOs. Such approaches should be viewed with caution unless the relationships between behaviors and inferred KSAOs are theoretically justified. We took initial steps toward doing so here.

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Table 1

Comparison of human-scored and computer-extracted behaviors

Behavior Type	Human-scored behaviors (self-reported or observer rated)	Computerized extraction	Comparison of human-scored and computer-extracted behaviors

Verbal	**Descriptive**
	• Amount of speech/time spent talking
	Impression management (IM)
	• Assertive IM
	  • Self-promotion IM
	    • Honest self-promotion: recalling positive past experiences
	    • Slight image creation: exaggerated past responsibilities
	    • Extensive image creation: invented experiences or achievements
	  • Other-focused IM (ingratiation)
	    • Honest ingratiation: emphasizing shared views, interests, values, and/or goals or complimenting interviewer/organization
	    • Deceptive ingratiation: incorporating interviewer's views or values into answers
	• Defensive IM
	    • Honest defensive: excuses, justifications, and apologies
	    • Image protection (deceptive): interviewee avoids answering questions that would reflect poorly on them
	Scoring responses
	• BARS scores
		Descriptive
		• Word count
		• Words per sentence
		• Vocabulary size
		• Word lengths
		Closed vocabulary text mining
		• Count conceptually related words to measure psychological constructs (e.g., LIWC categories)
		  • Examples related to personality:
		    • Positive emotions
		    • Negative emotions
		    • Anxiety
		    • Social processes
		    • Inclusive & Exclusive
		    • Negations
		    • Achievement
		    • Anger
		    • First person singular pronouns
		    • Articles
		    • Perceptual processes
		Open vocabulary text mining
		• N-grams (i.e., words & phrases)
		• Topics
		• Subject-verb-object tuples
			Convergence
			• Descriptive variables indexing total amount of speech (i.e., word count).
			Gaps
			• IM behaviors require understanding context and meaning, which computers cannot yet accomplish. However, self-reported and interviewer judged IM exhibit little agreement (e.g., Roulin, Bangerter, & Levashina, 2015), so applying computers to detect IM could be as accurate as interviewers.
			• Similarly, judging the quality of answers on BARS requires understanding context and meaning.
			Opportunities
			• LIWC variables and n-grams have been conceptually and empirically linked to personality traits, so could be applied to analyze interviewee language use.
			• Topic modeling can be used to accurately and reliably score achievement record essays (Campion et al., 2016), so may also be useful for scoring interview responses.

Nonverbal	**Static characteristics**
	• Attractiveness
	• Professional dress
	Dynamic behaviors
	• Smiles (Genuine/Duchenne vs. faked)
	• Other facial expressions
		Static characteristics
		• Attractiveness
		Dynamic behaviors
		• Facial expressions
		  • Facial action units
		  • Facial action unit cooccurrences
			Convergence
			• Nearly all nonverbals can be assessed with computers, including attractiveness.
			• Nonverbal IM could be scored by computers by averaging or summing several discrete behaviors, as has been

	• Licking lips
	• Blinks
	• Nodding
	• Hand and arm gestures
	• Gaze / eye contact / visual attention
	• Visual dominance
	• Body orientation
	• Posture / body openness
	• Torso movement / fidgeting
	• Leg movement
	• Leg lean
	Impression management
	• Nonverbal IM
	  • Smiling
	  • Hand gestures
	  • Eye contact
	  • Nodding
		• Blinks
		• Body language
		  • Eye contact
		  • Head pose
		  • Head orientation
		  • Nodding
		  • Hand and arm gestures
		  • Posture
		  • Body orientation
		  • Torso movement / fidgeting
		  • Leg movement
		  • Leg position
		  • Eye trackingVisual attention / gaze
		• Physiology
		  • Heart rate
		  • Skin conductance
			done with traditional methods.
			Gaps
			• Professional dress and eye contact cannot be assessed, although proxies for eye contact can be.
			Opportunities
			• Computers can score nonverbals very quickly once trained to do so—each human rater can take 6-8 times the length of the video to reliably score multiple nonverbals (e.g., Feiler & Powell, 2016).
			• Computers can assess many facial expressions (and microexpressions), and they do so much more quickly than human raters.

Paraverbal	**Descriptive** • Pauses • Speech rate • Pitch • Pitch variability • Rhythmic speech • Voice smoothness • Volume	**Descriptive** • Pitch • Amplitude • Volume • Bandwidth • Frequency • Speech rate • Pauses • Voice quality / smoothness Note: all of these can be described by multiple indices, including, mean, variability/standard deviation, skewness, kurtosis, etc.	**Convergence** • All paraverbals can be accurately and quickly assessed with computers. **Gaps** • None. **Opportunities** • Computer scoring of paraverbals holds potential to increase our understanding of interview, workplace, and interpersonal outcomes as paraverbals affect speaker credibility (Sporer & Schwandt, 2006) and are related to job performance ratings (DeGroot & Motowidlo, 1999). • Prior work indexed paraverbal quality as pitch variability plus speech rate, minus pauses, amplitude variability, and gender-normed pitch (DeGroot & Motowidlo, 1999)

Table 2

Top correlations between self-reported extraversion and computer assessed behaviors

Type	Behavior	Definition/Example	Index	r
Nonverbal	AU05 & AU25	Upper lid raiser and lips part	Cooccurrence^{U}	.21
Nonverbal	AU05 & AU20	Upper lid raiser and lip stretcher	Cooccurrence^{U}	.17
Nonverbal	AU01 & AU06	Inner brow raiser and cheek raiser	Cooccurrence^{U}	.15
Verbal	Pronouns	e.g., I, it, our	Proportion	.15
Nonverbal	AU01 & AU09	Inner brow raiser and nose wrinkler	Cooccurrence^{U}	.15
Verbal	Personal pronouns	e.g., I, them, her	Proportion	.15
Verbal	Word Count	Number of words spoken	Count^{SU}	.15
Nonverbal	AU25	Lips part	Kurtosis^{U}	-.17
Nonverbal	AU25	Lips part	Skewness	-.19
Nonverbal	AU26	Jaw drop	Skewness^{U}	-.20

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of self-reported traits. SD = standard deviation

Table 3

Top correlations between self-reported agreeableness and computer assessed behaviors

Type	Behavior	Definition/Example	Index	r
Paraverbal	Logarithmic F_0 semitone frequency	Pitch	Mean	.29
Nonverbal	AU12	Lip corner puller	SD^{SU}	.21
Paraverbal	F_2 frequency	Formant 2 Frequency	Mean^{U}	.21
Paraverbal	F_3 frequency	Formant 3 Frequency	Mean^{U}	.21
Paraverbal	F_1 frequency	Formant 1 Frequency	Mean^{U}	.20
Paraverbal	Harmonics-to-noise ratio	Ratio of harmonic to noise-like components	Mean^{S}	.20
Verbal	Function words	e.g., it, to, no	Proportion^{U}	.19
Verbal	Pronouns	e.g., I, it, our	Proportion	.19
Verbal	Personal pronouns	e.g., I, them, her	Proportion	.18
Nonverbal	AU25	Lips part	Skewness	-.18

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of self-reported traits. SD = standard deviation

Table 4

Top correlations between self-reported conscientiousness and computer assessed behaviors

Type	Behavior	Definition/Example	Index	*r*
Verbal	Work concerns	e.g., job, majors, boss	Proportion[U]	.14
Verbal	Drives: Power	e.g., superior, bully	Proportion	.14
Verbal	Six letter words	Words six letters or longer	Proportion[SU]	.12
Verbal	Personal concerns: Leisure	e.g., cook, chat, movie	Proportion	.12
Paraverbal	F_2 frequency	Formant 2 Frequency	Kurtosis[U]	.12
Nonverbal	AU12 & AU14	Lip corner puller & dimpler	Cooccurrence[U]	.12
Nonverbal	AU25	Lips part	Skewness	-.12
Paraverbal	Loudness	Amplitude/volume of spoken segments	SD[U]	-.13
Verbal	Auxiliary verbs	e.g., am, will, have	Proportion[U]	-.14
Verbal	Common verbs	e.g., eat, come, carry	Proportion[U]	-.19

Note: [S] indicates item is a top correlation for the trait both when self- and interviewer-rated. [U] indicates item is unique to this trait in the top ten correlations of self-reported traits. SD = standard deviation

Table 5

Top correlations between self-reported emotional stability and computer assessed behaviors

Type	Behavior	Definition/Example	Index	*r*
Verbal	Drives: Power	e.g., superior, bully	Proportion	.16
Nonverbal	AU05 & AU26	Upper lid raiser & jaw drop	Cooccurrence[U]	.11
Nonverbal	AU07 & AU09	Lid tightener & nose wrinkler	Cooccurrence[U]	-.11
Nonverbal	AU07 & AU45	Lid tightener & blink	Cooccurrence[U]	-.11
Verbal	Hearing processes	e.g., listen, hearing	Proportion[U]	-.12
Paraverbal	Harmonics-to-noise ratio	Ratio of harmonic to noise-like components	Mean	-.13
Paraverbal	Logarithmic F_0 semitone frequency change	Pitch change across 30 second windows	Mean	-.13
Paraverbal	Logarithmic F_0 semitone frequency	Pitch	Range[S]	-.14
Paraverbal	Harmonics-to-noise ratio	Ratio of harmonic to noise-like components	Range[SU]	-.14
Paraverbal	Logarithmic F_0 semitone frequency	Pitch	Mean	-.20

Note: [S] indicates item is a top correlation for the trait both when self- and interviewer-rated. [U] indicates item is unique to this trait in the top ten correlations of self-reported traits. SD = standard deviation

Table 6

Top correlations between self-reported openness and computer assessed behaviors

Type	Behavior	Definition/Example	Index	*r*
Nonverbal	AU10 & AU23	Upper lip raiser & lip tightener	Cooccurrence^{U}	.13
Nonverbal	AU02	Outer brow raiser	SD^{U}	.12
Nonverbal	AU10 & AU15	Upper lip raiser & lip corner depressor	Cooccurrence^{U}	.11
Verbal	Articles	e.g., a, an, the	Proportion^{U}	.11
Nonverbal	AU23 & AU26	Lip tightener and jaw drop	Cooccurrence^{U}	.11
Paraverbal	Harmonics-to-noise ratio	Ratio of harmonic to noise-like components	SD^{U}	-.11
Paraverbal	Jitter	Frequency instability	SD^{U}	-.11
Verbal	Feeling processes	e.g., feels, touch	Proportion^{U}	-.12
Paraverbal	Logarithmic F_0 semitone frequency change	Pitch change across 30 second chunks	Mean^{U}	-.13
Verbal	Leisure concerns	e.g., cook, chat, movie	Proportion^{U}	-.15

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of self-reported traits. SD = standard deviation

Table 7

Top correlations between interviewer-rated extraversion and computer assessed behaviors

Type	Behavior	Definition/Example	Index	*r*	Male	Female
Verbal	Word Count	Number of words spoken	Count^{S}	.46	.50	.39
Paraverbal	F_3 Amplitude	Log transformed formant 3 amplitude	Mean	.45	.47	.43
Paraverbal	F_2 Amplitude	Log transformed formant 2 amplitude	Mean	.44	.46	.42
Paraverbal	Loudness	Amplitude/volume of spoken segments	Mean	.38	.46*	.31*
Paraverbal	F_1 Amplitude	Log transformed formant 1 amplitude	Mean	.37	.43	.32
Nonverbal	AU12	Lip corner puller	SD	.34	.26	.37
Paraverbal	Alpha Ratio	Ratio of summed energy from .05-5kHz	Mean^{U}	.33	.30	.37
Paraverbal	Loudness peak rate	Amplitude/volume peaks per second	Mean	.28	.38**	.15**
Verbal	Function words	e.g., it, to, no	Proportion^{U}	.27	.29	.19
Paraverbal	Hammarberg Index	Ratio of energy peak in 0-2 kHz to peak in 2-5 kHz	Mean	-.31	-.27	-.36

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of self-reported traits. SD = standard deviation

Table 8

Top correlations between interviewer-rated agreeableness and computer assessed behaviors

Type	Behavior	Definition/Example	Index	*r*	Male	Female
Paraverbal	Logarithmic F_0 semitone frequency	Pitch	Mean	.31^{A}	.11	.05
Nonverbal	AU12	Lip corner puller	SD^{S}	.30	.17	.27
Verbal	Positive emotion words	e.g., love, nice, sweet	Proportion^{U}	.27	.13*	.32*
Paraverbal	Harmonics-to-noise ratio	Ratio of harmonic to noise-like components	Mean^{S}	.25^{A}	.09	-.01
Nonverbal	AU12	Lip corner puller	Mean^{U}	.24	.18	.22
Verbal	Social processes	e.g., mate, talk, they	Proportion^{U}	.23	.16	.23
Verbal	Reward drives	e.g., take, prize, benefit	Proportion^{U}	.22	.17	.27
Nonverbal	AU01 & AU25	Inner brow raiser & lips part	Cooccurrence^{U}	.21	.09	.24
Paraverbal	Shimmer	Intensity instability	Mean^{U}	-.23^{A}	-.12	.00
Verbal	Numbers	e.g., first, thousand	Proportion^{U}	-.23	-.20	-.17

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of interviewer-rated traits. ^{A} indicates overall correlation has non-overlapping confidence interval with female correlation. SD = standard deviation

Table 9

Top correlations between interviewer-rated conscientiousness and computer assessed behaviors

Type	Behavior	Definition/Example	Index	*r*	Male	Female
Paraverbal	Loudness peak rate	Amplitude/volume peaks per second	Mean	.32	.40	.26
Verbal	Word count	Number of words spoken	Count	.31	.34	.28
Verbal	Long words	Words longer than six letters	Proportion^{SU}	.24	.25	.23
Nonverbal	Head *y*-axis	Head position vertical axis	SD^{U}	-.22	-.25	-.19
Nonverbal	Head *x*-axis	Head position horizontal axis	Range^{U}	-.23	-.22	-.24
Nonverbal	Head *z*-axis	Head position diagonal axis	Range^{U}	-.24	-.23	-.27
Paraverbal	F_1 amplitude	Log transformed formant 1 amplitude	SD	-.25	-.22	-.28
Paraverbal	F_3 amplitude	Log transformed formant 3 amplitude	SD	-.27	-.23	-.30
Paraverbal	F_2 amplitude	Log transformed formant 2 amplitude	SD	-.27	-.23	-.30
Verbal	Assent (informal language)	e.g., OK, yes, agree	Proportion	-.29	-.34	-.24

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of interviewer-rated traits. SD = standard deviation

Table 10

Top correlations between interviewer-rated emotional stability and computer assessed behavior

Type	Behavior	Definition/Example	Index	*r*	Male	Female
Paraverbal	Voiced segments per second	Syllable rate	Range	-.17	-.08*	-.28*
Paraverbal	Harmonics-to-noise ratio	Ratio of harmonic to noise-like components	Range^{SU}	-.18	-.12	-.20
Paraverbal	Harmonic difference H1-H2	Ratio of first harmonic energy to second harmonic energy	SD^{U}	-.18	-.11	-.25
Paraverbal	Logarithmic F_0 semitone frequency	Pitch	Range^{SU}	-.18	-.07*	-.25*
Paraverbal	Hammarberg Index	Ratio of energy peak in 0-2 kHz to peak in 2-5 kHz	Mean	-.18	-.25	-.12
Paraverbal	Harmonic difference H1-A3	Ratio of first harmonic energy in third formant	Range^{U}	-.19	-.16	-.21
Verbal	Assent (informal language)	e.g., OK, yes, agree	Proportion	-.20	-.20	-.21
Paraverbal	F_3 amplitude	Log transformed formant 3 amplitude	SD	-.22	-.20	-.24
Paraverbal	F_1 amplitude	Log transformed formant 1 amplitude	SD	-.23	-.22	-.24
Paraverbal	F_2 amplitude	Log transformed formant 2 amplitude	SD	-.23	-.21	-.25

Note: ^{S} indicates item is a top correlation for the trait both when self- and interviewer-rated. ^{U} indicates item is unique to this trait in the top ten correlations of interviewer-rated traits. SD = standard deviation

Table 11

Top correlations between interviewer-rated openness and computer assessed behavior

Type	Behavior	Definition/Example	Index	*r*	Male	Female
Verbal	Word count	Number of words spoken	Count	.29	.30	.28
Paraverbal	Loudness	Amplitude/volume of spoken segments	Mean	.22	.22	.22
Paraverbal	F_1 amplitude	Log transformed formant 1 amplitude	Mean	.20	.24	.14
Paraverbal	F_2 amplitude	Log transformed formant 2 amplitude	Mean	.20	.23	.15
Paraverbal	F_3 amplitude	Log transformed formant 3 amplitude	Mean	.20	.24	.15
Paraverbal	Loudness peak rate	Amplitude peaks per second	Mean	.19	.31**	.09**
Paraverbal	F_2 amplitude	Log transformed formant 2 amplitude	SD	-.18	-.29*	-.08*
Paraverbal	Voiced segments per second	Syllable rate	Range	-.18	-.24	-.13
Paraverbal	F_3 amplitude	Log transformed formant 3 amplitude	SD	-.18	-.29**	-.07**
Verbal	Drives: power	e.g., superior, bully	Proportion	-.19	-.22	-.16

Note: SD = standard deviation

THE ROLE OF MANAGERIAL MINDSET ON MANAGING EMPLOYEE UNDERPERFORMANCE

Abstract

Managing an underperforming employee is one of the most difficult managerial tasks. Academics and practitioners offer managers guidance in the form of Performance Management (PM) processes. These processes, which serve to mitigate risk for the organization, tend to dehumanize or objectify the underperforming employee. In this paper, manager mindset is identified as an overlooked moderating variable in the PM literature that can help managers combat the dehumanizing nature of PM processes. To address this, we consider how Martin Buber's (1971) I-Thou framework can be applied to manager mindsets in these fraught interactions.

Key Words: *Performance Management; Employee Underperformance; Mindset; I and Thou*.

Introduction

Performance Management (PM) systems purport to increase employee performance and in many instances they do (Rodgers & Hunter, 1991). When it comes to managing underperformance, however, traditional PM practices seem to break down. Many managers dislike having difficult employee performance conversations (Armstrong & Taylor, 2017). This is not surprising, considering the uncomfortable nature of the discussion and the constant threat of saying the wrong thing and incurring thorny legal issues. To add to the precariousness of the situation, managers are often pressured by Human Resources (HR) and senior management to either discard underperforming employees like so much excess waste or else be seen as lacking the courage to make tough calls. While the manager is certainly in an unenviable a position, it is the employee who ultimately suffers, usually in the form of being left with little dignity and reduced confidence, making it difficult to find another job (Siegel, 2018).

In response to the ineffectiveness of PM systems to help managers in this situation, PM academics recommend a doubling down on manager skill training such as teaching managers (again) how to give feedback (Haines & St-Onge, 2012). In addition, HR and legal support teams bombard managers with strict processes to follow in order to mitigate risk for the organization. This paper argues that there is a better way to help managers manage employee underperformance. Rather than asking managers to focus on behaviors (which are primarily company-serving), we consider how the situation might improve if managers were to focus not only on the way they act toward their underperforming employees, per se, but on the way they *see* the employees.

Defining Mindset

The term “mindset” is now a buzzword with varied definitions in the field of management. Uses of the term mindset vary widely. Some are research-based and specific as in

Dweck's best-selling *Mindset* referring to the degree to which a person believes another can change and grow (Dweck, 2007). Some are more broad such as a recent Harvard Business Review article referring to a "manager mindset" which includes numerous manager traits (Tynan, 2015). For the purposes of this paper, We will use a definition of mindset called I-Thou, a framework put forward by Martin Buber (Buber, 1971). We have chosen this mindset because it is interpersonal in nature and aligns well with the analysis of manager-employee interaction. Buber's framework also addresses directly the phenomenon of dehumanization that can occur between two people, a theme fundamental to the study of managing underperformance.

According to Buber, one acts within an I-Thou mindset when he or she sees another as a person, with needs and desires as important as his or her own (Arbinger Institute, 2016). Conversely, one acts in an I-It mindset when he or she sees another as an object, a means to an end. As Warner (2001) demonstrated, people, including employees, perceive the manner in which they are being treated, and respond accordingly.

Ironically, the Human Resources function, whose role it is to get the most out of people, often creates performance management processes that dehumanize employees (Boyd & Gessner, 2013). With its emphasis on mitigating legal risk and differentiating development for so-called high-potentials, HR-led PM practices have the potential to lead managers to label and thereby dehumanize their employees. When this happens, managers are more likely treat their employees as objects. According to Buber, the antidote to this phenomenon of dehumanizing can be found in a person (manager) seeing or regarding another (employee) as a person.

Performance Management

The reason that PM processes are ubiquitous is because in many situations they do work. They often meet their ends of increasing productivity. Numerous studies have shown increased productivity in companies using sound PM processes. A 1991 meta-analysis showed 68 of 70 studies on PM to have shown increased productivity (Rodgers & Hunter, 1991). The PM literature, rooted largely in goal setting theory, clearly shows that when moderating variables are accounted for, productivity as a whole increases. For example, empirical research from a host of studies performed on over 100 tasks, over 40,000 participants, and across eight countries demonstrated that goal setting theory practices increased performance (Locke & Latham, 2002).

Conversely, other studies point to PM's ineffectiveness, especially in the area of managing employee underperformance. For example, a study by WorldatWork and Sibson (2010) found that the greatest challenge to performance management (63 percent of respondents) was managers lacking the courage to have difficult performance conversations (cited in Armstrong & Taylor, 2017). Another study by the Corporate Leadership Council reported 56% of employees reporting that they do not receive feedback on what they need to do to improve, which is a key moderating variable in PM's effectiveness (Pulakos et al., 2015). Even more telling is the fact that multiple, large companies (including Adobe and Microsoft) are all but doing away with their traditional PM systems, in an effort to drive better employee performance (Warren, 2013). Clearly, something is amiss with the traditional approach to PM, especially in the context of employee underperformance.

In response to the ineffectiveness of PM processes, the literature points to key moderating variables such as support from top management, company culture, and manager skill training (Haines & St-Onge, 2012). The common argument goes as follows: if organizations could help managers understand the PM processes and execute the prescribed behaviors (such as giving feedback) then PM systems would work. And yet the most progressive of organizations with seemingly inexhaustible resources for employee development cannot seem to make PM effective. This is ostensibly due to managers' lack of knowledge or unwillingness to comply with the systems (Goodhew, Cammock, & Hamilton, 2008).

While manager skill certainly plays a role, we argue that a more essential problem exists in the way managers are seeing or regarding their employees. PM systems are enacted through people (managers) interacting with people (employees). The nature of how a person sees another person becomes a key moderating variable. This is in contrast to mechanical systems such as manufacturing production that need no such variable.

In systems involving human interaction, mindset matters. A person can execute prescribed behaviors well with positive results, or poorly, in a perfunctory manner with little (or even negative) effect. A contributing factor is the manager's mindset toward the employee. The adage attributed to Theodore Roosevelt that "People don't care how much you know until they know how much you care," seems to apply to the manager-employee relationship. Given this context, it is surprising that the PM literature has not fully accounted for manager mindset.

Manager Mindset

The insight that a manager's mindset impacts the manager-employee relationship is not new. Douglas McGregor (1960) recognized the power of manager mindset (what he called "assumptions") in *The Human Side of Enterprise* over 60 years ago. Rather than focusing on manager behaviors as most of the research had to that point, McGregor examined the mindset behind those behaviors. He invited managers to examine their mindset about employees as they designed work cultures through policies and practices, and as they interacted with employees.

He asked, are systems designed with the underlying assumption that employees are intrinsically unmotivated and thus needed to be directed and controlled (Theory X)? Or, are systems designed with the assumption that employees are inherently motivated to attain goals, so long as individual goals were integrated with organizational goals (Theory Y)? Depending on a manager's mindset, whether positive (Theory Y) or negative (Theory X), those policies and interactions would look fundamentally different (McGregor, 1960). He called for “management by integration and self-control” rather than “direction and control” style of management.

The conversation around manager mindset has evolved and grown over time, with multiple streams of literature building off of his basic premise. See Figure 1 below. Important voices and theories in this developing stream include: Herzberg’s Two-Factor Theory showing that employees are motivated by factors others than compensation such as achievement and recognition (Herzberg, Mausner, & Snyderman, 1959); Rosenthal and Jacobson’s (1968) classic *Pygmalion in the Classroom* study demonstrating the self-fulfilling nature of assumptions; Clifton’s (2001) work on a Strengths-based approach revealing the increased productivity that comes by aligning employees’ tasks with areas of strength and interest (Buckingham & Clifton, 2001); Dweck’s (2007) research calling into question the fixed-mindset assumption of natural born talent and replacing it with the growth-mindset assumption that humans can grow and develop talent (Dweck, 2007); and Cameron (2012) and the Positive Organizational Scholarship (POS) researchers exhibiting that positive, life-affirming business environments bring out the best performance in the individual and the organization (Cameron, 2012). Underlying each of these theories is the premise that manager assumptions impact behavior, which subsequently makes a considerable impact on employee performance.

One revealing study on the impact of manager mindset in the specific area of employee underperformance was performed by Manzoni and Barsoux (1998), who examined how manager mindset about a perceived low-performing employee can contribute to the performance gap (Jean-François Manzoni & Barsoux, 1998). In a phenomenon they called the “set-up-to-fail syndrome,” a manager, often unwittingly, looks for evidence to support her assumptions about a low-performing employee. The act of looking for that evidence can make the employee withdraw and decrease their effectiveness, thereby causing the very behavior about which the manager was concerned. This negative cycle feeds upon itself and becomes a self-fulfilling prophecy.

Buber and the I-Thou Mindset

Martin Buber examined the nature of human interactions based on how a person sees or regards others. According to Buber we see another in one of two ways, either as a person (a “Thou,”) or as an object (an “It”) (Buber, 1971). The I-Thou mindset specifically addresses the dehumanization that can occur between two individuals. This focus aligns with the potential for dehumanization in the performance management process.

In the management literature, Buber’s work has been influential in the fields of communication theory and leadership theory (Ashman & Lawler, 2008). Both fields employ Buber’s I-Thou framework to shift the discussion to include the importance of genuine connection between parties rather than the mere conveying of technical knowledge.

Scholars in the communications theory, for example, have used Buber’s framework to try and “relationalize” public relations to focus on the relationships with stakeholders as opposed to the typical focusing on an entity’s image (Thomlison, 2000). In the field of leadership theory, scholars similarly are concerned about the quality of the genuine connection being missed, as expressed in the worry that “[a]uthentic leadership theory is in danger of being reduced to a ‘technique’” (Algera & Lips-Wiersma, 2012). These concerns about the quality of the connection between individuals being missed in the more functional discussion in the literature reflect a similar theme we found in performance management. Namely, that the functional discussion about performance management of underperforming employees is at risk of reducing the process to a mere technique, rather than a genuine connection.

In addition to his I-Thou construct, Buber provides another useful construct in his *Between Man and Man* (Buber, 2014). He separates communication into the following three categories: (1) genuine dialogue, being fully present with another, (2) technical dialogue, the exchange of objective, technical knowledge, and (3) monologue, an I-It interaction disguised as genuine dialogue (Buber, 2014). Communication theory and leadership theory scholars seek to identify methods of attaining the genuine, I-Thou dialogue Buber describes. Johannesen (1971) and later Thomlison (2000) identified and described six characteristics of an I-Thou relationship: (1) mutual openness; (2) non-manipulative; (3) recognition of uniqueness; (4) mutual confirmation; (5) turning toward; and (6) non-evaluativeness.

In the case of the manager-employee relationship, the term manager mindset refers to how a manager sees and regards an employee who reports directly to him or her (referred to simply as employee going forward). According to Buber's framework, a manager can hold one of these two mindsets toward an employee at any given time. An example of an I-Thou mindset is when an employee requests time off to care for a sick child at a time highly inconvenient for the manager, and the manager's attitude toward the employee is not diminished. An example of an I-It mindset is when a manager cares more about how an employee's presentation to senior management reflects on his or her own image than he or she cares about the employee's development. As illustrated in the two examples mentioned, seeing an employee through an I-Thou mindset can be challenging.

According to Buber, all people will, of necessity, revert to an I-It mindset periodically. This is due to the practical nature of sustaining life. Thus Buber acknowledges that the way of being (or mindset) is not a clear cut, binary state. Rather, all of us can go back and forth between the two mindsets. The I-It mindset, he holds, is unavoidable in day-to-day life. It is part of the human experience, part of survival. An employee is expected to execute certain tasks in exchange for employment. And yet the employee is still a person. This dilemma represents what

Buber calls “the sublime melancholy of our lot,” that “every You must become an It in our world” (Buber, 1971, p. 68).

For Buber, the interwoven nature of the two mindsets leaves every person with a critical choice. One can remain in the I-It mindset of expediency. Or one can choose to repeatedly return to the I-Thou mindset. The manager can choose to go back to seeing an employee as a person, even amidst assigning the employee tasks to be completed. This for Buber is the constant choice that ultimately determines the degree to which a person “stands in relation to” or “encounters” real people, or whether a person merely “experiences” other people passively as one would experience an object (Buber, 1971).

Buber identifies another deterrent that keeps us from returning to the I-Thou mindset. The I-Thou mindset involves a great deal more vulnerability and uncertainty than does the I-It mindset (Buber, 1971). The I-It mindset provides managers with specific, clear cut behaviors – do this, or do that. The I-Thou mindset, on the other hand, provides no such scripts. Rather, when a manager is in an I-Thou mindset, he or she is prompted to react to an employee’s needs in a unique way each time, depending on what that person needs at that moment in balance with the needs of the company.

An I-Thou mindset serves as a key moderating variable in the effectiveness of manager underperformance. In that high-stakes situation, it might be easier for a manager to see his or her employee as an object because the employee becomes an obstacle in the way of the team’s performance. Moreover, responding to each employee in a differentiated way could be messy and time-consuming. It is not nearly as orderly and efficient as responding to all of one’s employees in a one-size-fits-all, scripted way.

Conversely, when employees are performing as expected, managers can more easily return from the I-It mindset of transactions to the I-Thou mindset or relationships. This happens almost organically through daily social interactions. For example, on a Friday at the end of a long meeting a manager might naturally ask an employee about his or her weekend, thereby seeing the employee as a person. Thus, under prosperous conditions of an employee meeting manager expectations, the moderating variables identified by the PM literature—commitment, feedback, and resources—generally suffice.

When in situations of underperformance, however, a manager might unconsciously begin to see his or her direct report with an I-It mindset and treat the employee as an object rather than as a person. For example, a manager annoyed with a pattern of inaccuracies in her employee's reports might regard time spent with that employee working on the report as a burden, rather than as an opportunity to develop her employee. Thus, in situations of employee underperformance, the usual moderating variables do not suffice.

Research by Warner (1997, 2001) and the Arbinger Institute seeks to explain why a person might see another as an object. They discovered an interesting root cause to this phenomenon called self-deception (Arbinger Institute, 2015a, 2016, 2015b; Warner, 1997, 2001). Self-deception occurs when a person goes against what he or she senses is the right thing to do for another person. He or she then unconsciously seeks to find fault with that other person in an effort to justify not acting on the initial prompting.

Once a person sees another as an object and treats that person accordingly, the recipient will often respond in kind. In this way a self-reinforcing cycle emerges which is called collusion (Warner, 2001). In this cycle both parties become more likely to see the other as an object.

A common example of this cycle can be found in the case of a manager managing employee underperformance. When a manager perceives that one of his or her direct reports is not meeting performance expectations (not "pulling their weight"), the manager may start seeing the employee as an object, an obstacle in his or her way of the team performing. The manager may then start looking for behaviors that confirm the initial perception in order to justify his or her speculations—e.g., “he was quiet in that meeting because he doesn’t know his job, just like I thought.” The employee, for his or her part, sensing distrust on the part of the manager, may start to question his or her ability to make decisions. This decrease in self-efficacy causes the employee to slow down, thereby reinforcing his or her manager’s suspicions.

In their collusion, both the manager and the employee find justification for their claims (e.g., “she’s a micro-manager who doesn’t trust me,” and “he isn’t confident in his own judgement”). In this way a self-reinforcing cycle of collusion commences in which both parties, manager and employee, see the other as an object. They are seeing each other through an I-It mindset. Manzoni and Barsoux (1998) also address the collusion phenomenon in their well-cited “The Set Up To Fail Syndrome” Manzoni & Barsoux, 1998; 2007)

It should be clarified at this point what an I-Thou manager mindset does not mean. It does not mean that managers do not have tough conversations with their employees. Nor does it mean that managers do not terminate employment when needed. An I-Thou mindset would actually prompt managers to have more, not fewer, difficult conversations. The difference is in intent.

For example, a manager can hold an employment termination conversation in one of two ways--with an I-It mindset or with an I-Thou mindset. The result on the accounting books will be the same—one less headcount (another dehumanizing term for a person). But the employee’s experience and the manager’s experience under each mindset could be drastically different. The employee could leave the conversation on the one hand with dignity (and maybe even hope for a better fit) or on the other hand with discouragement and despair. It depends on how they were treated by the manager, which is a direct result of the manager’s mindset. Did the manager have the employee's best interest at heart, or was the manager looking to mitigate as much legal risk as possible while getting rid of an obstacle in his or her way?

Thus, the aim of an I-Thou manager mindset in the context of PM is not to turn around every underperformer to return to meeting expectations, though it would certainly turn some around. Rather, an I-Thou mindset helps a manager "do right" by the employee. Doing right by the employee means treating the employee with dignity and respect and doing what's best for the employee, which could include terminating employment (letting someone struggle in a job they cannot perform is not having their best interest at heart). The organization also benefits from having an underperformer either begin to perform or find a better fit elsewhere. The difference is not in the behavior (as managers with both mindsets could actually say similar things), the difference is in mindset.

PM and Managing Underperformance

One major theoretical underpinning of PM practices is goal setting theory. In essence, goal setting theory holds that employee performance increases when specific, difficult goals are set, compared with employees who are merely encouraged to do "their best" (Latham, 2016). Goals serve as a mediating variable of increasing employee performance by directing an employee's efforts toward relevant tasks, energizing the employee by presenting a challenge, and increasing the employee's persistence to stick with the goal (Locke & Latham, 2002, 2006).

PM processes are infused throughout with goal setting theory principles. PM serves as a mechanism for employees to set specific, difficult goals. At the beginning of the PM cycle, each employee, with their manager, sets specific, challenging goals that they will meet within that period (Armstrong & Taylor, 2017). In the context of employee underperformance, however, PM goal setting theory practices have proven ineffective. In response to the numerous critics of PM's ability to deliver, goal setting theory scholars have pointed to a few key moderating variables:

commitment; sufficient resources; feedback, and task complexity (Latham, 2016; Locke & Latham, 2002, 2006). While these PM moderating variables are intuitive, in the context of managing underperformance, they are incomplete because they do not account for the moderating variable of manager mindset. See Figure 2 for a visual depiction.

A survey of over 13,000 senior managers found that only 19% felt their company dealt effectively with underperformers (Axelrod et al., 2002). Thus even though the prescribed steps for managers to address underperformance are rooted in the identified moderating variables, they are insufficient. Too often managers approach underperformance with an I-It mindset, treat the employee as an object, and thereby fail to effectively manage underperformance. They can go through all of the behavioral steps of managing performance with no effect (or even a negative one), because of the I-It mindset underlying the actions.

Another reason often cited for managers' lack of success in managing underperformance is a lack of manager skill and inconsistent application of processes. For example, Goodhew et al.'s (2008) study found that only one third of managers at a financial institution were familiar with the steps of managing underperformance. Their subsequent recommendation was the familiar call for organizations to invest in manager development.

Another familiar culprit preventing these steps from working is the lack of manager feedback to underperforming employees. Why do managers avoid these conversations? In the case of giving difficult feedback, it may be because a manager sees an employee as an object (I-It). When this happens the manager is no longer thinking about what is best for the employee—e.g., being told where he or she needs to improve. Instead, the manager focuses on his or her own needs—e.g., avoiding awkward conversations, or mitigating his or her own legal risk. Conversely, a manager with an I-Thou mindset would provide difficult feedback to an employee if it was in the employee's best interest. The manager would do that regardless of how awkward it was for him- or herself, because it is not about the manager, but about the employee.

Armstrong and Taylor (2017), authors of a popular HR textbook, recommend the following seven steps for managing employee underperformance. This example will serve as representative of what is typically prescribed by HR teams. "1. Identify the areas of underperformance—be specific. 2. Establish the causes of poor performance. 3. Agree on the action required. 4. Ensure that the necessary support (coaching, training, extra resources, etc.) is provided to ensure the action is successful. 5. Monitor progress and provide feedback. 6. Provide additional guidance as required. 7. As a last resort, invoke the capability or disciplinary procedure . . . starting with an informal warning" (Armstrong & Taylor, 2017).

These prescribed steps address the moderating variables called out in the literature including task complexity (Step 3), resources and commitment (Step 4), and feedback (Steps 5 and 6). So why do these steps often not work? Our proposition is these steps often fail is because each of the seven behaviors is often performed by the manager with an I-It mindset. When this happens, the employee's fate is determined before the performance improvement period has even begun. If a manager is seeing an employee as an object and the two are in a collusion cycle, the manager will look for behaviors that reaffirm his or her accusations with the employee. And because of how the collusion cycle works, the manager is sure to find supporting evidence.

The Context of Employee Underperformance

The sheer complexity of the context surrounding employee underperformance adds to the difficulties managers face. Goodhew et al.(2008) identified three reasons underscoring the complexity of the task of managing underperformance: 1. it's uncomfortable because the topic is negative (bad news); 2. the area abounds with legal landmines, and 3. it requires the manager to make difficult ethical choices between justice and mercy. It is easy to see how managers would seek to avoid this situation, or continually postpone addressing it until it was too late to help the employee.

Given this complex, high-stakes context, a prescribed list of behaviors will never be sufficient. It is impossible to prescribe every behavior for every situation. These prescribed behaviors in fact can have a dehumanizing effect on the manager-employee relationship (this will be described in detail below). Instead of prescribing behaviors, HR could help managers see their employees differently, with an I-Thou mindset. With an I-Thou mindset, behaviors become secondary to intent. Behaviors become a more organic, authentic product of a manager trying to do right by the employee.

The literature on the manager role in underperformance is meager. One reason for this is that the significant legal risk inherent with the topic has shifted the conversation to the realm of legal risk mitigation. Employment law teams are charged with the task of mitigating risk for the company. To do so, they take on the I-It mindset in that they view each employee as an object, a potential litigation threat. This seems to be an appropriate use of the I-It mindset in application, however without another mechanism to balance or check this approach, an I-It culture may ensue.

A recent article by employment law attorney Segal (2016) published in a leading HR practitioner publication illustrates how ostensible sources of manager support focus primarily on risk mitigation for the company rather than the well-being of the employee. It also illustrates the dehumanizing, I-It mindset such advice invites. The title of the article itself illustrates that the company's interests, not the employees, are the main concern: "11Tips for Talking About Poor Performance: How to Protect Your Organization When Handling the Hard Stuff". The article gives practical tips on how to behave in such a way as to "help take some of the pain—and risk—out of those closed-door meetings". Presumably this implies reducing pain on both the manager and the employee's part, but the article focuses primarily on reducing the organization and manager's needs, not the employees'.

The tenor of the tips encourage managers to move away from an I-Thou mindset in which the underperforming employee is a person, and toward an I-It mindset in which the employee becomes an object. Admittedly, there are logical reasons behind each of the tips. They are written with the intent of keeping managers from accidentally saying something that could get them or the company entrenched in a costly legal battle. Yet in removing everything human about the experience and focusing only on the needs of the company, the employee becomes an object.

For example, in the second tip, "Avoid Chitchat," managers are instructed to avoid casual conversation prior to a termination or negative performance meeting. If, for instance, a manager begins a termination conversation inquiring about the surgery of the employee's daughter, then the employee could sue for discrimination under the Americans with Disabilities Act. This tip is partly correct, but not necessarily for the reason Segal gives. The reason it is a good idea to avoid chitchat in this situation, from an I-Thou mindset, is because frivolous conversation in this context is disingenuous. It is usually engaged in with the intent to decrease the manager's own discomfort rather than the employee's.

The HR processes surrounding PM also contribute to managers objectifying their underperforming employees. The talent assessment process, designed to help managers identify underperformers, is a good example of this. In this process managers are asked to place each of their employees in categories based on performance and potential. Organizations often use a "9-block" tool for this succession planning process in which performance and potential are plotted in three levels on each axis ("Succession Planning," 2012). High-potential, high-performing employees (often labeled "HiPos") are given differentiated opportunity and rewards. Low-potential, low-performing employees, on the other hand, are labeled with names such as “Least Effectives” and often placed on performance improvement plans.

Some organizations dictate forced distribution targets for these boxes, such as 10% of employees must be put in the low-low box and put on a performance improvement plan. This process called forced distribution rating systems (FDRS), made popular by Jack Welch at General Electric, has been derisively referred to as “rank and yank” and has been shown to produce mixed results (Scullen, Bergey, & Aiman-Smith, 2005; Stewart, Gruys, & Storm, 2010). The FDRS practice has also been shown to take a toll on the company culture as measured by the perceived fairness of the process on the part of the employees (Schleicher, Bull, & Green, 2009)

Thus we see from the reasons listed above and others, that managers are placed in a difficult position when asked to manage underperformance. Barriers include enormous legal risk, personal discomfort, HR systems and processes that dehumanize, and ethical dilemmas. The field of HR to date has provided managers in this difficult setting with a list of prescribed behaviors which are helpful, but insufficient, and potentially harmful. Managers need to be taught how to see differently, rather than just how to act differently.

Alternatives to Traditional Performance Management

How, then, can organizations help managers see their employees differently? How do organizations help them hold an I-Thou mindset with their employees while still ensuring their employees meet organizational goals? One approach would be to address the problem at the systemic level.

Using McGregor’s (1960) Theory X/ Theory Y mindset framework as a litmus test, much of PM and goal setting theory roots would actually align quite well with Theory Y assumptions. Examples include the processes of setting joint objectives and providing feedback. In the case of employee underperformance, however, Theory X assumptions begin to seep in.

For instance, the heavy insistence on documentation for fear that employees will feign ignorance, or the forcing of 10% of the workforce to be exited with the assumption that they would otherwise want to stick around as leeches on company payrolls. As already mentioned, these Theory X systems and practices contribute to managers seeing their employees through an I-It lens or mindset.

In today's litigious work environment, are these risk-mitigation practices simply part of doing business? Or can people who run organizations choose to create systems that do not dehumanize people? Perhaps there is a way to mitigate risk (I-It) and maintain a high performance bar while at the same time allow managers to return again and again to an I-Thou way of seeing an employee. Indeed, not only are the two concepts not mutually exclusive, but an I-Thou mindset may decrease the risk of litigation as people generally litigate when they feel they've been wronged.

There have been a few successful attempts in the PM literature to address manager mindset that should be noted. As mentioned above, Dweck (2007) identified mindset as a moderating variable for manager effectiveness. Her definition of mindset related to how a person sees another person in terms of intelligence and the degree to which that person could develop intelligence. With a "growth mindset" a manager (or teacher, or parent) sees another person as able to drastically improve their intelligence through effort. Conversely, a manager with a "fixed mindset" sees another person in a static state of intelligence (you either have it or you don't), with no reasonable hope of changing through effort.

One behavior resulting from a manager operating under a "fixed mindset" is that they are less likely to invest in their employees' development (what good would it do?) This includes, of course, the development of employees who are underperforming. Dweck has had success helping people change from a "fixed mindset" to a "growth mindset" through educating them on the topic and providing tools to help them reframe their thinking (Dweck, 2007). This approach of increasing a “growth mindset,” if used in the context of PM and managing underperformance, could be an effective way of helping a manager to see his or her employee not an object to be gotten rid of, but as a person able to improve.

Scholars within the growing field of Positive Organizational Scholarship (POS) have suggested increasing the effectiveness of PM by helping managers apply a more positive approach. For example, Cravens, Oliver, & Stewart (2010) recommend a series of behaviors, such as framing performance measures in positive terms, that lead to more energized, creative employees. The POS approach could reduce some of the manager discomfort around negative performance discussions as the dialogue would be framed in more positive terms, and could even help managers see employees as people. The POS approach aligns with the I-Thou mindset in that it defines positive to include “adopting a unique lens or alternative perspective” and focusing on the “life-giving elements” of difficulties (Cameron & Spreitzer, 2013, p. 2). These attributes would tend to lead a manager to hold an I-Thou mindset and to see an employee who is underperforming as a person. Moreover, POS also defines positive to include “the examination of virtuousness or the best of the human condition” (Cameron & Spreitzer, 2013, p. 3). This approach to management of seeking for the best of the human condition would certainly call on managers to view employees as people.

The strengths-based employee development approach, which falls under the larger umbrella of the POS movement, also helps managers see their employees through an I-Thou mindset. A strengths-based development approach argues that developing one’s strengths is more effective in increasing performance than shoring up one’s weaknesses (Asplund & Blacksmith, 2011). This is because time spent investing in developing oneself yields higher output when directed at an area for which one already has a natural talent. As opposed to PM processes that dehumanize employees, a strengths-based development approach encourages a manager to see the unique strengths of all indiviual employees (not just the "HiPos"). In this framework every person has strengths, and these strengths, though different, represent equally valuable methods of approaching work. When truly recognizing an employee's strengths, it is difficult for a manager to remain in an I-It mindset toward that person. Numerous organizations have embraced this approach as a way to fix their broken PM systems (Gonzalez & Day, 2016).

One refreshing practitioner approach to managing underperformance comes from practitioner Kim Scott, a former Google executive and current consultant in the leadership development field. Scott (2017) introduced a framework she calls "Radical Candor" in which a manager is called upon to both care personally for an employee while at the same time challenging the employee directly.

She argues that managers avoid difficult conversations because of a misguided concern for the employee's feelings (which she calls Ruinous Empathy). Rather than avoid these conversations, managers should, according to Scott, deliver tough messages because those messages are in the employee's best interest. The model also accounts for those managers who deliver tough messages readily but in a way that leaves the employee in shambles. She calls this Obnoxious Agression or simply "being a jerk." For Scott, it comes down to intent—about who's interests does the manager care most? In either the Ruinous Empathy or Obnoxious Agression scenarios, the employee is not the main concern of the manager. In other words, in these scenarios, the manager is seeing the employee as an object, rather than as a person.

Manzoni and Barsoux (2007) present a number of valuable, research-based suggestions on how to prevent the Set-Up-To-Fail Syndrome mentioned above in which a self-fulfilling collusion situation occurs. Practical tips to managers include I-Thou behaviors such as: avoiding the use of labels; being vulnerable about one's own shortcomings; and showing the employee that you are on their side.

Similarly, Quinn (2016) encourages managers to question their own assumptions about employees they have labeled as underperforming through a series of introspective questions. One sample question is "When were the exceptions in which these people performed well, even if these exceptions are rare? (Look hard and ask around, if necessary)" (Quinn, 2016) When a manager sincerely engages in these introspective, disconfirming questions, he or she can interrupt the negative, dehumanizing cycle of labels.

One interesting approach to stop the dehumanizing effect of PM systems is Boyd and Gessner's (2013) call for companies to create "metrics that show you care" (Boyd & Gessner, 2013). Their research demonstrates the unfair nature of the performance appraisal process and recommends more employee-centric practices and that these efforts should be pursued with the same rigor and energy as Corporate Social Responsibility (CSR) initiatives.

Conclusion

The efforts noted above are the beginning of a growing recognition of the need for leaders of organizations and teams to lead with the right mindset, in which they see their people as people, rather than to try to lead with behaviors and checklists. In an increasingly more complex business environment, prescribed PM behaviors will not be sufficient for managers managing issues of underperformance. It will take a change in manager mindset. It will take managers seeing employees as people. Managers will need to heed Buber's call to choose to return again and again to the messy I-Thou world even when forced to operate in the much cleaner but ultimatley less effective I-It world of transactional necessities. It is time to reconsider, with a nod to McGregor, the "human side of enterprise."

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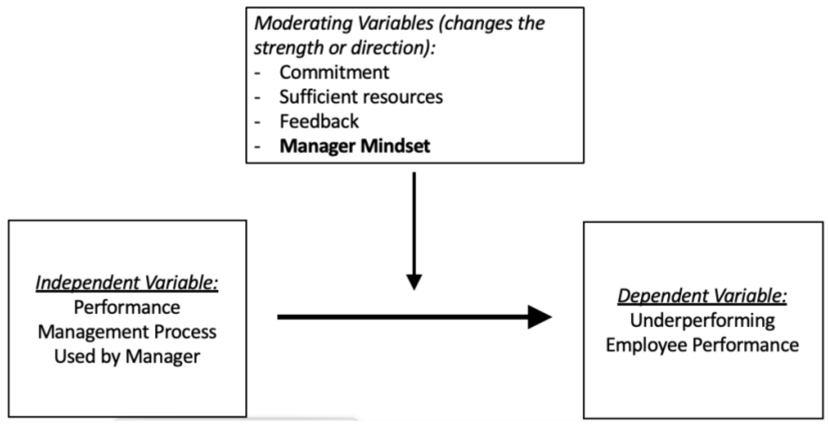
Figure 1: A Selection of Management Theories Associated with Manager Mindset:

Theories	**Contributing Scholar(s)**	**Brief Description**
Humanist orientation	Carl Rogers (Rogers, 1980) Abraham Maslow (Maslow, 1998)	Humanist psychology was founded on the belief in the inherent good of the individual.
Two-factor Theory (motivation-hygiene theory)	Frederick Herzberg (Herzberg et al., 1959) Daniel Pink (Pink, 2011))	Individuals are motivated/satisfied by higher order needs (challenge, meaning, etc.); issues of security and compensation are “hygiene’ factors only.
Pygmalion Effect; Expectations Theory	Robert Rosenthal & Lenore Jacobson (Rosenthal & Jacobson, 2003)	An individual will rise (or lower) to meet the expectation placed upon her.
Lean principles (Total Quality Management)	W.E. Deming (Deming, 1982)	Front-line employees can be trusted to make important decisions, and have the best solutions.
Set-up-to-fail Syndrome	Jean-Francois Manzoni & Jean-Lois Barsoux (Jean-François Manzoni & Barsoux, 1998)	A manager’s negative perceptions about an employee can lead to behavior that brings those perceptions to pass.
Strengths-based approach	Donald Clifton, et al. (Buckingham & Clifton, 2001)	Each and every individual brings unique strengths to their work; natural talents have a multiplier effect on development.
Growth Mindset	Carol Dweck (Dweck, 2007)	Individuals can learn and grow.
Positive Organizational Scholarship	Kim Cameron, et al.(K. Cameron, 2012)	Positivity brings out the best in humans and organizations.
Outward Mindset	The Arbinger Institute (Arbinger Institute, 2016)	The way we see people changes our behaviors and ultimately, our results.

Figure 2: Moderating variables of the Performance Management Process



(Latham, 2016; Locke & Latham, 2002, 2006)

OFFSHORING AND THE NEW AGE EMPLOYEE:
EMERGING ISSUES IN HUMAN RESOURCE MANAGEMENT

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Abstract: As organizations continue to "offshore" many of their operations across national boundaries, they also reconfigure their relationship with their workforce. In this paper, we examine the impact of offshoring on the employer-employee contract, primarily through the lens of the exit-voice argument proposed by the economist Alfred Hirschman in 1970. Our contention is that offshoring reconfigures the employer-employee relationship, replacing earlier psychological contracts with an increasingly transactional character. We also present a framework of new HR imperatives that confront organizations and employees in the post-offshoring age, and discuss the ethical challenges facing organizational theorists, who must represent this tricky debate fairly in their research and the classroom without taking recourse to ideological formulations which conflate corporate welfare and social welfare.

Large corporations continue to "offshore" jobs from well-paying Western locations to the Third World, primarily for the purposes of achieving labor-economies and savings associated with vertical disintegrations (Pla-Barber, Linares, & Ghauri, 2019). The debate on the broader consequences of such offshoring rages on in the business press (Smith 2016), consultant publications (Hummels, Munch & Xiang, 2016), and increasingly, journals devoted to managerial practice (Venkataraman, 2004) as well as organizational theory (Rodriguez & Nieto 2016). At the heart of this debate lies unease about the transforming relationship between employees and organizations, another topic that has been subject to extensive research in the organizational literature (Rode, Huang & Flynn, 2016). As organizations continue to attempt to socialize their employees into subjecthood (Louis, 1990), issues of employee-organization relations become salient. While research has indicated that employees experience both economic and social pulls toward their organizations (Arthur, 1992), theorists have often wondered which of these pulls is more compelling in the current organizational scenario. On one hand, the employee-organization relationship can be highly economic in nature, and resemble a market transaction (Williamson, 1985). On the other hand, there exists a *psychological contract* between employees and organizations, one that goes way beyond market transactions (Rousseau, 1995). The framework of social exchange theory (Blau, 1964) has been used to provide a theoretical basis for this relationship, and empirical examinations of this issue have concluded that the *mutuality of investment* in this relationship is the greatest determinant of the strength and success of the employee-organization relationship (Moss, Sanchez & Heisler, 2004; Tsui et. al., 1997).

In this paper, we argue that in the current corporate landscape, the employee-organization relationship is subjected to further shifts on account of the changing profile of the workforce. Because of offshoring and corporate downsizing, today's employees often operate in an environment where their work group is comprised of a number of traditional workers employed directly by the organization as well as a number of contracted workers drawn from different organizations, put together in order to work on a specific project. The former provide the stability and organization-specific expertise while the latter provide both functional and numerical flexibility to the organization. Often, the group starts working on projects as soon as it is formed. Also, the nature and size of the group tends to be dynamic with the post-offshoring employees being added and removed as the need dictates. As a result, the "post-offshoring worker," including the worker who is attempting to enter the workforce in the next few years, encounters an atmosphere characterized by a paradoxical combination of high hopes and declining trust. In the wake of waves of corporate downsizing (Beam, 1997), most of which have been triggered not by falling productivity but more by the exigencies of the stock market (Lowe, 1998), workers are justifiably wary of their expectations from their employers. To that extent, we may hypothesize that their relationship with their employers is moving from a psychological contract model to an economic exchange model.

How do we reconcile the ambivalence of the post-offshoring workers toward their employers with their intense need to monitor their own progress? Does this attitude on the part of the post-offshoring workers constitute a fundamental shift? How can such a challenge be met by practicing managers? How can organizational theorists assist them in developing this understanding? In the rest of this paper, we address these issues in three ways. First we use insight from Albert Hirschman's theories of exit-voice to evaluate the choices made by organizations and workers, and map out some of the ways in which organizational actions can be understood by economic/organizational theory. Second, we develop and critique a framework of newer techniques being deployed by organizations to manage the post-offshoring employee. Finally, we invoke a class analytic perspective on offshoring, and end with a discussion on the role of academic ethics in the unpacking of the discourse of offshoring.

Exit, Voice and Offshoring: A Crisis in the Making?

Attitudes toward corporate offshoring are often intensely polemical, and fluctuate wildly depending upon the source of one's information. On one hand, organizations like the Center for American Progress (https://www.americanprogress.org/issues/economy/news/2014/07/30/94864/offshoring-work-is-taking-a-toll-on-the-u-s-economy/)make a passionate case that offshoring is the defining political crisis of our time, costing US workers around half a million jobs in the professional services and information sector. The AFL-CIO disputes a variety of "corporate myths" that suggest among other things that the jobs being outsourced are low-end jobs, or that offshoring is indirectly good for the US economy. On the other hand, pro-corporate research by organizations such as McKinsey suggests that offshoring is a boon to US business, and that offshoring is an important source of "value creation" for the US economy (Farrell & Agrawal 2003).

A comprehensive transnational discussion on the macroeconomic impact of offshoring both in the manufacturing and in the white-collar sector is long overdue. However, our aims in this paper are more circumscribed. In this paper, we confine our analysis to a study of the impact of offshoring on the organizational commitment of employees in the industrialized nations of the world, and the ethical challenges posed by such phenomena for academics who teach in business schools.

A Framework for Managing the Post-offshoring Employee

Theorists studying the workforce in the new economy have outlined a paradox; post-offshoring employees demonstrate a higher commitment to their work, but a lower commitment to their organization than traditional workers (Mir, Mir & Mosca, 2002). This observation is consistent with the theoretical assumption that expectations of organizational loyalty are positively linked to the affective commitment of workers, and that work commitment is more linked to perceptions of environmental volatility.

Clearly therefore, the challenge posed by such a scenario for the organization (and by extension, the human resource manager) is to maintain the high level of work commitment demonstrated by the post-offshoring employees while simultaneously raising their affective commitment. In order to achieve this task, certain radical transformations have been undertaken by human resource managers. Not only does this involve the deployment of newer techniques, but it has also entailed the abandonment of a number of traditional practices in the service of the changing employee expectations. Some of the changes made in the human resource arena have been schematically represented in Figure 1. In this paper, we have chosen to focus on three of the human resource activities: recruitment, training and retention of employees. We also outline some of the factors that post-offshoring employees perceive as being of increased importance to them in their new jobs, along with those factors which they consider of lesser importance, and those factors that are as important to them as they had been to traditional workers.

Insert Figure 1 about here

Recruitment. In the past, recruiters were known to make use of mass mailings, employment agencies and other diffuse sources to hire candidates.

However, with a sharpening of employee requirements and an increased emphasis on person-organization fit, recruiting tools have become more sophisticated (Cook 1997). These tools include a greater reliance on initial screening through internet-based interfaces (Slick, 1997) as well as a greater focus on employee referral. Recruitment has also been decentralized to the departmental level, with HR only playing a supportive role in most cases, unless the recruitment involves a function-spanning executive. In a related change, compensation packages for new employees are increasingly being customized rather than remaining within bureaucratic confines.

Training. To cater to the demands and the needs of post-offshoring employees, the paradigm of centralized training programs, usually occurring at the time of entry into the organization has given way to a more flexible, on the job and customized training schedule (Marcum, 1999). Moreover, training schedules now go beyond a focus on job function, and concentrate equally on developing employee flexibility and currency with respect to future jobs. Finally, many new organizations have benefited greatly from providing on-line training materials. These materials, usually accessible from firewall-protected intranet sites, provide a variety of asynchronous training options for the self-motivated post-offshoring employee.

Retention. Retention of employees, especially sophisticated knowledge workers has always been a priority issue for organizations. However, in the post-offshoring, we find that the greatest inducements for employees to stay is a promise that the organization will be able to maintain employee currency, teach them newer skills, offer job rotation, and more experiential training (Garger,1999). At the same time, employers are becoming increasingly philosophical about the issue of turnover, and in most cases, budgeting for it by attempting to formalize and routinize work processes so that they can be easily transmitted to new employees.

Overall, in the new corporate landscape, we find that employees continue to explore avenues where they may actualize their work commitment. To that end, new workers favor opportunities to enhance their skills, a flexible work environment, access to newer hardware and software, and the chances of job rotation and horizontal mobility. Their diminished affective commitment finds expression in a diminished emphasis on job continuity and organizational culture. They are also less likely to be geographically rooted, and are more easily persuaded to move, even to foreign locations[1]. Ultimately, the picture of the post-offshoring employee is that of a driven and innovative worker, but one who is far less loyal to any organizational setting. Perhaps this is a mirror image of how organizations have defined their own prerogatives in the recent past. It is however important to note that much of what has been presented here as analysis really draws from experiences with relatively qualified labor. The position of unskilled labor in the post-offshoring economy has been rendered very precarious, and perhaps can only be remedied by concerted collective action to safeguard those employment benefits that were hitherto considered a matter of guarantee. This then, becomes the ultimate paradox of the post-offshoring era, where the skilled worker becomes more mobile and difficult to retain, while the unskilled worker suffers from increasing

[1] Attitudes toward monetary compensation do not appear to have changed substantially over the years.

vulnerability to the rapacity of exploitation, and must necessarily resort to collective action.

The Ethical Dimension: The Role of Academics

Two key observations need to be made about the phenomenon of offshoring. First, while offshoring has a less-than-overwhelming impact on domestic labor markets in the US and Europe, they have functioned as powerful signifiers to reduce the bargaining power of the workforce. For instance, studies show that 29% of all offshored jobs in the US in 2004 have been from unionized facilities, despite only 8% of the private workforce in the US being unionized (Bronfenbrenner & Luce, 2004: 29). Second, it must be conceded that the terms of the discussions on the impact of offshoring have taken on a troublingly ideological character, equating the welfare of corporate actors with that of society at large. As Levy (2005: 689) suggests, in this ideological representation, "wealth transfer is equated with wealth creation, corporate interests are conflated with those of society as a whole, and the process is portrayed as natural and inevitable, leading to prosperity for industrialized and developing countries alike." If we as organizational theorists are to do better than reproduce these ideological positions as benign, we will need to work on the assumptions that undergird our arguments. Our contention is that the inability of academics at large to present the ethical dimensions of offshoring to their students represents a major lacuna in the field, which has become even more salient in the wake of disastrous crises of management behavior and corporate governance all over the world.

Of late, theorists have begun to focus on the role of business education, as an implicit accomplice of ethically bankrupt economic systems (Chikudate, 2002). The perception that the curriculum in business schools is inadequate to address these challenges (Baetz & Sharp, 2004) has been linked to its inability to draw a distinct but definable line between the economic imperatives of profit generation and the fiduciary imperatives of ethically anchored and socially responsible behavior. The late Sumantra Ghoshal (2005), in a scathing, posthumously published analysis of business curricula contended that some of the "worst excesses of recent management practices have their roots in a set of ideas that have emerged from business-school academics over the last 30 years." Jeffrey Pfeffer (2005) supports Ghoshal's view, and refers to a 2000 study that found the percentage of MBAs in a firm's upper echelons to be a significant mediating variable in the link between firm size and malfeasance citations. From business theorists like Henry Mintzberg (2004) and Ian Mitroff (2004) to popular publications like *The Economist* (2005), a significant portion of the current round of critique of business schools stems from their inability to advocate social responsibility, and to ensure that corporations earn their putative role as servants of society and allocators of social product.

This phenomenon is all too observable in the analyses of offshoring that populate much of organizational research. A survey of the literature on offshoring in the organizational field is replete with "how to" advice on what can and should be outsourced. Lesser attention is paid on issues of inequality in exchange, of the role of offshoring in the perpetration of unfair labor practices in the West as well as the Third World, and the "everyday routines of worker resistance" (Mir & Mir, 2002) that occur on a routine basis in the post-offshoring employment landscape, routines that we as organizational theorists have been trained to dismiss as “resistance to change” and “irrational” acts. Worker responses to the some of the oppressive dimensions of the regimes of offshoring both in the West and in the Third World, often take subtle and irrational forms. Resistance to work practices often takes on a more passive, “routine” dimension (Scott, 1985). Open confrontations are reduced, and replaced by “subtle subversions,” by acts of “disengagement,” and “ambiguous accommodations” (Prasad & Prasad, 1998). For instance, instead of more confrontational practices such as work-to-rule, workers who fear that that jobs may be offshored may paradoxically feign incompetence in carefully chosen arenas, thereby subverting organizational plans for a flexible workforce (Gottfried, 1994). This response resonates with prior research observations about worker responses to large-scale organizational changes such as computerization (Prasad, 1993) or re-engineering (Diplock, 1997). Workers periodically alter their level of enthusiasm for the process as a means of communicating their fears and expectations. There are also different ways in which resistance to offshoring is expressed in the recipient nations. Contrary to the dominant discourse that third world recipients of jobs from global corporations view this as manna from the heavens, the workplace in the periphery is also a contested terrain. Sometimes, rural workers in modern organizational settings may play out their resistance through the invocation of ghosts, spirits, legends and religious deities (Ong, 1987). They may choose to accentuate their separateness from the managerial class by refusing to accept organizational gifts, thereby ceremonially disputing the managerial posturing that there is more to the manager-worker relationship than a pact between wage and labor (Kondo, 1990). The everyday relations at the workplace on both sides of the offshoring divide are the sites of class struggle, of alienation, of the constitution of worker subjectivity, of the gendering of work and its subversion, of intra-organizational bargaining, and sometimes, of relations of imperialism and cultural dislocation. Representing this becomes an ethical prerogative for organizational researchers who wish to exhibit true commitment to their craft.

Conclusion

In this paper, we have provided a theoretical framework of the commitment profile of post-offshoring workers, contending that their attitudes toward the changing corporate workplace is one of diminishing affective commitment to the organization, coupled with a paradoxically increased work commitment. Based on this contention, we have designed a model whereby HR managers may attempt to raise the affective commitment of these workers without compromising their work commitment. The model also suggests the factors that post-offshoring workers tend to emphasize more in their new work roles. Paying more attention to these factors, we suggest, may lead to HR gains with respect to recruitment and retention.

Of course, this analysis does not address the broader issue of the social impact of offshoring. As we suggest in the paper, such an analysis should use economic class rather than national boundaries as the frame of reference. Often, the popular debates on offshoring gets mired in a nationalist dilemma (in particular, the popular press in the United States resorts to China-bashing as a means of presenting a critique of offshoring and its deleterious effects). The reality is that offshoring benefits corporations and elites in both the source and destination, while creating an underclass in the first world as well as the third world.

In light of these issues, perhaps it is pertinent to revisit some of our initial concerns with respect to the employee-organization relationship. We had wondered whether the dominant paradigm of the employee-organization relationship had begun to shift from a psychological contract (Rousseau, 1995) to a model of economic exchange (Williamson, 1985). Unfortunately, much of our theoretical understanding, our survey of existing empirical research and our own empirical research on this issue points towards such a trend. In their rush to achieve immediate gains, or perhaps having their feet held to the fire of quarterly earnings by stockholders, employers are in danger of completely reconstituting their psychological contracts with employees. Such a situation, if it translates into greater HR costs, is likely to prove to be economically unsuitable in the long run.

Also, in the face of increasingly ideological representations of offshoring, organizational researchers and management academics face an important ethical task. They need to marshal their analytical tools to go beyond the hype, and uncover the class character of the dilemma, in a manner that respectfully theorizes the hesitant and inchoate voices of those who resist their exploitation by corporations, on both ends of the offshoring space.

Our own perspective on offshoring is that it needs to be viewed more through a lens of class analysis, rather than using the nation state as a frame of reference (Henwood, 2006). Offshoring presents opportunities to the elites of both the first world and the third world, while contributing to a widening of income and privilege gaps in all parts of the world. Framing the debate on offshoring as a zero-sum war between nations leads to analytical positions that border on the xenophobic ("Is Wal-Mart a Trojan horse by which China will vanquish the US economy?") and miss the broader analytical positions that could be useful ("How does one reconcile potential gains from effective supply chain management with the mistreatment of important organizational stakeholders like labor?"). Such analysis is only useful when we use innovative units of analysis, especially those of economic class (Bluestone & Bluestone, 1992). One could argue that a nuanced debate on offshoring would offer an important key to the critical examination of the trade theories that surround that elusive term "globalization," and serve to illuminate some very troubling ideological assumptions that underpin the macroeconomic ideology of neoliberalism.

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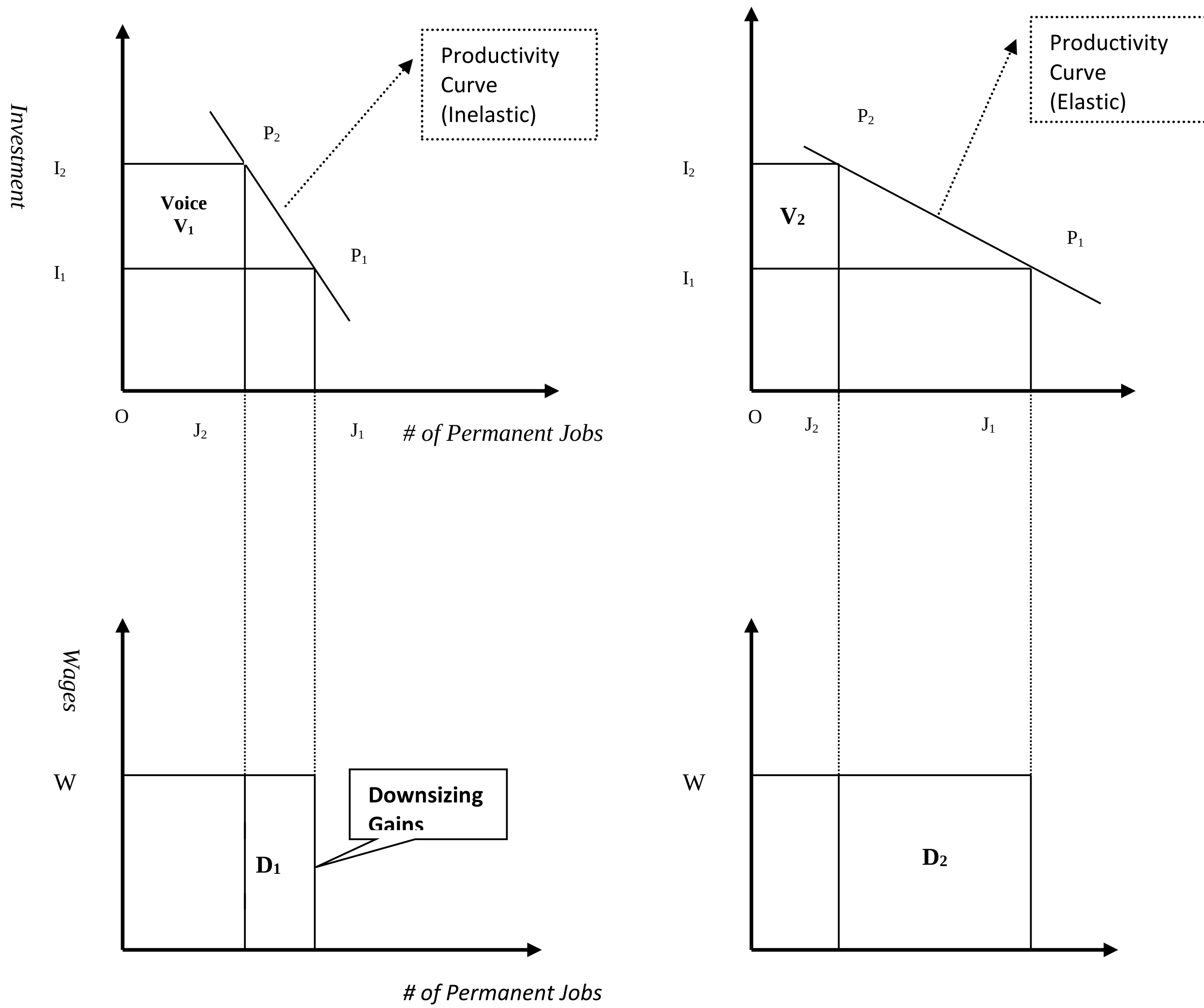
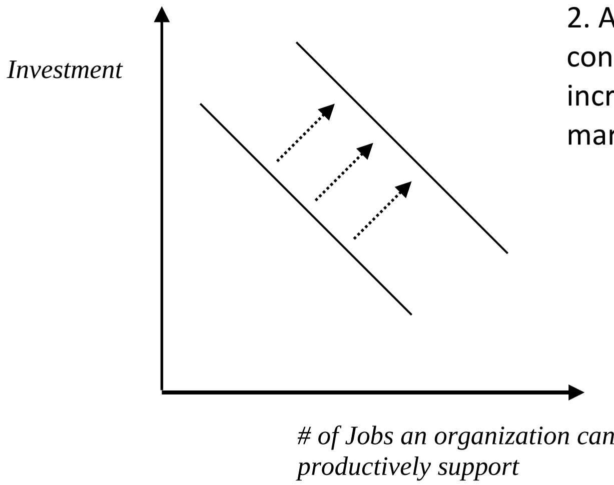
FIGURE 1: THE OFFSHORING-DOWNSIZING RELATIONSHIP



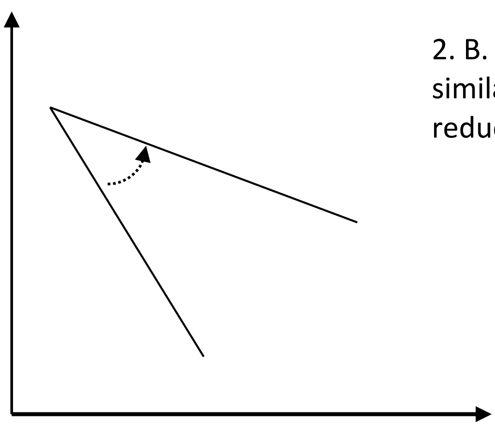
Scenario A: In an economy characterized by domestic production, the productivity curve is inelastic, and labor voice is a more powerful force.

Scenario B: As offshoring increases, the productivity curve gets more elastic. Managerial options to downsize in domestic market gain upper hand over labor voice.

FIGURE 2: POSSIBLE TRENDS IN THE SHIFTING PRODUCTIVITY CURVE



2. A. Productivity remains constant, but market size increases (e.g. due to global markets).



2. B. Market size remains similar, but productivity gains reduce labor need

2. C. A combination of productivity increase and market increase, augments revenue and reduces wage bill

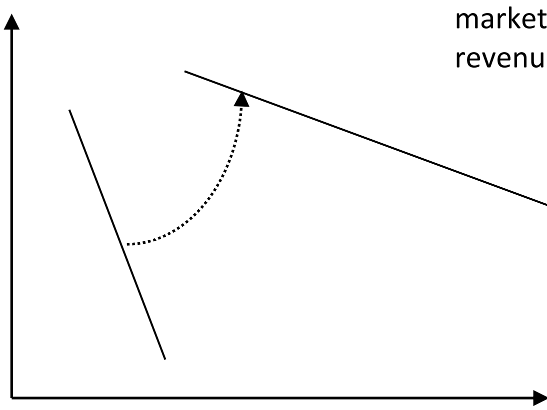
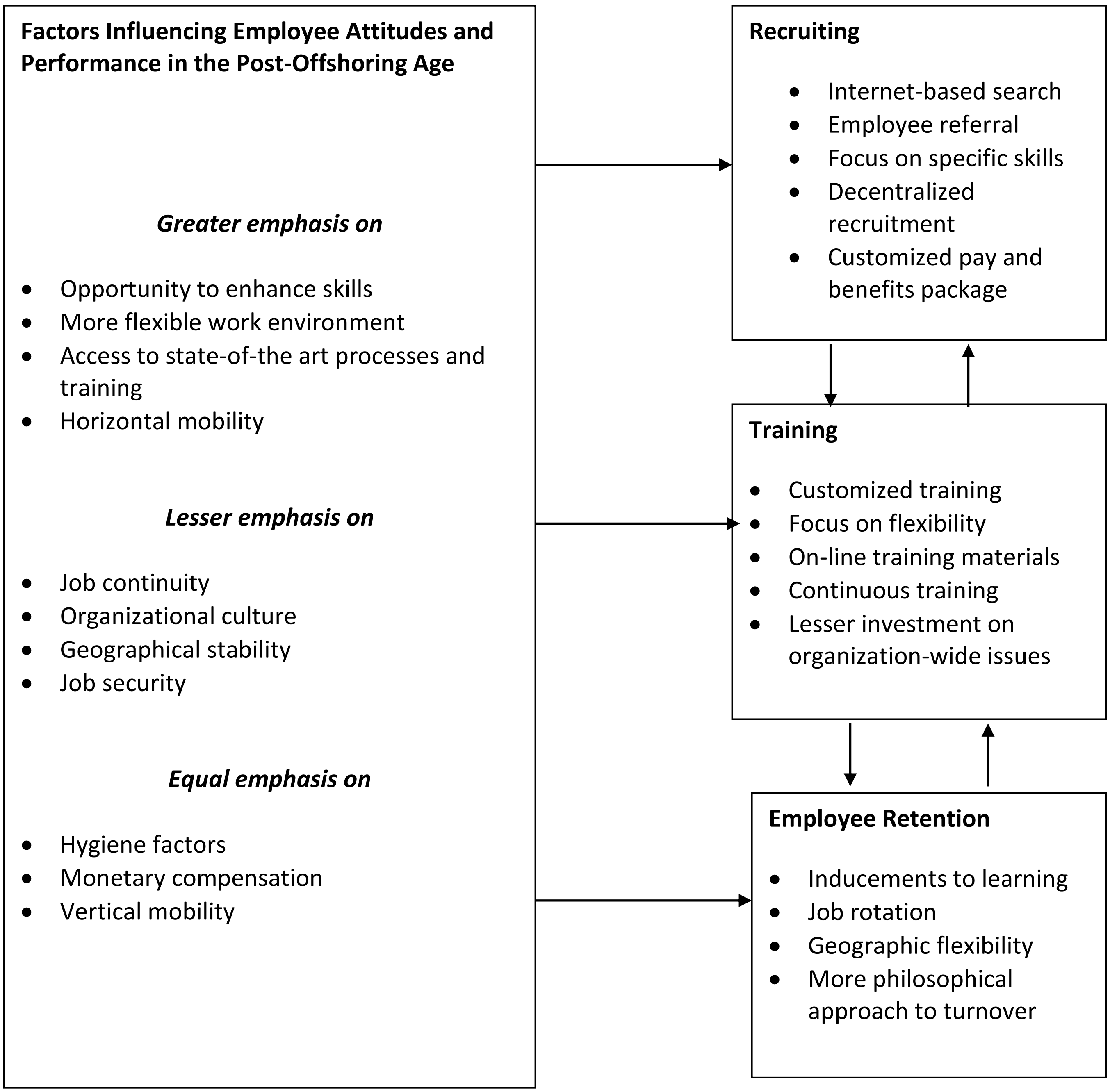


FIGURE 3
A FRAMEWORK OF HR POSSIBILITIES IN A POST-OFFSHORING WORKPLACE



Abstract

Artificial Intelligence in Hiring: Understanding Attitudes and Perspectives of HR Practitioners

Disruptive technologies that enable knowledge work automation through artificial intelligence (AI) and robotics, are changing how middle and higher skilled employees do work and are causing the redesign of organizations across multiple industries. Although research suggests that HR offices have traditionally lagged other functional areas in the adoption of new technology, the current labor shortage and the predictive analytics enabled by big data, are driving the adoption and use of AI tools in the hiring process. This qualitative research study sought to hear the voices of HR practitioners on the use of AI technology in the hiring process and to understand the attitudes and perspectives of those HR practitioners towards the adoption and use of AI in this way. For this study, HR executives, (HREs), HR recruiters (HRRs), and HR information systems analysts (HRISAs) from global organizations headquartered in the Northeastern region of the United States, were interviewed. The data revealed that although HR practitioners acknowledge relative advantage of using AI for algorithm-based-hiring, HR practitioners also acknowledge the value of human contact for successful outcomes in the recruiting process. During the study, HR practitioners affirmed their personal beliefs and feelings about AI while framing their perspectives through organizational change experiences, social or environmental observations and the uses of the technology itself. As technologies continue to usher in the automation of knowledge work, HR practitioners need both interdisciplinary academic and professional development training, to help design the automated workplaces of the future where human and artificial intelligence work side by side to achieve competitive outcomes for evolving organizations.

Artificial Intelligence in Hiring: Understanding Attitudes and Perspectives of HR Practitioners

Keywords: Artificial Intelligence, AI, Hiring Bias, Workplace Automation, Diffusion of Innovations Theory, Worker Attitudes, Organizational Change, Human Resources

Artificial Intelligence in Hiring: Understanding Attitudes and Perspectives of HR Practitioners

Preface

Role and Identity of the Researcher

The researcher's interest in the attitudes and perspectives of workers, specifically HR professionals, towards adoption and use of artificial intelligence in the recruitment and selection process, is grounded in two former organizational change experiences driven by the adoption and use of new technology. One of those experiences in corporate travel is detailed here.

Corporate travel. In the mid to late 1990's the researcher worked for a California company where corporate travel professionals swiveled between five different computer screens, each loaded with a different software system of the major airlines operating at that time. Those software systems, which blossomed after the deregulation of the airline industry, were known collectively as Computerized Reservation Systems (CRS). Wardell (1991) defined these CRS as, "specialized online transaction processing systems and databases that are specifically designed to meet the needs of travel agents" (p. 23). In the early 1990's the top three CRS were: a) SABRE, developed by American Airlines with 40% market share; b) Apollo, developed by United Airlines with 25% market share; and c) PARS, developed by Trans World Airlines with 15% market share (Wardell, 1991). Smaller systems, such as SystemOne developed by Eastern Airlines, and Worldspan, developed by a collaboration between Delta, Northwest, and TransWorld Airlines, were also available (Wardell, 1991).

Each of the five computers at an agent's work station was loaded with one of these CRS systems. These corporate travel agents were CRS experts because it was rare for any one agent to know or use more than one system. In fact, at that time, travel agents could spend their entire careers working in only one CRS, even if they moved from one travel company to the other. These professionals in my call center knew five, simultaneously. These jobs were hard to fill because most agents only knew one system at a time and training was costly. Many of the new hires did not make it through a probationary period where each agent had to become minimally competent in all five systems. The company did very innovative things to keep their agents engaged because having an expert staff was key to their competitive advantage.

After a very rapid technology transformation within the company, the agents began accessing the same five CRS through one computer desktop in a Microsoft Windows environment. Within months of that change, the researcher was one of the four employees who beta tested virtual access of these software systems as a telecommuter working from a home office location. For the final eighteen months of employment with that company, my commute was reduced from a 60-mile one-way drive, to a 60-second walk to a home office where I logged on through a web interface to the company's network. This allowed access to all five CRS in a MS Windows environment via the Internet. Literally, with my office down the hall, I was able to log in and serve clients globally just as if I was sitting in the call center 60 miles away. To be able to beta test this new work process, I had relinquished my supervisory role in the call center and returned to the former status as an agent. However, within weeks of working remotely, as we learned more about the capabilities of this technology, it was easy to recover some supervisory duties, such as electronic ticketing and managing important VIP clients from a virtual location. To the executive on business travel anywhere in the world, it did not matter that an agent, with access to all their relevant travel data and corporate accounts, was working from a home office. The result was the development of a new job role as a virtual supervisor working in tandem with on-site supervisors. In addition to birthing this new virtual job role, this technology allowed the company to exponentially grow the job applicant pool, since, with training, agents could now work from anywhere in the continental US. With this organizational change experience, this researcher documented the technology transition for a management and human resources undergraduate thesis titled: “Telecommuting: A Strategic HR Tool”.

At that time, technology was revolutionizing the travel industry and this researcher observed colleagues across the industry who struggled, without much organizational support, with the technology adoption. Work processes changed rapidly. For example, instead of issuing 6-sheet, tear-away, paper tickets which had to be printed through specialized equipment attached to CRS systems and then, land-mailed to customers or picked up by them days before travel at agency or airport locations, travel documents could now be issued as electronic documents or e-tickets.

Passengers accustomed to waiting in long airport check-in lines, could now expedite check-in by using airport kiosks in the airport lobbies, calling on airline agents only when necessary. Specialized multi-week training sessions for how to master the basics of fare calculations and tariff rules, were replaced by algorithms that were always correct, no matter how complex the travel itinerary. As some processes became more automated, all these changes demanded that workflows adjusted, while jobs and roles were modified. In every case, the new technology, although disruptive to travel agents, brought advantages to travelers over the old ways. In a retrospective view, Euromonitor International summed up the transitions in the travel industry at the turn of the century by stating that, “Traditional travel distribution in which high street travel agencies played a dominant role was revolutionized with online travel agencies and direct distribution through airlines and hotels’ websites acquiring a key role” (Bearne, 2016, para. 4).

Some travel professionals embraced the changes. Many others argued that the industry was being *invaded* by technology through consolidators like Priceline.com and Expedia.com that allowed consumers to bypass travel agents completely. Soon the airlines were facilitating more direct consumer transactions via the Internet, allowing every potential traveler to become an expert at booking or managing their own itineraries. This drastically reduced or eroded the value of the specialized job skills that agents had spent years mastering.

During this transformation within the industry, this researcher recognized that employees exhibited different attitudes towards the changes and that those attitudes, be they positive, negative or ambivalence, were potential predictors of how people would navigate the new workplace and the job or career changes being brought on by the disruptive technology.

This observation drove the researcher’s interest in human resource development through career development and was the catalyst for the researcher to learn more about why some people were able to transition with relative ease and others, less so.

Theoretical Background

Researchers confirm that information technology (IT) has been a disruptive force in the workplace at the individual contributor, departmental, organizational, and industry levels for decades (Brynjolfsson & McAfee, 2011; Chan & Ngai, 2007; Christensen, 1997; Ford, 2015; Manyika et al., 2013; Phillips, 2013; Shermon, 2017).

Brynjolfsson and McAfee (2016) in the bestseller, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*, say that today, many of the technology advances we have observed in recent years including, “cars that drive themselves, useful humanoid robots, speech recognition and synthesis systems, 3D printers, *Jeopardy!* champion computers – are not the crowning achievements of the computer era. They are the warm up acts” (Brynjolfsson & McAfee, 2016, p. 90).

A recent Global Human Capital Trends report completed by Deloitte which analyzed data from 7500 business and human resource leaders in over 130 countries, showed broad agreement that the overwhelming presence of digital technology in organizations is not going away and will continue to be a major disruptive driving force that is changing business models and radically impacting the way work is done (Schwartz, Bohdal-Spiegelhoff, Gretczko, & Sloan, 2016).

Four Relevant Areas for Consideration

As we consider the transformative impact on the workforce by existing and emerging digital technologies, there are four different subject areas that converge to form the basis of this study. These four areas are: a) workplace automation through technology adoption, b) organizational changes, c) worker attitude, and d) human resources. It is at the intersection of these four areas that this research will explore the attitudes of employees in HR departments as they adopt and use Artificial Intelligence in the recruitment and selection process.

Transformational Technologies

Many new technological concepts and practices are driving the disruptive changes in organizations today across multiple industries. In a McKinsey Global Institute report titled, “Disruptive Technologies: Advances that will Transform Life, Business and the Global Economy,” researchers identified 12 transformational technologies having a potentially significant impact on how people work (Manyika et al., 2013). The following is a list of the 12 technologies:

1. Mobile Internet
2. Automation of knowledge work
3. The Internet of things
4. Cloud technologies

5. Advanced robotics
6. Autonomous and near autonomous vehicles
7. Next generation genomics
8. Energy storage
9. 3D printing
10. Advanced materials
11. Advanced oil and gas exploration and recovery
12. Renewable energy. (p. xi)

Technology Adoption in Human Resources

Prior research shows that as modern technology is implemented, it precipitates minor to significant changes in organizational processes, job tasks, and the nature of work (Dewett & Jones, 2001; Taylor & Wright, 2004). The 12 transformational technology innovations in the McKinsey report (Manyika et al., 2013) will precipitate many changes across organizations that will require participation from HR practitioners as workers adopt. Not only will HR professionals have to help others through the redesign of organizations in general, at the same time, HR must focus on the redesign of their own functional areas. One area that will need specific attention is the recruitment and selection of new employees to work in these evolving organizations.

Importance of recruitment and selection. In a tight job market with great competition for talent, the 2017 Deloitte Human Capital Trends report confirms that "talent acquisition," which includes the candidate recruitment and selection process, "is important or very important for 83% of business and HR leaders" (Stephan, Brown, & Erickson, 2017, para. 2).

Consequently, there is increasing attention on the emerging technologies being used to assist HR practitioners in the recruitment and selection processes as they hire new employees. Assuming, that newer technology will bring some type of advantage over existing technology, adopting AI tools could offer the opportunity to improve the recruitment and selection process. Housman (2016) explains that, "In a service-based economy where the workforce is any company's most critical asset, using the decision support to make the right people decisions can be a source of competitive advantage" (p. 9).

Bressler (2014) states that, "Perhaps the greatest challenge facing HR departments could be the selecting and hiring employees, not just any employees, but employees capable of helping the organizations achieve their stated mission" (p. 2).

Researchers for the 2016 Deloitte Global Human Capital report explain further:

> Businesses have recognized that they need data to figure out what makes people join, perform well in, and stay with an organization; who will likely be successful; who will make the best leaders, and what is required to deliver the highest quality customer service and innovation. (Bersin, Collins, Mallon, Moir, & Straub, 2016, p. 87)

HR data utility. Kapoor and Kabra (2014) note, that HR departments "gather terabytes of data each year about people and performance" (p. 53). They also suggest that the use of this data, could offer a solution for HR in the improvement of the recruitment and selection process and posit that given the "importance of [the] workforce in financial performance, many industry experts have predicted that HR analytics will be used by many more organizations in the coming years" (Kapoor & Kabra, 2014, p. 52). When Kapoor and Kabra (2014) published their work, they also posited that although organizations were collecting more human resource data than ever, there was still a reluctance “to use this information productively and effectively to bring predictive insight and decision-making support to the management of their workforce” (p. 52).

This reluctance that Kapoor and Kabra cited in 2014, appears to have diminished over the last three years, as increasingly, within the broader talent management strategy, HR departments are taking advantage of the data collected and using Artificial Intelligence (AI), through third-party software applications or custom suites, to impact decision-making in the recruitment and selection process.

Stephan, Uzawa, Volini, Walsh, and Yoshida (2016) have a possible explanation for the change of heart in HR practice about the use of data. They posit that the current digital transformation in organizations is resulting in dual goals for HR departments as they seek to fulfill their roles both as partners and leaders in organizational transformations:

> First, HR can help business leaders and employees shift to a digital mindset, a digital way of managing, organizing and leading change. Second, HR can revolutionize the entire employee experience by transforming HR processes, systems and the HR organization via new digital platforms, apps and ways of delivering HR services. (Stephan et al., 2016, p. 97)

In transforming HR processes, Housman (2016) clarifies that, “HR leaders are realizing that the same technologies and tools that have been embraced in other parts of the organization are now being applied to make data-driven decisions about who to hire, how to onboard them, and how to retain them” (p. 9).

As some HR offices are already incorporating AI technologies in the recruitment and selection process to realize efficiencies in filling vacancies, early reactions are mixed. Some organizations cite improvement in quality of hire and reduction, if not, elimination of hiring biases, as some of the relative advantages of using AI tools. To the contrary, other observers see a potential increase in hiring biases because certain demographics of job applicants could be overlooked in the process as algorithms are only as unbiased as the humans developing them (Housman, 2016; Hurlburt, 2018).

Research Questions

The research questions and propositions for this study are grounded in current literature at the intersection of workplace automation through technology, organizational change, worker attitudes and human resources. The research questions that guide this research are as follows:

RQ 1. How is AI currently being used in the recruitment and selection process by participants' organizations?

P_{1a} – Relative advantage of the AI technology factors into how the technology is being used.

RQ 2 and related propositions. What are the attitudes and perspectives of participating HR Executives (HREs) towards the adoption and use of AI in recruitment and selection process?

P_{2a} – Personal beliefs factor into HRE's attitude towards adoption or use of AI in recruitment and selection.

P_{2b} – Organizational change experience factor into HRE's attitude towards adoption or use of AI in recruitment and selection.

P_{2c} – Social and environmental considerations factor into HRE's attitude towards adoption or use of AI in recruitment and selection.

RQ 3 and related propositions. What are the attitudes and perspectives of participating HR Recruiters (HRRs) towards the adoption and use of AI in recruitment and selection process?

P_{3a} – Personal beliefs factor into HRR's attitude towards adoption or use of AI in recruitment and selection.

P_{3b} – Organizational change experience factor into HRR's attitude towards adoption or use of AI in recruitment and selection.

P_{3c} – Social and environmental considerations factor into HRR's attitude towards adoption or use of AI in recruitment and selection.

RQ 4 and related propositions. What are the attitudes and perspectives of participating HR Information Systems Analysts (HRISAs) towards the adoption and use of AI in recruitment and selection process?

P_{4a} – Personal beliefs factor into HRISA's attitude towards adoption or use of AI in recruitment and selection.

P_{4b} – Organizational change experience factor into HRISA's attitude towards adoption or use of AI in recruitment and selection.

P_{4c} – Social and environmental considerations factor into HRISA's attitude towards adoption or use of AI in recruitment and selection.

These four open-ended research questions and the related propositions will guide the development of interview questions to engage HR practitioners who work in three specific job roles.

Participants and data collection

A total of 10 HR practitioners were interviewed including HR executives (HREs), HR recruiters (HRRs), and HR information systems analysts (HRISAs) from global organizations headquartered in the Greater Philadelphia region, were interviewed. Interviews were one-on-one and conducted between June and August 2018, resulting in 88 pages of responses. Using the process coding method, responses were coded to answer research questions.

Profile of HR Practitioners

In order to identify appropriate participants, the researcher developed a profile of the professional characteristics typical of practitioners in each of the three target job roles. The job duties of each participating practitioner would fit elements of the profile developed for HREs, HRRs and HRISAs described below.

Profile of HR Executives (HREs). This study participant was a HR practitioner who worked as a senior leader in HR with a portfolio of responsibilities that could include multiple HR functional areas. Wright (2011) cites the three key responsibilities of HREs at this level as "ethics, talent, and coaching" (p. 12). This incumbent could function as a member of an executive or C-Level leadership team. The likelihood is great that these practitioners may be certified in human resource competencies by either or both of the globally recognized certifying bodies. These certifications are the Senior Certified Professional (SHRM-SCP) that is issued by the Society of HR Management (SHRM, 2017, para. 1) and the Senior Professional in HR (SPHR), issued by the HR Certification Institute (HRCI, 2018, para. 2). An employee in this role typically had several years of professional HR experience and would be a decision maker or lead consultant in the acquisition of technology, HR change management strategies and implementation. This participant may or may not directly use the AI technology implemented in the recruitment and selection process but is a stakeholder in the overall success of HR technology projects and organizational outcomes. When searching through the target company's personnel list on LinkedIn.com for HREs, an executive could hold various job titles such as: a) Director of HR, b) Chief HR Officer (CHRO), c) HR Leader, d) Director of Talent Management,

e) Manager of Talent Acquisition, f) Global Leader of HR, and g) Vice President of HR or Human Capital.

Profile of HR Recruiters (HRRs). Recruiters are seen as specialists in the recruiting discipline and play a critical role in the talent acquisition strategy for their organizations. They are on the front line of the company brand in terms of often being the first point of contact for potential new employees for a company. The Bureau of Labor Statistics (2018) lists the following duties of HR specialists: a) consult with employers to identify employment needs; b) interview applicants about their experience, education, and skills; c) contact references and perform background checks on job applicants; d) inform applicants about job details, such as duties, benefits, and working conditions; e) hire or refer qualified candidates for employers; f) conduct or help with new employee orientation; g) keep employment records and process paperwork. These duties are consistent with the roles of recruiters and consistent with the recruiting activities where AI technology could offer a competitive advantage.

When searching through the target company's personnel list on LinkedIn.com for HRRs, a recruiter could hold various job titles, such as: a) Recruiter, b) Talent Acquisition Specialist, c) Recruiting Coordinator, d) Staffing Specialist, f) Contract Recruiter, or g) Manager of Recruiting.

Profile of HR Information Systems Analysts (HRISAs). Broderick and Boudreau (1991) summarized a human resource information system as: "a composite of databases, computer application hardware and software that are used to collect/record, store, manage, deliver, present and manipulate data for human resources" (p. 3). For this study, the practitioners who oversee the support, implementation and management of these systems inside of HR are referred to as HRIS analysts. These employees work with vendors to customize off-the-shelf products or oversee in-house development of technology systems. Their training and background are usually not only through the HR function, but also through technical education. In a qualitative study involving interviews of ten HRIS professionals, the author concluded:

> HRIS professionals encourage HR technology integration to improve workplace processes; HRIS professionals manage data integrity and support safeguarding of employee information; HRIS professionals run data inquiries and provide reports that influence decision making related to workforce and business outcomes; and HRIS professionals are enthusiastic about emergent job responsibilities in the design and coding of systems. (Bradley, 2017, p. x)

When searching through the target company's personnel list on LinkedIn.com for HRISAs, an analyst could hold various job titles, such as: a) HR technical managers, b) Director of HRIS, c) Director of HR Analytics, d) Director of HR Information Systems, e) Manager of HRIS, f) Data Management Analyst, and, g) Director of HR.

Trustworthiness or Validity of Data

All the data for this study was collected in one-on-one interviews scheduled and conducted by the researcher. All interviews were conducted only after approval of a detailed research proposal by the Human Subjects Review Committee (HSRC) of Wilmington University. In addition to the HSRC, the entire interview protocol and related documents were reviewed and evaluated by one HR Executive through a mock interview process, the Dissertation Committee members, and a group of six HR professionals in a roundtable discussion.

Summary of Findings

How AI is Being Used in the Recruitment and Selection Process

The data gathered from practitioners revealed that AI is being used or planned to be used in recruitment and selection in the following five ways:

1. Sourcing applicants
2. Screening candidates
3. Impacting the user's experience
4. Marketing and messaging about the organization's brand
5. Using predictive analytics to improve candidate quality

P.O.S.T. Framework for Attitudes and Perspectives

The acronym P.O.S.T. is representative of the four factors that most frequently appeared to impact the attitudes and perspectives of the practitioners towards AI. First, was the expression of personal beliefs (P) and feelings by practitioners about the technology. The second factor was the practitioner's personal organizational change experiences (O) with prior technology transitions. The third factor was the social or environmental (S) factors relevant to AI technology use and the fourth factor was the practitioners' specific views of the technology (T) itself and its perceived relative advantage.

Findings Using this Framework

Personal beliefs. To identify personal beliefs, the researcher extracted two things from the data based on prior research methodologies.

1. "I" statements which are personal, first person expressions consistent with five sentiments - *excitement, trust, coping, fear* and *curiosity* – that have been used to evaluate feelings related to an innovation or change.
2. The practitioners' views on if or how the use of AI could impact on HR jobs and careers, including their own.

The data revealed that of the three groups of practitioners, more HRRs showed less *excitement* and less *curiosity* about the technology. More than others, HRISAs voiced concerns related to *trust* of AI in highly regulated environments and *fear* that AI could be seen as a potential panacea creating security and privacy challenges. Most HREs expressed *excitement* about the potential benefits of AI in lower costs, efficiency of operations and maintaining competitive advantage. Overwhelmingly, the practitioners expressed feelings indicative of *coping* with the changes while at the same time discussed the *fear* of overpromising on what practitioners will be able to accomplish with AI, given the investment.

As it relates to if or how their jobs and careers would change, HREs and HRISAs expressed that they had already seen an evolution of their roles to include more HR technology and were not anticipating much additional change. HRRs anticipated that their roles would change but not disappear because of the new technology. There was general agreement that as the recruitment and selection process evolved, the routine tasks might change, but that HRR jobs would remain key functions within HR offices, even if the number could be lessened.

Organizational change experience. Using their own prior organizational change experiences as a barometer, HR practitioners discussed factors that could have both positive and negative impact on the adoption of this technology. Practitioners identified the following factors that would impact adoption positively:

1. Leadership strategies including a bottom-up versus a top-down change process.
2. Testing technology in small areas first to identify champions before company-wide roll out.
3. Potential users involved and encouraged to be open to and about the changes.

Participants observed that organizational change had high likelihood of failure if:

1. Projects were not taken seriously by employees enterprise-wide.

2. Companies did not fully commit the resources to support the change including staff training.
3. New technology was incompatible with organizational values, practices or technology.

Social and environmental factors. HR practitioners discussed demographics, digital literacy, pervasive mobile technology use, social media, regulatory compliance, job specifications being recruited, organizational branding and the dual roles of practitioners as both employers and consumers. All practitioners in some way or the other observed:

1. The rapid rate of technology changes across HR offices both singularly and as reflective of broader society.
2. The potential for varied demographic impact based on the company's recruiting targets, digital literacy across a multi-generational workforce, access and availability of technology to the high skilled versus low skilled professionals and the potential for bias based on gender, ethnicity and socioeconomic factors.

AI technology and relative advantage

The Diffusion of Innovation theory defines *relative advantage* (RA) as the degree to which an innovation is perceived as better than the idea it supersedes. The data showed the following seven areas where RA was a consideration in adoption: a) technology costs and ROI, b) newer versions of technology with AI features, c) managing the recruitment process, d) Interviewing, e) human contact, f) job roles and g) demographics. Figure 2 shows how participants considered RA in all seven areas. Five of the areas showed where AI offered a definite RA (solid lines). Three of those five areas showed *Situational* RA (dotted lines) where advantage may or may not exist dependent on other variables. It was a significant finding that none of the practitioners interviewed perceived much relative advantage of AI in recruitment and selection process for interviewing or for maintaining the human contact throughout the process (dashes and dotted lines).

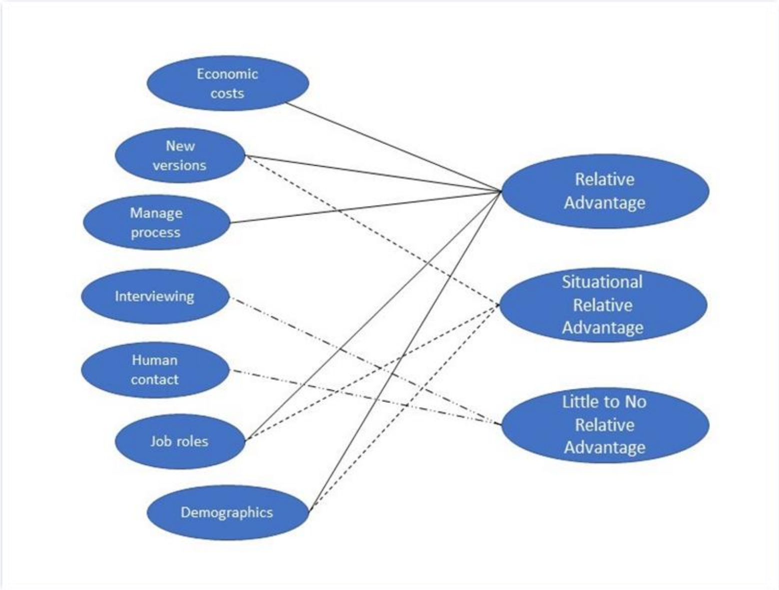


Figure 2

The data revealed that while HR practitioners acknowledged the relative advantage of AI for algorithm-based-hiring, they also acknowledged the value of human contact for successful recruiting outcomes.

Conclusion

There are many business examples to show that in the implementation of new technology, it is the human challenges associated with change that are easily overlooked. This phenomenological study shed light on the human challenges seen through the actual lived experience of these HR practitioners, at this inflection point in the profession. Although there is no guarantee that all HR practitioners in similar roles would have the same perspectives as those shared in this study, some unique distinctions of this study are that:

- This study was the first to bring the voices of HR practitioners, working in three distinct roles familiar with the recruitment and selection technology, to the same study.
- This study yielded the P.O.S.T. framework as a new methodology to explore the attitudes and perspectives of employees engaged in technology transitions. Since it has been demonstrated that worker attitudes and perspectives form a precursor adoption intention, this framework could be valuable for those involved in or leading change efforts.

Technology in HR, particularly in the recruitment and selection process is not new. AI is also not new. It is the convergence of the two that is new to HR and there is nothing to indication that that the adoption of AI this way is going to stop since companies can realize relative advantages of the technology. If all the predictions are correct, AI will bring knowledge work automation to professional level workers, like HR practitioners, in ways not seen before. The Human Resource profession, long since known as the people-profession, will have the dual role of shepherding change management for all employees, while themselves evolving their own departments and responsibilities. The voices driving many of these changes are outside of HR departments. The window is therefore small for HR practitioners to step into leadership here.

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Intersections of gender and age for women's restricted career progression in Indian ICT sector

Abstract

A plethora of studies has documented that women in western contexts often do not choose to pursue computing education or enter ICT careers (Trauth, 2006). However, research on India offered a different perspective that Indian women are increasingly choosing to study computing and enter ICT occupations (Gupta, 2015). Though masculine cultures of engineering observed in the Western contexts that are often cited as the main reason for women's turnover from ICT careers (Adya, 2005; Ahuja, 2002; Trauth, 2006) are not replicated in the Indian contexts (Gupta, 2015; Dhar-Bhattacharjee and Richardson, 2017); yet studies point that almost 48% of Indian women choose to exit ICT careers during junior to middle management transition (Gender diversity Benchmark (2011). It is not clear as to why Indian women choose to exit the ICT workforce (Ravindran and Baral, 2013) despite viewing ICT as gender-neutral in the Indian context (Gupta, 2015). This study adopts an intersectional approach to understand the reasons behind Indian women's restrictive progression in ICT careers during junior to middle management transition. The study adopted a qualitative methodology to interview 30 women participants who left ICT careers during junior to middle management transition. The study suggests that the women experienced less developmental opportunities due to 'age penalty', and eventually 'experiencing career plateau due to less developmental opportunities'. The study also identifies the women's difficulties in approaching male mentors due to concerns for 'respectable feminity'. The study contributes to the literature suggesting the term 'marriage-age penalty' to be one of the important barriers for women's career progression in the Indian context.

Key words: Intersectionality, women in ICT careers, gender, India.

Introduction:

Research shows that globally women are less represented compared with men in the Information and Communication Technology (ICT) workforce (Trauth, 2006) and particularly they account only for 2.3% of senior technical positions such as Chief Information Officer (CIO) on the global Fortune 500 companies list (Catalyst, 2016). While literature has documented varied patterns of individual, social, and structural barriers to be the main reasons for women's underrepresentation in ICT workforce around the world (Ahuja, 2002; Arun and Arun, 2002; Trauth, 2006); recent research argues that women's decision to voluntarily opt-out is also argued to be one of the major reasons for their underrepresentation in ICT workforce (Ahuja et al., 2007; Allen et al., 2004; Allen et al., 2006; Armstrong et al., 2015; Stephan and Levin, 2005). For instance, studies in the USA (Ahuja et al., 2007; Armstrong et al., 2007 and Armstrong et al., 2015; Lewis et al., 2015) and UK (Moore, 2000; Moore et al., 2008 and Griffiths and Moore, 2010) have documented that women are increasingly opting-out of ICT careers; and particularly studies note that majority of women in the USA and UK opt-out of ICT sector during mid to senior stages of their careers (Hewlett and Luce, 2005; Griffiths and Moore, 2010). Similarly, studies involving a majority of countries within Asian region show women's decision in opting out during the later stages i.e. during their middle to senior management transition to be one of the major reasons for their underrepresentation in ICT workforce (Gender diversity benchmark for Asia, 2011). However, research on India suggests that Indian women may decide to opt-out very early (Ravindran and Baral, 2013), i.e. during their junior to mid-career transition in the ICT sector (NASSCOM, 2017; Gender diversity benchmark for Asia, 2011) as illustrated below.

	Junior	Middle	Senior	% Change from Junior to Middle level careers	% Change from Middle to Senior level careers
China	55.41	43.97	20.72	- 20.65	-52.88
Hong Kong	51.62	44.50	22.77	- 13.79	-48.83
India	28.71	14.91	9.32	- 48.07	-37.49
Japan	45.37	26.11	7.77	-42.45	-70.24
Malaysia	53.17	41.08	27.57	-22.74	-30.89
Singapore	54.19	39.74	21.5	-26.67	-45.90
Average	48.08	35.05	18.28	-29.06	-48.04

Table 1: Female talent leaking pipeline across the ICT industry in Asia (Gender Diversity Benchmark for Asia, 2011).

Despite the fact that most of the countries in the Asian region are seen to lose on their technical women potential only during mid to later stages of their careers, we find significant differences within this region, yielding the need for further investigation on India to understand its unique pattern of women careers in the ICT sector.

The Indian context:

India, situated in the South Asian continent, is diverse with a multilingual, multilateral and multi-religious society with many sub divisions based on region, religion, class and caste groups (Pande, 2005). Gender is a salient issue in the Indian contexts compared to women in the Western literature as research notes that patriarchal issues and gender relations continue to dominate the Indian society and ICT sector (Bhattacharya and Ghosh, 2012). Further to that, intense work-family roles of Indian women in comparison to the Western women (Bagati and Carter, 2010; Dutt and Sil, 2014; Sekaran, 1992); the issues pertaining to "respectable feminity" (Radhakrishnan, 2009) and expectations of culturally appropriate behavior (Patel, 2006; Phadke, 2007) places Indian women with a lot more constraints in sustaining and developing careers in ICT in comparison to women from Western literature. Moreover, as Indian women from collectivistic society are conceptualized as constrained and less agentic in comparison to women in the West (Uppalury and Racherla, 2014), this study finds the need to understand that women should not be treated as a homogeneous group (Trauth, 2006) and it is therefore essential to understand the different experiences of women in careers from third-world countries (Mohanty, 2003). Thus, this study finds the need to set out its context of women's career trajectories in the Indian ICT sector.

The ICT industry in India has emerged as one of the fastest growing formal sector and is considered to be one of the biggest ICT capitals in the world (Bhatnagar, 2006). The Indian ICT sector holds 8.1% of national GDP share and employs about 3.1 millions of employees of which nearly a million are women (Raghuram et al, 2018). The increasing percentage of women's participation in ICT employment (Gupta, 2015) has offered Indian women substantial benefits such as financial stability, greater mobility and larger social acceptance in a male dominated society (Clark and Sekher, 2007). Radhakrishnan (2007: 141) notes that this sector has contributed to the rise of '*new India'* for its successful production of a 'new elite middle-class' group who are dominant in the Indian ICT sector. The Indian ICT sector is comprised of young men and women, with a majority who are below 30 years of age (Upadhya and Vasavi, 2006), who most often come from upper-social class and middle class backgrounds (Upadhya, 2010). Despite women's entry into Indian ICT sector and its evolution over the years, studies still point that Indian women are particularly under-represented in mid and senior technical positions in the ICT workforce (Bhattacharya and Ghosh, 2012; Upadhya and Vasavi, 2006) and are increasingly opting-out very early i.e. during junior to mid-career transitions (Ravindran and Baral, 2013) due to social and structural constraints (Valk and Srinivasan, 2011). This is particularly intriguing considering the fact that Indian women views careers in ICT as women friendly and gender neutral (Gupta, 2015); but it is still not clear as exactly for what reasons the opting-out percentage is particularly high during junior to mid-level transition.

The need for intersectional approach:

Literature on women opting-out of careers in western contexts has extensively recorded domestic responsibilities, structural constraints and personal choices to be the major driving factors (Cabrera, 2007; Hewlett and Luce, 2005; Kuperberg and Stone, 2008; Stone and Lovejoy, 2004). However, this study argues that women's lives and career experiences are also differently shaped by the intersection of other social categories such as race, age and ethnicity across different geographical contexts (Kabeer, 2008; Xian and Woodhams, 2008: 422). Therefore, rather treating women as a homogeneous population, stratifying the population in a more nuanced manner, such as by gender within ethnic, age and class group will provide valuable insights into the lived experiences of women in ICT careers (Kvasny, 2003; Kvasny et al., 2009; Trauth et al., 2012; Trauth, 2013).

This paper finds a potential research gap in reviewing the literature on women careers in ICT sector. Research on women's career development within global ICT sector has heavily focused on '*gender*' by comparing women's career experiences and trajectories with men (Trauth, 2002, 2006; Kvasny et al., 2005); until Kvasny et al (2005) challenged the assumption of heterogeneity by giving voice to feminist research within women and Information technology literature. Kvasny et al (2009) noted that there are differences within women by investigating the intersection of gender, race and class identities that might also shape the experiences of Black female ICT workers and learners in the USA. Thus, Kvasny et al (2009: 114) writes, "*race and class intersect with gender to alter women's exposure to, experience of and response to oppression*". Though the intersection of race, class and gender identities may play an important role in understanding the career experiences of women in the western societies, it is equally essential to address age, caste, class, region and religion (Kabeer, 2008; Maitreyi

Bordia Das, 2006) that may take forms of intersectional identities in the women's lives in third-world countries. '*As we know little about the ways in which different manifestations of inequality intersect and how these intersections are mediated by culture in specific socio-cultural contexts'* (Castro and Holvino, 2016: 328); this research aims to fill this gap in literature, by taking an intersectional perspective (Crenshaw, 1989), and give voice to women's career experiences in ICT (Kvasny et al., 2005) in third-world countries for understanding the intersections of such social categories in shaping the career decisions of women in Indian ICT sector. Therefore, this paper will fulfil this gap in gender and ICT career literature by addressing the intersections of social categories with gender in shaping career decisions of Indian women during junior to mid-career transition.

The theory of intersectionality

Castro and Holvino (2016: 329) explains intersectionality as, '*a way of thinking that understands gender, race, ethnicity, class, sexuality, religion and other categories of social difference as interlocking and mutually constitutive at the micro level of individual experience and at the macro level of institutional and societal structures and cultural ideologies".* This theory has rooted from black feminism and critical race studies (Carbodo et al., 2013) to study the influence of multiple intersecting identities such as race and class that create opportunities and oppression experienced by Black women in the USA (Crenshaw, 1989). This theoretical approach has moved beyond the boundaries of USA (Carbodo et al., 2013) and has been highly commandeered by feminists in Europe (Lutz et al., 2011) to explore other dimensions of difference, for example: disability (McBride et al., 2015) and religion (Arifeen and Gatrell, 2013). More recently, researchers have called for the use of an intersectional lens in work and employment relations literature (Banerjee, 2010; Broadbridge and Simpson, 2011; Holvino, 2012; Kelan, 2014; McBride et al., 2015; Mooney, 2016), as '*other social differences and* *dimensions of inequality, including class, race and ethnicity are yet to receive wider attention in work and organisation studies'* (Castro and Holvino, 2016: 328). For instance, Ozbilgin et al (2011) critiqued the work and employment literature for heavily focusing on 'gender' as a symbol of identity and recommends that other forms of multiple inequalities be brought into spotlight when studying experiences of gender in different contexts. Further to that, Holvino (2012) also critiqued that scholars have not only overlooked gender, but has also overlooked as how gender is raced and classed. Thus, it is essential to incorporate other social categories as mutually constitutive rather treating them as isolated dimensions (Castro and Holvino, 2016) for understanding the experiences of gender in different study contexts (Zander et al., 2010).

Researchers have also called for the use of intersectional lens when studying women's career experiences in ICT sector (Kvasny et al., 2009; Trauth, 2013). Trauth et al (2012) notes in her review that so far only two studies (Kvasny, 2003; Kvasny et al., 2009) in gender and ICT careers literature have used an intersectional lens in exploring career experiences of women in ICT workforce. For example, Kvasny (2003) explored the intersection of gender and ethnicity and Kvasny et al (2009) explored the intersection of gender, race and class identities in shaping the experiences of Black female professionals in ICT workforce in the USA. And more recently, Dhar-Bhattacharjee and Richardon (2017) has also explored gendered relations in the UK and Indian ICT sector using the intersectional lens. However, Dhar-Bhattacharjee and Richardson's (2017) study did not contribute to the exploration of the intersection of the social differences and their inequality effects (Castro and Holvino, 2016) on women's career decisions or advancement in the Indian ICT sector. As exploring women's careers in ICT using an intersectional lens is very limited and warranted (Trauth et al., 2012), this study aims to fill this gap in gender and ICT career literature (Trauth et al., 2012; Trauth, 2013) by taking an intersectional approach in studying the career experiences of women during junior to middle career transition in Indian ICT workforce. Kelan (2014) argues, intersection of age and gender is a powerful example of intersectionality. While research on age has mostly focused on older women (Kelan, 2014); the way in which younger women perceive age for their gender is often less studied (Broadbridge and Simpson, 2011). Thus, this study uses gender *with* age as the category of difference identified for the Indian context (Upadhya and Vasavi, 2006; Jyothsna Belliappa, 2012) as these multiple strands of oppression can provide a thorough analysis (Healy et al., 2011) in understanding women's career experiences in Indian ICT sector. Though, Mooney (2016) pointed out that intersectionality has possibly undermined gender in certain fields such as management, Broadbridge and Simpson (2011) suggests overcoming this problem by giving 'gender' the primary position in such intersectional studies, i.e. by studying gender 'with' age rather studying gender 'and' age. Thus, it is essential to understand how gender intersects '*with'* other social categories in defining experiences of women in relation to historical, structural and power relations (Brah and Phoenix, 2004: 76) to yield nuanced experiences of women in this study. Thus, this research aims to understand how gender interacts *with* age in influencing Indian women to '*opt-out'* of the ICT workforce during their junior to mid-level transition.

This study is drawn upon 'intracategorical perspective' (McCall, 2005) of intersectionality. McCall (2005) suggests that the strength of this approach provides insights into the complexity and diversity of the experiences of social relations within a single social group as well as between the group and others. Thus, by employing this perspective the study aims to understand how gender intersects with age for women during junior to middle management transition, in dictating their restrictive career progress within the Indian ICT sector.

Methodology

Six ICT organizations listed under Bombay Stock Exchange (BSE-100) index were considered for the study. Human resource professionals at these six organisations were initially contacted by email asking for contact details of women who quit ICT careers during their junior to middle management transition. The Human resource professionals were explained of the study's interest in email and they initially contacted their ex-employees and upon their consent shared their email address and phone number with the researcher. Women were recruited through purposeful sampling where 'particular settings, persons, or events are selected deliberately in order to provide important information that can't be gotten as well from other choices" (Maxwell 1996, p. 70). The criteria for choosing these women participants were: must have been in transition from junior to middle management level, must have accumulated at least five years of work experience, should have done a technical education, and finally should have worked in core technology roles and not been involved in soft-ICT roles. The decision to include women who were only employed in core ICT roles would help the research to justify whether masculine cultures of engineering are replicated in the Indian contexts and if they have influenced women's decisions to quit ICT careers. 30 women who have left ICT careers during junior to middle management level were recruited. While most of the participants were recruited by organisations passing on their contacts, a few participants were also recruited by the participant themselves suggesting someone they know who had also left ICT careers.

Interviews are quite popular in feminist research on employment studies (Johnson and Duberley, 2000) as they bring out the real experiences of women working in a male dominated environment. Qualitative research interview is to understand the meaning of what the interviewees say and the meanings of central themes in the life world of the subjects (Kvale, 1996). Qualitative research is in fact more appropriate for my study as my research is a feminist research – "research by women on women with a desire to make sense of women's careers and experiences. The way women want to make connections among areas of their lives is better approached through qualitative in-depth interviews (Scott, 1985). Therefore, face to face interviews were conducted with these 30 women, were audiotaped and transcribed. This study takes an interpretative approach informed by feminist theorising (Stewart & Cole, 2007) to understand the women's experiences pertaining to their career trajectory during junior to middle management transition in Indian ICT industry. Although questions were set based on the themes generated from literature, the study aimed to allow for new themes that could emerge from the data (Mooney, 2016; Ozbilgin et al., 2011).

Findings

In this section, three major themes were most often indicated by these Indian women to explain their decision to quit ICT careers during junior to middle management level.

Gender-age penalty:

A vast majority of these participants cited that coming close to their normative marriage age highly impacted their career developmental opportunities. Interestingly, while most of these women were interested in continuing their careers even after marriage, they all observed less career developmental opportunities coming their way. For instance, this study finds that expectations surrounding marriage prospects highly impacted the women's crucial career development opportunities. This study finds that a majority of single women were not considered for crucial international assignments once they hit the normative marriage age in Indian context. For example, two women quoted:

Ishani: *"I remember I was turning 28 and went to my boss with my birthday cake and asked if he was going to nominate me for H1B petitions that December. His immediate reaction was, hey you are 28 and don't you have plans to get married? I said not yet but he didn't believe and gave a fake smile. I then realised that I was not nominated that year because he thought I might get married any time soon and decline my H1B visa later. For a long time it was hurting until I left".*

Ruhi: *"I always felt that you have to somehow work hard and grab the opportunity to go to client-site work before you turn 26 because once you turn 26 or above your managers don't often consider you for such abroad opportunities even if you were at a high rating. They always assume you are going to get married and leave company and why nominate you for working abroad".*

These two women cited the importance of pursuing international opportunities before they age 26, as after this age Indian women are constantly viewed less committed under the assumption that they might be getting married anytime soon and would eventually give up working from full-time ICT careers.

While the single women close to normative marriage age were restricted for traveling abroad to do work for clients, a majority of married women in the study were also found to be openly declined for such requests. Two married women quoted as follows:

Gita: *"When I requested my boss to send me for an on-site to the US, he immediately asked if my husband and children will be okay to be back in India. Would he have asked this question to a male? No, not at all! I felt very irritated and stopped asking him to consider me for client site".*

Asha: *"I know just because I was married, they never considered me for on-site for three consecutive years. At one point I felt if they don't help me grow only because I'm married, what's the point? I remember after a lot of persuading, he sent me for four months to Helsinki. He made me feel I didn't win the opportunity and only begged for it. I never saw even one married man go through this emotion for his marital status".*

From these statements, it could be inferred that while single women at marriageable age were not considered for such international work assignments, the study finds that married women face further implications for their marital status. And women with children also quoted that they never nominated themselves for such international opportunities out of assumption that they won't be considered anyway. This implies that gender intersecting with age has created career penalty for women at a crucial career stage in Indian ICT sector, based on their life-course events. However, it should be noted that age is mostly viewed as life-course events that occur for women as compared to biological clock for women in the Indian context.

Minority religion status:

This research points that religion equally plays a crucial role in determining the career paths of women especially those belonging to Muslim religion. This study had six Muslim women participating in it, of which four were single and two were married. All six women talked about discrimination towards them on religious grounds rather than discrimination for gender. However, while the women mentioned that they were penalised only for their religion, this study reveals that the single, unmarried Muslim women had to face 'double oppression' for both their gender and religious background; and the married women had to face 'triple oppression' for their gender, marital status and religious background. The study finds that while the single Muslim women were less often promoted to junior management levels in their careers; the married women mentioned that they were at junior management levels for more than five long years and reached the career plateau.

A single, never married Muslim woman talked about her open rejection citing her religion. As quoted:

Nadiya: *"I was very sure of going to the US last year for international work at client site as everyone in my team thought being a high performer I'd be nominated but shockingly my manager said Trump is making it difficult for Muslim* *religion to enter US and it is better not to try. I chose to delay my marriage and declined all marriage proposals that came my way. I was only going home at 1 or 2 AM at least three to four times in a week and always made sure I showed up my visibility. Yet. three Hindu males were chosen to go and I was not considered".*

Researcher: *So is it that your project has clients only in the USA? Why were you not trying to go to the UK, Europe or elsewhere?*

Nadiya: *It is not that I was only interested with US. My client was in Florida so I had to go only there. I know how important these on-site opportunities are for a person to go up in their career. I even changed to an European project only to be able to go abroad and prove my capabilities in this industry. But even after I moved to that project, I felt stuck and was never sent for even less than three months".*

While the study saw that only single Hindu women mostly being considered for such international work assignments, this research notes that while Hindu women are privileged for their dominant religion, Muslim women are found to be penalised for their minority religion. And these penalties for Muslim women are even high once they are married. For instance, one married Muslim women in the study quoted the following:

Nagma: *"As a married Muslim lady I was never considered for on-sites which I already knew because I see a lot of these Hindu single and married women struggling so much to get such opportunities. I always thought I should at least try to be technically sound and finish my work on time to sustain. But that alone never helps. If you don't update technically yourself you are not going to be valued. Very importantly, you are not going to go up the ladder unless you are picked for an international work assignment. You should* *realise you are stuck, not progressing. If you are not getting it at all, then it's wise to leave. Like most people say in IT world, you leave before they throw you out".*

While Nagma's personal accounts revealed her struggles in her career trajectory, Ghazala's story inferred the same. She also talked about reaching the career plateau as she saw no further developmental opportunities coming her way. She shared the following information as mentioned here:

Ghazala: "I have not seen any Muslim women in middle management level at my firm. Though I have seen a couple of them at entry-level and above like me. This always told me I'm going to have a hard time for my religion and sometimes I wondered if religion really matters. But yes, coz the managers straight away quote your religion and decline your request for client-site opportunities, I really believe most of the Muslim women don't progress at all for this reason. You will come to a point where you are hitting a wall and there is no path beyond that. That tells you hard, girl it's time to leave."

From the personal experiences of these six women from Muslim religion, it could be revealed that Muslim women in Indian context are penalised for their minority religious background while Hindu women are argued to be privileged for their dominant religious status. Although the study had only six participants from Muslim background, it should be noted that it was very hard for the researcher to recruit few more Muslim participants due to their minority status in Indian ICT industry. This study reinforces that although gender intersects with age, it is also found to have differential treatments for women belonging to minority religion, such as the Muslims. Although women from all religions such as the Hindu, Christian and Muslim are transiting from junior to middle management position, the study notes that 'religion' further intersects with gender and age to reach a career plateau for the women belonging to Muslim minority.

Respectable feminity concerns:

This research sheds light that Indian women no longer experience respectable feminity concerns for working in night-shifts, however; they mentioned that they feel socially restricted in approaching a male for mentorship opportunities. When questioned about respectable women issues for women choosing to work in night shifts, one woman quoted the following:

Gita: *"India has changed a lot. I know how the society viewed at my sister when she started her career eighteen years ago in IT and had a lot of night shifts in the beginning of her career. But I don't see that women are viewed wrong for working in night shifts even today. Night shifts have become a part of IT work culture and I believe the society has started accepting that it is necessary for both men and women to be a part of night shifts in IT"*

A majority of single women compared to married women in the study talked about their reluctance in approaching a male mentor for respectable feminity reasons. For instance,

Jessi: "*you know how it works in India, right? You can't simply go and ask a very good male manager or performer whether they are okay to mentor you. It was not possible for me and most of my female colleagues too. You get judged and your character is questioned by fellow colleagues who see you approaching big people who are mostly men. If you are married no one suspects you, but if you are single and progressing, everyone questions your achievements and your relationship with your mentor"*

Asha: *"I had to go through this trauma in my previous team. Just because I often asked for a male mentor's help to guide me in the technical work I was doing, people* *thought I was trying to impress and date him. My work was not valued, which led me to give up on my relationship with that male mentor and move to a different team. In this current team, all are men except myself. So I choose not to do the same mistake again, I meant approaching a male to mentor me".*

To this, most single women cited that seeking for a mentor who are male in majority in Indian ICT sector has been very difficult owing to respectable feminity concerns. The women mentioned that they were afraid of how the society and peers would view them and their achievements if they approached a male for requesting to be their mentor. With that, a few women also mentioned that they were reluctant and never approached a male for such mentorship opportunities. To this end, a vast majority of Indian women not only lacked mentorship opportunities, they were also afraid of approaching a male for such mentorship opportunities that eventually deteriorated their career progression. Thus, this study points that respectable feminity concerns are high for single women compared to married or married with kids women in the Indian context. However, it should be noted that such respectable concerns for gender where collectively perceived across women of all religions and occupational ranks in Indian ICT sector.

Discussion

When looking at the career decisions of women with an intersectional lens, three major themes were drawn upon for the Indian ICT context. First, studies argue that international work assignments are said to be crucial for career development of an individual in ICT sector and women often come across reluctant to travel for such international assignments in Western contexts (Kelan, 2006; Hewlett, 2011). However, this study notes that while Indian women were most often found nominating themselves for such traveling opportunities, they were often not chosen unlike in Western contexts. For example, while Western women's marital status was not often found to influence their availability for traveling internationally (Trauth, 2006; Ahuja, 2002); Indian women's never married status were also found to be a threat for the line managers deciding to nominate them. The study notes that while Indian women get an easy entry into ICT sector (Gupta, 2015), their progress starts deteriorating after they age around 26-28 years, as most often the Indian society views this age band as the normative age for women to get married (Das, 2003). Therefore, while only married women were often in spot for being less committed in Western ICT career literature (Adam et al., 2006); this study sheds light that even 'never married' Indian women close to their normative marriage age are also viewed to be less committed for challenging international assignments. While these views are also impacting women who are married and married with kids, it is worth noting that even 'never married' women are under such view radar. A few participants accounts of losing out on international opportunities under the assumption that they might get married anytime soon and quit work altogether has unfolded for the Indian context. This study specifically notes that while age is often considered biological or chronological in Western literature (Kelan, 2014; O'Neil and Bilimoria 2005); it is symbolised through life-course events clock such as reaching the normative marriage age in the Indian context. Hence, this study takes the opportunity to coin the term 'marriage-age penalty' to be impacting the potential career opportunities for Indian women once they reach their normative marriage age.

Secondly, one major strength of intersectional studies is that although pre-determined categories that are relevant to the geographical and sectoral context (Castro and Holvino, 2016; Zander et al., 2010) might help to understand the implications of these categories for women's career; scholars also point that new categories of difference might also emerge from the data (Tatli and Ozbilgin, 2012; Winker and Degele, 2011). Accordingly, while this study had pre-set categories of difference such as gender with age that were relevant to research question in

Indian ICT context (Upadhya and Vasavi, 2006); the study also reveals that intersections of gender with age and 'differences in religion' is found to equally influence women's career opportunities in Indian ICT sector. While it is argued that Indian ICT industry is dominant with Hindu religion (Upadhya and Vasavi, 2006; Fuller and Narasimhan, 2007), the study specifically sheds light on the minority women's struggle belonging to Muslim religion. The study also further notes that citing their religion very openly to discriminate them is often found common in Indian ICT sector; which has subjected the Muslim women in the study to turn away from ICT sector. Importantly, the study also finds that compared to other religions, Muslim women often found themselves to reach 'career plateau' a lot earlier owing to lesser career developmental opportunities; which eventually questioned their career progress and demotivated them from working in ICT sector.

Lastly, while prior research on respectable feminity concerns for Indian women only cited on women's restrictions for traveling to work in the night for working in night-shifts (Tara and Ilavarasan, 2012; Patel, 2006); this study sheds light on women's respectable feminity concerns in finding a male mentor. While mentorship in ICT has been argued to be very crucial for career development in Western contexts (Ahuja, 2002), this study finds that Indian women are often unable to seek mentors for respectable feminity concerns. Therefore, while access to mentors has always been a concern for women in ICT around the world (Trauth, 2006); this study finds that such access are further hindered by respectable feminity concerns for women in Indian ICT context. Therefore, as a majority of women in the study did not have formal mentorship programs in their organisations, they found it very difficult to find a male mentor to help them progress well in their technical careers.

Conclusion

The paper explored the intersections of gender with age for women in Indian ICT context. Drawing upon intersectionality, the paper showed the power dynamics across age, gender and religion that eventually influenced the women's decision to quit ICT careers altogether. The analysis of the interviews suggested three major reasons for the Indian women choosing to leave ICT careers during junior to middle management transition. First, the marriageable age of women was viewed as an issue for women's persistence in ICT sector. This study takes the privilege to coin the term 'marriage-age penalty' for Indian context as the women saw less career developmental opportunities coming their way once they hit their normative marriage age, 26. Thus, while women in Western contexts are often discriminated for biological age or chronological age (Kelan, 2014; Diana and Bilimoria, 2005); this study sheds light that women in India are actually prioritised for career developmental opportunities based on the life-course events clock they are in. Secondly, while discrimination towards women in minority religion are observed in this study, it further notes that women belonging to minority such as Muslim religion, reached career plateau a bit faster than their peers from other religion; which eventually led them to question their career progression. Thirdly, the study also sheds light on respectable feminity concerns for women in Indian context. While prior studies mentioned only about respectable feminity concerns for women traveling late in the night for work (Tara and Ilavarasan, 2012); this study sheds light that women in India are also perceiving such respectable feminity concerns while approaching a male mentor. This study is the first of its kind to understand career decisions of women in ICT sector with an intersectional lens, especially for the Indian context. No prior studies have focused on Indian women's career decisions with an intersectional lens. Future studies could further explore as to how such career decisions are transpired for women in Western contexts using the intersectional lens. Studies could also expand to understand how men's career trajectories are constructed in Indian ICT sector with an intersectional lens. Such studies could significantly add to the field of gender and intersectionality literature.

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TWO SIDES OF THE SAME COIN:

AN INTEGRATIVE THEORY OF TEAM HIERARCHY STRENGTH CHANGES

ABSTRACT

We integrate the two predominant theoretical viewpoints on informal hierarchy, the functionalist and conflict perspectives, to develop and test a theory about why and when teams' informal hierarchy strength changes as well as how those changes can be affected and affect performance. Drawing from the functionalist view that informal hierarchy facilitates progress and the conflict perspective that excessive hierarchy can induce status contests, we hypothesize that high and low pressure is followed by hierarchy strength increasing and decreasing. Because pressure starts off low then increases at the midpoint in project teams, project teams' hierarchy strength should decrease during the first half and increase after the midpoint. Combining functionalist trade-offs in hierarchy strength changes with conflict research on status contests further implies that dramatic increases in hierarchy strength after the midpoint harm performance. We also integrate both perspectives' research on how the most influential member affects the hierarchy to propose that the extent to which hierarchy strength increases depends on the most influential member's personality. A most influential extraverted member, inclined to direct the team, leads to hierarchy strength increasing more; a most influential neurotic member, inclined to encourage input from the team, lessens the extent to which hierarchy strength increases. These hypotheses are supported by four waves of data from student consulting teams. Our findings help advance a more dynamic approach to studying informal hierarchy by investigating within-team changes in hierarchy strength. They also help create the foundations for a theoretically integrated approach to understanding hierarchy.

Keywords: informal hierarchy, team dynamics, functionalist perspective, conflict perspective, personality

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Informal hierarchy is a pervasive and important part of groups (Halevy, Chou, & Galinsky, 2011; Magee & Galinsky, 2008). As such, it has received significant scholarly attention, which generally utilizes one of two seemingly opposing theoretical viewpoints in the functionalist and conflict perspectives (Greer, de Jong, Schouten, & Dannals, 2018; Tarakci, Greer, & Groenen, 2016). The functionalist perspective suggests that informal hierarchy is beneficial, because it facilitates progress (Bunderson, Van der Vegt, Cantimur, & Rink, 2016; Halevy et al., 2011; Magee & Galinsky, 2008). In contrast, the conflict perspective implies that informal hierarchy is problematic, because it motivates status contests that impair team effectiveness (Bendersky & Hays, 2012; Greer & van Kleef, 2010). When taken together, the contradictions between these perspectives can make it difficult to identify a coherent theoretical understanding from which to base managerial advice and future research (Bendersky & Pai, 2018; Bunderson & Van der Vegt, 2018).

The perspectives do, however, generally agree that informal hierarchy strength—the extent to which there is a rank ordering of team members' influence—can change (Bunderson & Sanner, 2017; Tarakci et al., 2016). For instance, conflict perspective studies take an endogenous approach, showing that interpersonal dynamics allow informal hierarchy to change through the settling of status contests (Bendersky, 2009; Strauss, Schatzman, Bucher, Ehrlich, & Sabshin, 1963). In contrast, functionalist studies on non-human animals take an exogenous approach, finding that hierarchy strength changes based on situational demands (De Waal, 2000, 2002; Moosa & Ud-Dean, 2011). Despite different approaches to the topic, these overlaps imply that hierarchy strength changes can serve as a foundation for connecting the two perspectives.

Indeed, both perspectives initially studied changes in hierarchy strength in complementary ways. In particular, the functional perspective's evolutionary roots investigated *why* hierarchy strength should naturally change (De Waal, 2000, 2002; Halevy et al., 2011; Moosa & Ud-Dean, 2011) and the conflict perspective's grounding in socially ordered negotiations investigated *how* hierarchy strength changes (Bendersky, 2009; Homans, 1953; Strauss et al., 1963). Therefore, integrating these perspectives has the potential to create a holistic understanding of informal hierarchy changes.

Developing this understanding is important, because hierarchy strength changes affect member well-being (e.g., Scheepers, 2009) and team effectiveness (e.g., Bunderson & Sanner, 2017). Though a great deal of research has focused on how members change their position in the hierarchy (Berger, Webster Jr, Ridgeway, & Rosenholtz, 1986; Hays & Bendersky, 2015), little has been done about how informal hierarchy changes at the team-level. We address this by integrating both perspectives to systematically develop and test a theory about hierarchy strength changes.

This integrated theory also allows us to investigate important aspects of hierarchy strength changes that have received little scholarly attention from either perspective, such as why informal hierarchy strength increases and decreases over time as well as when those changes occur. More specifically, the benefits of having a strong hierarchy shown in the functional perspective are considered in light of the risks uncovered by the conflict perspective to suggest that hierarchy strength increases and decreases follow times of high and low pressure. Because pressure follows a predictable pattern in project teams—low at the beginning of a project and higher at the midpoint (Gersick, 1988, 1989)—we expect that hierarchy strength will decrease after the project begins and then increase after the midpoint.

We also investigate how changes in hierarchy strength affect performance by merging functionalist research on the costs and benefits of hierarchy (Bunderson & Reagans, 2011; Bunderson & Sanner, 2017) with conflict research on status contests (Bendersky, 2009; Hays & Bendersky, 2015) to propose that hierarchy strength increasing too quickly can harm performance. Finally, integrating research on the most influential members' effect on the hierarchy (Bendersky & Pai, 2018; Bunderson & Reagans, 2011) suggests that hierarchy strength will increase more when the most influential person is extraverted and less when the most influential person is neurotic.

The theoretical model and longitudinal test connects the seemingly opposing streams of hierarchy research by explicitly considering dynamics that underlie and extend both perspectives. Looking at within-team changes in hierarchy strength extends both perspectives' predominant focus on the results of between-team differences in teams' hierarchies at one point in time (for a quantitative review, see Greer et al., 2018). It also emphasizes the importance of studying within-team changes by showing that pressure and time are highly predictive of changes in hierarchy strength and that changes in more so than the amount of hierarchy strength impacts performance.

These findings also help to conceptually and theoretically bring the functionalist and conflict perspectives together. Though there have been a few attempts to reconcile these perspectives by looking at contingencies (Halevy, Chou, Galinsky, & Murnighan, 2012), recent reviews point out that the two perspectives reach largely contradictory conclusions based on seemingly incompatible assumptions thereby hampering hierarchy research's coherence (Bendersky & Pai, 2018; Bunderson & Van der Vegt, 2018). By highlighting and integrating the two perspectives' complementary theoretical roots, this study addresses calls for reconciliation (e.g., Bunderson et al., 2016; Greer et al., 2018) and creates a foundation for future integrative informal hierarchy research.

THEORY AND HYPOTHESES

Integrating the two perspectives suggests that hierarchy strength should be conceptualized as acyclicity. Informal hierarchy has been conceptualized in many ways. Most frequently, hierarchy is considered as differentiated in either a steep, centralized, or acyclical manner (Bunderson et al., 2016). Acyclicity, which is defined as “cascading relations of dyadic influence” (Bunderson et al., 2016), is consistent with the functional perspective that hierarchy’s benefits come from one member deferring to another (Bunderson et al., 2016). The acyclical conceptualization captures this, because every dyad in an acyclic hierarchy results in two members having unequal direct and indirect influence. This allows for every interaction to have a more influential member who can give direction when needed (Krackhardt, 1994).

Acyclicity is also consistent with conflict perspective’s initial studies where hierarchy was formed from a socially-ordered negotiation. These studies show that members’ relative standing *within* a group are linearly ordered, as opposed to differences *between* groups in standing that are more stratified (Day & Day, 1977; Strauss et al., 1963). Thus, members within a group compete for their standing in a rank ordered “hierarchical chain” (Day & Day, 1977, p. 132) consistent with the ordering of members’ influence captured by acyclicity (Krackhardt, 1994). Therefore, the functionalist and conflict views’ foundations align with the acyclic form that has gained prominence in recent investigations (Bunderson et al., 2016; Oedzes, Van der Vegt, Rink, & Walter, 2019) and that we will use.

Why and When Informal Hierarchy Strength Changes

Self-managed project teams provide a constructive setting in which to study changes in informal hierarchy strength because they allow for examination of what naturally occurs without a formally assigned leader influencing the process (Oedzes et al., 2019). In informal hierarchies, differences in influence emerge based on perceptions of members' characteristics and resources (Magee & Galinsky, 2008, p. 355). In contrast, formal hierarchies' differences in power, titles, and responsibilities are usually imposed on teams by external people who are higher up the organizational chart (Magee & Galinsky, 2008). As a result, formal hierarchies tend to change at the behest of those outside the team, instead of changing naturally like informal hierarchies do.

Indeed, the functional persepctive's evolutionary roots show that hierarchy strength increases when there is a need to spur coordinated action, such as when hunting or escaping predators (Moosa & Ud-Dean, 2011). In human teams, pressure can be an adaptive response signaling that collective action is needed (Selye, 1936). Pressure, defined as feeling urgency to make progress or perform, motivates teams to prioritize task completion (Gardner, 2012). In interdependent teams, such as project teams, task completion requires taking coordinated actions. Because pressure motivates teams to prioritize collective progress and prioritizing collective progress is followed by hierarchy strength increasing, we propose that high pressure leads to hierarchy strength increasing.

This functional tendency to rely on hierarchy implicitly assumes that hierarchy will continue to solidify and persist once formed (Bendersky & Pai, 2018); however, conflict perspective studies give reason to believe that hierarchy strength should dissipate after coordinated progress becomes less imperative. Strong but unneeded hierarchy can breed resentment among less influential members (Blau, 1970). As such, less influential members are more likely to undermine more influential members at times when they think that hierarchy is not warranted (Scheepers, 2009). Moreover, highly influential members sense that enforcing the hierarchy when progress is less salient increases the risks of them losing their position in the hierarchy

(Keltner et al., 2008). As a result, they demand less deference when progress is not as urgent, which is followed by hierarchy strength decreasing (Hollander & Offermann, 1990). Because low pressure signals that progress is not as urgent, hierarchy strength should also decrease following times of lower pressure. Overall, this suggests hierarchy strength increases and decreases following increases and decreases in pressure. Stated formally:

Hypothesis 1: Pressure is positively related to the extent to which informal hierarchy strength subsequently increases.

In order to understand when informal hierarchy strength increases, we focus on project teams that are "convened to develop a concrete piece of work, whose lives begin and end with the initiation and completion of special projects" (Gersick, 1988, p. 13). Their work follows a predictable pattern given their inherent deadlines (Gersick, 1988, 1989), creating a theoretical foundation for proposing temporal changes in the presence of pressure and resultant hierarchy.

At the outset of a project, project teams lack a shared problem definition and understanding of roles. Members then try to figure out who can provide clarity deferring to those who are perceived as most able to facilitate progress (Berger et al., 1986). As a result, teams typically start off with a strong hierarchy, because hierarchy is needed to set a direction by bounding goals and structuring roles (Bunderson & Sanner, 2017). Once the hierarchy has helped develop a shared understanding, members typically disperse to search for information without impending deadlines being salient (Gersick, 1989). The lack of time awareness at the beginning keeps feelings of pressure low. Building on our premise that hierarchy weakens after periods of low time pressure, we suggest that hierarchy strength decreases after the project begins.

Then, at the midpoint, project teams become aware of the limited amount of time remaining to develop and enact a solution, which increases their feelings pressure (Gersick, 1988, 1989).

Our hypotheses that informal hierarchy strength increases following high pressure then suggests that hierarchy strength will increase after the midpoint. In sum, project teams experiencing a predictable pattern of pressure implies they will also have the following predictable pattern on hierarchy strength changes:

Hypothesis 2: Team hierarchy strength follows a curvilinear pattern in project teams, decreasing as project teams approach the midpoint and increasing after the midpoint.

The Performance Effect of Hierarchy Strength Increasing

The functionalist perspective emphasizes a trade-off in how hierarchy strength changes affect performance: facilitating progress or undermining collaboration (Bunderson & Reagans, 2011; Bunderson & Sanner, 2017). Although some increase in hierarchy strength helps teams converge on solutions and structure their execution, strong hierarchy outside of those needs can “constrain the open transfer of member knowledge and information” when it is important (Bunderson & Sanner, 2017, p. 38) such as after the midpoint (Bourgeois & Eisenhardt, 1988).

The conflict perspective helps to sharpen this trade-off by identifying a change that is likely to be problematic. In particular, studies suggest that dramatic increases in hierarchy strength after the midpoint harm the team by incentivizing competitive intragroup behaviors that impede progress and harm collaboration (Bendersky & Pai, 2018). When hierarchy strength increases, deference gets distributed less equally such that some members gain relative standing at the expense of others (Homans, 1953). The zero-sum nature of influence being redistributed induces competitive behaviors where members try to claim status at the expense of other members (Bendersky & Hays, 2012; Hays & Bendersky, 2015). Likewise, increasing hierarchy strength inevitably involves some members losing relative standing, even when it is based on recognized differences in abilities (Scheepers, 2009). Losing influence makes members feel insecure and to want to protect themselves from further status loss by acting competitively (Case & Maner, 2014; Pettit, Yong, & Spataro, 2010). Moreover, larger increases in hierarchy strength raise the stakes of the status competition by creating more disparity in outcomes. As a result, hierarchy strength increasing too much incentivizes members to attempt to bolster or protect their status at each other's expense (Bendersky, 2009).

Importantly, competition between members undermines expectations of reciprocity thereby lowering cohesion (Case & Maner, 2014) and engagement in cooperative behaviors that are critical to collaborating and making progress (Thibaut & Kelley, 1956). Moreover, competitive members withhold information and are suspicious of others' information, which limits collaboration (Greer & Jehn, 2007). These status competitions are particularly detrimental after the midpoint because essential team processes become increasingly cooperative requiring members to help each other and share information (Bourgeois & Eisenhardt, 1988). Because greater increases in hierarchy strength provide larger incentives for members to act competitively at the expense of the team, we suggest that dramatic increases in hierarchy strength after the midpoint harm performance. Stated formally:

Hypothesis 3: The extent to which hierarchy strength increases following the midpoint is negatively related to performance.

The Effect of the Most Influential Person on Hierarchy Strength Increases

Integrating the functionalist and conflict perspectives also suggest that the extent to which hierarchy strength increases after the midpoint depends on the characteristics of the most influential member. The functionalist perspective finds that lower status members instinctively look to higher status members for direction as a functional response to an increase in perceived pressure (Demange, 2004) such as at the midpoint (Gersick, 1988, 1989). Because hierarchy facilitates progress through influence cascading down the hierarchy, the most influential member's input will be particularly salient as the team coalesces after the midpoint (Keltner et al., 2008). As such, the functional perspective suggests that signals sent from the most influential person have considerable impact on the extent to which hierarchy strength increases (Oedzes et al., 2019).

More specifically, directive signals where more influential members seek deference from less influential members are an indicator that members at different levels in the hierarchy should act differently. Members respond by acting in accordance with their position in the hierarchy, which strengthens the hierarchy (Torrance, 1954). In contrast, inclusive behaviors from the most influential member show deference to less influential members, which the team interprets as an indicator that they should all have input regardless of their place in the hierarchy (Edmondson et al., 2001). This leads members to act more similarly and deemphasize the hierarchy, which reduces the extent to which hierarchy strength increases (Torrance, 1954).

While functionalist scholars point out that there is little research that predicts the type of signals the most influential member will send (Bunderson & Reagans, 2011; Bunderson & Sanner, 2017), studies from the conflict perspective suggest that two personality characteristics, extraversion and neuroticism, are particularly predictive of the type of signals the most influential person will send (Bendersky & Pai, 2018; Bendersky & Shah, 2012).

When the most influential person is extraverted–"assertive, talkative, and active" (Barrick & Mount, 1991, p. 3)–that individual is likely to send directive signals. When highly extraverted people have influence, they tend to dominate and control the group (Grant, Gino, & Hofmann, 2011). Extraverts are often poor listeners and unreceptive to others' input (Grant et al., 2011), attempting to direct others' behaviors (Fragale, 2006). Less influential members interpret this one-way flow of influence as directive signals that attempt to align the team under the most influential person (Grant et al., 2011, p. 529).

Directive signals sent by the most influential person at the midpoint should be particularly impactful, because members are looking to the most influential member to set a direction (Gersick, 1988, 1994). Because influential extraverts are more inclined to send directive signals (Grant et al., 2011), hierarchy strength should increase more after the midpoint when the most influential person at the midpoint is more extraverted. Stated formally:

> *Hypothesis 4a: The change in informal hierarchy strength after the midpoint is moderated by the most influential person's extraversion, such that teams' most influential person's extraversion enhances the increase in hierarchy strength.*

In contrast, when the most influential person is highly neurotic–"worried and insecure" (Barrick & Mount, 1991, p. 4)–that person will feel a need for input and approval before making recommendations (Elliot & Thrash, 2002). By showing that all members' support is needed, a most influential neurotic sends inclusive signals that lessen hierarchy strength (Edmondson et al., 2001). Indeed, neuroticism is strongly associated with a desire to avoid social disapproval or being perceived as incompetent (Elliot & Thrash, 2002). Influential neurotics minimize the risk of being socially sanctioned by actively encouraging participation and ideas from others before making recommendations (Elliot & Thrash, 2002). Less influential members tend to perceive these behaviors as inclusive signals (Edmondson et al., 2001a; Torrance, 1954), which embolden members to influence the team. All members being involved in setting the direction after the midpoint minimizes differences in influence, which keeps hierarchy strength from increasing as much. Therefore, teams whose most influential member is more neurotic should have smaller increases in hierarchy strength after the midpoint. Stated formally:

Hypothesis 4b: The change in informal hierarchy strength after the midpoint is moderated by the most influential person's neuroticism, such that teams' most influential person's neuroticism reduces the increase in hierarchy strength.

METHODS

Subjects were students from an upper-level undergraduate management course at a private southern university. The teams were assigned by the professor and structured to maximize functional diversity across concentrations and majors in an attempt to mirror the realism of work contexts. At the beginning of the semester, teams were assigned to semester-long collaborative consulting projects in which each team worked with a local organization to complete a project that had the potential to meaningfully impact the organization. For example, teams created strategic plans, developed and implemented marketing strategies, and redesigned organizational programs. The consulting project counted for about half of the students' final grade—a meaningful incentive to perform well.

These teams were self-managed, with guidance coming primarily from the external clients. The instructor provided feedback as needed, usually once or twice per project. Because the teams had no formal internal influence structure initially, hierarchy strength could vary from team to team. All projects required collecting data, complex problem-solving, and managing interdependencies. With strict project deadlines, teams had to move through all phases of project life during the observed period.

Although student teams, the fact that they worked on a real project that their clients intended to implement increases the generalizability of our findings to the prevalent use of project teams in organizations. Indeed, the clients themselves proposed the projects with the goal of creating an impactful outcome, rather than designing the projects primarily to serve student learning.

Moreover, the professor interacted minimally with the clients; the students were expected to work directly for their client as they would if they were members of a paid consulting project team. This setup of external coordinators or authority is common for self-managed teams in organizations (Manz & Sims, 1987).

The sample consisted of 234 members on 55 teams. Teams consisted of four or five members (M=4.38, SD = 0.59). The sample was predominantly male (65.3%) and white (72.8%), with an average age of 21.17 years (SD = 1.62). The project ran for the duration of the semester, roughly 15 weeks. The participants completed 3 surveys, timed to coincide with meaningful periods of the project lifecycle. The first survey (T1) focused on early team life (94% response rate). A second survey was administered at the temporal midpoint (T2) (96% response rate). A final survey was administered near the end of the semester (T3) (97% response rate). The average response rate across teams and time was 96%. Performance was rated by the client following the project completion (T4) (100% response rate).

Measures

Informal hierarchy. Hierarchy was operationalized as acyclicity. Acyclicity was measured using a dyadic rating approach consistent with Bunderson et al. (2016). Participants rated three items to indicate the extent to which each team member “influenced you or your project work” and the extent to which “you deferred to this person on project-related matters” during each period. Each teammate was rated on a scale from 1 (not at all) to 7 (a lot). As Bunderson et al. (2016) suggest, we calculated the influence relations that underlie hierarchy based on one member’s acceptance of another member’s influence over her or him, not the extent to which individuals felt they themselves had influence over others. The three items were averaged to obtain one dyadic rating for each team member’s influence over each other member in the team at T1 (α = .87), T2 (α = .87), and T3 (α = .85).

Dichotomous measures are required to calculate acyclicity, so we collapsed our rating categories in order to create a dichotomous variable for influence. Teammate influence ratings above 5 ("moderately" to "a lot") during a given time period were collapsed into a category coded as 1. This coincides with Bunderson et al.'s (2016) range from "somewhat" influential to influential "to a large extent," in that it suggests the rated person was influential to the rater. All other ratings of influence below that point ("slightly" to "not at all") were collapsed into a category coded as 0.

Following Bunderson et al. (2016), we computed acyclicity using Krackhardt's (1994) network hierarchy measure: 1 – [V/ max(V)], where V is the number of pairs in the network where influence is symmetric (A influences B, and B influences A, directly or indirectly) and max(V) is the total number of connected pairs (A influences B, or B influences A, directly or indirectly). Acyclicity values can range from 0 (all connected pairs have symmetric influence) to 1 (all connected pairs have asymmetric influence).

Pressure. Pressure was measured at T1 and T2 using a 3-item scale adapted from Durham, Locke, Poon, and McLeod (2000). All responses were rated on a seven-point scale from 1 (strongly disagree) to 7 (strongly agree). Sample items included "I felt pressure to complete our work this week" and "The amount of work I have to do interferes with the quality I want to maintain." Individual pressure scores (T1: α = .78; T2: α = .76) were then averaged at T1 (ICC1 = .43; ICC2 = .75) and T2 (ICC1 = .54; ICC2 = .83) to compute one pressure rating for each team at each time point.

Most influential person extraversion and neuroticism. Subjects were surveyed about their personality characteristics at the beginning of the project (T1). We measured personality variables using the NEO Five Factor Inventory (Costa & McCrae, 1992). All responses are on a seven-point scale from 1 (strongly disagree) to 7 (strongly agree). Neuroticism (α = .83) and extraversion (α = .91) were each measured using 10-items. A sample extraversion item is “I know how to captivate people.” A sample neuroticism item is “I am not easily bothered by things” (reverse-coded). The most influential person at the midpoint was selected as the member who had the highest average influence in their team at the midpoint (T2), by aggregating the dyadic influence ratings from the other members of the team.

Two teams had two people who tied for having the highest average influence at T2. In those teams, we averaged the tied members’ extraversion and neuroticism. Excluding those teams from the analysis did not change any estimate’s direction or significance. Four teams are excluded from the analysis, because the most influential person at T2 did not complete an initial personality survey making their extraversion and neuroticism scores unavailable.

Team performance. Because our sample included various projects that were designed specifically to meet the needs of clients, we asked the client supervisors to rate the performance of the team. Consequently, the client evaluation was also the students’ grade for the project. We used Van der Vegt and Bunderson’s (2005) five-item scale for project team performance to assess their performance (α = .94). This scale asked client supervisors to consider the team’s performance along five criteria, which included efficiency, quality, overall achievement, productivity, and mission fulfillment. Client supervisors rated each item on a scale from 1 to 100, with anchors suggestive of typical grading scales (i.e., an A corresponds to 90-100).

Controls. Given that size varied across teams and can affect interaction frequency, team size was included as a control variable in all analyses. We also ran our models with the demographic control variables of average age, as well as gender and race diversity, as they are linked with perceptions of influence (Fiske, Cuddy, Glick, & Xu, 2002). Because these controls were correlated with hierarchy and performance, we included them in the models reported. We also included the average ratings of influence within the team to account for the fact that some teams may have different baseline influence ratings. Average influence was calculated as the mean rating of influence across all team members within each group. In hypotheses that tested the extraversion and neuroticism of the most influential person at the midpoint, we also included controls for the mean levels of extraversion and neuroticism within the team. Average extraversion and neuroticism were calculated as the mean rating of each variable for all team members within each group.

RESULTS

Table 1 presents the intercorrelations among study variables. In general, the pattern and direction of means and correlations were in line with expectations.

--- Insert Table 1 about here ---

Effect of Pressure on Hierarchy

Hypothesis 1 proposed that pressure would be positively related to subsequent hierarchy strength. Because we were interested in how teams responded to perceived pressure, we ran regressions to predict hierarchy using the pressure the team felt in the prior period (i.e. pressure at T1 as the predictor for hierarchy at T2; pressure at T2 as predictor for hierarchy at T3). We used hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002) to account for teams providing multiple ratings of pressure over time, creating a dependency in observations that may bias OLS estimates. Table 2 presents the results of the HLM analysis. Model 1 adds the controls and Model 2 tests Hypothesis 1 by adding the effect of pressure in the preceding project phase. Model 3 and 4 test the robustness of findings by adding prior period hierarchy strength and the current pressure as controls. Models 2 – 4 support Hypothesis 1 by showing that previous pressure significantly increases subsequent hierarchy strength (Model 2: $\beta = .13$, $p < .001$; Model 3: $\beta = .12$, $p < .001$; Model 4: $\beta = .11$, $p < .001$).

--- Insert Table 2 about here ---

Changes in Hierarchy Strength over Time

In order to test our Hypotheses 2 and 4 which are about changes in hierarchy strength, we used growth modeling to analyze the patterns of change over time. In growth modeling, the change over time is represented by the change intercept (the average level of the focal construct at a specific point in time) and the change slope (how much the construct changes over time) (Hoffman, 2015). In our tests, the intercepts represent the hierarchy strength at a point in time, while the slope represents the rate of change of hierarchy strength over a unit of time (in this case each stage of project life). In all the growth model analyses, we used bootstrapping to calculate standard errors, as recommended for small sample sizes (Chernick, 2011). We examined the 95% confidence interval (CI) of the 10,000 bootstrap estimates and would have rejected a hypothesis if the interval included zero.

Because Hypotheses 2 and 4 refer to different focal times, we changed the reference points to examine those specific points in time (Hypothesis 2: T1 = 0, T2 = 1, T3 = 2; Hypothesis 4: T1 = -2, T2 = -1, T3 = 0). In all analyses, we grand mean-centered predictor variables, unless otherwise specified. We summarized the growth models in Table 3. In Table 3, Models 1 adds time and time-squared as predictors. Model 2 then more robustly tests the first hypothesis by adding controls. Models 3 – 11 use the time coding appropriate for Hypothesis 4.

--- Insert Table 3 about here ---

Hypothesis 2 proposed that teams change their hierarchy strength over the course of the project life such that hierarchy strength decreases early in the project then increases after the midpoint. Because we are interested in curvilinear changes over time, we used a quadratic model to test hierarchy strength change[1]. Model 2 in Table 2 shows the base growth model that best fits the data. It contains a linear effect of time (B = -.47; 95% CI = -.59, -.33), a quadratic effect of time (B = .26; 95% CI = .18, .32), a random intercept, a random intercept term, a random linear slope term, and a covariance term for the relationship between the random intercept and random slope. Adding in the quadratic effect significantly explained additional variance between groups, accounting for 42% of the overall variance in hierarchy, making the quadratic model the best fit. This indicates that hierarchy strength changes over time and is best represented as curvilinear.

Figure 1 shows the predicted curvilinear change in hierarchy strength over time. Thus, Hypothesis 2 was supported.

--- Insert Figure 1 about here ---

Most Influential Person's Effect on Hierarchy Strength Increasing

We proposed in Hypotheses 4a and 4b that the extraversion and neuroticism of the teams' most influential member at the midpoint will moderate the late increases in hierarchy strength. Specifically, we expect that the most influential person's extraversion will enhance the increasing trajectory of hierarchy strength after the midpoint, while the most influential person's neuroticism will dampen the trajectory in hierarchy strength after the midpoint.

In Table 3, Model 3 adds time and time-squared as predictors then Model 4 adds controls and the most influential person's extraversion as a direct effect. Model 5 tests Hypothesis 4a by adding the interaction term between time and most influential person's extraversion. Testing

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[1] The grouping accounted for only 3.2% of the variance in hierarchy levels, which suggests that most of the variability in hierarchy is accounted for by within-group changes over time.

Hypothesis 4b's proposed interaction between time and most influential person's neuroticism, mirrors these steps in Models 6 through 7.

As seen in Model 5 of Table 3, the interaction of the extraversion rating of the most influential person and time was, consistent with Hypothesis 4a, positive (B = .04, CI = .01, .07) and 95% of the bootstrap estimates were positive. Similarly, Model 7 of Table 3 shows that the neuroticism rating of the most influential person was, consistent with Hypothesis 4b, negative (B = -.06, CI = -.10, -.02) and 95% of the bootstrap estimates were negative.

In Figure 2, we graphed the predicted trajectories after the midpoint for teams whose most influential person was relatively low (-1SD) and relatively high (+1SD) in extraversion/ neuroticism and used simple slope analysis to examine the pattern of results (Hoffmann, 2015). Supporting Hypothesis 4a, teams whose most influential person was more extraverted had their hierarchy strength increase more dramatically than those whose most influential person was less extraverted (High extraversion: B = .67, $p < .001$; Low extraversion: B =.58, $p < .001$). Also, the increased neuroticism of the most influential person dampened a hierarchy strength's rise compared to those who were less neurotic (High neuroticism: B = .59, $p < .001$; Low neuroticism: B =.69, $p < .001$). Thus, Hypotheses 4a and 4b were supported.

--- Insert Figure 2 about here ---

Changes in Hierarchy Strength and Team Performance

In Hypothesis 3, we predicted that large growth in hierarchy strength over the second half of the team's life would negatively impact team performance. In this approach to growth modeling, allowing the relationship between time and the dependent variable to vary across teams provides a measure—the Bayes estimator—of each team's rate of change in hierarchy strength after the midpoint (see Chen, 2005).

We used OLS regression models to predict team performance and test Hypothesis 3. Table 4 presents the results of the OLS analysis for performance. In it, Model 1 adds the controls and Model 2 tests Hypothesis 3 by adding the Bayes estimator for the rate of hierarchy strength change. As Model 2 in Table 4 shows, the rate of increase in hierarchy strength after the midpoint was negatively related to team performance ($B = -162.71$, $p = .044$), explaining 8% of the variance in team performance beyond the controls. Thus, Hypothesis 3 was supported.

--- Insert Table 4 about here ---

DISCUSSION

Combined our findings help to integrate theoretical approaches to hierarchy and clarify its conceptualizations. First, our theory and findings confirm the theoretical roots of both approaches conceptualize hierarchy as acyclic. Consistent with the theoretical roots of the functionalist (De Waal, 2000, 2002; Moosa & Ud-Dean, 2011) and conflict (Day & Day, 1977; Strauss et al., 1963) perspectives where hierarchy strength changes, our proposition that acyclicity, and not centralization or steepness, change was supported by the data as well. We ran analyses where pressure predicted centralization and steepness and found neither centralization ($\beta = -.01$, $p = .811$) nor steepness ($\beta = .02$, $p = .630$) change in response to prior pressure. In addition, only acyclicity changed over time with acyclicity following a curvilinear change over the project with a significant quadratic effect of time ($B = .26$; 95% CI = .18, .32); neither centralization ($B = -.06$; 95% CI = -.18, .07) nor steepness ($B = -.01$; 95% CI = -.11, .08) significantly followed this pattern. Thus, our theory responds to calls to find conceptual similarities that can help bring the two approaches together (Bunderson & Van der Vegt, 2018; Greer et al., 2018) by suggesting that both approaches should explore acyclicity as a conceptualization for hierarchy.

Our findings also help bring the two predominant and often contradictory perspectives together by showing that the assumptions grounding both perspectives are complementary. Research typically treats the perspectives as oppositional (Greer et al., 2018; Tarakci et al., 2016) or focuses on contingencies where one perspective is supported over the other (Bunderson et al., 2016; Halevy et al., 2012). In contrast, our theory suggests that the perspectives have complementary strengths by demonstrating that the two perspectives combined better explain changes in hierarchy strength. For instance, the functional perspective explains why hierarchy strength would increase and the conflict perspective explains how it would decrease. The functional perspective highlights the trade-offs in hierarchy strength changes, while the conflict approach predicts when those trade-offs will be problematic. Moreover, the conflict perspective predicts how the most influential person will act and the functional perspective connects those behaviors to changes in hierarchy strength. Together, our findings suggest that aggregating the conflict perspective's insights on interpersonal dynamics to the team level provides a useful starting point for integrating it with the functionalist perspective and developing a more integrative approach to informal hierarchy research.

Lastly, teams are dynamically engaged in interdependent processes that impact how members interact with one another (Sanner & Evans, 2019). And informal hierarchy affects and is affected by those interactions (Magee & Galinsky, 2008). Thus, understanding and accurately conceptualizing informal hierarchy requires studying changes in them. Yet, functional and conflict studies of team hierarchy tend to develop and test static theories at the team-level. By developing knowledge around why and when hierarchy strength changes as well as how to influence that process and its performance implications, our paper helps advance a more dynamic understanding of informal hierarchy.

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Table 1

Correlations and Descriptive Statistics

		Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
(1)	Team Size	4.38	.59																	
(2)	Average Age	21.17	1.62	-.07																
(3)	Race[a]	.28	.24	.29*	-.06															
(4)	Gender[a]	.41	.10	-.17	-.29*	-.12														
(5)	Average Influence (T1)	3.61	.96	-.40**	.13	-.10	-.15													
(6)	Average Influence (T2)	4.39	1.01	-.28*	.20	-.07	-.19	.67**												
(7)	Average Influence (T3)	4.47	.81	-.26	.25	.01	-.06	.52**	.77**											
(8)	Hierarchy (T1)	.38	.23	-.22	.12	.02	.03	.57**	.38**	.45**										
(9)	Hierarchy (T2)	.19	.13	-.45**	.27	-.27*	-.02	.04	-.09	.06	.12									
(10)	Hierarchy (T3)	.51	.24	-.08	.00	-.01	-.18	.33*	.15	-.08	.26	.11								
(11)	Pressure (T1)	2.67	.64	-.28*	-.11	-.20	.00	.31*	.22	.08	.13	.13	.27*							
(12)	Pressure (T2)	3.39	.67	-.07	.24	-.08	-.26	.08	.28*	.24	.00	.30*	.14	.24						
(13)	Pressure (T3)	3.28	.81	-.03	.14	-.14	-.07	.13	-.17	-.22	-.03	.32*	.21	.34*	.28*					
(14)	Extraversion (MIP)	4.71	1.19	.08	-.20	.05	.05	.01	-.08	-.09	-.09	-.05	.31*	.15	-.04	.22				
(15)	Neuroticism (MIP)	2.93	.93	-.22	.11	-.36*	.06	.27	.30*	.36*	.15	.10	-.30*	.04	-.04	-.25	-.22			
(16)	Average Extraversion	4.74	.64	.14	-.07	.16	-.17	.27*	.26	.10	.07	-.40**	.19	-.03	-.25	-.07	.50**	-.12		
(17)	Average Neuroticism	2.80	.44	-.01	-.23	-.23	.21	-.07	.02	-.12	-.18	-.10	-.13	.16	.19	-.06	.00	.38**	-.38**	
(18)	Team Performance	86.65	15.41	-.18	-.16	-.29*	.08	.27+	.29*	.23+	.08	-.10	-.14	.18	-.06	-.26+	.09	.21	.21	.10

Notes: N = 55 teams. T1 = early project phase, T2 = midpoint, T3 = late project phase; [a]measured by Blau's Index; MIP = Most influential person at the midpoint; $^{+}$ $p < .10$, * $p < .05$, ** $p < .01$

Table 2

Results of HLM Regression Models Predicting Hierarchy Strength

	Model 1		Model 2		Model 3		Model 4	
	β	t	β	t	β	t	β	t
Fixed Effects								
Intercept	.51	1.38	.80^{+}	1.82	.84^{+}	1.97	.78^{+}	1.79
Gender[a]	-.15	-.73	-.22	-.91	-.22	-.92	-.19	-.83
Race[a]	.01	.03	.02	.20	.01	.15	.02	.22
Average Age	.01	.56	.01	.51	.01	.78	.01	.68
Team Size	-.07^{+}	-1.93	-.07^{+}	-1.70	-.09*	-2.22	-.09*	-2.23
Average Influence	.01	.70	-.05^{+}	-1.82	-.04	-1.41	-.04	-1.34
Prior Period Hierarchy Strength					-.28*	-2.51	-.29*	-2.60
Current Period Pressure							.02	.77
Prior Period Pressure			.13**	4.12	.12**	3.76	.11**	3.52
Residual	.06		.05		.05		.05	
Pseudo R^2 (Level 1)	.05		.17		.22		.24	

Notes: N=110 observations in 55 teams. [a]measured by Blau's Index
$^{+}$ $p < .10$
* $p < .05$
** $p < .01$

Table 3

Results of Growth Models Testing Change in Hierarchy Strength Over Time

	Model 1[a]		Model 2[a]		Model 3[b]		Model 4[b]		Model 5[b]		Model 6[b]		Model 7[b]	
Fixed effects														
Intercept	.38	(.03)	.47	(.42)	.50	(.03)	.72	(.26)	.73	(.28)	.70	(.27)	.72	(.27)
Time	-.45	(.07)	-.47	(.07)	.58	(.06)	.63	(.06)	.63	(.06)	.63	(.06)	.63	(.06)
Time^2	.26	(.04)	.26	(.03)	.26	(.03)	.31	(.03)	.31	(.03)	.31	(.03)	.31	(.03)
Gender[c]			-.10	(.21)			-.33	(.16)	-.34	(.16)	-.32	(.15)	-.32	(.16)
Race[c]			.01	(.08)			.05	(.06)	.05	(.06)	.01	(.06)	.01	(.06)
Average Age			.01	(.01)			-.01	(.01)	-.01	(.01)	-.01	(.01)	-.01	(.01)
Team Size			-.07	(.03)			-.06	(.03)	-.07	(.03)	-.06	(.03)	-.06	(.03)
Average Influence			.02	(.02)			.06	(.02)	.06	(.02)	.07	(.02)	.07	(.02)
Extraversion (MIP)							.01	(.01)	.06	(.02)				
Neuroticism (MIP)											-.03	(.02)	-.09	(.03)
Time x Extraversion (MIP)									.04	(.02)				
Time x Neuroticism (MIP)													-.06	(.02)
Random effects														
Intercept	.11	(.04)	.09	(.04)	.12	(.03)	.12	(.03)	.11	(.04)	.12	(.03)	.10	(.03)
Time	.07	(.02)	.07	(.03)	.07	(.03)	.09	(.02)	.07	(.03)	.09	(.02)	.07	(.02)
Intercept-Time correlation	-.53	(.40)	-.47	(.48)	.66	(.49)	.93	(.04)	.93	(.04)	.98	(.01)	.98	(.05)
Residual	.18	(.02)	.18	(.01)	.18	(.02)	.16	(.01)	.16	(.01)	.16	(.01)	.16	(.01)
Log likelihood	21.04		13.65		29.8		47.8		50.8		48.7		52.3	
Akaike information criterion	-28.10		-3.30		-45.6		-69.7		-73.7		-71.5		-76.5	

Notes: N=165 observations nested in 55 teams for Models 1 and 2. N = 153 observations nested in 51 teams for Models 3 through 11. [a]Time is coded such that the intercept represents the hierarchy at the start of the project life (i.e. T1=0, T2=1, T3=2). [b]Time is coded such that the intercept represents the change in hierarchy late in project life (i.e. T1=-2, T2=-1, T3=0). [c]measured by Blau's Index. Bootstrap standard errors are in parentheses. MIP = Most influential person at the midpoint

Table 4

Results of OLS Regression Models Predicting Team Performance

	Model 1		Model 2	
	B	*t*	B	*t*
Intercept	114.71*	2.83	197.59**	3.53
Gender[a]	4.37	.20	-2.37	-.11
Race[a]	-16.80⁺	-1.96	-17.48*	-2.11
Team size	-.07	-.02	-.92	-.24
Average age	-1.91	-1.47	-1.95	-1.55
Average influence	4.31⁺	1.85	5.47*	2.35
Hierarchy strength increase after the midpoint			-162.71*	-2.07
F	2.18		2.65	
Degrees of Freedom	5, 49		6, 48	
Adjusted R^2	.07⁺		.16*	

Notes: N=55 teams. [a]measured by Blau's Index

⁺ $p < .10$

* $p < .05$

** $p < .01$

Figure 1

Curvilinear Relationship between Time and Hierarchy Strength

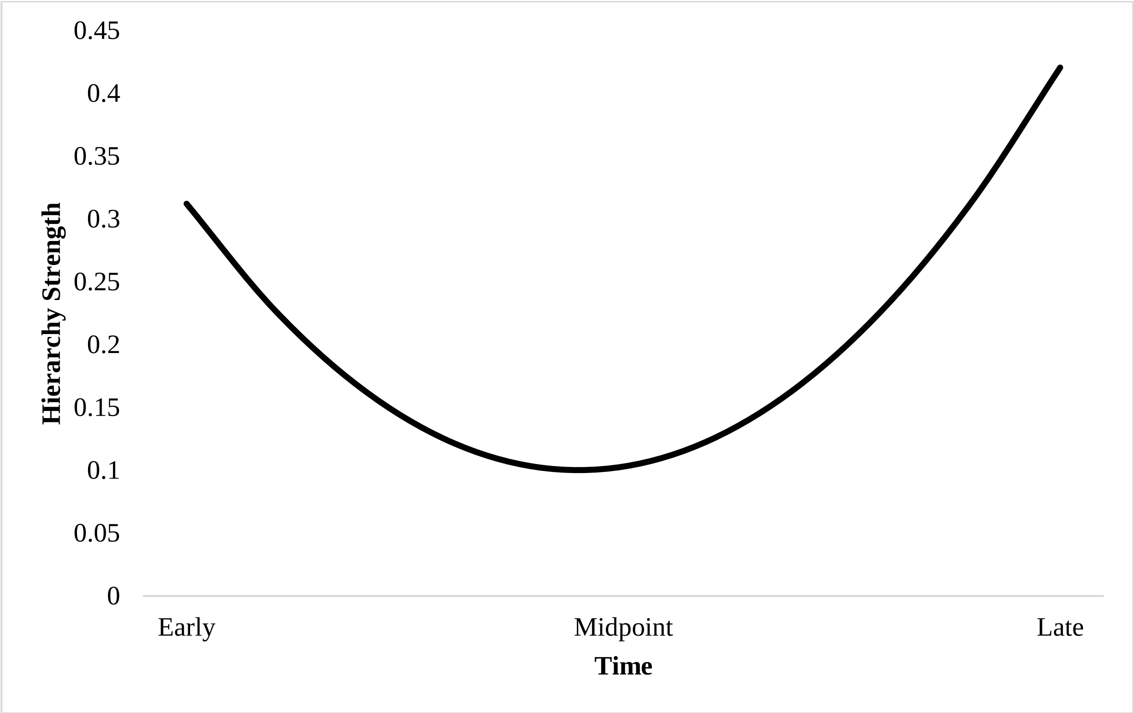
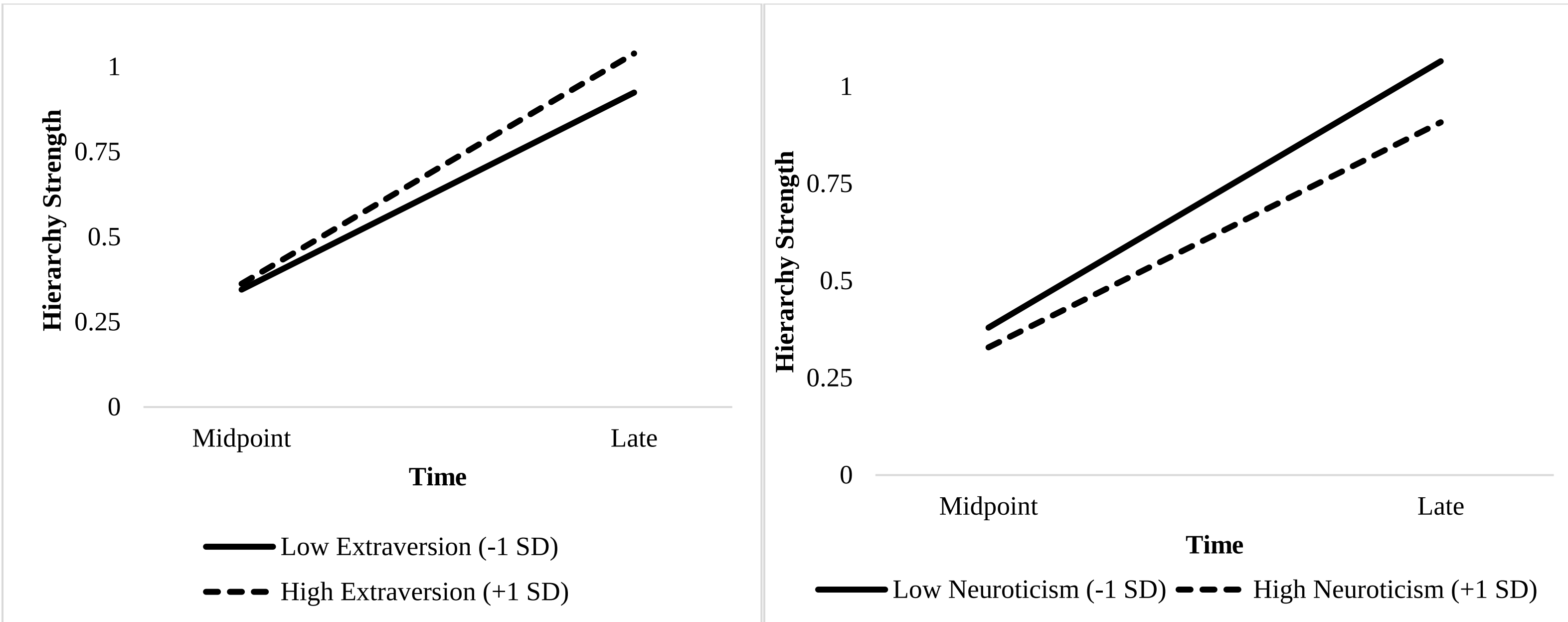


Figure 2

Linear Growth of Hierarchy Strength Late in Project Life by Extraversion and Introversion of Most Influential Person



Title: Enhancing Project Outcomes: A discussion of cross-generational leadership competencies

Authors: Removed for Review

Abstract

Purpose:

Research exists in the fields of project management and the professional influences of generations, however, a gap currently exists between the application of employee generational competencies and the work scope included in the planning and execution of actual projects. The purpose of this paper is to explore the separate fields of 'project team management' and 'generational influences at work' to bring together commonality that advances project management practices. Academic peer reviewed journal publications on project team efficiency and effectivity, and generational influences were considered across industries and business functions. The effort of our review looked to align project work scope and tasks based on generational competencies to increase team effectiveness, project delivery, and achievement of project milestones. Recognizing generational influences in the project environment may support project managers with a crucial awareness to empower a generationally diverse project team. This understanding of generational preferences could effectively lead project teams in milestone execution and increased project performance. An increased awareness of generational differences by project managers could support intensified performance and sharing project goals on multi-generational teams in a way that positively contributes to work scope element execution.

Keywords: project outcomes, project efficiency, project performance, milestone achievement, scope execution, teamwork, team performance, generations and multi-generational workforce

1.0 Introduction

Organisations use project management tools and techniques to manage the project processes and knowledge areas to generate shorter project life cycles and manage efficiencies within project environments (Jensen, Thuesen and Geraldi, 2016; Project Management Institute, 2013). Project performance is not simply influenced by the requirements for the project deliverables, but also by those involved in the project (Saint-Macary and Ika, 2015). Generational competencies of those involved with the project can impact team dynamics, which can influence project results (McNamara, 2009). Research exists in the fields of project management and the professional influences of generations, however, a gap currently exists between the application of employee generational competencies and the work scope included in the planning and execution of actual projects. Encouraging collaborative and positive work environments with strong communication have been linked to increased project team development and milestone delivery. Additionally, understanding organisational values, individual team member needs, and project scope can assist project managers with executing project objectives with a cross generational project team (Pollack, 2016). The purpose of this paper is to recognize existing research in the separate fields of 'project team management' and 'generational influences at work' to help bring these areas of existing research together to further understand how to achieve project objectives.

The social and historical influences of each generation have an impact on the professional values of employees (Young, Sturts, Ross and Kim, 2011). Management of generational competencies in the workplace can influence project cost management (McNamara, 2009). Aligning scope elements with the appropriate project resources capitalizing on generational competencies can increase team loyalty and better support project success (Steinfield, 2017; Levasseur, 2010; McNamara, 2009). Understanding generational differences among project contributors can better performance and allow multi-generational teams to positively contribute to decision-making and better execute work scope elements.

2.0 Existing Literature

To bring together existing research, it is imperative to define that generational cohort studies are often based upon a common shared experience. Shared generational experiences occur when a population has been exposed to historical and social influences that present during specific birth years (Young et al., 2011). These types of events and values influence and shape behavioral characteristics (Young et al., 2011). This review looks to incorporate generational competencies by focusing on specific generational traits that benefit projects through the recognition of employee values and facilitating employee performance (Angermeier et al., 2009). The defining of population behaviors opens the discussion for increasing generational competence in project management roles to maximize project scope execution and encourage successful deliverables to stakeholders.

2.1 Project Team Efficiency and Effectivity

Project management is applied to business to generate a shorter project life cycle, consistent execution of customer requirements, and manage scope within project constraints (Project Management Institute, 2013). Projects and project structures are commonly used to enable execution within organisations (Jensen et al., 2016). Project teams are recognized as the human element within project work (Chiocchio, Grenier, O'Neill, Savaria and Willms, 2012). Because a project is a unique but temporary endeavor, members of the project team know they will only be together for a temporary amount of time and that once the project is complete, they may never work together again (Flannes and Levin, 2005). Human resources and project team members may also be supporting several projects at a time, which could cause priority conflicts and dilute project loyalty (Flannes and Levin, 2005). A high-quality and effective project team with the ability to successfully execute project objectives relies on well engaged project contributors sharing knowledge and applying skills (Buvik and Rolfsen, 2015).

Communication, loyalty, and teamwork are key indicators identified to support effective and successful projects (Levasseur, 2010). Embracing and nurturing project teams could build mutual trust and respect within a project (Juli., 2011). Trust, proactive engagement, autonomy, and fairness could also facilitate a positive and participative work environment (Hoegl and Muethel, 2016; Juli., 2011; Tiffan, 2011). Higher levels of project performance are found in these work environments when project teams share knowledge and information (Tomasi, et al., 2015). Information sharing is key in collaborative project environments to increase project team effectiveness when decision making is pushed to the lower levels where work package responsibility exists thus increasing reliance on project human resources (Collyer, 2016; Hoegl and Muethel, 2016).

When pushing decision making to the lower levels of organisations project managers characteristics and skills are important when considering the most effective ways of communicating (Andersson and Chapman, 2017; PMI, 2016). Face-to-face communication has been noted as one of the most effective ways to reduce ambiguity, allow immediate feedback, and communicate on a project team (Koskinen, 2004). Personal backgrounds, an ability to listen, and one's own perspectives could be communication barriers on a project team (Koskinen, 2004). Electronic discussion boards have also been shown to support higher levels of scope execution on well performing project teams (Chiocchio, 2007). Additionally, high performing project teams were found to communicated more consistently than lower performing teams (Chiocchio, 2007). Frequent and consistent communication also benefited the project working environment as project teams became more geographically diverse, reliant on technology, and performed tasks virtually (Blenke, Gosavi, and Daughton, 2017).

Virtual project teams were found to be more successful and more effective at reducing risk when communication and trust exists (Blenke et al., 2017). Trust can be facilitated through effective communication among project contributors, including stakeholders (Karlsen et al., 2008). Developing trust on the project team, especially with stakeholders, has a positive impact to executing the project goals (Karlsen et al., 2008). Given the demand for delivering to project objectives establishing trust, encouraging loyalty, engaging skillsets, and effectively communicating with project stakeholders can contribute towards reaching project milestones, diluting barriers towards success, and increased resource performance (Jensen et al., 2016; Buvik and Rolfsen, 2015; Chiocchio, 2007).

2.2 Generational Influences in Projects

Project teams are a collision of the workforce generations today, which include leaders from Veterans, Baby Boomers, Generation X, Generation Y, and Generation Z (Anantatmula and Shrivastav, 2012). In understanding the different leadership preferences research looked to investigate the impact that individual managers emotional behaviors could have on the stakeholders in a project organisation (Lewis, 2000). The demeanor and conduct of leaders were shown to significantly impact the leader and participant relationship based upon traits (Lewis, 2000).

Appropriately utilizing positive leader behaviors, competencies, and traits can be associated with participative management techniques (Larson, Vinberg and Wiklund, 2007).

Organisations that foster participative management styles appear to have a strong positive correlation between a productive corporate culture, reduced employee turnover rates, and recognition for managerial effectiveness, which can support project outcomes (Ouchi and Price, 1978). This information suggests that a participative management approach in a project leadership role could impact the success of projects.

A project's success relies on the ability of its project manager and team members to integrate their knowledge and skills (Andersson and Chapman, 2017; PMI, 2016; Buvik and Rolfsen, 2015; Chiocchio et al., 2012). Furthermore, high-quality and effective project teams interact and communicate well and often (Buvik and Rolfsen, 2015). Essentially, providing genuine care and concern for the unique skills, experiences, and aptitudes project team members bring to a project can have a positive influence on the success of project teams which in turn can increase loyalty to a project team and perhaps even a project manager (Gillespie, Shavi and Steen, 2014). Since the social and historical experience of generations influence and shape work behaviors understanding generational competencies helps project leadership best position team members for success (Young et al., 2011).

2.2.1 Veterans. The Veteran population of employees are those born prior to 1945 (Anantatmula and Shrivastav, 2012). When distributing project work packages, it is imperative to appreciate the life experiences of Veteran team members. The Veteran population is near retirement or in many cases have returned to the workforce in a consultative role following retirement. This generalized category of employees bring tremendous amounts of work experience and stakeholder history to project teams. For individuals that are labeled Veterans, they have been impacted by events such as economic depression and World War II (Anantatmula and Shrivastav, 2012). These life experiences have altered their approach in the workforce.

Veterans look for organisations to provide security and loyalty and often return such loyalty to employers (Anantatmula and Shrivastav, 2012). This generation often excels with a more formal working style, respecting the chain of command and complying with directives (Anantatmula and Shrivastav, 2012). They are also known to have an extremely strong work ethic (Anantatmula and Shrivastav, 2012). Encouraging Veterans to share their project experiences and respect for their lessons learned can be valuable on project teams.

2.2.2 Baby Boomers. Baby Boomers, born between 1946 and 1964, were once the largest group in the modern-day workforce (Kaifi, Nafei, Khanfa, and Kaifi, 2012). During their tenure, the Baby Boomer generation, have experienced several different organisational, economical, and social changes. Additionally, life experiences such as the introduction of the television and a prosperous post-World War II economy contribute to this generations personal experiences and thus transfers into workforce habits (Anantatmula and Shrivastav, 2012; Young et al., 2011). Baby Boomers place significant value on professionalism (Anantatmula and Shrivastav, 2012; Young et al., 2011). They value the time and experience it takes to become a leader in an organisation and respect authority in terms of giving and taking direction in the workplace (Anantatmula and Shrivastav, 2012; Young et al., 2011). Baby Boomers are in positions of influence and authority within their organisations and can have influence on project teams (Anantatmula and Shrivastav, 2012; Young et al., 2011). In order to facilitate effective scope execution, Baby Boomers are known for cooperation (Anantatmula and Shrivastav, 2012; Young et al., 2011). Baby Boomers can bring strong interpersonal skills and seem to have the natural ability to lead change well (Anantatmula and Shrivastav, 2012; Young et al., 2011). In general, the influence of the post-World War II economy has contributed to potentially poor financial planning habits and could possibly be keeping many Baby Boomers in the workforce longer than anticipated (Anantatmula and Shrivastav, 2012; Young et al., 2011).

2.2.3 Generation X. Generation X born between born 1965 – 1979 has been influenced by life experiences such as both parents that were employed, higher divorce rates and witnessing of significant layoffs and change management processes in their workforce (Anantatmula and Shrivastav, 2012; Young et al., 2011). This generation typically will appreciate the value of work life balance, seeking out challenging and stimulating work and although similar to many other generations, they appreciate the value of project scope and formal processes provided by project management structure (Anantatmula and Shrivastav, 2012; Young et al., 2011). Generation X has been known for their resourceful, independent, realistic problem solving, and are often comfortable with including technology in all aspects of the project (Anantatmula and Shrivastav, 2012; Young et al., 2011). Project team members born during this generation often have transferrable skills that can bring experience that allows them to embrace Agile projects, manage change control, and mentor less experienced project members (Steinfeld, 2017).

2.2.4 Millennials. Millennials, interchangeably referred to as the generation Y, were defined by birth years from 1980-1992. Although millennials were criticized for being impatient, skeptical, disrespectful, and having poor professional etiquette they also brought a competitive advantage to the workforce (Paros, 2015; Anantatmula and Shrivastav, 2012). Millennials were found to be inclusively diverse, competent with technology, and motivated by feedback (Kaifi et al., 2012; Anantatmula and Shrivastav, 2012; Young et al., 2011). Life experiences such as the war on terror, the technology boom, and political and social diversity have impacted the millennial workforce in different ways (Anantatmula and Shrivastav, 2012; Young et al., 2011). Millennials were found to be technically adapt and good at multi-tasking (Pollack, 2014;

Anantatmula and Shrivastav, 2012; Kaifi et al., 2012; Young et al., 2011). Millennials were noted to be comfortable with technology and utilize technology to stay well informed (Anantatmula and Shrivastav, 2012; Young et al., 2011). This connectivity has helped millennials develop communication skills including face-to-face or remote communication through email or text messaging (Young et al., 2011). Millennials were noted to benefit in the workplace from timely feedback (Pollack, 2014; Paros, 2015; Anantatmula and Shrivastav, 2012; Kaifi et al., 2012; Young et al., 2011).

2.2.5 Generation Z. Generation Z, the generation following millennials, are now graduating from college and entering the project environment (Tysiac, 2017). This new generation was born post internet, has always been influenced by social media, and grew up during the recession (Tysiac, 2017; Sparks and Honey, 2014). Generation Z project team members are born within an advanced technological era (Sparks and Honey, 2014). They often seek social change and want to feel part of something meaningful and important in their work environment (Simione, et al., 2017). Even though Generation Z looked for meaning in their work, they were found to have more developed career plans than their Millennial predecessors (Tysiac, 2017). They appreciate relationships and are expected to have multiple jobs and possibly different careers by age 30 (Sparks and Honey, 2014). Generation Z naturally embraces technology in a way that improves project planning and execution, based upon access to research and instant knowledge (Koulopoulos and Keldsen, 2014).

3.0 Discussion

3.1 Text Selection

The research for this study took a holistic snowball sampling approach towards considering influences that related to project management efficiency and effectivity within the field of leadership and management. The texts discussed within this study were identified using snowball sampling, where an initial set of key terms were used and then led to further studies (Behera, Mohanty and Prakash, 2018; Sanderson, 2012). The sampling involved a review of literature focused on project team efficiency and effectivity, team dynamics, and generational influences. This scan identified academic peer reviewed articles, the references used to support each article were also considered for applicability and completeness to support the discussions literary integrity. The academic peer reviewed journal publications considered represent various industries including the medical, education, construction, manufacturing, social services, information technology, retail, and hospitability industries. The business organisations represented included the sciences, sales, economics, accounting, executive leadership, general management, human resources, economics, research and development, finance, and administration. Source relevance and rigor was investigated at the publication level for double blind peer review status. Library databases were used to support this sampling and included ProQuest, EBSCOhost, and LexisNexis. Key search terms included veteran generation, baby boomer generation, generation x, millennial generation, generation z, workplace generations, management techniques, project productivity, project efficiency and effectivity, and teamwork. A soft consideration was given to related articles published in industry respected periodicals.

The below figures review the text selection samples. Figure 1 identifies the percentage of text in each category including project management and generational studies. Figure 2 shows the count of text reviewed within each year of publication.

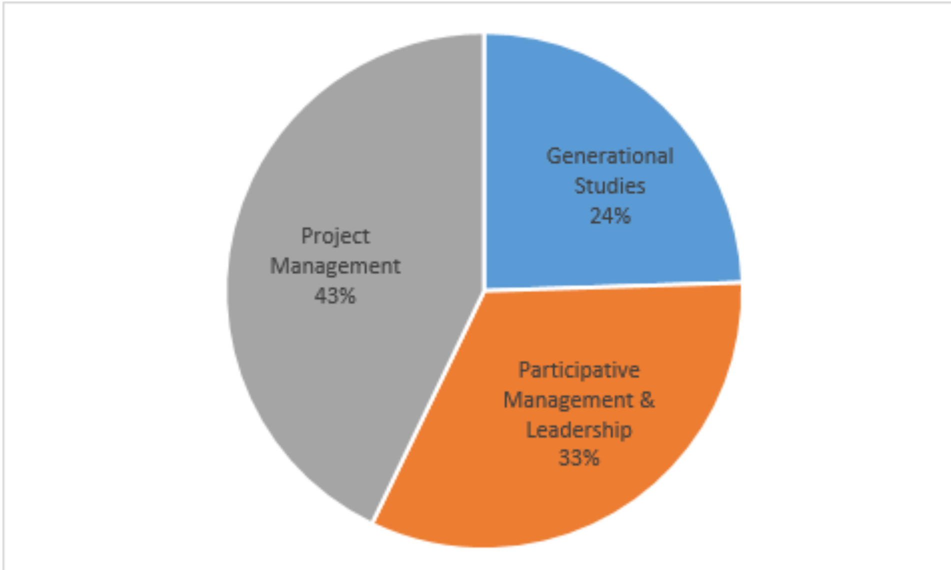


Figure 1. Percentage of text selections by relevant category.

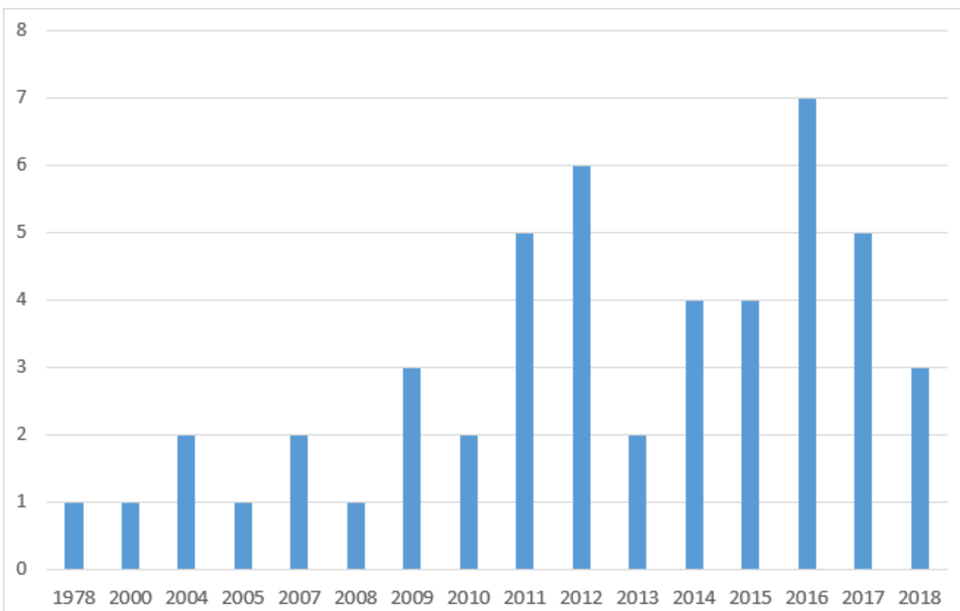


Figure 2. Count of text selections by year of publication.

3.2 Generational Understanding of Project Teams

This section looks at the existing literature to link effective project team achievement and generational studies that suggest generational influences impact workplace behavior and ultimately an employee's performance on a project. A focus on generational influences may provide project managers with the crucial awareness of issues that can arise out of generational diversity (Anantamula and Shrivastav, 2012). Perceived generational characteristics, competencies, and behaviors can influence project outcomes and success and leading to enhanced execution (McNamara, 2009). An increased awareness of generational differences by project managers could support intensified performance and sharing project goals on multi-generational teams in a way that positively contributes to work scope element execution. On the contrary, poor management techniques could alienate project team members, decrease productivity and increase turnover challenges that could cost up to 30% of the lost employee's salary (Kaifi et al., 2012; Synar and Maiden, 2012; Nishikawa, 2011; Davidson, Timo, and Wang, 2010).

3.3 Veteran Use of Formal Project Management Tools

Veterans often prefer a formal organisation and have expressed respect in following the proper chain of command (Anantatmula and Shrivastav, 2012). Project leadership should recognize and value past contributions made by Veterans while also respecting decision-making outlined in the responsibility assignment matrix. During the project initiating and planning phases, project managers should encourage Veterans to share lessons learned. Not only is face-to-face communication fast and effective, but Veterans embrace formal communication and believe that face-to-face interactions should be the first approach for project communication (Blenke et al., 2017; Collyer, 2016; Hannam and Yordi, 2011). The formal use of project management tools, such as a statement of work, scope statement, and work breakdown structure may better support project team members born during the Veteran generation. Lastly, Veterans may appreciate a well-documented and robust change control process.

3.4 Baby Boomers Hold Positions of Influence

Baby boomers frequently hold positions of organisational influence and authority (Anantatmula and Shrivastav, 2012; Young et al., 2011). Like the preceding Veteran generation, Baby Boomers also have decades of experience executing projects and their lessons learned should be considered during project planning. In some cases, Baby Boomers can be project sponsors, project stakeholders, and have resource ownership. When Baby Boomers are found in positions of project authority, including them in project resource estimating or review of change requests could better support alignment within the project environment. Creating positive relationships with Baby Boomer project contributors could be encouraged by project team members who are fully attentive and avoid multitasking while communicating.

3.5 Generation X are Experienced Project Contributors

Generation X and Millennials combined make up more than 60% of the workforce and therefore consideration for how to motivate these individuals is important (Fry, 2015). Employees in Generation X commonly hold management positions where they look to add value to projects (Anantatmula and Shrivastav, 2012; Young et al., 2011). This generation can often be more comfortable with technology than past generations and may be more flexible with Agile projects (Anantatmula and Shrivastav, 2012; Young et al., 2011). A recommended technique for engaging Generation X project professionals includes allowing them the individual freedom to execute projects or scope elements by leveraging their experience. Project contributors born during Generation X are used to informal communication channels and can adapt to different means of communication, which is helpful during project initiation, planning and execution phases (Hannam and Yordi, 2011). Effective performance management of this generation should include providing timely and concise feedback to engage and motivate project team members. To fully empower individuals born within this timeframe, it could be helpful to develop a relationship with a mentor, while also promoting mentee relationships according to project work scope. Utilizing the background and strength of these associates could encourage personal and professional development, increase the project's success with stretch goals, and encourage respect amongst project team members (Steinfield, 2017).

3.6 Millennials Can Support Scope Execution with Technical Innovation

Understanding the dynamics of Millennial turnover can better prepare project managers for resource allocation, work package assignment, and human resource management. The Millennial generation is not only technically fluent but can often be capable of multitasking across scope elements on projects (Anantatmula and Shrivastav, 2012; Young et al., 2011). To discourage the risk of losing strong Millennial project contributors, project managers should couple developmental feedback with a positive project work environment that allows this generation to apply the latest technology and take responsibility for challenging scope elements within an innovative culture (Collyer, 2016; Paros, 2015; Anantatmula and Shrivastav, 2012; Young et al., 2011).

3.7 Generation Z are Motivated by Meaningful Projects

Project team members, considered part of Generation Z, typically have the inclination to research the latest enhancements in technology and bring them to projects. (Simione, et al., 2017). Generation Z could engage well with the use of web-based solutions during the initial project planning phase. With Generation Z's perceived desire for technical solutions, integrating project management software and applications could have a positive influence on empowerment and participation (Koulopoulos and Keldsen, 2014). Like the Millennials, Generation Z may also flourish in project environments that provide professional feedback, however, this generation often can operate with a shorter sound bite like feedback (Tysiac, 2017). To engage and ensure accountability, it would be advised to assign meaningful and valuable work within the appropriate level to support project team members (Sparks and Honey, 2014). Generation Z project contributors may add to the project by increasing network connections and fostering growth to develop relationships with project stakeholders. Even utilizing the latest tools, Agile project management might be an appropriate alternative for this generation to utilize when managing large scale projects.

3.8 Maximizing Generational Competencies to Enhance Projects

Successful project teams require project managers to communicate and understand the individual human resources involved with a project (Buvik and Rolfsen, 2015; Ouchi and Price, 1978). Given the dynamics of today's workforce these project contributors include Veterans, Baby Boomers, Generation X, Generation Y, and Generation Z (Anantatmula and Shrivastav, 2012). Project leaders and their ability to manage the traits and competences of human resources could influence their projects (Lewis, 2000). Awareness for positive leader behaviors, competencies, and traits relate to positive employee and managerial trends that can support project outcomes (Larson, Vinberg and Wiklund, 2007; Ouchi and Price, 1978). Providing genuine care and concern for the unique skills, experiences, and aptitudes project team members bring to a project can have a positive influence on the success of project teams which in turn can increase loyalty to a project team and perhaps even a project manager (Gillespie, Shazi, Steen, 2014).

4.0 Conclusion, Project Management Implications, and Further Research

This review looked to connect and discuss existing research in the areas of project management and generations in the workplace. This review acknowledged the relevancy for the integration of generational studies in the field of project management. Project organisations will need to utilize communication skills, promote the project management knowledge areas, and effectively manage the project processes to work together in a multigenerational project environment.

Leadership within project management must continue to understand the value of the multi-generational workforce (Lloyd-Walker and Walker, 2011). Capitalizing on the values and skills of each working generation to benefit the project environment could encourage more effective project objective achievement through stronger application of the project management knowledge areas, increased milestone achievement, and more effective decisions (Buvik and Rolfsen, 2015; Gillespie, Shazi, Steen, 2014; Juli, 2011; McNamara, 2009).

Future recommendations for research include enlisting quantitative research methods and designs to continue to explore how understanding generational competencies can positively influence the success of project teams. Research designs that employ survey or experiment in the field could support understanding a correlation between generations as they relate to delivering project work scope elements or knowledge area application. Lastly, an experimental research design could be incorporated into future research to quantify the effect the leadership of generationally aware project managers have on the productivity of multigenerational project teams.

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Can Workplace Spiritual Diversity Contribute to Functional Team Performance? *Have Faith in its Potential*

ABSTRACT

In this paper, we explore a new concept of importance when examining the mix of individual differences that has relevance for teamwork in organizations, *workplace spiritual diversity (WSD)*. Consistent with prior research, the WSD construct is operationalized along three key dimensions: inner life; meaningful work; and community. A new framework is proposed, suggesting numerous possibilities for team composition along WSD. Given the importance of workplace spirituality, the implications of the WSD construct are discussed and explored in terms of facilitating our understanding of team dynamics and performance. In developing the WSD construct, we hope to add more insight to frameworks that attempt to understand the potential benefits of deep-level diversity in team environments.

Key Words: *Workplace Spirituality, Teams, Diversity*

INTRODUCTION

In today's competitive global landscape, organizations are increasingly recognizing the advantages of flexible team-based structures where individuals contribute to collective performance through an array of diverse attributes. Scholars and practitioners alike have advanced our understanding of team dynamics in relation to group composition, process, conflict, and performance (Ayub & Jehn, 2014; Mohammed & Angell, 2004). Areas of study that have recently received a great deal of attention are team diversity and relational demography (Wells & Aicher, 2013). In particular, there has been much interest in understanding associated outcomes with team members' perceptions of their own similarity to the rest of the group. Demographic characteristics, personality, values, experience, and cognitive styles, have all been used to assess levels of homogeneity in teams, linking similarity or dissimilarity to numerous dependent variables (for a more detailed review, see Riordan, Schaffer & Stewart, 2005; Schaffer, 2019).

Researchers have recognized the need to continue investigating the role of, and the benefits of, diversity in workplace environments that foster adaptability, innovativeness, and change (e.g., Story & Barbuto, 2011; van Knippenberg & Schippers, 2007). Such work has shown that organizational leaders who have the abilities to effectively manage diversity through teamwork, and who appreciate the implications of individual differences, can position such competencies as key sources of competitive advantage (Aguinis, Gottfredson & Joo, 2013). Theoretical contributions that continue to examine diversity in such contexts offer numerous important implications.

The current paper adds to this body of research by presenting a relatively new idea for team diversity: *workplace spiritual diversity (WSD)*. The following sections highlight some important concepts related to workplace diversity and workplace spirituality, and then offer a new framework for dimensionalizing spirituality with the purpose of understanding its inclusion as an important individual-difference variable.

WHAT IS WORKPLACE SPIRITUALITY AND WHY IS IT IMPORTANT?

There is ample evidence for the emerging importance of workplace spirituality (WS) in organizations and, in recent years, this construct has received a great deal of attention (Marques, Dhiman, & King, 2006). WS is not necessarily about religious affiliations, nor does it infer an institutional membership whereby members feel obligatory loyalty to a defined group. In large part, the concept refers to positive personal connections to one's identity, the workplace environment, and the nature of the job itself (Hicks, 2003).

Rhodes (2006) has suggested that specific organizational attributes are central to an informed understanding of WS. For example, the organization's culture should contain elements consistent with values associated with sustainability, giving back to society, and work centered both within and outside of the organization. Additionally, employees at all levels are encouraged to develop innovative and creative approaches as normal practice in their daily routines. The culture should foster the sharing of ideas and create safe-zones that allow people to be rewarded for trying and failing. Finally, Rhodes (2006) suggests that WS is about inclusivity, or recognizing the value of all organizational members, with foci on ethical principles and the development of people's unique skill sets in their vocations. Together, such effects create a workplace environment where employees can express their identities through both personal and organizational values.

Mitroff & Denton (1999) offer a definition of spirituality as "the basic feeling of being connected with one's complete self, others, and the entire universe. . ." (p.83). They offer with this framing a clear distinction between spirituality and religion in a workplace context. Further, their research suggests that a feeling of "interconnectedness" is a central element of workplace spirituality. Their findings indicate that higher perceived business performance and healthier company cultures arise in organizations perceived as more spiritual (Mitroff & Denton, 1999).

Others have expressed WS as a way of recognizing that organizational members have strong identities that are tied to the social context of important and significant work (see Daniel, 2010; Javanmard, 2012). Therefore, it seems that leaders should take interest in setting up workplace conditions that capture the advantages associated with humanistic environments that allow people to achieve performance through creative expression and fulfillment. Organizational cultures that embrace WS respect employees, offer opportunities for team building, and think proactively about work design (Brown, 2003; Daniel, 2010). Key outcomes linked to WS also include trust and creativity, processes that have been tied to team effectiveness (Krishnakumar & Neck, 2002). When such elements are present in team environments, there is a higher likelihood of more effective team processes through more functional conflict, healthier progression through stages of development and better performance (Rezvani, Barrett, & Khosravi 2019).

Because of the potential importance of WS in organizations, it is useful to define the construct across its key dimensions. Consistent with prior research, which has categorized and operationalized WS, we develop a framework based on three important aspects. These are inner life, meaningful work, and community. Ashmos and Duchon (2000) used these dimensions to develop measures for WS with the hope that researchers would begin to develop a better understanding of this important organizational phenomenon. Lemoine, Hartnell and Leroy (2019) examined inner life, meaning, and community in their review of servant leadership, recognizing these attributes as key bases for WS. Similarly, Williams et al. (2017) identified this framework (inner life, meaning, community) as a valid foundation for empirically examining the relationship between servant leadership and creativity. They found support for this link by positioning WS as a mediator. Other research in the healthcare industry has found support for this dimensionalization of WS. For example, Iyer and Deshmukh (2018) found that WS moderates the relationship between role ambiguity and job satisfactions among a sample of nurses from India. While a full review of the WS literature is beyond the scope of this paper, these examples provide evidence for the appropriate framing of the construct around inner life, meaningful work and community. These dimensions are described below. A complete list of Ashmos and Duchon's (2000) survey items for the WS dimensions are provided in Appendix A.

DIMENSIONS OF WORKPLACE SPIRITUALITY

Inner Life

Inner life in the context of work is essentially linked to members' affiliations with their organizational teams or social units. This is consistent with social identity theory, whereby individuals seek to establish and develop salient cues in their environment to form common attraction and belongingness with others. Those who identify with their work groups develop a self-concept that aligns with a principle of spiritual leadership by way of team membership (see Duchon & Plowman, 2005; Fry, 2003).

Workplace spirituality around inner life refers to organizational members' ability to express themselves and value their own contributions via the teams they are a part of. For example, in conceptualizing and framing one's job role, emphases may be applied to team member relationships and the positioning of the team in the organizational context. This dimension of spirituality is akin to Gaertner and Dovidio's (2000) *Common Ingroup Identity Model.* Within a team, there is a natural tendency for individuals to separate and form into in-groups and outgroups. Generally speaking, there is potential for bias and dysfunction between members when such divisional lines exist (e.g., Riordan & Shore, 1997). However, when members share a common felt affiliation for their team, such division is reduced, common team identity is enhanced, and self-concept around team membership is more likely (see also Schaffer & Riordan, 2011). Importantly, self-concept operates as a spiritual dimension of identity, allowing people to express this identity within the organizational context (Williams et al., 2017). There is also evidence that such identity processes may be stronger for the affiliations to the unit or team where everyday interaction is experienced, as opposed to the larger organization (Fry, 2003; Javanmard, 2012).

Meaningful Work

Second, the dimension of *meaningful work* refers to the extent to which organizational members fulfill essential life needs through the work they do on a daily basis. This component of WS is related to motivational theories that focus both on job content and employee needs (Duchon & Plowman, 2005). Work structures that emphasize empathy, respect, and caring, will naturally lead to feelings of positivity and experienced effectiveness, enhancing spirituality in the workplace (Javanmard, 2012). In designing jobs for employees, organizational leaders should recognize the mechanisms through which top performers are inspired by specific task components. Meaningful work, in this sense, is often characterized by clear feedback, task significance, variety, empowerment and responsibility (Hackman & Oldham, 1980). In identifying these inspirational job components, leaders not only provide clearer direction for employees, but also more enjoyment and commitment (Wrzesniewski, 2003).

Job design components are thus essentially tied to employee's needs. Work that is characterized by enrichment and satisfaction (as described above) serves to provide key need-fulfillment mechanisms. Such drivers may be related to achievement, autonomy, a sense of social fit, esteem, and even self-actualization (see Maslow, 1954; McClelland, 1985). As needs become realized through meaningful work, employees are able to merge work with life, establish consistency between the two and enhance a healthier level of workplace spirituality. Importantly, this dimension addresses a sense of meaning that extends beyond the basic principles of job design. “Workplace spirituality is about employees who understand themselves as spiritual beings whose souls need nourishment at work. It is about experiencing a sense of purpose and meaning in their work beyond the kind of meaning found, for example, in the job design literature, which emphasizes finding meaning in the performance of tasks” (Ashmos & Duchon, 2000, p. 135). Work should be a calling, an endeavor that provides intrinsic satisfaction and motivation. For example, the Pike Place Fish Market in Seattle, WA is well known for its workplace culture that provides spiritual meaning for its team members. *Management by Inspiration* is the style and is often touted as one that gives employees the chance to find meaning in their daily work, pursue their passions, and continuously hone their skills (Lundin, Paul & Christensen, 2000).

In summary, this dimension of spirituality brings back a higher-level quest of meaning to the workplace, one that ties into an employee’s total immersion in the organization. Without meaning comes detachment and disengagement, which can be dysfunctional for team and organizational outcomes. Searching for inspiration, common purpose, and meaning should be a continuous objective for leaders who are trying to inspire the members they work with.

Community

While inner-life is largely about social identity around salient aspects of team affiliation, the dimension of *community* is more about satisfied needs of achievement and affiliation through reciprocal interdependence, common purpose, and synergy (Ashmos & Duchon, 2000). Inner life may address questions such as, 'Why and how is my workplace team affiliation important to me for who I am as a person?'; spirituality around *community* is more likely to address the question, 'How does my organizational community offer connections and relationships that help everyone be successful?' The focus on this aspect of WS involves an appreciation for the power of teamwork in helping to successfully complete goals and objectives. Through cohesiveness, respect and reliable team processes, the workplace culture reflects a social environment where vision and mission are shared, where members rely on one another, and where mutual accountability is as important as individual performance. In essence, "The unity for a common purpose (in one's team) brings a spirit of solidarity" (Javenmard, 2012, p. 1963).

Williams et al. (2017) discuss *community* as being synonymous to a process whereby members' connections to others in the workplace provide spiritual sustainment. This type of spirituality, rooted in everyday work relationships, has emerged as an important aspect of fulfillment (Conger, 1994). With the emergence of teams in present day organizations, it makes sense for organizations to take stock of this dimension and provide avenues for employees to participate in socially designed, interdependent, work. Furthermore, to the extent that the modern organization has become depersonalized, Vaill (1998) suggests that community can bring back the *fellowship* aspect of work. Teamwork, along with shared vision, provides a connection between members and a stronger felt sense of community throughout the organization (Ashmos & Duchon, 2000).

WORKPLACE SPIRITUALITY AS a PART OF TEAM DIVERSITY

Given the importance of WS to organizational culture and to employee attitudes and morale, it is useful to examine this construct as an important component of deep-level diversity in teams and other social units. Spickermann, Zimmermann, and von der Gracht (2014) have suggested that a broad array of attributes or variables must be considered to appreciate and understand the complexity of individual differences. Furthermore, others have noted that "spirituality should be considered as a resource to be placed alongside other aspects of human diversity" (Miller & Ewest, 2015, p. 322). Including WSD in the operationalization of diversity frameworks will help further such objectives.

Prior research on individual differences has focused on both surface-level and deep-level aspects of diversity. Surface-level characteristics are primarily operationalized through demographic variables (age, race/ethnicity, gender, etc…), while deep-level characteristics are commonly defined through variables such as values, beliefs, and personality. While the research is somewhat mixed, most theoretical and empirical work has suggested that diversity in teams yields mostly positive (or functional) outcomes, as opposed to dysfunctional outcomes (see Schaffer, 2019). Such thinking is in line with the value-in-diversity hypothesis, which purports the numerous benefits of heterogeneity in teams and other social units (Bazarova, Walther & McLeod, 2012; Schaffer, 2019). This hypothesis focuses on the advantages of diversity gained through improved decision-making and communication, whereby members of diverse teams would be better situated to bring in a more complex and complete range of information and experience (Williams & O'Reilly, 1998; Zenger & Lawrence, 1989).

Especially for deep-level characteristics, this heterogeneity has the strong potential to offer teams a facilitative process that enhances group development, promotes the creation of positive norms, and supports improved performance (Ely & Thomas, 2001; van Knippenberg, Haslam, & Platow, 2007). For example, Kristof-Brown, Barrick, and Kay Stevens (2005) found that members felt higher levels of affiliation with their team when they perceived dissimilarity in personality, namely extraversion. This finding is counter to the common notion of similarity-attraction and suggests diversity itself offers opportunities for ‘complementary fit’, where an individual’s attributes complete the social environment by offsetting observed gaps or shortcomings (Kristof-Brown, Barrick, and Kay Stevens, 2005; Muchinsky & Monahan, 1987). As team members develop an understanding of the bases of their differences, they begin to appreciate the idea of complementary fit and recognize how key differences can provide important puzzle-pieces to the complete solution.

Essential to this understanding is the recognition that deep-level diversity consists of many variables, some of which have not been given full consideration in prior research. Diversity comes in many forms and is multifaceted. We must continue to work on expanding the mix of individual differences, paying particular attention to the ones that have relevance for teamwork in organizations. Taking into consideration the importance of workplace spirituality, it seems that this construct should be included in frameworks that attempt to understand the potential benefits of deep-level diversity, especially in team environments. Prior research has not considered *workplace spiritual diversity (WSD)* in this fashion and in this paper we develop this construct using the dimensions of inner life, meaningful work and community. In developing a model of WSD, we hope to add more insight as to how employees and team members differ across spirituality and help better understand WSD’s importance for team dynamics and performance.

A MODEL OF WORKPLACE SPIRITUAL DIVERSITY

As team members are likely to differ in their levels of WS, the aforementioned dimensions allow us to examine such differences with more sophistication and understanding. While the unit of measurement in any study based on this model would be at the level of individual WS, the unit of analysis would be at a group level (whether a dyad, team, or other level of group interaction). Within the construct of workplace spiritual diversity, there is inherent complexity and variability. To understand the nature of this diversity, we can examine situations where someone may contain high to low levels across inner life, meaningful work, and/or community. In this respect, an individual claiming to have high WS may or may not experience fulfillment across all three dimensions. Alternatively, one may consider herself to be sufficient in all three areas, yet may emphasize one area for identity purposes and for their own ethical guidance in the workplace. A breakdown of the dimensions and a description of the resulting possibilities for team composition provide more bases for these considerations. Our proposed WSD model is presented in Figure 1. We suggest that lower and higher levels of each of the dimensions (inner life, meaningful work, and community) would yield a rich panoply of different possible WSD combinations. Some of these potential combinations are described below.

INSERT FIGURE 1 HERE

For example, some team members may have *balanced workplace spirituality*. They attain spirituality through each of the dimensions of inner life, meaningful work and community. These members find inspiration from their connection to their teams, the sense of fellowship at work and through the job itself. Such individuals are likely to have a broad understanding of others' needs and can relate to individuals in a variety of ways. They are flexible in their outlook and can derive value in the workplace from many sources. Some team members may find spirituality primarily through the dimension of inner life, focusing on self-concept around team membership and affiliation. They place value on the idea of making connections between their work and life domains, and blending the personal identities from both areas. Spirituality at work is often framed in relation to their team and these values are readily shared with members.

When team members find WS through meaningful work, occupations and jobs become their purpose in life. They feel inspired by what they do and they can be fantastic teammates when that enthusiasm bleeds over to the rest of the team. Organizational leaders should be aware of the types of intrinsic rewards that motivate and encourage this type of spirituality, to ensure sustained commitment and performance. Alternatively, some team members may attain spirituality through the community dimension and appreciate the connections and relationships that lead to both team and organizational success. They derive spirituality from a sense of unity and common purpose. Focusing on the ‘fellowship’ aspect of teamwork, functional processes associated with working together become paramount to the team’s success. Communication with other team members often focuses on relationships, mutual accountability and collective goals.

For members who find spirituality through both inner-life and meaningful work, self-concept and identity are linked to this spirituality through their own work experiences. Job involvement, which refers to the level of psychological and emotional participation someone puts into their work, is a major source of this identity and drives feelings of spirituality (see Lodahl & Kejnar, 1965). In terms of team membership, pride in one’s affiliation is rooted in the meaningful work they do that adds to the team’s success and viability. For team members focusing on inner life and community, spirituality comes from self-concept and identity that are based on connections to others. Cohesiveness forms on the basis of both interpersonal attraction and shared commitment to team goals and objectives (Zacarro, 1991). The value associated with team affiliation is more focused on relationship dynamics within the group, versus meaningful work (although both may be important).

In certain cases, team members might find WS through shared work experiences. These individuals place a strong value on the meaningful work they do in their teams and how that work brings people together in a unified (communal) way. While members glean spirituality from their day-to-day tasks, they are equally inspired by the comradery resulting from the shared work. Members appreciate and value observed and recognized associations between functional team process and its effect on performance. Finally, we recognize that some team members may be characterized by minimal spirituality, in the sense that they are not strongly inspired by any of the dimensions of inner life, meaningful work or community. Individuals in this category are not necessarily poor performers or bad teammates; they perhaps develop commitment and motivation from other sources. These sources might include monetary incentives, individual recognition, or career advancement opportunities. Spirituality itself is just not part of the equation. Team leaders should recognize that these individuals may not be as responsive to initiatives specifically focused on outcomes that are typically linked to the benefits of WS.

DISCUSSION

This paper recognizes the complexity of deep-level diversity and expands our understanding of individual differences by including a new WSD framework into the discussion. This is in line with other research that has positioned deep-level diversity as an important antecedent variable to organizational outcomes. Such outcomes include team commitment, workgroup identification, and cohesiveness (Goldberg, Riordan & Schaffer, 2010; Kristof-Brown, Barrick, & Kay, 2005). In studying group creativity, Harvey (2013) recognized that a limitation in the analyses was a narrow operationalization of diversity (task perspectives). Other dimensions, such as functional and educational background can more effectively delineate this construct (Harvey, 2013; Mannix & Neale, 2005). In looking at relationship conflict and team members' affective reactions, Tekleab and Quigley (2014) also called for future research to more fully examine other types of deep-level diversity. Casper, Wayne and Manegold (2013) looked at diversity and its importance in the recruitment function of HR, recognizing the need to continue identifying important individual difference variables (particularly deep-level attributes). Our paper adheres to these recommendations and we hope that our development of WSD can provide organizational leaders, and team members, useful information related to team-level motivation, performance, and process dynamics.

What does this mean in terms of potential implications for team composition? We recognize that more research will be needed to address important issues related to the different types. For example, in some teams, it may be more desirable to have member heterogeneity across each dimension of workplace spirituality. In doing so, the collective team may come to appreciate the separately unique contributions of favorable perceived identities, opportunities aligned with meaningful work, and felt affiliations with workplace peers. Alternatively, some teams may have goals that are consistent with very strong norms or values that align with perhaps one of the dimensions of WSD. For example, suppose a team's mission was strongly aligned with providing its members with excellent person-job fit. In such environments an individual driven by meaningful work may thrive.

Such considerations are directly related to competing notions of diffusion and intensity as they relate to the WSD dimensions. Variability in this type of diversity may be related to certain team member character competencies. Peterson and Seligman (2004) applied a similar approach in identifying distinct character strengths for each of the Big Five personality dimensions. For instance, in our model, team members who have a strong focus on community may excel in relationship building and gatekeeping functions for the team. Alternatively, those who emphasize identity may excel at managing competing stressors around work and family domains. In each of these instances, the member's orientation toward WSD carries intensity around one primary dimension of workplace spirituality. Further, some team members may have dual emphases around both of these aforementioned foci, with a more diffuse (less intense) approach in each area. These statements are speculative, but could be further examined by operationalizing separate cases of diffusion and intensity in future studies.

As organizational leaders adopt frameworks that employ this WSD construct, they should be prepared to talk to employees about key issues related to spirituality. A common assumption may be that WSD is akin to religious differences; however, there are important distinctions that can be clarified among team members. King (2011) suggests that "while religion often looks outward depending on rites and rituals, spirituality looks inward - the wealth of knowledge, senses, aspirations, and feelings we harbor within ourselves" (p.62). For both practical and theoretical reasons, this distinction between spiritual and religious workplace diversity seems important.

In conclusion, the impact of deep-level diversity on team performance and organizational culture has been widely studied and found to contribute to positive organizational outcomes. Our proposed WSD model offers a framework for exploring the influence of deep-level diversity based on the workplace spirituality profile of team members in various organizational units. Our proposition is that by understanding and measuring the workplace spirituality types of members of an organizational unit, scholars and management practitioners can gain a nuanced and valuable perspective of the impact of an aspect of deep-level team diversity that has not yet been fully explored.

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APPENDIX 1

Ashmos & Duchon’s (2000) Survey Items for Inner Life, Meaningful Work and Community

Inner Life

1. I feel hopeful about life.
2. My spiritual values influence the choices I make.
3. I consider myself a spiritual person.
4. Prayer is an important part of my life.
5. I care about the spiritual health of my coworkers.

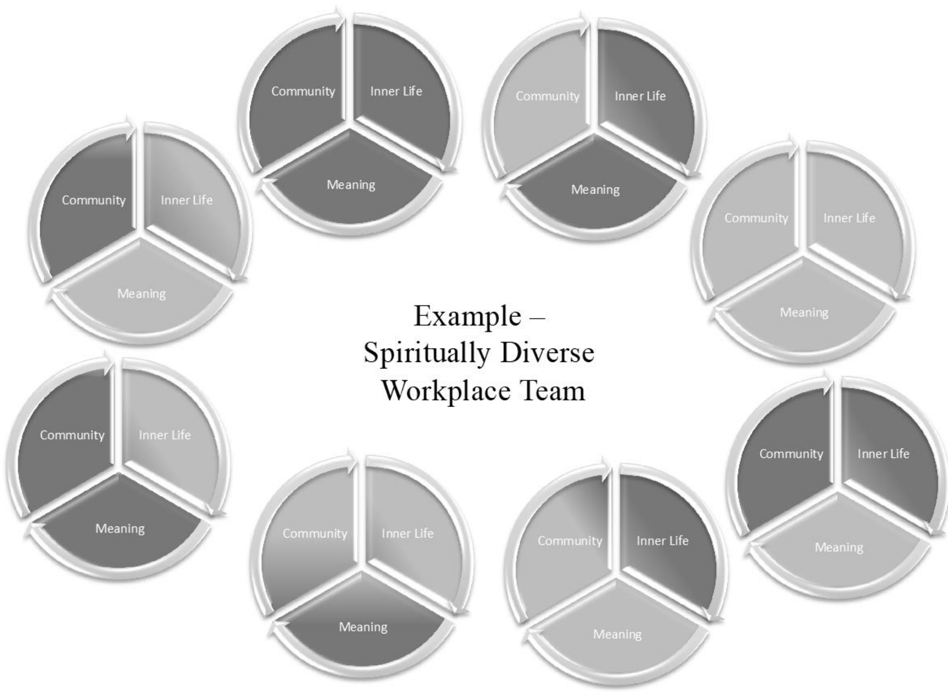
Meaning at Work

1. I experience joy in my work.
2. I believe others experience joy as a result of my work.
3. My spirit is energized by my work.
4. The work I do is connected to what I think is important in life.
5. I look forward to coming to work most days.
6. I see a connection between my work and the larger social good of my community.
7. I understand what gives my work personal meaning.

Conditions for Community

1. I feel part of a community in my immediate workplace (department, unit, etc.).
2. My supervisor encourages my personal growth.
3. I have had numerous experiences in my job which have resulted in personal growth.
4. When I have fears, I am encouraged to discuss them.
5. When I have a concern, I represent it to the appropriate person.
6. At work, we work together to resolve conflict in a positive way.
7. I am evaluated fairly here.
8. I am encouraged to take risks at work.
9. I am valued at work for who I am.

FIGURE 1
Workplace Spirituality Diversity Model –
Diverse groups based on presence and source of workplace spiritual fulfillment



Leading Gen Z: Keeping It Real in the Digital World

Abstract

Gen Z (aka Digital Natives, individuals born after 1995) is currently the largest U.S. generational cohort (Ozkan & Soulmaz, 2015). As they are coming of age and joining the workforce, their unique characteristics and preferences for leadership, communication style, and collaboration methods are transforming workplace dynamics in ways that are yet to be thoroughly researched and understood. The lack of understanding Gen Z may affect organizations and leaders' ability to communicate with and motivate their new generation of employees (Seemiller, 2017). This empirical study offers insight into Gen Z characteristics and workplace preferences as well as leadership styles effective for engaging and motivating Gen Z. Study findings may benefit organizations' talent management teams, leaders, and leadership educators.

Keywords: Gen Z, Digital Natives, leaders, effective communication, engagement

Introduction

Organizations in the United States are facing a major demographic shift: Generation Z (those born after 1995, otherwise known as Digital Natives) is entering the workforce. It is currently the largest generation in the U.S., at 91 million individuals in 2017, where nine million, of working age, represent 5 % of the U.S. workforce (Fry, 2019, Ozkan & Soulmaz, 2015, Statista, 2019). Members of Generation Z (Gen Zs) are frequently misrepresented by older generations as untrustworthy, irresponsible, selfish, undetermined, and lacking thoughtfulness, or open-mindedness (Seemiller, 2017), and are just as frequently described as digital natives, pragmatics and "communaholics", i.e. they continually flow between diverse digital communities (McKinsey & Company, 2018, p.5). They were raised in a post-9/11 era and grew up in and adapted to the socio-economic environment permeated by digital technology.

Preliminary indicators suggest that Gen Z will be the most ethnically diverse and well-educated generation to enter the workforce (Business Insider, 2019). Their attributes and skills sets will most likely affect their relationship with leaders, co-workers as well as the workplace dynamics in general (Seemiller, 2017). Yet currently there is inadequate understanding of salient characteristics of Gen Z, or the effect those characteristics may have on the workplace they join, and leadership. As a result, organizations and leaders may find themselves unprepared for effective motivation of and communication with a new generation of their employees.

The purpose of this study was to examine work-process-related preferences of Gen Z and to empirically develop a better understanding of Gen Z characteristics, specifically from an organizational and leadership perspective. Findings of this study may benefit organizations, leaders, leadership educators, and individuals who may work alongside or with representatives of Gen Z, seeking to effectively engage, communicate, and lead them in the workplace.

Theoretical Background

Gen Z is a generation of individuals born after 1995, currently under the age of 24 (Berkup, 2014; Ozkan & Solmaz 2015; Seemiller, 2017; Spark & Honey, 2014; Tulgan, 2013). Defined by McKinsey as “True Gen” (Francis & Hoefel, 2018), while it represents the largest share (27.68%) of the U.S. population (Statista, 2018), it is thus far the least researched (Seemiller, 2017; Sparks & Honey, 2014).

All generations are molded by the socio-economic and political context in which they grew up (Mannheim, 1953; Massey, 2005; Tolbize, 2008). Gen Zs emerged during the Recession of 2008, the War on Terror in the Middle East (Tulgan, 2013), were influenced by an education system focused on inclusion and diversity, and witnessed the struggle of Millennials growing up in a time when one in four children lived in poverty (Spark & Honey, 2014). But most of all, Gen Zs were shaped by a rapid technological change--the use of technology for the purpose of socialization, entertainment, and education (Tulgan, 2013)--and by their constant connectivity to electronic devices, as, according to Spark & Honey (2014), 91 percent of Gen Z teens go to bed with their devices. Some scholars claim such dependence on technology borders with addiction and stunts social development of individuals. Yet Gen Zs consider technology as an extension of themselves and seek diverse digital communities for a greater sense of belonging (Sparks & Honey, 2015) and an authentic social interaction (Vigo, 2019). Acutely aware of the world beyond themselves, Gen Zs live in their own “digital algorithm” (Sparks & Honey, 2014). This may inhibit their ability to build “*real*ationships” as they join the workplace, and their leaders will need to mentor them on how to “keep it real in a digital world”.

The following major categories emerged from the review of existing scholarly publications on Gen Z: (a) the impact of technology on Gen Z; and (b) the impact of unique characteristics of Gen Z on the workplace of the future. Both are interpreted here from the leadership perspective.

The Impact of Technology on Gen Z (TechInnate Gen Z)

Gen Z is unique in many ways, including the fact that they have never known a world without technology: "this generation may have cut their baby teeth on their mother's cell phone" (Rothman, 2016, p. 2). In her study, Rothman (2016) offers a list of ways in which technology has affected the lives of Generation Z that helps develop an understanding as to why they are so dependent on it:

- They have never experienced a world without the Internet, cell phones, or computers.
- They are in constant contact with people using social media and have been since they were young.
- They focus on using technology that is easy to use and can help them solve their problems, coordinate activities, or even provide them with relevant information at a moment's notice.
- Because they are able to instantly find answers to questions using Google and YouTube, they lack critical thinking skills.
- They have a low/no tolerance for being without their electronic devices.
- They do not use a wristwatch, or an alarm clock because they have their cell phones readily available.
- Instead of reading an article, they want it summarized for them in a YouTube video and instead of sending a lengthy email, they prefer instant messaging in the form of a text or Facebook message.

- They use slang that is derived from texting which includes words like, Cray (meaning crazy), Probs (meaning probably), V (meaning very), and LOL (meaning laugh out loud). (p. 3)

Because Gen Zs started using technology at a very young age, it has become an essential and seamless part of their lives (Anderson, Baur, Buckley, & Griffith, 2017; Rothman, 2016; Spark & Honey, 2014; Tulgan, 2013). According to Afshar et al. (2019), their use of smartphones averages 15.4 hours per week. Petrucci et al. (2018) estimate that Gen Zs spend daily over 5 hours online and over 2 ¼ hours texting. Rothman (2016) states that Gen Zs need to feel not only connected to, but also unrestricted in their use of technology. Similar findings have been reported by Berkup (2014), Tulgan (2013), and Kapil and Roy (2014) of the Technology and Science Institute.

Furthermore, Spark and Honey (2014) state that Gen Z are not just tech-savvy, but 'Tech Innate.' They can multitask on five screens as compared to the Millennial hallmark of two, they communicate using symbols and images and think in four dimensions (Spark & Honey, 2014). Therefore, as contemporary organizations increasingly rely on digital technology in a wide range of their practices, chances are Gen Z employees, who are more informed and skilled in the use of phones, computers, applications, and content management systems than generations born before them, can seamlessly integrate into digital technology-based functions of the organizations they join (Anderson et al., 2017; Dhopade, 2016; Kapil, 2014; Ozkan & Solmaz, 2015; Rothman, 2016; Seemiller, 2017; Shirish, Boughzala & Srivastava, 2016; Tulgan, 2013).

Overall, scholars agree that dependence on technology affects Gen Z learning, communication style, and impacts their working habits (Sparks & Honey, 2014). In terms of learning engagement, they require "cool" products and learning environment that resonate with their tech-savvy culture (Afshar et al., 2019). In terms of their workplace-related behavior, they are able to use technology as a tool to multitask faster and more productive than ever seen before (Chou, 2012; Seemiller, 2017; Tulgan, 2013). Additionally, their revolutionary communication style and ability to be open, honest, and have a genuine sense of empathy for others will keep the older generations more honest and will leave less and less room for toxic leadership (Chou, 2012, Okros, 2019).

As far as the leadership is concerned, based on their unique “digital” culture, Petrucci et al. (2018) suggest that Gen Z will require corresponding “digital” leadership that espouses traditional core leadership characteristics while allowing for a digital communication of personal emotional and feedback-related information – practice that Gen Z is comfortable with, unlike generations before them. Leading through digital technology will emphasize the development of agile networks of teams, under diminished importance of formal authority (Okros, 2019; Petrucci et al., 2018; Twenge, 2017).

The Impact of Gen Z on the Workplace of the Future

Studies suggest that Gen Z will have a significant impact on organizational culture and the workplace environment in general. Gen Z exhibit the innovative spirit and desire to co-create the culture in which they live or work. According to Ivanova and Ryabinina (2019), an overwhelming majority (78%) are looking for “interesting work” and a convenient work schedule (60.7%). Moreover, perpetually digitally connected Gen Zs want more out-of-the-office and remote working options as well as a better work-life balance (Chou, 2012; Iorgulescu, 2016). And because working on and off throughout a day, with longer breaks in-between is ideal for them (Chou, 2012), this may have implications for the structure of the contemporary workplace in general.

When it comes to motivation, Gen Z has been recognized as “the most self-motivated generation ever” (Bjugstad et al., 2006; Seemiller, 2017). Studies of best practices for working with or leading Gen Z found that they want to earn their income (Afshar et al., 2019), 85% of them desire good salary (Ivanova & Ryabinina, 2019), and they are largely motivated by financial rewards and career advancement (Lockley, 2016). This information is helpful for organizations’ talent management teams that put together a value proposition for their perspective Gen Z employees.

Gen Zs are extremely self-confident and optimistic when it comes to the future (Iorgulescu, 2016). They exhibit the sense of social conscience, or “not wanting to let others down” (Seemiller & Grace, 2016, p. 24). More than 60% of them wish to change the world (Afshar et al., 2019) and they are more motivated in their relationships when advocating for a cause they believe in (Seemiller, 2017). Seemiller (2017) suggests that Gen Z intrinsic and extrinsic motivation is especially high, as compared to preceding generations, when they are working towards achieving a goal or milestone. Accordingly, having clear objectives, goals or milestones may make Gen Z employees more productive and enthusiastic (Chou, 2012).

Besides Gen Z’ motivation and capacity for innovation mentioned earlier, the future of the workplace will be influenced by their affinity for team-based work processes, where they can multitask and diversify their task engagement by working on different projects with multiple teams of their choice (Okros, 2019). Gen Z’s greater ability and affinity for multitasking has also been demonstrated by a study conducted at Bucharest University of Economics (Iorgulescu, 2016). This has implications not only for the type of effective Gen Z’ task engagement, but also for their task-related skills training opportunities. For instance, Petrucci et al. (2018) argue that future workplace development in organizations should be aligned with Gen Z’s “multiplicity” and structured around micro-learning that emphasizes skills required for achieving a present-moment short term objective, rather than skills that outlast one's career.

Several studies suggest that Gen Zs are looking for opportunities to learn and grow. They want mentor programs, career advancement opportunities, and professional development as a part of their working environment (Iorgulescu, 2016). Ivanova and Ryabinina (2019) report that 54.16% of Gen Z participants in their research expressed interest in workplace-related training and 40.76% in career growth. Their orientation towards continuous learning requires a paradigm shift in organizational culture. Thus, Schwartz (2018) notes that focusing on end results is no longer effective; in order to achieve sustained Gen Z employees' performance and engagement, organizations need to change their culture from performance-focused to the development or growth-focused, and that is a major shift in leaders' mindset.

Additionally, Gen Z's skills and preferences have implications for the future of internal communication of organizations. Thus, future workplace communication will be through wearables and virtual reality technology rather than through Facebook and other social media channels (Lockley, 2016). Also, while Gen Z is known for their desire for frequent and ongoing communication, there is a common misconception that they shun human interaction in favor of digital. According to Lockley (2016), more and more Gen Zs prefer face to face contact but the trick is finding an effective way to utilize technology without inhibiting human interaction.

In summary, to increase the chances of having a productive, positive working environment when leading and working with Gen Z, it is important to collaborate, emphasize career advancement, financial stability, technology, and management training.

Leading Gen Z

While the empirical research on leading Gen Z is limited, based on published studies some of the implications for leadership practice include desired transparency, high-intensity engagement/employee relationship as well as "digital" fluency. Thus, leaders need to keep in mind that Gen Z anticipate their voice to be heard and their opinion counted in the workplace. They expect fairness and ethical behavior from their leaders, and when their actual experience is to the contrary, it will be freely shared across social networks and may cause negative publicity for the company and its leadership (Okros, 2019). Consequently, leaders should equip themselves with a variety of leadership styles to accommodate Gen Z's needs, such as providing the direction along with ongoing and constructive feedback, real-time coaching, as well as supportive mentorship when their career expectations have to be adjusted to the corporate reality (Okros (2019).

Open communication is one of the most critical tools in leading Gen Z (Bresman, 2017). This generation grew up with highly engaged parents, teachers, and counseling which means they somewhat adapted to authority relationships but will only perform well for leaders who make them feel engaged in a working environment (Tulgan, 2013). Generation Z will follow a leader who is hands-on, engaged with them and who takes an interest in the quality of the relationship with their employees (Tulgan, 2013). Unlike typical leaders of the past that were removed from socializing with their followers, leaders of the future will need to stay in touch, communicate with, and get to know their employees.

Gen Z is motivated by and focused on relationships (Bresman, 2017). This generation has been constantly connected to their social groups through social media since they were young (Rothman, 2016). Consequently, according to Bruce Tulgan (2013), motivating Gen Z requires a "high-intensity relationship". In other words, in order to bring out the best in Gen Z, leaders need to promote "(a) small highly defined workgroups with strong peer leadership; (b) tight and well-defined chain of command; (c) teaching style leadership; (d) and customer service style management" (Tulgan, 2013, p. 7).

To summarize, scholarly research to date reveals that Gen Z wants to work and has the self-confidence and drive to guarantee their future (Ozkan et al., 2015). It is motivated by working for the greater good and wants a leader who will inspire them to find meaning in their everyday tasks (Ozkan et al., 2015; Tulgan, 2013). It thrives on strong relationships and depends on the use of technology. As Gen Z is about to make up over a quarter of the followers, organizational leaders need to be aware of how this generation operates (Anderson et al., 2017; Kapil, 2014; Ozkan, Solmaz, 2015; Seemiller, 2017; Shirish et al., 2016; Tulgan, 2013).

Currently, Gen Z leadership preferences and styles remain the least empirically explored topics. Accordingly, the objective of this research was to further the understanding of Gen Z leadership preferences as an extension of their individual and workplace-related characteristics and influences, in order to assist organizations, leaders and leadership educators to achieve effective engagement with Gen Z.

Data and Method

In order to gain insight into the characteristics as well as workplace and leadership preferences of Gen Z, this quantitative study was guided by the following primary research question--What are the unique characteristics, workplace and leadership preferences of Gen Z?--and secondary research questions: (a) What characteristics do Gen Z self-identify with? (b) What leadership practices are effective in engaging Gen Z? and (c) What leadership style or styles fit Gen Z the best?

Participant Demographics

Participants of this study were recruited from three public universities from the Northeastern U.S. The invitation was directly distributed to enrolled students, along with an electronic link to a web-based Google Forms survey. Prior to taking the survey, potential participants were asked to identify their age (to ensure that participants fell within the right age bracket) and gender identity (to determine gender representation among participants and if it had any effect on data results). In the final sample, 42% were between the ages of 18 and 20 years old, while 58% between the ages of 21 and 22 years old. Although participants were given the option of selecting male, female, transgender female, transgender male, gender variant/non-conforming, prefer not to answer, and a fill-in/other options, 80.6% reported being a female, 19.3% male and 0.1% "other". Table 1 provides a visual breakdown of the sample demographic responses.

---Table 1 inserted about here---

Instrumentation

This quantitative study used a web-based questionnaire (Google Form) to collect data from participants. A survey weblink was distributed via direct college email as well as via social media among the individuals identified as belonging within the Gen Z cohort. Follow-up reminders with the survey link were sent, allowing at least a month for participants to complete the survey. Data collected from the participants through this survey were descriptively analyzed and graphs and concluding statements are presented further.

The survey was divided into three sections focused, respectively, on the workplace environment, personal characteristics, and leadership preferences. Participants were asked to choose the answer that aligned closest to their beliefs and were reminded that there is no wrong answer and if they chose, they could skip a question. Questions in section one focused on the workplace environment and participants' preferences for a future career. Likert scale was used to measure participants' responses to presented, one at a time, workplace/career-related statements (Likert, 1932).

Section two was focused on Generation Z's self-identified characteristics. Participants were asked to assess how well certain characteristics, presented one at a time for their review, represent them or their generation as a whole. Participants had the following options:

- I am not familiar with this characteristic
- This characteristic does not match my perception of me
- This characteristic does match my perception of me.

Finally, for the third and final section of this survey, participants were asked to express the extent to which specific leadership styles and characteristics were something they prefer in a leader. The options included: (a) extremely important; (b) somewhat important; (c) not important; (d) I am not familiar with this characteristic; and (e) I do not want this characteristic in a leader. The results of these three sections in their entirety are shown in Tables 2, 3, and 4.

----Table 2 inserted about here----

-----Table 3 inserted about here----

----Table 4 inserted about here----

Results

The purpose of this study was to explore Generation Z' characteristics and how they impact their work-processes and leadership-related preferences, in order to gain a deeper understanding of the impact this generational cohort may have on the leadership and the workplace of today and tomorrow. The overall results, per category, are as follows.

Gen Z Characteristics

Gen Z participants of this study overwhelmingly identify with the following individual characteristics: seeking personal growth, adaptable, multi-tasker, driven, team-oriented, creative, confident and concerned with health and wellness. They prefer immediate feedback and see themselves as idealistic and community involved.

Workplace preferences

In relation to the workplace, based on survey results, Gen Z preferences include collaborative teamwork and decision making, work-life balance and opportunities for professional growth. They value community service and opportunity to work globally, expect access to the latest technology, yet seem to be accepting of authority, especially for immediate guidance and feedback.

Leadership preferences

And finally, the leadership preferences of Gen Z include dedication, reliability, intelligence, and motivation. They value leaders who are understanding, helpful, loyal and sincere. For the following characteristics: “Dynamic” and “humorous” the opinion was evenly divided. And while there is no surprise that “selfish” and “manipulative” were the least acceptable leadership traits (at 0 and 3.2 percent respectively), interestingly enough, 74 percent of respondents did not consider as important for their leaders to be either “tech-savvy” or “masculine” (Table 4).

Tables 1, 2, 3, and 4 represent data distribution in its entirety. They are organized based on the percentage in column B, to represent the agreement “rank” in descending order. In other words, the questions yielding the highest percentage of the majority towards a singular answer are at the top, and questions that did not receive a majority are at the bottom. This allows making a clear distinction between the characteristics with the highest level of agreement, and the ones with the lowest.

Discussion

Visual representations of survey responses with a clearly expressed majority of opinion are offered in Figure 1 (Gen Z Characteristics), Figure 2 (Workplace Preferences) and Figure 3 (Leadership Preferences). In this section we discuss the results of the survey, by category.

Gen Z Characteristics

In the Gen Z Characteristics section of the survey, overwhelming majority of respondents indicated that they always seek personal growth (97%), are adaptable (94%), multi-taskers (87%), and driven (87%). Most consider themselves team-oriented (83.9%), community involved (71%) and idealistic (77%). In addition to community involvement, survey respondents placed an emphasis on having a global mindset. This echoes their preferences expressed in the Workplace survey section, such as valuing a working environment, focused on community service and world issues. On the other end of the spectrum, participants identified certain characteristics that they do not identify with such as Self-centered, Narcissistic, Self-absorbed, and Sensitive to feedback.

These results support previous studies suggesting that Gen Z are focused on being “radically inclusive” (Hoefel et al., 2018 p. 3) or that Gen Z seek continuous personal and professional growth, want to feel connected with their peers, leaders and the community at large and are interested in making positive societal impact and being a part of a good cause (Afshar et al., 2019; Seemiller, 2017). At the same time, the many existing publications refer to Gen Z as pragmatic, yet only 16% of this study participants recognized themselves as such (Table 3).

Figure 1 inserted about here---

Workplace Preferences

In the Workplace preferences section of the survey, respondents overwhelmingly agreed on the importance of being dependable, responsible (97%), emphasized team collaboration and decision making (90%), as well as work-life balance (87%). 81 percent of respondents echoed preferences for professional and personal growth expressed in Gen Z Characteristics survey section. Additionally, they indicated a desire for getting disciplinary guidelines from their supervisors (74%), opportunities to work globally (71%) and feel connected at work (68%).

These results support findings of Ivanova and Ryabinina (2019) that Gen Z workplace preferences include work that offers variety, remote access and flexible working hours. It also supports findings of Iorgulescu (2016) that Gen Zs view themselves beyond a simple nine-to-five work context and look for continuous development opportunities. At the same time, contrary to the opinion expressed in many earlier publications that Gen Zs are “glued” to their mobile devices, only 9 percent of this survey respondents considered using their cellphone as a necessity (Table 2).

While participant responses indicated their conclusive opinions on many questions, it is worth acknowledging that some questions resulted in either a lack of consensus or in preferences roughly split in half. For instance, when asked the question, "I consider myself religious or spiritual," 38.7% answered Strongly/Agree, 35.5% answered Strongly/Disagree and 25.8% answered Neutral (Table 2).

---Figure 2 inserted about here ---

Leadership Preferences

Gen Z participants of this study overwhelmingly indicated their preference for leaders exhibiting dedication, reliability (94%), understanding (87%), loyalty (77%), and sincerity (65%). There appears to be a common thread between these leadership traits: they are indicative of the relationship between the leader and the employees. Gen Z seeking personal growth prefer a leader they can trust, who understands their individual needs and who will help them grow and learn. This result supports Okros (2019) reference to fairness and Tulgan (2013) reference to "high intensity" and the "customer service style" of the relationship between Gen Z and their leaders. Thus, Okros (2019) states that "...fairness and ethical behaviors will matter to many Post-Millennials - and they will speak out through social media and widespread external networks if they do not perceive that seniors are paying attention to their views" (p. 163).

---Figure 3 inserted about here---

Additionally, survey responses call for leaders that are intelligent, motivated (90%) and knowledgeable (87 %) in their job. Leaders intelligence in generational context will have to be dedicated to strategically utilizing a repertoire of effective leadership styles in order to accomplish various objectives: from giving comprehensive task guidelines and immediate performance feedback to using participative coaching for developing skills, resolving potential inter-generational tensions as well as aligning Gen Z expectations for instant career mobility with realities of a work environment (Okros, 2019). As fluid Gen Zs are in their use of technology, fostering relationships, learning/development, and communication preferences, as agile leaders should be in their use of various leadership styles to match the needs of this generation.

Leading Gen Z

As discussed earlier, Petrucci et al. (2018) propose the concept of "digital" leadership for Gen Z where digital communication becomes a channel for the workplace and feedback-related interaction flow. However, the results of this study do not support the notion of the Gen Z's overwhelming reliance on technology for workplace/leader related interactions and instead indicate that Servant Leadership and Authentic Leadership Styles match the Gen Z preferences the best.

Thus, when compared across three survey sections, leadership preferences of Gen Z include establishing a trust-based relationship that translates into connectedness, active listening, community spirit, support and growth. Northouse (2019) lists commitment to the growth of people, building community, stewardship, foresight, awareness, empathy and listening among the characteristics of a Servant Leader. Likewise, Greenleaf (1970) offers a definition of Servant Leader as the one who cares whether "those served grow as persons, do they become healthier, wiser, freer, more autonomous, more likely themselves to become servants?" (p. 15) Based on these definitions, Servant Leadership could be effective for leading Gen Z.

Other prominently present Gen Z's leadership preferences include intelligence, sincerity, transparency and strong ethics/moral perspective. Those qualities are aligned with the Authentic Leadership style that is conceptualized by Walumbwa et al. (2008) as composed of self-awareness, internalized moral perspective, balanced processing, and relational transparency. Consequently, Authentic Leadership could also be effective for leading Gen Z.

Limitations and Suggestions for Future Research

Although a consistent and reasonable effort has been made to secure a large number of participants, regretfully the final sample was minimal for the design. The limited response rate may have something to do with the length of the instrument, as Gen Zs were claimed to filter the incoming information with an eight-second attention span (Sparks & Honey, 2015). Therefore, in order to engage a large sample of Gen Z participants, future studies may consider administering short and “spatially” distant surveys introduced to the participants through a variety of social media channels one at a time, to keep the interest “alive”. Yet even with a limited sample of participants, study results align with existing research and provide new information about the impact of Gen Z characteristics and preferences on leadership practice and workplace organization. Future studies could focus on how Gen Z leadership preferences align with those of other generations and what does it mean for the leaders’ effectiveness in the diverse generational workplace.

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Table 1

Demographic Participant Responses

Characteristics	*N*	%
Age	31	100
18	2	6.5
19	8	25.8
20	3	9.7
21	7	22.6
22	11	35.4
Gender	31	100
Male	6	19.3
Female	25	80.6

Table 2

Working Environment Preferences %

Question	Strongly/Agree	Strongly/Disagree	Neutral
I view myself as dependable and responsible	96.8	0	3.2
I am always looking to improve and learn	93.5	3.2	3.2
Teams work best when everyone is involved in decision making	90.4	0	9.7
When I make a mistake, I own up to it immediately	90.3	3.2	6.5
I consider myself a good multitasker	87.1	3.2	9.7
Having an even work-life balance is important	87.1	6.5	6.5
I'm good at bringing out the best in others	87.1	0	12.9
I prefer a boss who helps me grow professionally	80.6	12.9	6.5
I need to feel valued and appreciated at work to feel happy	77.5	22.6	9.7
I expect disciplinary guidelines from my boss	74.2	6.5	22.6
I prefer a job that is remote which allows traveling opportunities	70.9	9.7	19.4
I think of myself as a global citizen and care deeply about world issues	70.9	6.4	22.9
I prefer a job that is task oriented	70.9	3.2	25.8
I have a strong moral compass	70.9	0	29
Prefers a job with lots of social interaction	67.8	3.2	29
I value friendships and need to feel connected at work	67.8	9.7	22.6
I prefer a leader I respect and consider intelligent	67.8	16.1	16.1
Value community service and philanthropic work	67.7	12.9	19.4
I want a job that allows me to travel around the world	65.4	6.4	29
If my boss says to do something, I do it without question	64.6	9.7	25.8
I worry about transitioning from school to a career	64.5	22.6	12.9
I take control of a group project or speak up most when in a group setting	61.3	22.3	16.1
I prefer extracurricular offerings as a major deciding factor for a new job	58.1	22.6	19.4
I expect my job to be explicitly outlined for me	58.1	25.8	19.4
Working for a non-profit is appealing to me	58	6.1	25.8
Even if my boss told me to, if I did something wrong, it's my fault	56.6	30	13.3
I value my home-life over my work-life	54.9	9.7	35.5
I want to start my own business and be my own boss	54.9	29	16.1

I take on leadership roles when needed, but don't consider myself a leader	54.9	25.8	19.4
I am unhappy in an environment without updated computers and high-speed internet	54.8	29	16.1
I prefer a job that is not repetitive	54.8	16.1	29
I prefer my boss to give me objectives and allow me to do my job my way	51.7	9.7	38.7
Salary is the biggest factor when applying for a job	48.4	19.4	32.3
I like to watch videos or listen to music while I work	48.4	25.8	25.8
I want the latest technology at work	45.2	38.7	16.1
I want the freedom to decide when I work and when I come into the office	45.2	38.7	16.1
I prefer communicating over electronic messaging	38.7	38.7	22.6
I consider myself religious or spiritual	38.7	35.5	25.8
I tell my boss what I will be doing. I'm responsible for my own work	32.3	51.6	16.1
I consider myself shy or introverted	29.1	48.4	22.6
My boss is not superior to me. They simply do a different job.	25.9	48.4	25.8
When someone criticizes me, I take it personally	19.4	54.9	25.8
I am frustrated and inefficient when it comes to rigid rules and regulations	19.4	45.4	35.5
Being able to use a cellphone at work is a necessity for me	9.3	67.8	12.9

Table 3

Followership Characteristics %

Question	DOES match me	DOES NOT match me	I am not familiar with this characteristic
Seeking Personal Growth	96.8	0	3.2
Adaptable	93.5	6.5	0
Multi-Tasker	87.1	9.7	3.2
Driven	87.1	6.5	6.5
Team Oriented	83.9	12.9	3.2
Creative	83.9	12.9	3.2
Confident	80.6	16.1	3.2
Concerned with health and wellness	80.6	16.1	3.2
Idealistic	77.4	12.9	9.7
Optimistic	77.4	16	6.5
Want immediate feedback	77.4	19.4	3.2
Community Involved	71	25.8	3.2
Technologically literate	67.7	22.6	9.7
Global Mindset	51.6	22.6	25.8
Workaholic	51.6	45.2	3.2
Impatient	48.4	51.6	0
Uncomfortable with conflict	41.9	51.6	6.5
Sensitive to feedback	32.3	67.7	0
Pragmatic	16.1	35.5	48.4
Self-Centered	6.5	83.9	9.7
Self-absorbed	6.5	80.6	12.9
Narcissistic	3.2	80.6	16.1

Table 4

Leadership Characteristics %

Question	Extremely Important	Somewhat Important	Not Important	I am not familiar with this characteristic	I do not want this characteristic in a leader
Dedicated	93.5	6.5	0	0	0
Reliable	93.5	6.5	0	0	0
Intelligent	90.3	9.7	0	0	0
Motivated	90.3	9.7	0	0	0
Knowledgeable	87.1	12.9	0	0	0
Understanding	87.1	12.9	0	0	0
Helpful	87.1	12.9	0	0	0
Educated	80.6	19.4	0	0	0
Loyal	77.4	22.6	0	0	0
Sincere	64.5	35.5	0	0	0
Energetic	61.3	35.5	3.2	0	0
Strong	51.6	29	19.4	0	0
Clever	51.6	29	19.4	0	0
Dynamic	41.9	38.7	6.5	12.9	0
Humorous	35.5	48.4	16.1	0	0
Masculine	6.5	16.1	74.2	0	3.2
Loud	6.5	22.6	54.8	0	16.1
Tech-Savvy	6.5	16.1	74.2	0	3.2
Manipulative	3.2	6.5	9.7	0	80.6
Selfish	0	3.2	19.4	0	77.4

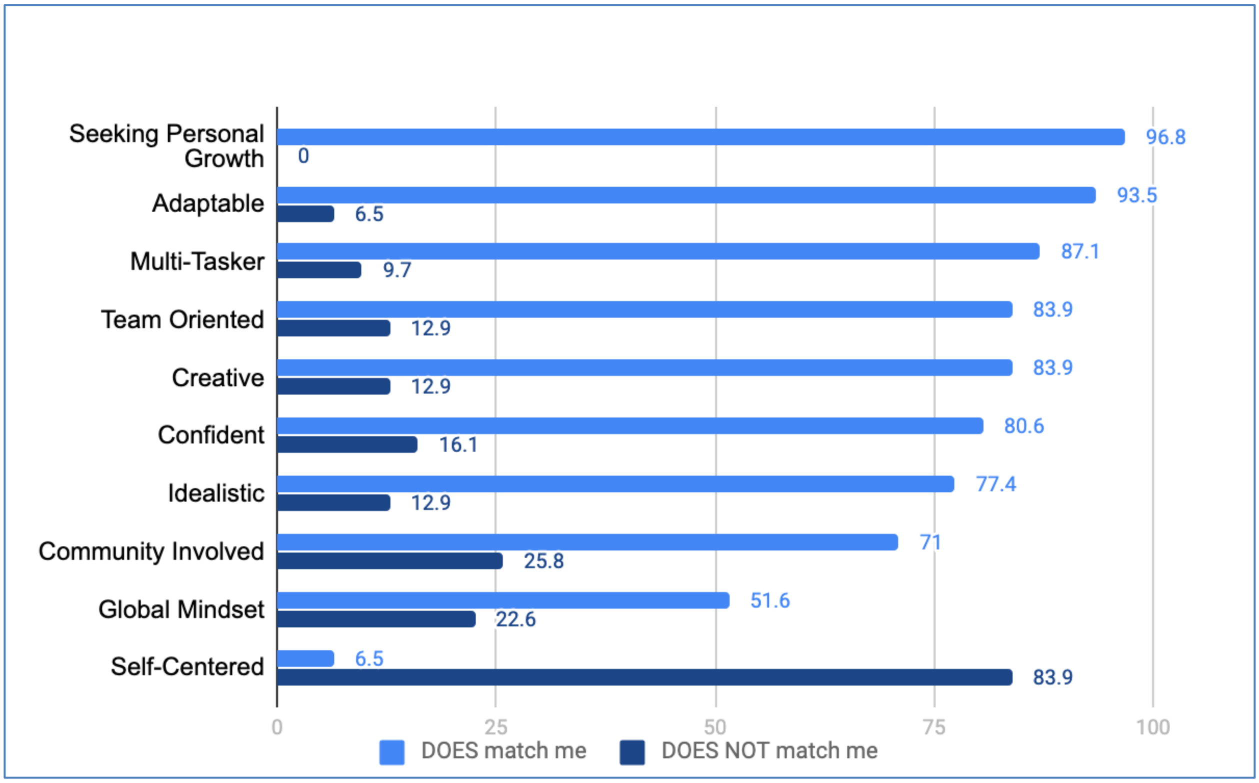

Figure 1. Gen Z Characteristics

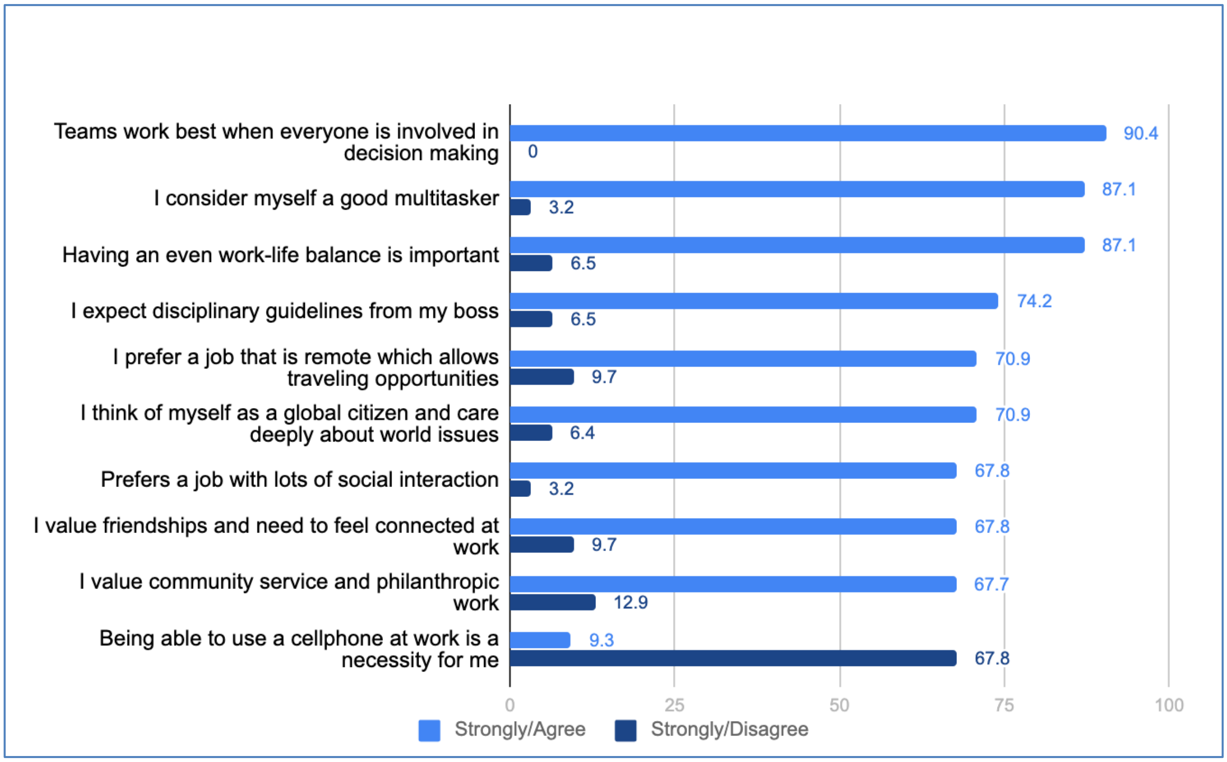

Figure 2. Workplace Preferences

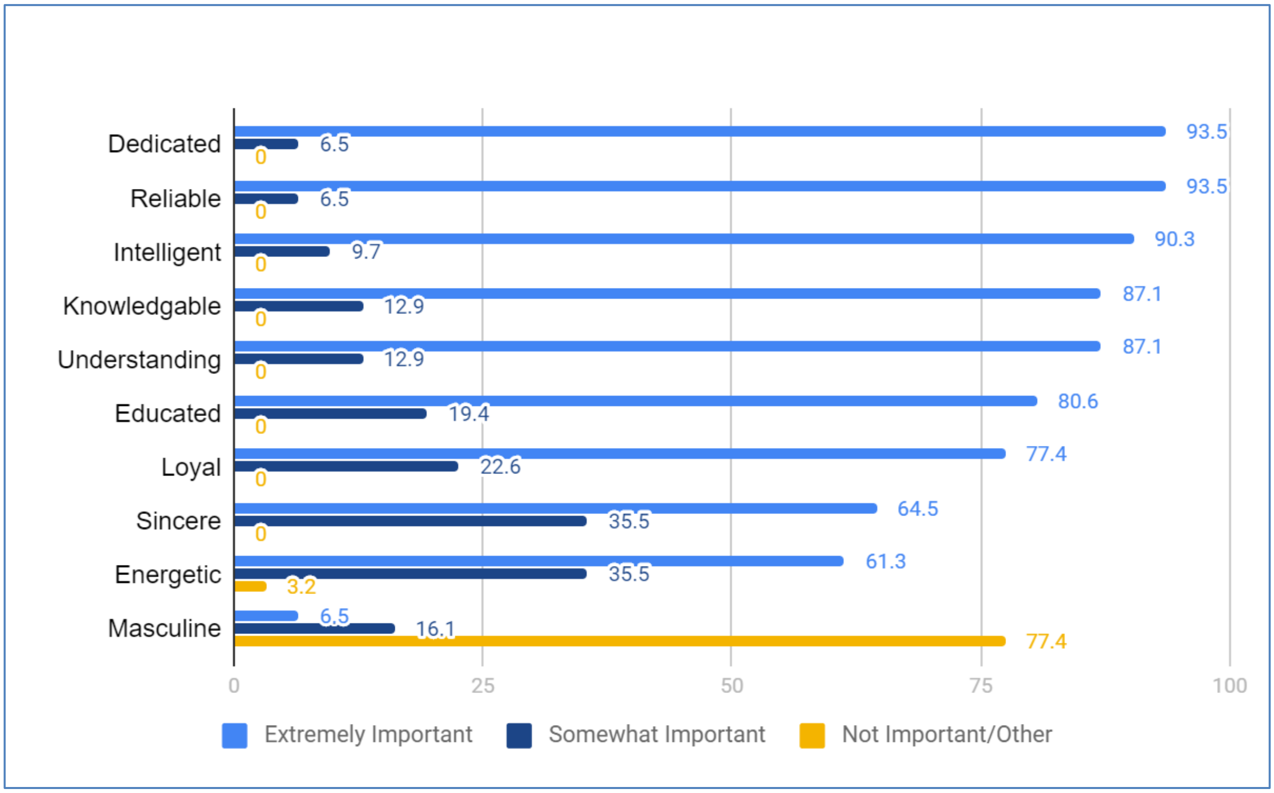

Figure 3. Leadership Preferences

Profiling Generation Zers: Comparison Review using Myers Briggs Personality Inventory to Educational and Organizational profiles of Generation Zers

Abstract

An in-depth literature review showed limited theoretical research on profiling Generation Zers using the Myers Briggs Personality Inventory. Majority of published works centered around comparing and contrasting Generation Z with Millennials, educational goals and job-related choices and behaviors. The purpose of this paper is to provide a profile of college freshman-Generation Zers using the results from the Myers Briggs Personality Inventory. Students enrolled at Southern New Hampshire University; a private college participated in an in-class survey from fall 2015 to spring 2017. The Myers Briggs Personality Inventory was used to compare student's traits and characteristics with information gathered from educational and personnel surveys.

Introduction

Just when you thought you had Millennials figured out; along comes the Generation Z, born 1995-2008, a generation not to be underestimated or confused with Millennials. (Fourhooks, 2017), (Forbes, 2017) On the surface Generation Z may appear to be superficial and self-absorbed but look deeper and you will find they are not. This author's personal experience with Gen Zers views this as possessing a great capacity for social awareness, pragmatism, and purposefulness. My prediction is that Generation Zers will lead companies to greater success while creating more innovative, sustainable markets, develop technology beyond traditional limits, and be stewards of global wellness. They will leave their legacies for others to follow for many generations to come. Why do I think this?

Studies show that 65 million Gen Z's will enter the workforce by 2020 they will account for 40% of all consumers with an unparallel buying power in the vicinity of $150 billion. (Vision Critical, 2018). According to Deloitte Insight, 2017 Gen Z's are anticipated to bring an unprecedented level of technology skills to the workforce, they also express apprehensions about their interpersonal communication skills. Furthermore, research suggests that many within the Gen Z cohort are concerned. In a study of 4,000 Gen Z participants, (David Stillman, GenZ Guru, "*Generation Z @ Work, 2017*) 92 percent are concerned about the generational gap that technology is causing in their professional and personal lives. Another 37 percent expressed concern that technology is weakening their ability to maintain strong interpersonal relationships and develop people skills. While these digital natives may bring an unprecedented level of technology skills to the workforce, there are some apprehensions about their ability to communicate and form strong interpersonal relationships. (A. Kick, *How Generation Z's reliance on digital communication can affect future workplace relationships*, 2015).

As to job deployment and assignments most Gen Z's prefer a multidisciplinary and global focus to their work, with the expectation that this can create opportunities for mobility and a rich set of experiences. Organizations can help meet this need through structured rotation programs, both internally and with key enterprise partners. Broadening the deployment approach in this way could help drive the engagement—and development—of Gen Z talent, retaining those employees who will be better equipped for long-term success. (Roy Maurer, *What HR should know about Generation Z).* With advances in data analytics, organizations should develop a clearer understanding of the capabilities, experiences, and behaviors that lead to success in specific roles. A robust model of individual performance can identify the elements most correlated with high performance by level or by role. This would allow Gen Z professionals to grow and develop within an organization, as opposed to hopping from company to company to gain the diverse experiences many Gen Z professionals crave.

This approach could also resonate with Gen Z, which considers job security a primary career goal. (Roy Maurer, *What HR should know about Generation Z).* Whether organizations support internal mobility through a formal rotation program or by setting cultural expectations, leadership commitment to diverse experience can be important to gaining the trust of Gen Z professionals and allowing the acquisition of tacit knowledge.

As to organizational culture, in addition to mobility and development expectations, Gen Z's likely also expect to have a culture that supports flexibility and prioritizes well-being.

This shift has been under way for some time, but organizations should ensure that programs in place are actually leading to cultural change. Programs such as paid time off, family leave, wellness programs, to name just a few, cannot exist in a vacuum, but rather should be part of the commitment and culture that leadership publicly endorses. Most Gen Z's may not perceive these programs as a "perk" or a "gift," but rather as an expectation. Increasingly, many Gen Z's are also looking for a culture that is open and transparent. Countless leaders from other generations have shaken their heads at the willingness of subsequent generations to share their performance appraisals and compensation with their peers. But this seems to be the norm for Gen Z, and they commonly expect corresponding transparency from their leaders. They also expect open conversations around business strategy and decisions, including "bad news" such as product failures, layoffs, or competitive threats, which just names a few topics leaders shied away from discussing in the past. (Simon Mainwaring, "Patagonia: The power of brand transparency," *Fast Company*, April 25, 2011).

Analysts at Goldman Sachs have argued that Gen Zs' could be "just as, if not more, influential" than Millennials. The reason is that Gen Zs' represent a bigger, more important change than Millennials. They will be the most diverse generation to date after growing up amid anti-discrimination legislation and increased globalization, and a more financially cautious one having seen the effects of an unstable economy and global unrest. They have witnessed parents losing jobs, family homes being sold, war and social unrest which has created a generation with a strong entrepreneurial spirit and a determination to make their own way in the world. (Grace Williams, 2016)

The review of the current literature reveals limited statically valid research that is directed at the personalities, and characteristics, of Gen Zers. Specifically, there is no evidence of research that uses the Myers Briggs Personality Type Indicator to assess personality types of Gen Zers.

Jennings (2017), discusses several commonalities among various opinions of generational social scientists' view on personality characteristics associated with Generation Zers. This information was gathered through the use of questionnaires submitted by high school seniors.

The traits are:

a. *Realistic,* (They know there is no job security. Economic downturn and shifts in the marketplace affect jobs and retirement.)

b. *Private*, (They prefer communicating in Snapchat and Whisper to Facebook. They prefer work offices and/or cubicles to open/bullpen workspace.)

c. *Cause and value-driven*, (They want to work for companies who are socially and globally responsible and where they can volunteer for a variety of company supported initiatives.)

d. *Entrepreneurial*, (They want to start their own businesses, learning all they can in their jobs to build entrepreneurial skills.)

e. *Hyper-aware*, (Gen Zers have the ability to multitask while paying attention to their external environments.)

f. *Boundless curiosity*, (Gen Zers are information seekers. They continually update and store information for future use.)

g. *Discoverers*. (Though Gen Zers know they need to learn the fundamental skills and applications of their job; they prefer to discover things on their own at their own pace.) (Jennings, 2017)

The Barna Group conducted research on two nationally representative studies of teens. The first was conducted using an online consumer panel November 4–16, 2016, and included 1,490 U.S. teenagers 13 to 18 years old. The second was conducted July 7–18, 2017, and also used an online consumer panel, which included 507 U.S. teenagers 13 to 18 years old. The data from both surveys were minimally weighted to known U.S. Census data in order to be representative of ethnicity, gender, age and region.

One nationally representative study of 1,517 U.S. adults ages 19 and older was conducted using an online panel November 4–16, 2016. The data were minimally weighted to known U.S. Census data in order to be representative of ethnicity, gender, age and region. GEN Z's born 1999 to 2015. (*Only teens 13 to 18 are included in this study*.)

Their findings were centered around the following:

a. Personal achievement, whether educational or professional (43%), and hobbies and pastimes (42%) are the things most central to Gen Z's identity.

b. Many Gen Z are not yet clear about their mid-range goals (which is understandable, especially for younger teens). A plurality (42%) agrees only somewhat that "I have clear goals for where I want to be in five years,"

c. What does Gen Z want to accomplish before age 30? High priority on career achievement, low priority on personal and relational growth—are amplified in Gen Z.

d. A sizable majority of Gen Z says their parents or another family member is their role model. But why? Gen Z's believe that their role model(s) is hard-working and responsible, that he or she provides for their family, that they have a good career, that they have an education, that they are successful and that he or she is independent. To be clear: Six out of the top 10 reasons teens look up to their role model are related to career or financial success.

Myers Briggs Personality Indicator Study and Comparisons

As a Professor, my first classroom experience with Generation Z's was fall 2015 continuing into spring and fall of 2016 and subsequent semesters in fall and spring 2017. There were hundred-twenty-five freshman participants enrolled in Organizational Human Relations.

Prior to 2015 my classes were dominated by Millennials. While I had ample opportunity to observe and experience Millennial student's personalities, behaviors, attitudes and work ethics, I was interested in learning more about Gen Zers. Their differences from

Millennials is what prompted me to study the Gen Zers more closely using the Myers Briggs Personality Inventory.

The purpose was to determine if preferred personality dominate styles of Gen Z students was consistent from one semester to the next or be significantly different. Beginning in the fall of 2015 I administered the Myers Briggs Personality Inventory to freshman Gen Zers. A sampling of one-hundred freshman students participated starting with fall of 2015 through the school years of 2016 and 2017. Students were instructed on how to complete and score the inventory. They responded to statements that represented sixteen combinations of personality types. Eight External types and eight Introvert types. An accuracy review of all completed inventories was conducted. Inventories were disqualified for inaccurate scoring. Students were not permitted to retake the inventory. Qualified inventories were collected over the aforementioned semesters. (Myers Briggs Foundation, MBTI Personality Types, 2018)

The results were scores from each of the personality dimensions. Extroversion/Introversion (E vs. I), describes how a person gets energized. Sensing vs. Intuition (S vs. N) describes how a person takes in information. Thinking vs. Feeling (T vs. F) describes the *means* a person uses to make decisions. Judging vs. Perceiving (J vs. P) describes the *speed* with which a person makes decisions.

The following results revealed that in six out of eight ***Extrovert*** personality style dimensions were consistent between students from 2015 to 2017. (Myers & Briggs Foundation, MBTI Personality Types, 2018)

ESFJ (Extrovert, Sensing, Feeler, Judger). The characteristic is *Socializer*.

> *Main interest is in things that directly and visibly affect people's lives. They are cooperators, active committee members. Responsible, attentive and traditional. Loyal and hardworking.*
>
> *Leadership Style: Participative Leadership. People-oriented, motivator, builds relationships, likable, strong interpersonal skills.*
>
> *Career Choices: Administrators, educators, counselors, and management.*

ESTJ (Extrovert, Sensing, Thinker, Judger). The characteristic is *Stabilizer*.

They are practical, realistic, matter-of-fact with good sense of business. Not interested in subjects they have no use for. Like to organize and be in charge of activities. Responsible and orderly.

Leadership Style: Executive Leadership. Organizes, makes plans, sets measurable goals, coordinates the work of different people, and manages resources.

Career Choices: Business Administrators/Managers, Law Enforcement, Financial Officers, and Judges.

ESFP (Extrovert, Sensing, Feeler, Perceiver). Characteristic is P*erformer.*

Good at remembering facts. They are best in situations that need sound commonsense and practical ability with people as well as with things. Likable and outgoing, generous and open to others.

Leadership Style: Action-Oriented Leadership. Takes action, produces results, leads from the front, sets an example, does what is asked of others.

Career Choices: Artists, Actors, Fashion Designers, Consultants and Counselors.

ENFJ (Extrovert, Intuitive, Feeler, Judger). The characteristic is *Energizer.*

Responsive and responsible to others. Adept at presentations or leading group discussions. They are effective leaders, tolerant, with strong interpersonal relationship skills.

Leadership Style: Participative Leadership. People-oriented, motivator, builds relationships, likable, strong interpersonal skills.

Career Choices: Facilitator, Consultant, Educator, Human Resources Manager

ENFP (Extrovert, Intuitive, Feeler, Perceiver). The characteristic is *Clarifier*.

Quick with a solution to any difficulty and ready to help anyone with a problem. Strong ability to improvise instead of preparing in advance. Are good at providing compelling reasons for whatever they want. Excellent at observing. Enterprising and not interested in routine patterns.

Leadership Style: Change-Oriented Leadership. Tries things that are new, introduces change, looks for unexpected outcomes, creates new opportunities.

Career Choices: Entrepreneur, Politician, Writer/Journalist/Reporter, Computer Programmer, Systems Analyst, Scientist and Engineer.

The following ***Introvert*** personality style dimensions represented that five out eight dimensions which were consistent between students from 2015-2017.

INFP – (Introvert, Intuitive, Feeler, Perceiver). The characteristic is *Idealizer.*

Main interest is in learning, ideas, language and independent projects of their own. Can undertake a lot of tasks and complete them on time. Seen as being idealistic and committed they are often too absorbed to be sociable.

Leadership Style: Ideological Leadership. Value-driven, has passion for key issues, focuses on important interests and champions the cause.

Career Choices: Writers, Counselors, Educators, Psychologists/Psychiatrists.

INTJ – (Introvert, Intuitive, Thinker, Judger). The characteristic is *Designer*.

Usually original thinkers with main interest in their own ideas and purposes. Demonstrate strong ability to organize a project and carry it through with or without help. They can be skeptical, critical, independent, determined and often stubborn. Best at building and designing of systems and products.

Leadership Style: Visionary Leadership. Develops long term vision, produces radical ideas, foresees the future, anticipates what is outside current knowledge.

Career Choices: Scientists, Engineers, Educators, Medical Doctors, Corporate Strategists and Organizational Developers, and Business Administrators/Managers.

INTP – (Introvert, Intuitive, Thinker, Perceiver). Characteristic is *Theorizer.*

By nature, are quiet and reserved. Highly logical with main interest in ideas. Tend toward sharply defined interests that pertain to logic and precision. They are persevering and thorough, not impressed with authority.

Leadership Style: Leadership Theorist. Analyzes, uses models, produces explanations, compares other situations, engages in intellectual debate.

Career Choices: Strategic Planners, Computer Programmers, Systems Analysts, Computer Animation/Gaming, Computer Specialists, Technical Writer, Engineers, Lawyers and Forensic Research.

ISFP - (Introvert, Sensing, Feeler, Perceiver). Characteristic is *Experiencer.*

Shy and retiring, sensitive and modest. They avoid conflict and disagreements. Usually do not voice they opinions on others. They are loyal followers. Main interest is in getting things done the right way. Demonstrate deep understanding of their environment, co-worker's feelings and thoughts.

Leadership Style: Ideological Leadership. Value-driven, has passion for key issues, focuses on important interests and champions the cause.

Career Choices: Designer, Early Childhood Development, Social Worker, Educator, Veterinarian and Pediatrician.

ISTJ - (Introvert, Sensing, Thinker, Judger). The characteristic is *Systemizer.*

Responsive and conscientious. Works diligently to meet obligations to themselves and fellow workers. Main interest is in being procedural, thorough and painstakingly accurate. Works hard at mastering technical skills. Patient with details and routine. Viewed as dependable, dedicated and service-oriented.

Leadership Style: Goal-Oriented Leadership. Observes, listens, clarifies goals, establishes realistic expectations, makes aims crystal clear.

Career Choices: Business Executives/Administrators/Managers, Financial Officers, Law Enforcement, Lawyers, Medical Doctors, Computer Programmers, Systems Analysts, and Computer Specialists.

Student Feedback

After completing the inventory, students were asked to compare their Myers Briggs Personality Styles results with what they knew about themselves. Were the results accurate, mostly accurate, somewhat accurate, not accurate at all. It was determined that students who thought their results were somewhat accurate or not accurate at all had; a. over thought how to respond to the statements; b. did not completely read the statements; c. rushed to complete the inventory. Other anomalies reported were tied scores in the same dimension. Indicating equal strengths and weaknesses in both dimensions. Several students reported that their scores in certain dimensions were one to five points apart. Which meant they identified with similar characteristics in t dimension(s). Majority of the students reported scores that significantly determined their preferred personality style in one the four dimensions.

Majority of the students thought their Personality Style Inventory provided an accurate assessment of their preferred styles and characteristics. Students also learned that their Myers Briggs Personality Style was a way for them to better understand their leadership style, how they interact with others, how to handle conflict, what their blindspots are, their opportunities for growth, (Otto Kroeger Associates, 2014), as well as possible careers for their personality type. (Myers & Briggs Foundation, MBTI Personality Types, 2018).

To illustrate this, the following is a synopsis of the aforementioned categories. Students gained a more meaningful understanding of how their Personality Style correlates to everyday life both personal and work life.
They realized the benefits of knowing and understanding their own Preferred Personality Styles application in several behavioral areas.

1. **Leadership Styles:** Participative (ESFJ/ENFJ), Ideological (ISFP/INFP), Change-Oriented (ENTP/ENFP), Visionary (INTJ/INFJ), Action-Oriented (ESTP/ESFP), Goal-Oriented (ISTJ/ISFJ), Executive (ESTJ/ENTJ), and Leadership Theorist (ISTP/INTP)
2. **How you Interact with Others?** ISTP/do their own thing, INFP/peacemakers. ESTJ/take responsibility/gets things done, ENTJ/the leaders.
3. **How to Handle Conflict?** ISTJ/no patience in dealing with people, ISTP/tactical, instinctively know what to do. ESFJ/avoid confrontation, ENTP/sees both sides, resolved conflict rationally.
4. **What are your Blindspots?** Examples: INTJ/driven to achieve goals at expense of others, INFP/total absorption in projects loses sight of their surroundings. ESFJ/ focused on “should” and “should nots”, stickler for rules, slow to change, ENFJ/focused on human relations, people problems, develops co-dependent relationships.
5. **What are your Opportunities for Growth?** Examples: ISTJ/open to the “big picture”, INFJ/objective and flexible, sets priorities. ENTP/self-disciplined and follow-through, ESFJ/people sensitive, open minded,
6. **What are your Dominate Characteristics?** Examples: ISTJ/most responsible, INTP/most conceptual. ENTJ/most commanding, ESTP/most spontaneous.

Lastly, students were asked to fill out a questionnaire specific to the following topics. Relationships, Decision-Making, Self-awareness, and Openness to Change. They were instructed to give examples of how knowing their Preferred Personality Styles and characteristics benefited them as individuals in the workplace. A comparison of their comments yielded general consensus of the following categories.

Relationships

1. People who share the same Preferred Personality Styles will gravitate towards each other, be on the same wave length and be in agreement. Decision making may be a problem as there will be weaknesses in their abilities to recognize indecision, inflexibility and lack of objectivity.

Decision-Making

2. People who have different Preferred Personality Styles will have difficulty agreeing and accepting some views, opinions and actions of others. This leads to conflict and misunderstanding of each other. However, their differing points of view and other strengths will allow for good decision-making.

Self-awareness

3. People may ignore certain dimension characteristics and only concentrate on those dimension that show their strengths and not their weaknesses. They prefer an idealized version of themselves, and perceiving others picking up on one's flaws can be unflattering.

Openness to change

4. While a person's Preferred Personality Style cannot be changed, each person can learn to use their strengths and in doing so strengthen their weaknesses to some extent that will allow the person to overcome problems that occur as a result of the weaknesses.

A review of Ryan Jenkins, columnist for Inc.com (2017), research of the aforementioned, provided supportive information which describes characteristics that make Generation Zers unique and different from the Millennials. To further demonstrate correlation between Jenkins findings and student's responses, I have provided examples of coinciding characteristics of the Myers Briggs Personality Styles and Jenkin's descriptions of Generation Zs.

1) More pragmatic. Today's turbulent times have made Generation Z more realistic that opportunities are not boundless (like many Millennials believe). **ESTJ - Stabilizer**

2) More cautious. Growing up amid a global recession, war, and terrorism; Generation Z is expected to take less risks and seek more stability and security. **ISFP – Experiencer**

3) More money conscious. Social Security depletion and looming student debt makes Generation Z more money conscious. **ESTP - Doer**

4) More face-to-face. According to Millennial Branding survey, 2014, 53% of Generation Z prefer in-person communications over instant messaging or email. Surprisingly some researchers are predicting that because of how Generation Z uses and interacts with technology that they will be more skilled at face-to-face communication. Generation Z has used tech tools like Skype, Google+ Hangouts, FaceTime, and Snapchat to communicate with one another using full sight, sound, and motion. **ESFJ - Socializer**

5) More global. Generation Z will become more global in their thinking, interactions, and relatability. It has been noted that "kids today have more in common with their global peers than they do with adults in their own country." Diversity will be an expectation of Generation Z. **ENTJ - Trailblazer**

6) More individualistic. Generation Z are looking for individuality because they were born social. Seeking uniqueness in the brands they do business with, future employers, and their leaders is a priority. **INTJ - Designer**

7) More tech dependent. Generation Z will be the true digital natives since they ONLY know a world with touch-screens, social media, and apps. Generation Z has developed a much higher instinctual relationship with technology. Generation Zers were collaborating via Google Docs when Millennials were learning cursive. **ENFP - Clarifier**

8) More independent. Most of Generation Z's parents are Generation Xers who are likely to be less self-esteem focused. Gen X parents are aware of the negativity surrounding the "everyone gets a trophy" approach and will likely act more as a coach than as a friend to their Generation Z children. Gen Xers are also likely to overcompensate for their latchkey upbringings by being attentive and preparing Generation Z to make their own way.

9) Less focused. Information is constantly being refined and Generation Z lives in a world of continuous updates. Generation Z digests information fast thanks to Snapchat and 6 second Vine videos. Thus, their attention spans might be significantly lower. **ISTJ - Systematizer**

10) More entrepreneurial. Tomorrow's high tech and highly connected world entices an entire generation to think and act more entrepreneurially. Generation Z desires more independent work environments that will prepare them for starting their own business someday. **ENTJ - Trailblazer**

The message that Jenkins is sending is Gen Zers are not to be mistaken for or compared to Millennials. This theme appears in other cited works such as the following.

According to Dan Schawbel, founder of Millennial Branding and author of *Promote Yourself*, organizations will need to adapt to the "new reality" of Generation Zs' in the workplace. "Gen Z have a clear advantage because they appear to be more realistic instead of optimistic, are likely to be more career-minded, and can quickly adapt to new technology to work more effectively." Additionally, "since Gen Z has seen how many struggled in the recession, they come to the workplace better prepared, less entitled and more equipped to succeed." Managers will need to adjust their perceptions and attitudes toward Generation Zers. Accepting them on their own merit, what motivates them, what drives and inspires them to succeed in the workplace. Managers will need to be more involved in the role of coach and adviser offering guidance for professional development. It's important to remember that Gen Zs want to be actively engaged in pursuing what they want and how they will achieve their goals. (Dan Schawbel, "Gen Z employees: The 5 attributes you need to know," Entrepreneur India, August 31, 2016.)

Generation Zers and Technology

This author's first-hand experience with Gen Zers while engaged in class activities, individual activities and/or team activities, has observed the following. First, we need to understand and accept that Gen Zers' are fluent in technology, which means they think, speak, and know how to apply technology. This could have profound implications for everything from the colleges they chose to attend, their jobs and careers, and the companies they choose to work for.

Technology is their second language. They are fearless when it comes to learning new technology. Their curiosity about technology is limitless. They don't think twice about exploring new devices and applications. They want to know what's available for future use. Where does their penchant for technology come from?

Starting at one year of age Gen Zers' toys were technologically designed to stimulate their cognitive development, motor, and communication skills. At age three, they learned numbers, the alphabet, how to spell their name and play simple games on hand-held electronic devices. By age five, Gen Zers learned how to use a computer to do internet searches and are adept at using a number of different educational applications, games, and email. By the age of eight, many had their own cell phones and learned how to download and use a variety of social media applications and games. Text messaging has become their preferred form of communication.

"Technology is less intentional and more intuitive for this generation, and their social skills are morphing into a hybrid of technology and face-to-face contact," says John Richardson, an adjunct professor at the University of Ottawa and head of English at Ashbury College.

What Richardson is referencing is what Sherry Turkle, a professor of social studies of science and technology at MIT, calls the "rule of three." This rule stipulates that in a group of four or more people, as long as three are actively engaged in conversation, one can look at their device without being perceived as rude or self-obsessed. (2018 Global News, a division of Corus Entertainment Inc.)

When it comes to types of technology for personal use or for use in the classroom, the faster access to information the better. The more information they can gather from a variety of sources the better. Gen Zers are curious by nature, so when they are interested in something, they want to be able to satisfy their need for information in the quickest way. Typically Gen Zers will continue to use the same sources as they trust these sources to provide them with reliable information.

Gen Zers are information seekers and will have no problem disseminating multiple levels of information. Their ability to prioritize and categorize key information will serve them well in their quest to successfully complete projects and general work assignments. In a classroom setting it has been this author's practice to engage student's in small groups whereby they are required to research information using either their cell phones, laptops and or iPads. In some assignment's students are given specific search parameters, while in other assignments students are free to search on their own. Consistently, students will continue to search for sources that provide them the most information. Often times they will compare what they have found with other team members and/or other students. Validating the authenticity of what they found, reinforces their ability to search for more sophisticated levels of information. As information seekers, they will continue to monitor sources for updates on what's new.

Workplace Preferences and Behaviors

Gen Zers like a challenge but they like challenging themselves even more. This is where their creative side comes through. Coming up with their own ideas and being challenged by the process of bringing that idea to fruition is what excites and motivates them to perform. A bit of advice. Don't ever tell a Gen Zer they can't do something. Their tenacity and persistence will more than likely prove you wrong. Remember they are technophiles. Gen Zers are the ones you want to employ if you need someone to find a better way to solve a problem or do something better to save time, they will stay with it until they have the required results. Remember that while they value teamwork, they value autonomy more. Having autonomy provides a level of personal control and motivation over those things they are engaged in, find interesting and challenging. It is important to them that they be accountable for their contributions that have a purpose and benefit the organization.

According to Workforce Institute, Kronos, (May 11, 2018) ‘Gen Zers love a good challenge. A great way to keep them focused and busy is to constantly challenge them with something new. They have a craving to learn and know everything. On top of this, they are multi-taskers. According to a report by Forrester Research, 84% of Gen Z “multitask with an Internet-connected device while watching TV—using on average 1.5 other Internet-connected devices (e.g., laptops and cell phones).” From shopping in a store, to sharing a post on social media, to talking to their friends (all the while not walking into anyone) Gen Z can do it all —and at the same time! According to Dan Schawbel from the Managing Partner of Millennial Branding, more than “72% of high school students want to start a business someday” and “61% would rather be an entrepreneur instead of an employee” when they graduate. Even more so, more than 60% of Gen Z said they want to make an impact on the world. So make sure you have plenty of challenges for Gen Z and lots of opportunity for them to grow and learn, or they may begin to look for opportunities elsewhere.

Gen Zers value their privacy. Generation Z are growing up in a fully mobile world. A Ponemon study about “The Future of Digital Experiences” revealed this basic truth: obviously all generations are concerned about their safety and privacy online, but the *degree* to which they’re concerned varies. (Justin Kreamer, Hanzo, June 13, 2018)

According to Brian Taylor, Digital Marketing, March 19, 2018, Gen Z are savvy to the information they’re putting out when they’re in the digital space. They’re switched on to customizing their privacy settings and personal information, and the data shows they’d rather keep that data safe than risk it for peer affirmation or online validation. They use discretion when selecting which favored product brands to share their locations.

An attribute they have is that they are willing to share personal information with co-workers. Likewise, they are not bashful about asking others for information. The key characteristic to giving and receiving information is trust. By nature, Gen Zers are a trusting lot. They will measure their work relationships on the level of trust they have for one individual over another.

Gen Zers can only be influenced by those they trust. While it is true many rely on their parents for guidance, they trust their friends and work colleagues to act as sounding boards, feedback sources, emotional support and validation. They value friendship and develop them with ease. In the workplace, according to Singh (2014), Gen Zers will take advantage of having access to a variety of people in the workplace including having access to one or more mentors in their chosen professional field. Gen Zers will take advantage of technology in which networking with colleagues, mentors and other professionals can be done in the most efficient and timely way.

Placing Gen Zers on a team that is balanced with Millennials and/or Gen Xers will give management and co-workers an understanding of what makes Gen Zers tick, as well as what they have to offer idea and skill-wise. What turns Gen Zers on is having a say in their work assignments, including both team projects and independent projects. The more interested they are the better their collaboration, participation and performance will be. Their need for self-management and self-leadership speaks to their desire to be independent thinkers, workers, and contributors. They want recognition for their ideas and originality while at the same time having a reputation as a team player.

Gen Zers are cautious by nature but embrace change. They are skeptical and reserve their optimism until they are shown that change is beneficial. They see change as serving a purpose and having a universal appeal. Furthermore, they view change from a personal interest perspective. If they are to invest themselves in the organization, then their expectation is that there will be dividends paid in the form of career advancement, promotion, and opportunities for skill development and job expansion.

Interestingly is their attitude towards money. While they expect to be paid a fair market value wage for the work they do, Gen Zers are more concerned about learning how to safely save and invest their money. Having experienced how many of their parents lost large sums of money in their 401Ks, savings, and the stock market in the last economic downturn, Gen Zers will take a more conservative approach to their money matters. This attitude correlates with job and career choices and what type of company is a suitable match.

Being cautious, Gen Zers don't jump into something without careful thought, consideration and planning, a lesson they have learned from their parents who experienced the economic downturn. Remember, they are information seekers and gatherers. They will rely on their sources to guide their actions and decision-making. Whether it is for a cause, job related, or personal goals they will carefully evaluate all factors in order to minimize risk of making a wrong decision or even failure.

They want to make informed decisions based on facts and accurate information. This characteristic can easily frustrate managers and co-workers who want a decisive and quick decision. Being too cautious may present challenges when it comes to making quick decisions and taking immediate action. Managers could see this an opportunity for Gen Zers to learn decision-making skills when paired with more experienced employees and team members. When it comes to change, it would behoove managers to provide detailed information about the change, the expectations and roles of Gen Zers. Be prepared to be inundated with questions. Keeping in mind that trusting the source of information will factor heavily with Gen Zers in making well informed decisions.

Career Development

As for career development, Gen Zers will be focused on their dream job with aspirations to be in their dream jobs within the next six to 10 years. According to a 2015 survey by

Adecco Staffing, Gen Zers see their first jobs as a means to learn everything they can in the pursuit of their dream jobs. This also includes their aspirations and dreams of owning their own business. Job hopping is a major concern as Gen Zers see that three years or less is an appropriate amount of time to spend at their first job. (Bob Crouch, CEO Adecco Group North America)

By providing training and professional development opportunities, Gen Zers are more likely to be highly engaged and want to stay longer. All indicators show that the more challenging the job is, the opportunities for skill development and self-managed projects, the more likelihood Gen Zers will stay longer with the company. Other indications point to the fact that Gen Zers have aspiration for a future that provides growth for career and professional development.

They will be motivated to seek out and prioritize companies that offer flexible work schedules, creative/innovative environments and cultures, self-managed independent projects, high functioning teams, transparency and access to upper management. They also want a work environment that consists of fun and engaging activities and freedom to pursue their own career interests.

What this means is that Gen Zers' need variety. An ideal work day for Gen Z employees will incorporate face to face collaboration with easy access to technology in a shared creative space balanced by having a private individualized space. According to the architecture firm Gensler, "knowledge work" has four different modes. "FOCUS, COLLABORATION, EDUCATION, and SOCIALIZATION." Gensler found that Gen Zers preferred work spaces that are flexible, open and adaptable to their particular personal needs and work styles. From bull pen to office pods Gen Zers will gravitate towards whatever makes them comfortable and productive. (Biro, 2016)

Leadership

When we talk about Gen Zers and self-leadership in the same context, it is beneficial to understand that the two are synonymous and the key to maintaining a manageable balance between self-management and collaboration with others. The general definition of self-leadership is; "individuals who motivate and lead themselves towards achieving desired behaviors and outcomes." (Manz,1992)

Take note business leaders: Gen Zers state that honesty is the most important quality for being a good leader. Likewise, after honesty, leaders should exhibit a solid vision followed by good communication skills.

Self-leadership encompasses the following.

1. Behavior-based strategies: an awareness of positive and negative behaviors.
2. Natural reward strategies: positive experiences achieving a task or goal.
3. Constructive thought strategies: interactive thoughts that can alter the way one thinks and feels.
4. Innovative behavior: participating in a complex process that includes (a) recognizing a problem and coming up with new ideas and innovative solutions. (b) an individual comes up with ways to promote his/her own ideas and solutions that build legitimacy and support both in and outside the organization. (c) the individual creates artifacts to show application and use in the workplace, teams and the organization as a whole. (Elmore, 2017)

Self-leadership is about people learning to lead themselves so that they may lead others. Given leadership opportunities in the workplace, Gen Zers will rise to the occasion by setting an example and being a role model. After all, they want to prove themselves not only to others but to themselves that they can succeed. More to the point they want to see others succeed as well. Their attitude is that if they help others succeed they, in turn, will help someone else do the same. Their social sensibilities extend to not only their work relationships but also their overall behavior in the workplace.

Self-leadership coupled with a need to make a difference are two very powerful states of mind. Gen Zers will use their self-leadership skills to empower others to see the benefits of collaboration, value both team and independent work, engage in the creative and innovative process, seek challenging ways to enhance their jobs, and understand that change is what drives organization sustainability and success. Their personal commitment and ability to influence others to see the value of the change will ensure the success of their endeavors.

According to a Forbes article by Deep Patel, *The Top 5 Traits Gen Z Looks For In Leaders.* August 27, 2017, Gen Zers are looking for the following leadership characteristics.

Inclusivity

Gen Zers are used to being part of massive digital and social communities, and they value the opportunity to connect with and learn from different types of people. Gen Zers are inspired by individuals who want to include them in their journeys, rather than demand that they watch from afar. Throughout this demographic, there is a collective sense of "we're all in this together, and we can all help one another."

Curiosity

Unlike their parents' generation (Gen Xers), Gen Zers have no interest in being boxed into one path or role. Rather, they understand that their interests and goals today are likely to evolve over the course of their careers.

To prepare themselves, they want to work in cultures and for individuals who value constant education and curiosity. They don't want to be boxed into one career corner. Working for other leaders who not only foster this but also lead by example is an attractive perk for Gen Z-ers who already possess entrepreneurial spirits.

Self-Motivation

Like millennials, Gen Z-ers know that in order to achieve their entrepreneurial goals, they'll most likely have to take on a outside activities and hobbies that offer other creative outlets. (Leah Perlmutter, MediaPost, September, 19, 2016) These young professionals aren't afraid to work on their passion projects outside their 9-5 jobs, but often the only way to grow these projects into sustainable ventures is to work for employers who are willing to foster this sense of self-motivation through flexibility.

Employers and bosses who can offer Gen Z employees the freedom and responsibility to fulfill their duties at their own discretion through remote working solutions and flexible office hours will not only attract young talent but will also stand a better chance of holding on to young talent.

Generosity

As a generation that craves authenticity and community-building, it's no surprise that Gen Z employees want to work for employers who are committed to giving back. Being social natives has given this generation the opportunity to better understand the challenges affecting individuals, and entire communities, outside their own circles and regions.

As a result of this access and transparency, Gen Z-ers want assurance that the companies they buy from and work for are committed to more than just growing their bottom line, that they are also committed to helping others improve their lives through philanthropic initiatives.

Perseverance

Gen Z-ers may be young, but they are not naive. They want to work hard for their personal successes and they understand that the path to success will not be smooth. Working for employers who are transparent about their own struggles and roadblocks gives young Gen Z professionals the chance to better prepare themselves for the types of obstacles they are likely to face.

Additionally, this demographic wants mentorship and understands that working for leaders who are willing to talk about their own paths will allow them to forge mentor-mentee relationships that may last for the entirety of their careers.

According to Jim Link of Randstad North America, a 2014 study, Millennial Branding and Comparing Gen Y and Gen Z Workplace Expectations was conducted with 2,000 Gen Zs and Gen Ys participating. Results showed that Gen Zers may be better prepared than their predecessors to succeed in the modern workplace. Gen Z appears to be more entrepreneurial, more loyal and less motivated strictly by money than previous generations. They appear to be more realistic and more optimistic than Gen Ys.

When you translate Gen Z's traits into leadership styles, it appears that Gen Z might prefer a culture that enables change and the need to lead toward a technology driven atmosphere, automating processes and utilizing technology in every aspect of the business to optimize results. They also may prefer to work independently, not reliant of traditional office hierarchy. They may prefer to seek their own resources and encourage employees to seek out information immediately, rather than wait for a conference call or meeting next Tuesday. (Kurt Blazek, Resolve Blog Leadership and 360 Feedback, February 3, 2016)

Education

According to Joseph E Aoun, President of Northeastern University, Gen Zers entrepreneurial and independent attitude extends to higher education. Gen Zers want a more customized college experience in which they are allowed to design their own course plan of study and majors. They say it's important that colleges teach students self-leadership to better prepare them for the business world and entrepreneurship. Additionally, colleges should provide programs that integrate practical experiences with learning through internships. With regards to Gen Zers, President Aoun recommends colleges consider the following.

1. Promote creativity and innovation
2. Encourage self-leadership and entrepreneurship
3. Expand experiential learning to include student-driven program design and selection.

A study by Barnes & Noble College, "Getting to Know Gen Z", shows that 89 percent of respondents rated a college education as valuable. They see college as a pathway to a good job. Despite their natural independence, their ability to process massive amounts of information qualifies them to be outstanding students. A sincere desire to learn is present in Gen Z. Respondents indicated they thrive when challenged and allowed to be more fully engaged in their education. Three major factors contribute to Gen Z attending college. They are; (1) career preparation, (2) interesting course work, and (3) professors that care about student success.

The study also shows that 49 percent of respondents have already taken a class for college credit. 64 percent of respondents replied that they liked advanced college courses. According to one student; “AP classes are challenging and I like being challenged. They will better prepare me for college and life.”

Students participating in the study preferred collaborative learning over studying alone. Eighty percent prefer studying with friends while 67 percent said studying together makes learning more fun. Furthermore, 60 percent liked to exchange new ideas with friends. Overall student respondents ranked the most helpful tools for learning as:

a. class discussion
b. working through problems
c. Study guides
d. textbooks
e. test review
f. working in small groups
g. homework
h. notes available online

According to one student, “Being hands-on or using interactive devices is the best way for me to learn. Technology is important to use because it keeps you current with our daily lives.” Students ranked education technology tools as:

a. Smartboard
b. DIYL “do it yourself learning”
c. digital textbook
d. website with study materials
e. online videos (Youtube, etc.)
f. game-based learning systems
g. textbook
h. social media
i. Skype
j. podcast

The Barnes & Noble study concluded that “Gen Z has strong opinions and preferences for how they learn and what they expect from their educational experience. These insights present colleges with several significant opportunities to attract and influence the ways the next generation will connect to their college experience." Thus, it would behoove colleges to capitalize on Gen Z's ability to self-educate and co-create content, traditional learning materials could be supplemented and enhanced with digital opportunities.

Closing Comments

What have we learned? Based on the differenences between studies conducted, information provided by subject matter experts in business and education and demograpic information of subject participants; the information can vary. However, there is commonality that emerges from what this author has read and oberserved. Ryan Jenkins, Business2 Community (2018), has summarized these commonalities in the following characteristics and attributes Generation Zers possess.

1. **Pragmatic** – Generation Z are more realistic about job opportuntities and need to continue to master new skills to stay competative.
2. **Cautious** – Growing up amid global recession, war, and terroism; Generation Z are expected to take less risks and seek more stability.
3. **Money conscious** – Having parents who experinced economic downturn, Generation Z has developed a conservative attitude about money, saving, and investing.
4. **Face-to-face** – Growing up in a technological world Generation Z appreciate that they have the flexiblity to communicate either by messaging or email and by communicating face-to-face. Being adept at both will allow Generation Z to develop the necessary skills to be effective verbal and face-to-face communicators.
5. **Global** – Generation Z will become more global in their thinking, interactions, and relatability. Gen Z will expect diversity in the companies for which they will work for.
6. **Individualistic** – Generation Z will thrive in environments that encourage individuality. Gen Z want to have an active voice about their life and job choices, goals, interests, and activities that engage and challenge them. They will want to be seen as original thinkers able to participate in creative and innovative ways.

7. **Technologically Proficient** – Generation Z are the true digital generation. They were born into a world with touch-screens, social media, and apps. They have developed an instinctual relationship with technology. They think, speak, and know how to apply technology. They are adept at split-tasking creating a document on their laptop, reopening it on their smartphone. They shift from work and play, real and virtual in short intense spurts. Imagine what their work stations will be like. Multiple screens that can be used in multiple workflow applications.

8. **Staying focused** – In a world of continuous updates, Generation Z can digest information fast. Their attention spans will be less as they toggle between applications seeking information.

9. **Entrepenuer** – Generation Zers view being an entrepenuer as something they want to achieve as a future goal. Being pragmatic, realistic and cautious they understand the importance of developing their knowledge, skills, abilities and experience, which is why they look at working for a company for 3 plus years where they can hone their skills, mature and develop.

10. **Personal responsibility** – Generation Z is very committed to developing their own identity and reputation. They want to be seen as individuals with their own unique brand and style.

11. **Development focused** – Generation Z will be very vocal as well as being their own advocates for seeking opportunities for advancement. It is a key contributor to their entrepenuer asperations.

12. **Mentors** – Generation Z will actively seek mentorships that can coach them throughout their development.

13. **Making a difference** – Generation Z want to make an impact on the world, starting with engaging in school activities that transition into their work place. They will take care in selecting future employers that share in the same philosophy. (Jenkins, 2018)

Furthermore, according to Robin Weckesser, Work Design Magazine, Gen Zers are likely to generate $44 billion in annual spending and this will affect the purchase of toys, apparel, food, entertainment, TVs, mobile devices, and, of course, computers. Finally, as Generation Zers enter the workforce what employers need to be mindful of is this.

Recognize that with Generation Zers “one size fits all” will not work. Avoid thinking that they are a younger version of Millennials with the same traits and characteristics.

Additionally, Jason Jennings, New York Times journalist had this to say. “*Business leaders would be wise to remember that they blew the opportunity to embrace the traits and characteristics of the millennials and how they squandered a decade bemoaning how different they were and wasting precious time and resources trying to force them to conform to their view of what they should be or how they should act. In the very near future companies should rejoice in what the Gen Z’s will bring to the table; realism, being true to what they belive in, a shoot for the stars entrepreneurial spirit, boundless curiousity and being the most tech savvy group of people on the planet.”*

Only time will prove out the accuracy of the aforementioned information. As more and more Gen Zers enter college and the workforce, it will be interesting to see if future longitudinal studies will validate present findings. There is tremendous opportunity for researchers to study the Generation Zers over the next ten years. The recommendation of this author is for researchers to conduct studies of the of Gen Zers across multiple demographic regions in both colleges and the private business sector. Using the Myers Briggs Personality Inventory, Big Five Personaltiy assessment, C.A.P.S. Personal Styles inventory (preferred team style) and the Thomas Kilmann Conflict Inventory and the DISC Inventory (work behavior); that will determine a realistic profile that is specific to the Gen Zer’s.

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Linking Work Stress to Resilience, Work-Life Balance, and Psychological Well-being: A Framework for Future Research

Abstract

Despite the heightened daily discourse on the corollary of resilience and work-life balance for individuals working in organizations, the research on the nexus between these two and their likely antecedent, moderator and outcome are still sparse. Drawing on Hobfall's Conservation of Resources (COR) theory, we delve into this void and propose a conceptual model that explicates the relationships between work stress, employee resilience, work-life balance, psychological well-being, and retention. We also propose that social support in the workplace moderate these relationships. The contributions, as well as directions for future work, are then discussed.

Keywords: conservation of resources theory, work stress, employee resilience, work-life balance, psychological well-being, employee retention, social support

Introduction

Resilience, which is generally perceived as the capability to endure and withstand challenges through yielding individual, team and organizational capacities (Branicki, Steyer, & Sullivan-Taylor, 2019; Kossek & Perrigino, 2016; Luthans, 2002), has become a significant and prevalent organizational issue in the twenty-first century. Resilience has been historically relevant in organizational scholarship (Sutcliffe & Vogus, 2003). Resilience is the process by which an actor (i.e., individual, organization, or community) builds and uses its capability endowments to interact with the environment in a way that positively adjusts and maintains functioning prior to, during, and following adversity (Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017).

A lack of support and connection experienced by organizational members is critical in undermining resilience (Flach, 1997; Lengnick-Hall, Beck, & Lengnick-Hall, 2011). The relationships between individuals have been found to be crucial in yielding resilient organizations (Gittell, 2008; Stephens, Heaphy, Carmeli, Spreitzer, & Dutton, 2013). However, managers can also undermine the legitimacy and influence of resilience work. For instance, if employees view resilience initiatives as a kind of planning exercise, tick-box, the employees do not really respect or buy-in to it, and the organization doesn’t invest in it, to the end it can lead to failure. Unhealthy relational processes (devoid of social interactions, rapid coordination, and integrated processing of concurrent signals), can peril organizational resilience (Kahn, Burton, & Fellows, 2013).

Despite the significant nexus among work stress and employee resilience and work–life balance and its likely outcome, no study has comprehensively investigated the antecedents and constructs of resilience that might influence psychological well-being and employee retention. The 'blackbox' problem occurs when we know a relationship exists, but we have little understanding of *how and why* it does (Lawrence, 1997). Hence, the research questions that drive the present paper are: Does work stress trigger employee resilience (ER), work-life balance (WLB), psychological well-being (PWB), and retention? How do these different constructs relate to each other? Does social support (SS) moderate the relationships between ER, WLB, PWB, and retention?

In addressing these questions, we reviewed the current literature in order to derive a conceptual framework that links these different constructs together. Publications for inclusion were selected for this review based on their empirical investigation of the antecedents and outcomes of resilience. Relevant articles were identified using computerized searches on Web of Science, PsycInfo, Academic Search Premier, Business Source Complete, and Google Scholar. No specific journals were targeted, included, or excluded. The following search terms were used: stress, resilience, work-life, work-family, work-nonwork, psychological well-being, and retention. This search resulted in 135 publications[1]. By conducting a comprehensive narrative review of extant literature rather than a meta-analysis, we are able to examine the different ways in which antecedents and outcomes of resilience are conceptualized and measured in the literature, and explore the theory underpinning the results. This is especially important when working in a field in which the literature is relatively young and not especially well developed, such as that concerning the impact of resilience. It is to be noted that meta-analytic techniques have been criticized for their failure to consider heterogeneity in both subjects and methods and

[1] Please contact main author for a complete list of these publications.

have been accused of over-generalizing results and over-emphasizing quantitative comparisons of substantively different literatures (Beauregard & Henry, 2009). These concerns are particularly relevant given the wide variety of disciplines contributing to the resilience literature, the variety of definitions and measurements adopted in the research.

In the following section, we will discuss our proposed conceptual framework, based on the literature that we have reviewed. Our full model depicting the relationships among the work stress, employee resilience, work-life balance, psychological well-being, retention and social support is presented in Figure 1.

Insert Figure 1 about here

Theory and Propositions

Our proposed conceptual framework is grounded on Conservation of Resources (COR) theory (Hobfoll, 1989; 2001) to explain why and how work stress affects resilience, which in turn influences psychological well-being and retention through work-life balance. The primary tenet of COR theory is that individuals strive to gain and maintain resources (e.g., time, energy, food, self-esteem, promotion) that are valuable to them and that resource loss has a greater psychological impact than has resource gain as it is related to stress. In supporting COR theory, the resources available to the individual and the group tend to aggregate and sustain one another, creating caravan passageways, defined as environmental conditions that support, enrich and protect an individual’s resources (Chen, Westman, & Hobfoll, 2015). Increasingly, researchers contend resilience as an important resource reservoir that helps individuals manage the ever-changing situations experienced in life (e.g., Block & Kremen, 1996; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000). Resilient people tend to proactively prepare for hardships and minimize the impact of stressful events on themselves by using their psychological resources effectively (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). It is believed that work-life balance is another work-related outcome of resilience. Consistent with Coutu (2002), it is expected that employees with high resilience will accept reality and hold strongly onto meaningful and stable values and beliefs. They would, therefore, be able to seek a more balanced life and feel more satisfied with different domains of life. Work-life balance is a central concern in everyday discourse (Greenhaus & Allen, 2011; Kossek, Valcour, & Lirio, 2014). The growing scholarly attention paid to work-life issues has been motivated by greater societal interest, which stems from several social trends, such as the changing nature of gender roles, families, work, and careers (Powell, Greenhaus, Allen & Jonson, 2019).

Scholars have argued that individuals' recovery from stressful events with minimal negative impact replenishes their resource reservoir with additional psychological and/or physical resources, which can be employed for future demanding situations (Muraven & Baumeister, 2000). Extending COR theory, resources can enhance individuals' ability to cope with stressful events by providing a stream of mental (e.g., social and marital status) and physical (e.g., energy and food) energy necessary for mobilizing various coping behaviors and/or by protecting them against various dysfunctional psychological states triggered by the stressors (Hobfoll, 2001). In the absence of enough resources, anxiety and fatigue are likely to undermine individuals' ability to control their stress (Wheaton, 1983). Furthermore, supporting COR theory, although stressful circumstances often result in resource loss, successfully addressing stressful situations is also likely to enhance resources by promoting self-esteem, self-efficacy, and adaptive coping strategies. This resource gain can augment personal growth and well-being.

Work Stress and Employee Resilience

Work stress plays a critical role in contemporary organizations (Grawitch, Barber, & Justice, 2010). Polls from the Pew Research Center and Statistics Canada have shown that 40% of American workers, and 27% of Canadians have reported that their job is extremely stressful (Koerber, Rouse, Stanyar, & Pelletier, 2018). The negative outcomes associated with stress and strain can erode individual functioning, the quality of relationships, and overall well-being (e.g., Robinson, Flowers, & Carroll, 2001; Tetrick & LaRocco, 1987). Researchers have devoted considerable attention surrounding stressful life events and acknowledged that the coping process to hold back stress cannot be investigated without the context in which the coping behavior occurs (Aldwin & Revenson, 1987; Folkman, Lazarus, Gruen, & DeLongis, 1986). Despite work stress being continued to be a vital risk factor, and everyday discourse for those involved in formal work, relatively less is known about it (Kortum, Leka, & Cox, 2010).

Research strongly supports that work stressors are significant for building the capacity for resilience, leading to well-being and mental health (Crane & Searle, 2016). Although effects of stress are found to be negative, this can be argued through the challenge/hindrance stressor theory (Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Podsakoff, LePine, & LePine, 2007) to depict resilience-building stressors from resilience-depleting stressors (Rodell & Judge, 2009). The hindrance stressors are perceived to consistently drain the resources (per COR theory), thus being considered inhibitory to personal growth, whereby challenge stressors may have a quality that allow the development of personal capacities such as coping strategies, perceived coping efficacy that facilitate psychological resilience (Cavanaugh et al., 2000). This is in the line with COR theory (Hobfoll, 1989) that suggests although stressful circumstances often result in resource loss, but successfully addressing stressful situations is also likely to enhance resources by promoting self-esteem, self-efficacy, and adaptive coping.

The impacts of workforce stress are well known (Koerber et al., 2018). But how organizations challenge employees to address meaningful goals, while buffering them against the negative impacts of stress needs to be explored, which the present paper endeavors to explicate through individual resilience. The effects of a stressful work may vary by personal resources and resilience (Karasek, 1979). As argued above, some stressors may be experienced as enhancing the employee's work, while others may detract from it. What may be a hindrance to some individuals in some contexts (e.g., work overload for a low-income employee working several jobs), may be welcomed as a positive challenge for others (e.g., a well-paid professional). So, understanding how different work stressors affect different types of employees, seems essential for understanding the interface between stress and resilience of employees. Based on preceding theoretical ground we offer our first proposition as:

Proposition 1: Challenge stress will positively relate to employee resilience (1a), and hindrance stress will negatively relate to employee resilience (1b).

Employee Resilience and Work-Life Balance

Balancing the complex and conflicting demands of work and family responsibilities is one of the biggest challenges that employees experience (Love, Tatman, & Chapman, 2010). As noted above and consistent with COR theory, resources can enhance individuals' ability to cope with stressful events by providing a stream of mental and physical energy necessary for mobilizing various coping behaviors and by protecting them against various dysfunctional psychological states triggered by the stressors (Hobfoll, 2001). In the absence of adequate resources, anxiety and fatigue are likely to undermine individuals' ability to control their stress

(Wheaton, 1983). Resilient employees tend to proactively prepare for hardships and minimize the impact of stressful events on themselves by using their psychological resources effectively (Fredrickson et al., 2008). Studies have reported that high-resilience employees tend to effectively overcome hardships and traumatic experiences through the mechanism of positive emotions engendered by resilience (Fredrickson, Tugade, Waugh, & Larkin, 2003; Tugade & Fredrickson, 2004). Thus, when imbalances between work and life domain continue, employees with a high level of psychological resilience are likely to experience more positive emotions than will employees with a low level of psychological resilience. These emotions would support them to bolster the balance between work and life.

Along similar lines, Luthans, Luthans, and Luthans (2004) believe that work-life balance is another work-related outcome of the resource of psychological capital, whereby resilience is considered as one of the four positive psychological capital components. It is expected that employees with high resilience will accept reality and hold strongly onto meaningful and stable values and beliefs (Coutu, 2002). Therefore, employees would be able to seek a more balanced life and feel more satisfied with different domains of life. Resilience as an individual resource can contribute to self-confidence to master different domains of life with optimism about the future, thus helping employees to preserve their perception of balance between work and life. Furthermore, in line with positive psychology, when employees with high resilience face the demands that stem from the domains of work and life, they will cognitively appraise the task of combining work and life roles as a challenge (Lazarus & Folkman, 1984; van Steenbergen, Ellemers, Haslam, & Urlings, 2008). The employee will then think positively about the demanding situation by positive reframing. In turn, employees will feel capable of drawing valuable work and life resources and having mastery of both work and nonwork demands, and thus will perceive more work-life balance. Considering the above arguments, we propose:

Proposition 2: Employee resilience will positively relate to work-life balance.

Work-Life Balance and Psychological Well-being

Wang, Lesage, Schmitz, and Drapeau (2008) contended that imbalance between work and family life was a strong risk factor inducing mental disorders affecting psychological well-being. Carlson et al. (2011) and Magee, Stefanic, Caputi, and Iverson (2012) confirmed that work–family conflict robustly predicted poor physical and mental health, leading to employee stress and poor psychological well-being. Imbalance between work and life transmitted through excessive amount of stress was related to impaired functioning of individual employees (Zheng, Molineux, Mirshekary, & Scarparo, 2015). Further, this work-related stress can affect employees’ physical and psychological health and general well-being (Hosie & Sevastos, 2010; Warr, 2007). These arguments are in support of COR theory (noted above) in that when employees confront resources loss, they experience stress in either work or nonwork domain and subsequently, they strive to regain resources to hold back further loss.

Meyer and Maltin (2010) further argue that an individual employee’s well-being goes beyond a view that it is the absence of illness. Prior research strongly suggests that WLB is related to well-being. For example, work–life balance was found to predict both well-being and overall quality of life (Greenhaus, Collins, & Shaw, 2003). In the same vein, Marks and MacDermid (1996) found that balanced individuals experienced less role overload, greater role ease, and less depression than their imbalanced counterparts. In addition, balanced individuals are fully engaged in both roles, they do not allow ‘‘situational urgencies’’ to hinder role performance chronically (Marks & MacDermid, 1996). Instead, they develop routines that enable them to meet the long-term demands of all roles, presumably avoiding extensive work–family conflict. In accordance with COR theory, when not confronted with stressors, employees strive to cultivate resource surpluses to offset the possibility of future loss. When employees develop resource surpluses, they are likely to experience positive well-being (Cohen & Wills, 1985). Along similar lines, balanced individuals experience lower levels of stress when enacting roles, presumably because they are participating in role activities that are critical to them (Marks & MacDermid, 1996).

In sum, a balanced engagement in work and family roles is expected to be associated with individual well-being because such balance reduces work–family conflict and stress, both of which detract from well-being (Frone, Russell, & Cooper, 1992). Employees' WLB is considered as one of the most effective measures in reducing mental illness and job-related stress, thus fostering employee well-being (Allen & Armstrong, 2006; Carlson et al., 2011). Employee well-being is the result of the interrelationship between work-life balance and health and this is in support of the extant literature of organization and occupational psychology (Greenhaus & Powell, 2006; Meyer & Maltin, 2010). Therefore, we propose:

Proposition 3a: Work-life balance will positively relate to psychological well-being.

Work-Life Balance and Retention

Attracting and retaining high-quality employees is becoming more important to organizations (Holtom, Mitchell, Lee, & Eberly, 2008). Individuals in stressful occupations who have higher levels of resilience may be more likely to stick to organizations than quitting (e.g., Luthans & Jensen, 2005). Past studies investigated how family-friendly practices and work-life balance practices were related to employee retention (Grover & Crooker, 1995) and reported that childbirth and child rearing leaves with the promise of full-time re-employment and disseminating information about local childcare services promoted retention significantly. Batt and Valcour (2003) reported that flexible working hours and support from one's superiors contributed to low 'withdrawal cognition.' Previous studies have confirmed empirically work-life balance practices such as flextime, telecommuting, part-time employment, and childcare opportunities reduce turnover of employees (Lee & Hong, 2011).

Employees with high resilience can lessen negative situations in both work and family domains and have a successful management of stressful situations that in turn diminish elevated levels of turnover intention. Accordingly, employees' resilience curbs their conflicts in the work–life trajectories. Furthermore, under these circumstances, such employees will be capable of dealing with difficulties arising from work and life roles and therefore will report reduced turnover. As noted above, this supports the basic tenet of COR theory in that employees with balanced life through personal resources can hold positive state of being satisfied which allows them to stay in the organization. We propose:

Proposition 3b: Work-life balance will positively relate to retention of employee.

Psychological Well-being and Retention

Investing valuable resources in selecting high-quality employees is well recognized to foster productivity for organizations through redesigning optimal work arrangements and providing developmental opportunities (Wright & Bonett, 2007). Consistent with COR theory, employees attempt to ascertain their overall balance of resources (e.g., time, energy etc.) that are believed to most effectively contribute to their overall growth. As a result, individuals will sometimes "invest" resources in one area to generate gains in others (Hobfoll, 1989). When PWB is high then the employee would not necessarily be motivated to change jobs, which indeed requires an expenditure of valuable time and energy resources to achieve an even greater level of

PWB. Conversely, if PWB is low, then the employee might be motivated to expend resources to increase PWB. Psychologically well individuals are more likely to be extroverted and outgoing, recall positive feelings better, and are not as likely to encode an ambiguous event as threatening compared to their less psychologically well counterparts (Wright, 2006). These resource benefits of broadened thought–action repertories are not just momentary in nature but may develop and grow over time.

As proposed by Fredrickson and Losada (2005, p. 679), these "broadened mindsets carry indirect and long-term adaptive value because broadenings" assist in building the individual's enduring personal resources, ranging from physical, psychological, intellectual, and social in nature. These resources are desirable because they help individuals to better cope with challenges, capitalize on opportunities, and grow. This sense of flourishing also appears to make psychologically well or happy people more proactive (cf. Argyle, 1987), less prone to stress symptoms (Myers & Diener, 1995), and more satisfied with their work. On the other hand, when they are threatened, individuals in general, and low-resource individuals, experience stress and increased psychological discomfort (Hobfoll & Freedy, 1993), are more likely to perform poorly, and voluntarily depart from high-stress jobs (Wright & Cropanzano, 1998). Based on the above relationships we propose:

Proposition 4: Psychological well-being will positively relate to retention of employee.

Employee Resilience and Psychological Well-being

Past studies found positive relationship between employee resilience and psychological well-being over time (Roche, Haar, & Luthans, 2014; Shin, Taylor, & Seo, 2012). Resilience is associated with several physical, mental, social and behavioral outcomes. Individuals that are more resilient enjoy higher levels of physical well-being and quicker recovery from diseases

(Chan, Lai, & Wong, 2006). Highly resilient persons are less likely to develop mental health problems, including depression, anxiety and perceived stress (Bitsika, Sharpley, & Bell, 2013). In addition, more resilient persons enjoy better social well-being such as more social support and better interpersonal relationships (Masten & Tellegen, 2012; Wu, Tsang, & Ming, 2014). Converging evidence from diverse sources suggests that resilience manifests in a person's strengths in physical, emotional and social domains (Chen, Westman, & Hobfoll, 2015). Compared with individuals who are less resilient, more resilient individuals are less likely to feel panic and stress after exposure to traumatic and adverse social and psychological events (Masten & Tellegen, 2012), and recover faster and better from the impact from such exposures (Zautra, Arewasikporn, & Davis, 2010).

According to COR theory, one's ability to acquire and maintain resources is both a means and an end – a means for achieving success and an end that includes adaptation, coping, and well-being, depends on his/her cognitive appraisal of the stressful situation (Lazarus & Folkman, 1984). People with high resilience (as a personal resource) would maintain, recover, or improve in mental or physical health while facing or following stress (e.g., Bonanno, 2004). Resilience (being part of psychological capital) can aggregate with other positive psychological capital components of self-efficacy, optimism, and hope, and altogether should exert influence on one's work well-being. Grounded on COR theory, Avey, Luthans, Smith and Palmer (2010) analyzed the relationship between a cross-section of employees' level of resilience and two measures of psychological well-being (Indexes of Psychological Wellbeing and General Health Questionnaire) and their results showed that resilience explained additional variance in these two well-being measures over time. Therefore, we propose:

Proposition 5a: Employee resilience will positively relate to psychological well-being.

Employee Resilience and Retention

Intentions to quit reflect an attitude about leaving the organization (behavioral intentions), whereas job search behaviors reflect actual behaviors contributing toward turnover (Ajzen, 1991). Given the weak relation often found between behavioral intentions and actual behavior, both outcomes were deemed unique and appropriate. Studies suggest individuals in stressful occupations who have higher levels of resilience may be more likely to stick it out rather than quit (e.g., Luthans & Jensen, 2005). In the event of extreme stress, employees would be expected to attempt to relieve the disconnect between current levels of stress and desired levels of stress. Therefore, removal from the job and the source of the job stress might follow. Saks and Ashforth (1997) found a strong relationship between stress symptoms and intentions to quit and actual turnover. Consistent with engagement, it can be argued that resilient employees are able to perform better than their non-resilient peers as resilient employees are more likely to experience positive emotions, better health, develop their own personal resources and transfer their resilience to others (Bakker & Demerouti, 2008). As a result, they are more loyal and less inclined to quit the organization voluntarily (Macey & Schneider, 2008). Further, Bakker and Demerouti (2008) argue that resilient employees are more capable of adapting to changing conditions in the business environment, and their resilience and active coping style enable them to effectively control their work environment. Considering this, we propose:

Proposition 5b: Employee resilience will positively relate to retention of employee.

Role of Social Support as a Moderator

Social support refers to helpful behaviors such as showing concern, giving advice, lending a hand, or providing relevant feedback (House, 1981). Social support in the workplace may come from peers or supervisors, which could create a more positive work environment. We argue that if an individual experiences conflict on the job (due to overloads) but perceives a fair amount of social support from peers, the resulting strain from experienced role conflict may not occur. Following support and being resilient, a supervisor may make work situations less stressful by discussing family-related problems and remaining flexible when emergencies arise (Roskies & Lazarus, 1980). This type of social support has been found to moderate the situational stressor's effect that otherwise reduce WLB. Given similar work situations, increased WLB was reported for employees who had supportive supervisors (Goff, Mount, & Jamison, 1990). In contrast, being devoid of social support is related to reduced level of WLB (Greenhaus, Bedeian, & Mossholder, 1987). The moderating effect of social support continues to be the dominant hypothesis regarding the effects of social support on occupational stress (Ganster, Fusilier, & Mayes, 1986).

Two different reasons why social support can buffer the relationship between WLB and PWB (Cohen & Wills, 1985). First, potential stressors (stemming from the domains of work and life) are not appraised as being stressful in the presence of social support, hence social support can influence the appraisal process. Second, even if potential stressors are appraised as being stressful, social support may result in a more positive reappraisal or facilitate adjustive counter responses. Cohen and Wills (1985) explained such stress buffering mechanisms through which social support curbs the effects of stress on physiological health. This would provide employee to have positive PWB. Scholars also have proposed that social support can protect employees from the stressful effects of job demands and work-family conflict (Carlson & Perrewé, 1999). In the presence of social support as postulated by the buffering model, that work-family conflict can be lessened even in the face of increased overloads.

Further, social support at work can prevent high workloads from depleting personal resources (i.e., time, energy, etc.) through the appraisal of a high workload as nonstressful or by making employees less reactive to perceived stress. Informational and instrumental forms of support enable employees to more effectively tackle their workloads, while emotional support may help employees to psychologically cope with the stressful nature of overload. Supportive social interactions may make employees more resilient in the face of a high volume and pace of work (Fredrickson et al., 2003; Pluut, Ilies, Curşeu, & Liu, 2018). Thus, social support from co-workers and supervisor provides the employee with alternate resources when dealing with higher workloads, thereby reducing the resource loss that is typically occurring in the absence of social support.

Social support and the quality of interpersonal relationships are reported as key resilience resources (e.g., Flach, 1997; Kossek & Perrigino, 2016; Powley, 2009; Tugade & Fredrickson, 2004). Research has found that positive feedback and praise from managers to co-workers favor employees' development, thriving and resilience (Carmeli & Russo, 2016). We propose that social support at the workplace is most likely to prevent strain in the face of high workloads because co-workers and supervisors can provide resources (e.g., time and energy) needed to deal with such workloads. Being a first-hand defense against the process by which workload yields work-family conflict, it can be assumed that social support at work would lessen the resource loss stemming from high workloads, thus prevent a stress reaction to the employee and lower the level of strain that he or she brings home (Pluut et al., 2018). We, therefore, propose that the process by which work stress influences employee resilience and WLB is conditional to the form of social support. This is not to say that reduced resilience and work-family balance can only be prevented if employees receive social support in the workplace. Additionally, social support can bolster psychological well-being and retention at work. Based on the above arguments we propose:

Proposition 6: Social support moderates the strength of the relationship between employee resilience and work-life balance (6a), and work-life balance and psychological well-being (6b), and work-life balance and retention (6c).

Gaps in existing research on resilience prompted the present paper. As discussed, previous works have investigated some predictors of resilience such as human resource practices, high performance work systems, social competence, job insecurity, technological capabilities (Khan et al., 2019; Cooke, Cooper, Bartram, Wanga, & Meia, 2019; Kinman & Grant, 2011; Shoss, Jiang, & Probst, 2018; Bustinza, Vendrell-Herrero, Perez-Arostegui, & Parry, 2016), but the influence of work stress on employee resilience and its subsequent effects on work-life balance, and psychological well-being and retention has not been fully examined. To our knowledge, what has not been adequately tested in the literature is whether the association between work stress and psychological well-being and retention is mediated by both employee resilience and work-life balance. Second, given the employee resilience and a balanced work-life being experienced by employee, the moderating role of social support in the relationships among resilience, work-life balance, psychological well-being and retention has not been examined together. To advance our understanding, it is vital to consider if the relationship between the predictor (e.g., work stress) and outcome (e.g., psychological well-being and retention) can potentially be explained by the existence of a third variable (e.g., resilience, work-life balance). Therefore, perhaps work stress, resilience, and work-life balance may be the mechanisms through which social support is transmitted and consequently associated with increased psychological well-being and the intention not to leave the organization.

In brief, our proposed theoretical model can be summarized as follows: work stressors are perceived to consistently drain and develop personal resources and capacities such as coping strategies, perceived coping efficacy that facilitate psychological resilience supporting the essence of COR theory (Hobfoll, 1989). When employees can withstand work stress, subsequently, it can foster their resilience. Understanding how work stressors affect employees seems essential for understanding the interface between stress and resilience of employees. Next, if imbalances between work and life domain drags on, employees with a high level of psychological resilience are likely to experience more positive emotions than will employees with a low level of psychological resilience. These emotions would support them to bolster the balance between their work and life. Such balanced engagement in work and life roles are expected to be associated with individual psychological well-being because such balance attenuates work–family conflict and stress, both of which may detract from psychological well-being.

Employees' work-life balance is considered as one of the most effective measures in reducing mental illness and job-related stress that affect their psychological well-being. It is assumed that employees with high resilience can lessen negative situations in both work and life domains and have a successful management of stressful situations that in turn can diminish elevated levels of turnover intention. Furthermore, under these circumstances, such employees will be capable of dealing with difficulties arising from work and life roles and therefore will report reduced turnover. Next, employees with high resilience (being personal resource) would maintain, recover, or improve in mental or physical health while facing or following stress. As resilience (a component of psychological capital) is conceptualized as a personal resource, it can aggregate to other with allied capacities such as self-efficacy, optimism, and hope, and altogether would influence psychological well-being.

Consistent with the notion of employee engagement, we argue that resilient employees can perform better than their non-resilient peers as resilient employees are more likely to experience positive emotions, better health, develop their own personal resources and transfer their capacity to others. As a result, resilient employees are more loyal and less inclined to quit the organization. Employees with high psychological well-being would not necessarily be motivated to change jobs, which requires an expenditure of valuable time and energy resources to achieve an even greater level of psychological well-being. Conversely, if psychological well-being is low then the employees might be motivated to expend resources to increase it. We argue that if an individual experiences stress on the job (owing to overload) but perceives a fair amount of social support from peers, the resulting strain from experienced role conflict may not occur. Being resilient and having support, a supervisor may make work situations less stressful by discussing family-related problems and remaining flexible when emergencies arise. This type of social support has been found to moderate the relationships among resilience, work-life balance, psychological well-being and retention of employees. In supporting our arguments, our proposed comprehensive conceptual model (Figure 1) explicates the relationship between work stress and psychological well-being and retention through triggering the individual's resilience and work-life balance. In addition**,** we argue how social support in the workplace place a role in ensuring work-life balance, psychological well-being and retention in the face of work stress.

Contributions

Our comprehensive theoretical framework provides a better, more specific guide to both individuals and organizations, who require the extent of resilience to grapple and hold back the stress of work and the demands stemming from domains of work and life. As such, organizations and individuals would cognitively assess the task of mingling work and life/non-work domains. The individual, in turn, can think positively about the demanding situation by positive reframing, and thus potentially contribute to developing resilience to cope with future stresses. Consequently, individuals would feel capable of drawing valuable work and life/family resources and having mastery of both work and nonwork demands would perceive more work-life balance, a growing expectation of today's workforce.

The empirical research that we hope would ensue from our proposed model would revisit extant literature through linking resilience as an antecedent of work-life balance and its relationship to psychological well-being and retention. Similarly, the study would investigate the relationship between work-life balance and psychological wellbeing and retention of employees.

The likely outcome of the study could support employees to think and work creatively, collaboratively, and perhaps even more efficiently in the workplace, which can contribute to greater individual productivity and increased overall company revenue. Potential results from the research would investigate the processes and consequences of resilience on psychological well-being and the intention to leave to know the underlying issues of delicate propinquity to support the organizations. The research would propose a set of guidelines around encouraging organizations, policymakers, government, and other business enterprise on when, why and how to use the concomitant constructs of resilience to sustainably undertake and inform better economic decisions and policy development. More specifically, the research can point to strategically targeted (Jackson, Schuler, & Jiang, 2014) human resource management practices that enhance employee resilience (Lengnick-Hall et al., 2011), while at the same time managing work stress and work-life balance, and providing social support that increases positive outcomes of psychological well-being and retention. Investing valuable resources in selecting and managing high-quality employees is well recognized to foster productivity for organizations through redesigning optimal work arrangements and providing developmental opportunities (Wright & Bonett, 2007).

Conclusion

While research on resilience is emerging, several key challenges that require further attention are acknowledged. The diversity and fragmentation reported within the existing literature requires rigorous and comprehensive analysis. The extant research on resilience has tended to focus at organizational, with little research examining the micro-processes that can link resilience at individual level. This has been coupled with the conceptual nature of existing literature and a dearth of empirical work. Moreover, prior studies have investigated several predictors of resilience including human resource practices, high performance work systems, social competence, job insecurity, and technological capabilities but the influence of work stress on employee resilience and its subsequent effects on work-life balance, psychological wellbeing and retention has not been fully examined. We do not know yet the likely mediating effects of employee resilience and work-life balance between work stress and psychological wellbeing and retention of employees. As well, while we argue that employee resilience is the precursor to, and leads to organizational resilience in time, we did not explicate how this process occurs. In the same vein, empirical work needs to also confirm our argument that employee resilience is developed overtime by successfully managing work stress, thus requiring longitudinal research.

We also strongly recommend that any empirical research take into consideration the larger context of related industry and societal norms (Johns, 2017; 2018). Work stress, both objectively and subjectively, may differ depending on the nature of jobs and industry (Kossek &

Perrigino, 2016) and country (e.g., Houtman, Jettinghoff, & Cedillo, 2007). Norms and expectations with regards to work-life balance may also differ and thus influence how it affects psychological well-being and thus retention.

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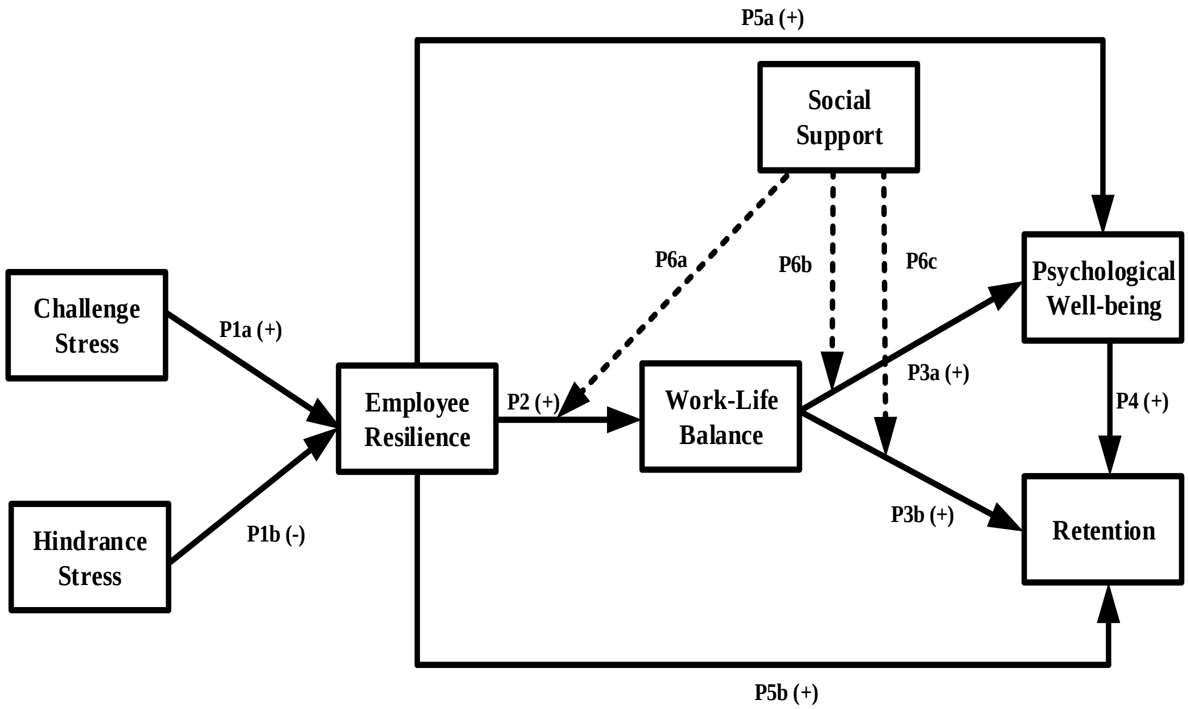
Figure 1

Proposed Conceptual Framework



Embedding Formal Rewards and Effective Communication into Company Culture: A Path to Organizational Agility

ABSTRACT

This study explores the systematic beliefs, attitudes, and values of an organization that could create impediments to agility. Specifically, this study examines the link between the formal reward systems and effective communication processes within an oil and gas exploration and production company in the southwestern United States. This study uses Weisbord's Six-Box Model as a basis to develop a better understanding and evaluation of the reward systems and communication processes of the company. We sample all managers and employees within the exploitation department of the company using a mixed method approach that includes a survey and in-depth interviews. We find that the target organization suffers from four prevailing ailments: negatively impacted relationships, informal communication structures, lack of a formal feedback process, and lack of a formal rewards system. In reaction to these ailments, we propose a two-step intervention process to respond to the issues identified in this study.

Keywords: organization development; agility; communication; rewards strategy; culture

Introduction

The impetus for this study derived from an ongoing organizational issue at an oil and gas production company in the southwestern United States. The company is privately owned and focuses on providing upstream oil and gas investments for institutional partners. Over the past decade, the company has completed multiple acquisitions with several billion dollars in acquisition value, resulting in exponential organizational growth. The subsequent increase in staffing has put pressure on the current management mechanisms, and a variety of problems have begun to emerge throughout the organization. Specifically, the exploitation department of the company found it necessary to conduct the organizational assessment that is the target of this study. The mandate of the exploitation department is to help sustain and enhance the company's oil and gas reserves, production, and revenues. To fulfill this mandate, the exploitation department has substantial interaction with the operational, finance, and business development departments (Figure 1). This interaction is a recursive process that ultimately leads to decisions either to pursue or to shelve potential oil exploration and production projects. Because the company relies on the effective development of oil exploration and production projects to drive bottom-line profitability, the ability of the exploitation department to effectively communicate with the other departments is of critical importance.

[Insert Figure 1 about here]

Detailed communication between the exploitation department and its internal clients has several impediments. These impediments, which include having offices on different floors; answering to different management hierarchies; and the prevalent use of emails, live chats, and phone calls, limit the interaction among departments and diminish the effectiveness of communication. Additionally, the communication issues compound when digital lines of communication are used to conduct the detailed conversations that are necessary to resolve complicated issues. Effective communication and its social meaning are diminished by the absence of visual cues in computer-mediated versus face-to-face communication (Walther & Parks, 2002). Also, individuals tend to overestimate their abilities to communicate through digital media, especially when they must address ambiguous or esoteric topics (Kruger, Epley, Parker, & Ng, 2005). This overestimation further diminishes communication effectiveness when it is not accompanied by feedback and nonverbal cues between senders and receivers of messages.

Diminished effectiveness of communication between the exploitation department and the operations departments has limited the organization's ability to make timely and informed decisions about potential projects, rendering them less agile in response to their external environment. As a consequence, the exploitation department and its internal clients were unable to find and approve many new opportunities that could have added value to the company. While the company's established production continues despite the communication issues, opportunities to increase revenues have been lost. In 2019 alone, several dozen new drill projects were not executed. The potential lost revenue in 2019 for delaying these decisions by one year totaled several million dollars. This lost revenue could increase tenfold over the life of these new drill opportunities.

Literature Review

Our analysis focuses on four themes as the root cause of the target organization's presenting problem of missed revenue: negatively impacted relationships, informal communication structures, a lack of formal feedback, and a lack of formal rewards and incentives. These four themes fall under two overarching issues within the organization, including both communication and reward structure.

Communication

Effective communication is critical for any organization (Barker & Gower, 2010), as it is instrumental in building positive outcomes such as more effective interpersonal relationships between managers and employees and increased team trust (Jarvenpaa & Leidner, 1999). In a study of several companies, Yates (2006) noted a link between high communication effectiveness and improved financial performance. In particular, Yates found that effective communication practices lead to greater employee engagement, which in turn leads to positive employee outcomes such as increased employee retention and greater productivity. These positive outcomes at the employee level ultimately lead to superior financial outcomes for the firm.

Organizations generate these positive financial outcomes through a variety of actions. For example, if an organization has effective communication practices, there may be a number of areas where they excel (Yates, 2006). These areas include important aspects of organizational life such as integrating new employees into the organization, helping employees understand the business, educating employees on the culture and values of the organization, providing employees with information on their total rewards program, and the value of the total rewards strategy (Yates, 2006).

The emphasis on total rewards as a critical aspect of an effective communication practice may appear misplaced at first. However, a properly designed total rewards strategy facilitates discussions between managers and employees on important issues such as the work environment, organizational culture, and corporate goals (Yates, 2006)

Total Rewards

Total rewards refer to the strategic integration of multiple employment factors, such as compensation, benefits, and work–life amenities, into a single human resources management system as a means to increase the attractiveness of the firm to potential employees, increase employee motivation, and decrease employee turnover (Fay & Thompson, 2001; WorldatWork, 2010). Specifically, employees are able to see how their behaviors and achievements affect areas beyond their compensation and, at the same time, how those individual achievements drive firm performance (Yates, 2006). Yates (2006) utilizes a pyramid as a way to visualize the foundational elements of effective communication within an organization (Figure 2). This pyramid shows the foundational elements, which include the integration of a rewards system, as well as the levels of achievement and behavior necessary to create effective communication.

[Insert Figure 2 about here]

Using these insights as a basis, a better picture of the issues within the company comes to light. An examination of Yates's (2006) pyramid allows for a better view of the three foundational elements of effective communication: formal communication processes, employee input or feedback, and a total rewards strategy. As such, informal communication structures, a lack of formal feedback, and a lack of a formal total rewards strategy can create communication issues. Further, these communication issues negatively impact the firm's financial performance directly through the loss of revenue. To effectively remediate these losses, any chosen course of action must be congruent with the firm's organizational culture (Schein, 2017). Therefore, it is necessary to understand organizational culture better.

Organizational Culture

Organizational culture is commonly defined as the shared accumulated learning of an organization as it finds solutions to problems that consistently work well enough "to be taught to new members as the correct way to perceive think, feel, and behave in relation to those problems" (Schein, 2017, p. 6). This accumulated learning forms the organization's values and behavioral norms that will "come to be taken for granted as basic assumptions" (Schein, 2017, p. 6). With a better understanding of organizational culture in hand, there is a need to put a framework in place to help assess and organize this complex topic.

While organizational culture will vary between firms, it can be categorized according to various types using the competing values framework (CVF)—a widely used typology that assesses culture based on two dimensions, each of which reflects two distinct competing values

(Cameron & Quinn, 2011; Madhani, 2014). The first dimension is the extent to which an organization values flexibility and discretion versus stability and control. The second dimension is the extent to which an organization values internal focus and integration versus external focus and differentiation. Together, the two dimensions produce four quadrants (Figure 3), each representing a distinct type of organizational culture (Cameron & Quinn, 2011; Quinn & Rohrbaugh, 1983). A better understanding of how to categorize and intervene within an organization results from an understanding of these cultural types. The following discussion addresses the adhocracy culture (seen in the upper-right quadrant of Figure 3) that is exhibited by our target organization.

[Insert Figure 3 about here]

Adhocracy cultures are represented by “entrepreneurial, future-oriented and innovative workplaces that encourage individual initiative and adaptability” (Madhani, 2014, p.108). This type of culture tends to be highly creative and emphasizes informality and originality over formalized controls. Adhocracy cultures are normally associated with organizations that rely on specialized talent and innovation, and that value vision, innovation, and creativity. Another characteristic of this type of culture is that it is often found in organizations with dynamic environments, such as high-tech, aerospace, software, consulting (Cameron & Quinn, 2011; Madhani, 2014), and, in this case, the oil and gas exploration industry.

The Relationship Between Rewards and Culture

In order to explore the root cause of the problems facing the adhocracy culture in the target organization, we must better understand how rewards affect an organization’s culture. Schein (1984) states that an “organization cannot survive if it cannot manage itself as a group” (p. 10). In order for an organization to survive, it must continue to grow and evolve by adapting to changes in its internal and external environments; in other words, it must be agile. As the environment changes and new behavioral responses are necessary, the organization must therefore allocate rewards and punishments in a manner that is clearly understood by employees. Schein (1984) highlights the importance of these reward and punishment policies when he states that “every group must know what its heroic and sinful behaviors are; what gets rewarded with property, status, and power; and what gets punished through the withdrawal of rewards and, ultimately, excommunication” (p.11). Studies have shown that a clear, well-understood system of rewards heavily influences the way employees behave and respond to internal and external challenges (Birkinshaw & Ridderstrale, 2015; Bushardt, Lambert, & Duhon, 2007; Guzak, Crandall, & Alavinejad, 2017). As noted previously, rewards are a holistic value scheme that includes compensation (e.g., base pay, short-term incentives, long-term incentives), benefits (e.g., healthcare, work–life balance, retirement), and growth opportunities (e.g., training, career development, career progression) (Gross and Friedman, 2004). Rewards are all of the tangible benefits and provisions an employee can obtain as part of an employment relationship (Milkovich & Newman, 2004). With the many components of a rewards system, employers would be remiss to ignore any of the areas due to their importance in the value scheme.

Equally, an organization would be remiss to ignore the importance of a total rewards strategy. The primary purpose of a total rewards strategy is to retain employees and enhance the financial performance of the organization (WorldatWork, 2010). For organizations to create and maintain an effective total rewards strategy, they need to (a) have quality information about how various rewards are likely to motivate employees, (b) effectively analyze the information to make better decisions on how to structure the reward strategy, and (c) subsequently evaluate the impact of those decisions (Gross & Friedman, 2004). It is crucial to understand how the system interacts with the organization's culture. An organization's culture can influence the way the reward or the withdrawal of the reward (i.e., punishment) shapes individual behavior and performance (Bushardt, Lambert, & Duhon, 2007; Henri, 2006; Schein, 1984, 2017). Rewards systems, including formal compensation systems and organizational culture, "are not two independent events but rather two interrelated systems that interact to affect organizational behavior" (Bushardt, Lambert, & Duhon, 2007, p. 67). Therefore, an organization must be cognizant of its culture, its rewards system, and how these two important parts of the organization interact.

Research Methods

The underlying research question for this study is, Do the current interaction and communication dynamics between the exploitation department and the rest of the organization result in decreased organizational effectiveness? In order to answer this question and better understand how communication and rewards function within the target organization, we utilized a survey questionnaire followed by a series of in-depth interviews. The methodology started with a survey of all 10 members of the exploitation department in order to provide a quick way to determine the focus of questions to be included in the subsequent interviews. The survey group included one executive, one middle manager, and eight front-line employees. The participants represented a wide range of educational and professional backgrounds. Geologists, reservoir engineers, operations engineers, geographic information systems (GIS) technicians, and geologic technicians were all represented. Additionally, the participants possessed professional experience that ranged from three to 45 years and experience with the target organization that ranged between one and eight years. Other demographic variables within the participant group included more limited ranges. For example, nine of the 10 participants were male, and eight of the 10 participants were white. While this demographic profile of survey participants might not represent the larger working population of the United States, it is closely aligned with the overall demographics of the organization.

The survey consisted of the 35-item Organizational Diagnosis Questionnaire (ODQ; Preziosi, 1980) based on Weisbord's (1976) Six-Box Model, as well as the additional assessment of attitude toward change (Appendix A). The instrument asked respondents to indicate how accurately each statement described their organization, using a Likert-type scale from 1 (*agree strongly*) to 7 (*disagree strongly*). The statements covered the six boxes represented in Weisbord's (1976) model—purposes, structure, rewards, helpful mechanisms, relationships, and leadership—as well as attitude toward change. Statements related to these aspects are intermingled throughout the questionnaire, and the ordering of the statements takes into consideration the effects of potential anchoring, addition, subtraction, and evenhandedness (Tourangeau & Rasinski, 1988).

Per Preziosi's (1980) guidance, we utilized this interpretation of the survey to set up and focus the interview process as we looked for reasons why the dysfunction exists within the organization. We selected a subgroup of three participants within the exploitation department to answer questions pointed toward the key issues highlighted in the survey. These three interview participants were chosen to ensure a range of experience in professions, professional tenure, and connections within the organization. The participants included one female and two males who held a management or non-management position. The range of their professional experience was between two and 15 years, and their organizational tenure ranged between 18 months and five years. All three participants' day-to-day jobs necessitate both intra- and interdepartmental communication and service. Although we did not choose the interview participants at random, we believe that this deliberate selection of participants allowed for an extensive and varied set of responses.

We developed a series of interview questions and themes based on Weisbord's (1976) original description of the Six-Box Model (Appendix B) and created an interview script that served as the data collection tool for these interviews. Each question was open-ended in order to avoid bias, keep from leading the respondent, limit technical jargon, be concise, and frame the questions as neutral. The series of 20 interview items included questions such as "Are there proper incentives for doing your work?," "Do you feel that the structure of the organization allows everyone to reach their goals?," and "What formal organizational procedures and policies are in place to help you complete your work effectivity and efficiently?." We limited the number of questions asked during the interviews in reaction to information gleaned from the survey questionnaires. As discussed later, based on the survey results, we decided to only ask those interview questions (that is, 10 out of the 20 possible interview items) related to rewards, structure, and helpful mechanisms topics. The interviewer made recordings of the three interviews, ranging between 17 and 28 minutes, which were made after receiving informed consent from each participant.

Data Analysis

Survey Analysis

Following the scoring instructions of the ODQ (Preziosi, 1980), the 35 items were divided into seven categories based on the questionnaire's scoring sheet: purposes, structure, leadership, relationships, rewards, helpful mechanisms, and attitude toward change (Table 1). For each item, the individual results for the seven Likert-type response variables were tabulated. Response variables with scores between one and three were considered favorable, a score of four was considered neutral, and scores between five and seven were considered negative. Consistent with the alternative diagnostic approach included in the scoring instructions (Preziosi, 1980), we identified those categories that received response variables with a score of greater than 4 for any interview item as potentially problematic.

[Insert Table 1 about here]

While all categories received overall favorable results (i.e., an overall average score of less than 4), four categories received individual responses with a score greater than four: rewards, relationships, helpful mechanisms, and attitude toward change. The use of the negative side of the scale indicated that there could be concerns, or gaps, associated with that category. By far, the category with the largest potential concern was that of rewards, which had seven individual responses to questions with a score greater than four. The categories of relationships, attitude toward change, and helpful mechanisms each had between one and three individual responses to questions that received a score greater than four.

In order to further analyze the survey data, we utilized the formal scoring protocol set out by Preziosi (1980). First, we created a single score for each question. Second, we categorized each of these single scores. This categorization corresponded to the seven categories measured and resulted in five single scores per category. Third, we summed each of these categories to get an overall category score. Finally, we found an average score across each category.

Based on the interpretation guidance outlined by Preziosi (1980), we assessed the amount of variance for each in relation to a score of 4 (Table 1). The categories of rewards, helpful mechanisms, and attitudes toward change had the three highest overall average scores of 3.02, 2.20, and 2.32, respectively, followed closely by the category of structure, with a score of 2.18. From this analysis, we confirmed the need to evaluate those categories further.

Although the primary topics of interest were clear, another area presented a potential problem. The category of relationships had a low overall average score of 1.92, but a specific question within that category indicated there might be an underlying issue. For question 32, "There is no evidence of unresolved conflict in this organization," four, or 40%, of the participants scored the question as either neutral or disagree slightly. Based on the diagnosis guidance outlined in Preziosi (1980), an appropriate diagnosis should keep relationships between areas in mind when delving deeper into problem areas in order to determine if issues are interconnected. As we conducted the analysis, we looked for any connection between this topic and the categories selected for further evaluation. In addition to the potential issue regarding relationships, we also found that the exploitation department's attitude toward change might be limited, which provided us insight on the challenges we may face in the intervention portion of our study.

Interview Analysis

After completing the analysis of the initial survey and interview result, we utilized thematic analysis to map the recurring topics onto Weisbord's Six-Box Model. The thematic analysis provided a flexible avenue for finding, analyzing, and classifying patterns within our data (Braun & Clarke, 2006). By following a process mapped out by Braun and Clarke (2006) that includes familiarization with the data, an initial coding and search for themes, a review of those themes, and defining the themes, we further explored the target organization's dysfunction.

The inductive coding was performed manually using NVivo 12 qualitative data analysis software. The results of the inductive coding were compared, and intercoder reliability was 80%, which is acceptable in most situations (Neuendorf, 2002). The interview coding was a recursive process in which the codebook was modified as new words, concepts, or ideas emerged. Once the coding was completed, the results of the coding were compared, with each of the team members reporting consistent coding across all three interviews.

The prevailing themes identified from the interview coding were compared with the quantitative results from the ODQ. The prevailing themes, particularly those related to employee rewards, were corroborated by the questionnaire results. Further, each of the identified themes is consistent with a potential gap between formal and informal processes associated with the structure and rewards components of the Weisbord Six-Box Model.

The content analysis identified four main themes that emerged from the interviews. The first main theme is how relationships between business units (e.g., intergroup relationships) are negatively impacted by the current state of the organization. For the participants interviewed, relationships had 45 references coded, which comprised 44% coverage of the interviews (Appendix C). Additionally, structures had 19 references coded, which comprised 22.89% coverage of the interviews. All three participants appeared to make references toward the overall state of the relationships between business units, and they clearly referred to the overall structure as “informal.” When asked about the formal organization procedures and policies, participants made comments such as “There's been a concerted effort, I think, on both sides to ‘play nice’ and work well together. But there's also been moments where there's been some headbutting and some disagreements.” Participants also referenced the overall environment within the organization. One participant said, “I think [the organization] is a company where it's definitely less of a team environment than an individual environment, especially when it comes to operations." That environment extends out and affects the entire organization. Another participant stated that there is sharing and communication between themselves and their team members, but that when it comes to operations and other parts of the company outside their assets, "I don't ever talk to them." Taking these specific responses and the overall responses in concert, we believe that the intergroup relationships have more flaws than initially found in the survey results.

This finding was significant because the category of relationships was not scored negatively by the survey participants. Although participants scored the general environment as favorable, their dialogue in the interviews indicated some unresolved struggles within the overall environment. It is possible that the state of the relationships between business units is creating an inability for personnel to effectively communicate with each other, which is allowing conflict to continue without resolution.

The informal communication structure represents the second main theme found in the interviews. While all three participants appeared to take a neutral tone toward the overall state of communication within the organization, at the same time, they clearly referred to that communication as informal. Communication had 25 references coded, which comprised 27% coverage of the interviews. When asked about the interaction between other work units and the exploitation department when help is needed, the dichotomy of communication within the organization is seen. For example, one participant stated, “I feel like, in that sense, it's a one-way street . . . and maybe this [is] because it's somewhat informal, but in some cases, there's great communication.” We ended up asking participants specifically about their interaction outside of their group. Once again, there were references to the informal state of communication. One participant stated, "I feel like there is absolute need and expectation that we communicate, but I don't think there is [communication]. I feel like there is a perception that [it] is optional."

These quotations highlight the lack of structured communication, which appears to be causing problems in the third main theme identified: the lack of formal feedback. All of the participants spoke about the lack of consistent feedback. When asked about the organization's ability to make changes to mechanisms like the interaction between groups, one participant referenced their direct impact. The participant stated that management has opportunities to give personal and formal feedback, but that they "don't take the opportunity to do that quite often." Another participant could not remember a time when they received positive feedback on an accomplishment, stating that “I can't think of anything where they're, like, ‘Hey, you did a really good job of this. Here's x, y, z, whatever, because of that.’” This final quote hints that not only is there an issue with formal feedback, there might also be an issue with the rewards system.

The fourth main theme identified during the analysis was the lack of formal rewards and incentives. All three participants made numerous references to the rewards and incentives environment. During the coding phase, rewards and incentives were noted as “formal reward” (nine references, or 7% coverage), “informal reward” (13 references, or 12% coverage), and “incentives” (20 references, or 14% coverage). Participants continually referenced different components of the performance management process and incentives. One participant spoke about the incentive program, stating that "From a formal standpoint, there's not any kind of incentive from, like, a monetary or even a recognition standpoint." The participant went on to talk about not only the lack of incentives, but the lack of a formal review process to validate incentives. Other participants commented on the incentives for their work by stating that “There is no incentivized alignment” and that incentives are more intrinsic, such as satisfaction with one’s own work, duty to the company, and personal responsibility. Although participants did not appear to speak about the reward system with a negative tone, they clearly had accepted the environment and understood that rewards were going to come more from personal satisfaction than from a formal structure. Throughout the interview process, we saw that the rewards system issues highlighted by the survey appear to be a clear issue despite the neutral tone of the interviewees.

Discussion

The interviews gave insight into the participants' thoughts on the organization's environment. A review of the participants' feedback identified concerns about the lack of formal lines of communication within the organization. This informal atmosphere appears to be causing issues with how different groups relate to one another, how the organization communicates both within and between business units, how the organization provides feedback to employees, and how employees are rewarded for their work. Our original diagnosis of the organization issue was that, despite the relatively simple lines of communication within the organization, the company still suffers from a variety of impediments to this communication (e.g., physical separation, email fatigue, reliance on technology, limited face-to-face communication). Further, these communication issues inhibit the efficiency and efficacy of the organizations' decision-making process. Lost revenue results from this communication and decision-making breakdown. Based on the feedback from the participants and the analysis of the data collected, we can confirm this original diagnosis.

The interaction between departments, groups, and teams suffers because employees are not aware of how the different parts of the organization should interact and who controls decisions. The informality also bleeds into how communication occurs within the organization. While employees feel free to visit anyone's office or trade emails to get the information they need, there is also a feeling that communication depends on individual personalities or motivations. If the goals or work of an employee do not overlap with those of other individuals, this misalignment of goals creates a lack of communication, which is also present at the management level.

Neither front-line employees nor managers provide proper feedback. Employees may have goals, they may reach those goals, and they may have done a good job, but a formal feedback mechanism is not in place to help everyone understand what they are doing well or where they need improvement. Each of these deficiencies is highlighted by the lack of formal rewards within the organization. The organization does not reward coordinating work among departments, answering calls for help, achieving goals, or improving performance based on feedback. The organization does not reward a formal environment, and, therefore, the organization remains informal in all aspects.

Intervention

With the organizations' goal of making changes to improve in these areas, we propose a two-step intervention process. First, we suggest designing two interventions relative to the performance management process. The first intervention will be in the area of individual goal setting. The intention of this type of intervention is to increase planning for performance improvement. The second intervention activity will be the performance management system itself. The intention of this intervention is to institutionalize the methods for measuring employee performance and providing feedback to the employee on their performance (McLean & Sullivan, 1989; Sullivan & Sullivan, 1995). We feel that these two interventions create a good starting point for building a complete total rewards system within the target organization. These actions provide the organization the ability to start with a smaller implementation, which can be monitored and reviewed with minimal additional bandwidth required of management (Sullivan

& Sullivan, 1995). If successful, it could be the catalyst for the continued march toward a more comprehensive rewards program.

As part of organizational change, both high-level and specific models can be used to help the organization through this intervention process. For the company to facilitate the two intervention activities outlined, we suggest the following actions based on Lewin's (1947) Change Model, which consists of the three stages of unfreezing, transition, and refreezing. First, company management should unfreeze the current culture by implementing a more open environment that encourages communication and leadership actions from all of its employees. Management must disconfirm the status quo, eliminate any pointing of fingers and guilt, and create psychological safety for employees as they experience the transition to a more open environment. Without a safe environment in which employees are more willing to accept new information and realize that old behaviors are no longer acceptable, permanent change will not easily occur (Schein, 1996). Additionally, management should own the change process while also including employees in the creation of specific goals that are clearly communicated to all employees (Schein, 2017). Without this engagement by both management and employees, there is a strong possibility that the commitment will be reduced when the plan is inevitably challenged (Argyris, 1970).

Regarding the rewards systems, management must identify which attributes to reward and what types of rewards to offer (SHRM, 2007). For our target organization, we recommend starting with the creation of specific communication and interaction goals. These goals would have success criteria built into individual yearly performance management plans, which in turn should be directly tied to the yearly merit increases for employees, beginning with the 2020 performance management cycle.

The implementation of a new rewards structure falls apart without the final step of refreezing the changes through communication, leadership, and the enforcement of newly accepted company behaviors. Without the refreezing mechanism, the employees will simply fall back into old habits and revert to the status quo (Schein, 1996). The company will continue to suffer the current communication issues, and these issues will continue to inhibit the efficiency and efficacy of the organizations' decision-making process as well as continue to contribute to the loss of potential revenue.

Conclusion

In our initial assessment of the target organization, we focused on the interdepartmental interaction between the exploitation department and the other departments within the operational units. Because of limited ongoing interaction, the current state of communication between the exploitation department and the operations departments was thought to be deficient and thus limited the ability of the organization to make timely and effective decisions. With this underlying assumption, our original diagnosis of the organization issue was that the company suffers from a variety of impediments to communication (e.g., physical separation, email fatigue, reliance on technology, limited face-to-face communication). Further, these communication issues inhibit the efficiency and efficacy of the organization's decision-making process. Lost revenue results from this communication and decision-making breakdown, with upwards of $5 million forgone each year. Based on the feedback from the participants, the analysis of the data collected, and our review of the literature, we can confirm this original diagnosis.

Survey and interview results highlighted concerns about the impact of the overall informal structure of the organization on how different groups relate to one another, how the organization communicates both within and between business units, how the organization provides feedback to employees, and how employees are rewarded for their work. Our final diagnosis for the organization concludes that the interaction between departments, groups, and teams within the organization suffers from an inability to know how the different parts of the structure should interact and who controls decisions. The informality also characterizes communication within the organization. Formal communication lines have not been laid out, and management's informal communication style perpetuates this. Neither front-line employees nor managers provide proper formal feedback to employees to inform them of their progress toward established goals and help them understand where improvement is needed.

In addition to these issues, the lack of formal rewards within the organization does not recognize nor encourage coordinating work among departments. The organization does not reward a formal environment, and, therefore, the organization remains informal in all aspects. Effective communication starts in part with the creation of a formal rewards structure. As past studies indicate (Bartol & Srivastava, 2002; Hansen, Nohria, & Tierney, 1999; Liebowitz, 2003), the creation of a formal rewards structure helps alleviate the most toxic theme we found during our analysis of the organizational environment, that of rewards.

Without the successful implementation of an intervention that promotes an open environment built on foundations of communication and the reinforcement of acceptable behavior through the rewards structure, the status quo will prevail (Schein, 1996). The interventions outlined earlier will allow the organization to become more agile in its responses to opportunities. This agility in decision-making will make the company more competitive in a dynamic energy market where being able to jump on new opportunities (e.g., acquisitions, new drilling prospects, updated marketing contracts) can be the difference between continued success and failure.

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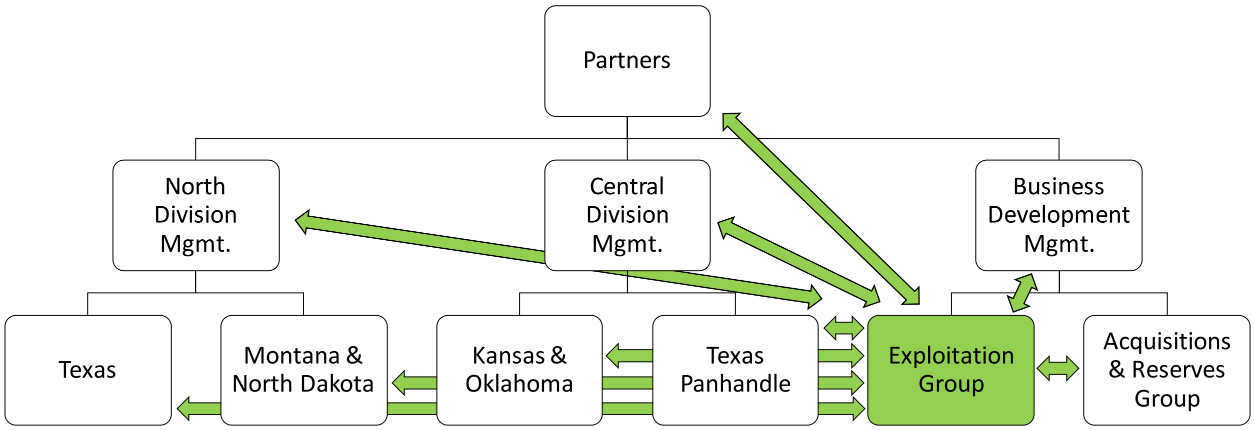


Figure 1. Exploitation Department cross-communication within the organization.

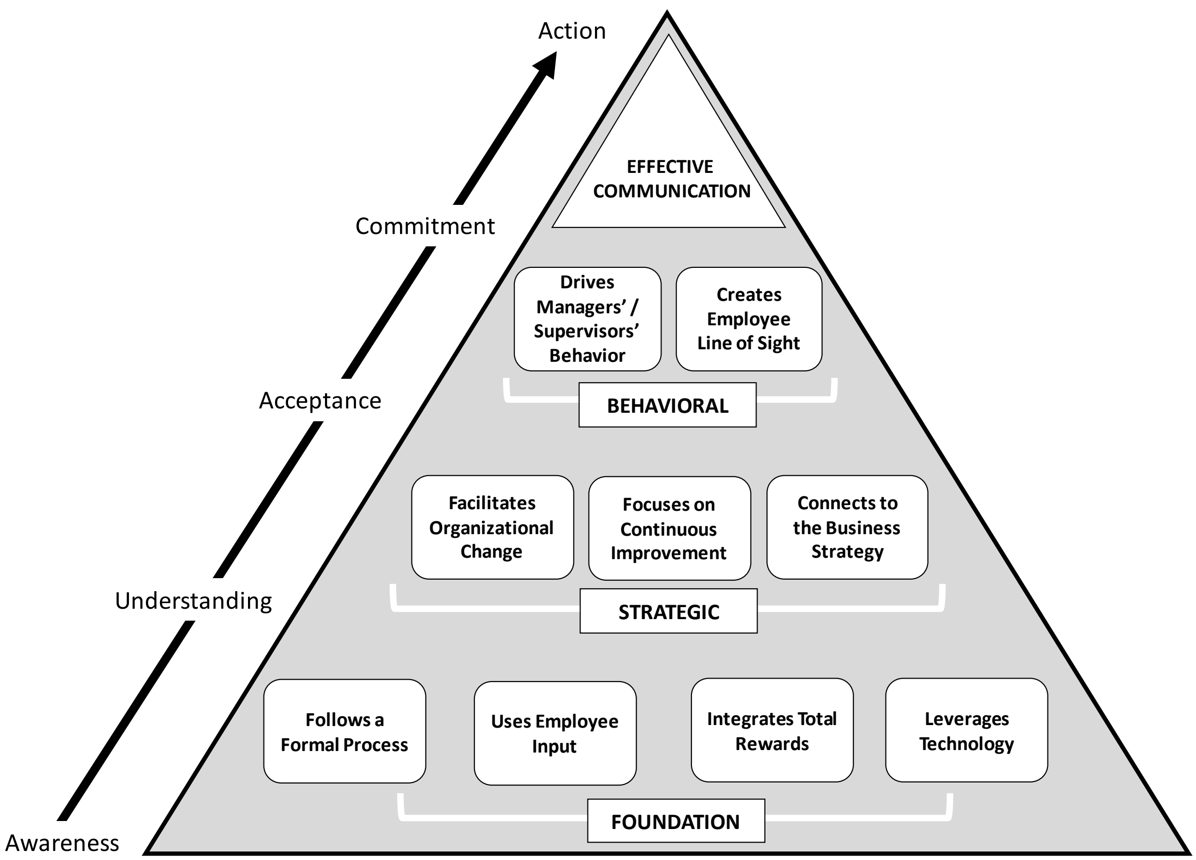


Figure 2. Pyramid of effective communication (Yates, 2006).

Figure 3. Competing Values Framework (Cameron & Quinn, 2011).

Purposes		**Structure**		**Leadership**		**Relationships**		**Rewards**		**Helpful Mechanisms**		**Attitude Toward Change**	
Ques #	Score	Ques #	Score	Ques #	Score	Ques #	Score	Ques #	Score	Ques #	Score	Ques #	Score
1	16	2	23	3	15	4	13	5	21	6	14	7	24
8	15	9	21	10	22	11	15	12	29	13	30	14	25
15	13	16	20	17	20	18	20	19	34	20	24	21	28
22	19	23	25	24	17	25	20	26	28	27	20	28	20
29	16	30	20	31	16	32	28	33	39	34	22	35	19
Total	**79**		**109**		**90**		**96**		**151**		**110**		**116**
Avg.	**1.6**		**2.2**		**1.8**		**1.9**		**3.0**		**2.2**		**2.3**

Table 1. Individual Question Scores, Total Scores, and Averages of the Seven Categories Measured.

Appendix A

ORGANIZATIONAL DEVELOPMENT QUESTIONNAIRE

Directions: Do not put your name anywhere on this questionnaire. Please answer all thirty-five questions. *Be open and honest.* For each of the thirty-five statements, circle only *one (1)* number to indicate your thinking.

		Agree Strongly	Agree	Agree Slightly	Neutral	Disagree Slightly	Disagree	Disagree Strongly
1	The goals of this organization are clearly stated.	1	2	3	4	5	6	7
2	The division of labor of this organization is flexible.	1	2	3	4	5	6	7
3	My immediate supervisor is supportive of my efforts.	1	2	3	4	5	6	7
4	My relationship with my supervisor is a harmonious one.	1	2	3	4	5	6	7
5	My job offers me the opportunity to grow as a person.	1	2	3	4	5	6	7
6	My immediate supervisor has ideas that are helpful to me and my work group.	1	2	3	4	5	6	7
7	This organization is not resistant to change.	1	2	3	4	5	6	7
8	I am personally in agreement with the stated goals of my work unit.	1	2	3	4	5	6	7
9	The division of labor in this organization is intended to help it reach its goals.	1	2	3	4	5	6	7
10	The leadership norms of this organization help its progress.	1	2	3	4	5	6	7
11	I can always talk with someone at work if I have a work-related problem.	1	2	3	4	5	6	7
12	The pay scale and benefits of this organization treat each employee equitably.	1	2	3	4	5	6	7
13	I have the infonnation that I need to do a good job.	1	2	3	4	5	6	7
14	This organization introduces enough new policies and procedures.	1	2	3	4	5	6	7
15	I understand the purpose of this organization.	1	2	3	4	5	6	7
16	The manner in which work tasks are divided is a logical one.	1	2	3	4	5	6	7
17	This organization's leadership efforts result in the organization's fulfillment of its purposes.	1	2	3	4	5	6	7
18	My relationships with members of my work group are friendly as well as professional.	1	2	3	4	5	6	7
19	The opportunity for promotion exists in this organization.	1	2	3	4	5	6	7
20	This organization has adequate mechanisms for binding itself together.	1	2	3	4	5	6	7
21	This organization favors change.	1	2	3	4	5	6	7
22	The priorities of this organization were understood by its employees.	1	2	3	4	5	6	7
23	The structure of my work unit is well designed.	1	2	3	4	5	6	7

		Agree Strongly	Agree	Agree Slightly	Neutral	Disagree Slightly	Disagree	Disagree Strongly
24	It is clear to me whenever my boss is attempting to guide my work efforts.	1	2	3	4	5	6	7
25	I have established the relationships that I need to do my job properly.	1	2	3	4	5	6	7
26	The salary that I receive is commensurate with the job that I perform.	1	2	3	4	5	6	7
27	Other work units are helpful to my work unit whenever assistance is requested.	1	2	3	4	5	6	7
28	Occasionally I like to change things about my job.	1	2	3	4	5	6	7
29	I had enough input in deciding my work-unit goals	1	2	3	4	5	6	7
30	The division of labor in this organization actually helps it to reach its goals.	1	2	3	4	5	6	7
31	I understand my boss's efforts to influence me and the other members of the work unit.	1	2	3	4	5	6	7
32	There is no evidence of unresolved conflict in this organization.	1	2	3	4	5	6	7
33	All tasks to be accomplished are associated with incentives.	1	2	3	4	5	6	7
34	This organization's planning and control efforts are helpful to its growth and development.	1	2	3	4	5	6	7
35	This organization has the ability to change.	1	2	3	4	5	6	7

Appendix B

INTERVIEW SCRIPT

Six Box Model Questions

Purposes:

- What do you understand the larger organization's goals to be? (Probe: Department goals? Interdepartmental Goals?)
- How do you feel about your organization's goals? (Probe: Department goals? Individual goals?)
- How well do your personal goals align with the organization's goals?
- What do you understand to be the purpose of this organization/department, etc?

**Structure:*

- Do you feel that the structure of the organization allows everyone to reach their goals? (Probe: Does the department structure help? Does the Exploitation Group help?)
- How do you interact inside and outside of your department?

**Rewards:*

- Are there proper incentives for doing your work? (Probe: Individual? Departmental? Interdepartmental?)
- What are the informal rewards in the organization?
- What do you feel rewarded or punished for doing?

Relationships:

- How would you characterize the nature of your work relationships with others within your department? (Probe: With people in other departments? Have you established relationships that are needed to properly perform your work?)
- How does the organization handle conflict or disagreement among employees? (Probe: Is conflict handled inside the department handled differently than conflict between department?)

Leadership:

- Does your leader define the purpose of your work? (Probe: Does your leader work toward defend this purpose themselves? Do they walk the walk instead of only talking the talk?)
- Does your leader defend institutional integrity?
- How does your leader facilitate you getting your work done? (Probe: How does your leader facilitate getting department goals completed?)
- Does the leadership team have traditions or norms of behavior? (Probe: Do these norms of help the organization's progress toward its goals?)

**Helpful Mechanisms:*

- What formal organizational procedures and policies are in place to help you compete your work effectivity and efficiently?
- How are these systems used?
- To what extent is quantitative data fed back to you so that you can make changes?
- How do other work units provide help to your unit when assistance is requested?
- How effectively and efficiently does the organization make necessary changes?

*Questions asked as part of interview

Appendix C

CODING STATISTICS

Theme	Participant	References	Coverage
Change	1	4	3.30%
	2	4	1.62%
	3	3	3.19%
Total		11	8.11%
Communication	1	10	11.00%
	2	6	6.36%
	3	9	9.12%
Total		25	26.48%
Feedback	1	7	5.17%
	2	4	3.31%
	3	12	14.37%
Total		23	22.85%
Formal Reward	1	6	4.61%
	2	1	0.39%
	3	2	1.98%
Total		9	6.98%
Goals	1	4	2.67%
	2	7	5.34%
	3	0	0.00%
Total		11	8.01%
Incentives	1	10	7.89%
	2	4	1.69%
	3	6	4.22%
Total		20	13.80%
Informal Reward	1	7	5.30%
	2	2	3.15%
	3	4	3.58%
Total		13	12.03%
Policies and Procedures	1	10	6.90%
	2	1	0.42%
	3	5	4.31%
Total		16	11.63%
Punishment	1	4	1.70%
	2	1	1.11%
	3	6	5.95%
Total		11	8.76%
Relationships	1	21	24.85%
	2	17	12.70%
	3	7	8.11%
Total		45	45.66%
Resources	1	0	0.00%
	2	0	0.00%
	3	4	19.54%
Total		4	19.54%
Structure	1	7	8.46%
	2	7	8.63%
	3	5	5.80%
Total		19	22.89%

Is too much Corporate Social Responsibility (CSR) bad for business? An empirical analysis of the CSR and Corporate Social Performance relationship.

ABSTRACT

With Corporate Social Responsibility's (CSR) widespread proliferation comes the risk of its redundancy as managers emulate best practice campaigns. If practitioners could manage CSR as a strategic capability to enhance social performance reputation, a resource-based social competitive advantage could be attainable. Typical CSR initiatives are no longer sufficient in deriving long-term value and instead, add to a firm's cost. This study conceptualizes CSR as a strategic capability (1) derived from specific organizational competencies; (2) enacted as an input source of a firm's strategic pursuit of producing corporate social performance (CSP) ; and (3) embedded within a firm's core strategy to produce a barrier to imitation and ensure sustainability. If enacted as such, then CSP, akin to corporate financial performance (CFP), would represent a meaningful performance benchmark of the firm.

The paper provides a framework for examining CSR's efficacy in creating a competitive social advantage for the firm. The study finds support for the use of a novel or differentiated CSR initiative to enhance CSP ratings and garner advantage of corporate social performance. No study has considered the *differentiation of one's CSR and practice* from other initiatives undertaken by competing firms. Consistent with the resource-based theoretical perspective, when CSR can be enhanced, maintained and not duplicated, it can act as a strategic capability to generate social competitive advantage.

Introduction

This research is motivated by the general field-level observation that not all CSR activities yield the same benefit for firms investing CSR. If CSR initiatives can have varying impact on corporate social performance (CSP), the outcome measure of CSR, then varying the CSR should inform our understanding of how it leads to improved social performance. This would be accomplished by casting CSR as a strategic capability. When doing so, it is conceivable from a resource-based perspective that a social reputation advantage would be attainable. Thus, the paper's general inquiry: *Is CSR's widespread adoption among industry actors undermining its ability to differentiate and add value to an individual firm?*

As a strategic capability, the identification of the characteristics of CSR that drive enhanced CSP become salient to future research, driving the following related yet specific inquiries: 1) When viewed as a strategic capability, what characteristics of CSR are likely to produce a resource-based social advantage? 2) Will a firm outperform industry rivals in CSR-based reputation when applying the proposed CSR characteristics?

KPMG reports 71 percent of firms surveyed engage in corporate social responsibility investment activity (KPMG, 2013). The Government and Accountability Institute charted the rapid growth in corporate sustainability reporting among S&P 500 companies and found sustainability reporting rose from just 20% of the companies reporting in 2011 to 81% in 2015 (G&A Institute, 2016). This mainstream proliferation of CSR adoption drives the need for a more comprehensive understanding of CSR's specific characteristics that will better meet societal and economic objectives and more effectively motivate future research. A trend toward the reorienting of research is underway with emphasis on uncovering what specific characteristics of CSR are needed to succeed in social performance (Wang, Tang, Takeuchi, & George, 2016). Firms are being held to a higher CSR standard, thus managing CSP ratings (via firm CSR activities) and rankings (relative to industry peers) have become paramount toward improving social standing and overall corporate reputation (Bansal, Slawinski, & Maurer, 2008). An important difference between this research and the present literature on CSR is its emphasis on the first order relationship between CSR and CSP. Existing literature has exhaustively focused on the CSP-CFP relationship, or second order relationship and attempts to relate social performance to firm financial performance. Yet, the empirical findings to date are weak and ambiguous (Lee, Fairhurst, & Welsey, 2009; Margolis, Elfenbein, & Walsh, 2009; Orlitzky, Schmidt, & Rynes, 2003), continuing to confound scholars concerning CSR's value and efficacy who question: what conditions social benefits create greater value over costs for organizations? However, Blake (2017) asserts firms can derive value from their CSR programs by signaling legitimate CSR intention through the implementation of a quality CSR program via its built-in and differentiated characteristics and build a social competitive advantage.

The paper contributes to the CSR literature by giving exclusive attention to the concept of a novel and differentiated CSR for distinguishing a firm's CSP from its direct competitors. The remainder of the paper is organized as follows. First, it reviews current literature on CSR-based reputation. It then presents hypotheses to consider main and moderating effects of differentiated and built-in CSR initiatives on firm reputation. The following section offers empirical results of research analysis. Lastly, concluding section discusses implications for research and managerial practice as well as limitations and opportunities for future research in what continues to be a very rich and rewarding field of inquiry.

Literature Review and Theoretical Development

Corporate Reputation

Building on recent conceptual advances in the corporate reputation literature, the study seeks to theorize and advance empirical work to propose two key characteristics, relevant to Dowling & Moran's (2012) reputation building framework, are needed to build social corporate reputation: (a) points of difference, or the level of uniqueness in CSR strategy relative to competitors' CSR initiative and (b) points of proof, or the built-in approach, defined as one which is embedded and aligned within a firm's core strategy. The empirical findings of this study suggest deployment of these two characteristics, per Dowling and Moran's (2012) assertion, will enhance CSP-based reputation relative to rival firms. Moreover, an amplified CSP may produce greater and persistent CSP-based advantage for the long term.

The Resource-Based View and CSR

CSR can be an important source of social advantage and one over which managers have control. According to the resource-based view of the firm, four criteria need to be met in order for a strategic capability to offer an advantage: the capability would have to add *value* to the firm, it would have to be *rare* among its competitors, it would have to be *inimitable* or difficult to replicate and *non-substitutable,* known as the VRIN criteria (Barney, 1991). Therefore, the resource-based view offers an important framework for CSR researchers and practitioners to apply when analyzing how CSR activity can be best leveraged and assessed. This is important for two reasons: (1) RBV emphasizes the salience not only of firm resources, but firm capabilities, or how a firm transforms its resources into capabilities that can provide strategic advantage; and (2) it recognizes the significance of intangible assets such as a firm's reputational performance. The following offers the hypotheses developed within the parameters of the VRIN criteria.

CSR must be valuable

A firm can achieve rents not because it has better resources, but because it has a distinctive competence to better use its resources (Penrose, 1959: 54). Valuable resources generate above normal profits when properly captured and applied by a firm. Stakeholders look for evidence of formalized firm CSR activity when judging a firm's CSP-based reputation. CSR activity is often reported by the firm to demonstrate its willingness to go beyond compliance to engage in actions that appear to further some social good, beyond the interests of the firm, (McWilliams & Siegel, 2001: 117). CSR reporting activity is valuable for its contribution to the overall corporate identity for a positive CSP-based reputation. Strong social reputation attracts investors, customers and employees to the firm and reduces cost of contracts, rendering the CSR a valuable strategic capability toward the goal of ongoing social performance reputation building. Moreover, a built-in CSR will fortify any broader firm differentiation or innovation strategies being utilized by demonstrating a credible implementation of CSR grounded in the firm's foundation, setting clear expectations for future behavior, generating trust and confidence among stakeholders. Lastly, strong social reputation may work synergistically with other firm image and reputation building strategies. Therefore, the first hypothesis is:

H1: Evidence of a CSR initiative will have a positive effect on CSP.

CSR must be rare

Few studies have considered CSP variance among firms intra-industry. Yet, social issues are often strongly defined by sector or industry level; thus, industry context is an important factor in CSR strategy deployment. Managers looking to augment their CSP performance scores will be inclined to devise CSR strategies and initiatives linked closely to the specific, most salient performance rating categories in their given industry. For example, environmental remediation in the oil drilling industry may elevate environmental CSP ratings while community service may be more prominent in pharmaceuticals and healthcare sectors. One empirical study, conducted by Hull and Rothenberg, (2008) found that firms within a largely undifferentiated industry that used CSR Ire, in fact, able to stand out among rival firms. In the 2008 study, the authors explored whether differentiation—by way of achieving an above-normal CSP score within an industry—would positively influence firm performance. They concluded that corporate social performance showed little sign of directly affecting firm financial performance (Hull & Rothenberg, 2008: 785). However, the study compared levels of differentiation measured by aggregated rates of CSP only. Perrault and Quinn examined KLD data directly and found the dimensions of CSP that firms choose to engage in are often determined in response to salient industry concerns, driving similar CSR investment behavior. Firms may invest in CSP to balance concerns that are structural to their industry, citing textiles as one example of industry affiliation effects (2016:

CSP ranking/rating systems may exacerbate the phenomenon of similarity in industry CSR approaches. Managers will likely assess competitive actions and work to meet stakeholder expectations based upon the CSRs that yield the most favorable measures produced by rivals or industry exemplars. If all CSRs Ire similar amongst rival firms, strategic distinction would be diluted and CSR's effects on CSP may be diminished. Moreover, there is an increased awareness among scholars and practitioners that aggregate CSP scores do not yield sufficient social performance across firms or industries. Competition-based strategies of outperforming rivals in CSR may reduce prospects for growth and profit (Kim & Mauborgne, 2005). Firms are encouraged to discover new sources of value for customers to create additional demand. CSR, when differentiated, may offer a new source of value to customers. Likewise, the bundling of firm resources to produce this differentiation creates CSR's uniqueness that is specific to the organization's core competencies, making the CSR activity rare.

CSR's form will play an important role in influencing CSP. Differing forms of CSR can be expected to have non-identical effects (Hoepner, Yu, & Ferguson, 2010). The level of differentiated CSR, or how *distinct* the CSR initiative is relative to industry competitors, should enhance social performance measures and meet the rare criteria of the VRIN framework. Therefore, the next hypothesis posits that differentiated CSR activity will drive greater efficacy of CSP among firms intra-industry.

H2: A differentiated CSR initiative will strengthen the CSR-CSP relationship.

<u>CSR must be difficult to imitate</u>

Resources and capabilities will cease to be of value if imitated or substituted by competitors (Barney, 1986). Differentiated CSR may not only produce a temporary advantage; in fact, doing so based around what the company can do Ill may be sustainable. Any advantage achieved by a differentiated CSR initiative may depend on the strategic proximity of the CSR strategy to the firm's core foundation, and contribute to its unique distinction.

Dowling and Moran (2012) characterize a typical initiative of donating money to worthy causes or creating a social responsibility program to simply satisfy corporate stakeholders as a bolted-on approach and caution this attempt fosters a less credible reputation that is inconsistent with organizational principles. Instead, the authors argue for the development of reputation-building programs that are firmly grounded into the organizations' core strategy. In doing so, the firm is better positioned to gain a reputation-based advantage. Porter and Kramer (2006) maintained that when bundled resources are inextricably linked to a firm's core strategies, they create competitive advantage. Together, these resource activities become distinctive competencies that enable innovation, efficiency, quality, and customer value to leverage a distinct or competitive advantage. CSR strategy-based reputations, when built-in to the organization's core, should be readily distinguishable from rivals' because they are based on the fundamental logic of the organization and naturally produce barriers to imitation. Alternatively, due to their distal position to core strategy, bolted-on initiatives may not sustain firm reputation (Dowling & Moran, 2012).

A built-in CSR, based on the fundamental logic of the organization, should be difficult to replicate. Built-in CSR should bear a firm's unique signature, derived from specific capabilities of HR, managerial skills, value chain or cultural context that produces barriers to imitation. Each firm is unique in its make-up and circumstances. Causal ambiguity, when derived from the unique synchronizing of resources will produce the replication barrier needed to protect the firm's advantage.

Consequently, a CSP-based reputation, born of a firm's fundamental logic and core strategy, will generate its unique distinction and resist imitability. Replication by competitors will become difficult due to its intangible character. Furthermore, strategy-based reputations may become fundamental drivers of core operations, perpetuating the cycle of favorable reputational outcomes that imply honest and reliable future behavior, which resonates Ill among stakeholders. Falkenberg and Brunsael (2011) found that when competitors imitate rivals who hold a temporary advantage, it could become the norm for an industry, driving a strategic necessity to change and compete more actively. Further, the authors found that complex and valuable CSR activity can generate strategic advantage, when the CSR initiative is embedded or integrated into the firm's core values and leveraged through the firm's reputation. This implies that a built-in CSR approach will play an important role in influencing the relationship between the CSR and CSP-based reputation. Hence:

H3: A built-in CSR initiative will strengthen the CSR-CSP relationship.

<u>CSR must be valuable, rare, and difficult to imitate</u>

Firm inputs are viewed as sources of competitive advantage. A firm's ability to prevent imitation of its inputs through distinct strategy application will create barriers to imitation. In keeping with the resource-based view, an improved CSP rating could be sustainable if CSR initiatives cannot be replicated over time. Duration of a firm's competitive advantage is directly related to the strength of its 'isolating mechanisms' (Hatch & Dyer, 2004; Rumelt, 1984), which are designed to prevent rivals from identifying the causes and sources of strategic advantage and allow a firm to erect and strengthen barriers to imitation. These mechanisms represent organizational attributes, such as aspects of corporate culture, managerial capabilities, information asymmetries, and property rights (Hooley, Greenley, Fahy, & Cadogan, 2001). I theorize that differentiated and built-in CSR, when working synergistically, should buffer against rival inimitability. Further, while inimitability may influence the extent to which CSP can be sustained, organizational context may also increase the likelihood that CSR barriers to imitation remain intact, which thwarts rival replication in the long term. Consistent with Dowling and Moran's (2012) built-in reputation building framework, reputation will confer an advantage when there is an organization-wide mentality or culture inclined toward reputation management. This mentality would enhance organizational CSR performance with respect to management's ability to identify, define, gain buy-in, and orchestrate best strategies. To be effective, the firm's culture must embrace the CSR-orientation and adopt governance and procedural changes needed to fulfill the firm's CSR objectives. Then CSR activities become hard to imitate and substitute. When differentiated CSR is firmly embedded, rivals would be challenged to identify the causal factors and competencies leading to the advantage. Competencies allow the organization to tie together complementary and co-specialized capabilities, providing synergy among closely connected and supportive elements (Ackoff, 1994). They involve the orchestration of resource and strategy elements, and therefore are difficult to imitate. The more complex the integration among these discrete elements, the more difficult it is to comprehend and copy what the organization does and the easier it is to sustain a competitive position (Marcus & Anderson, 2006). When designing CSR initiatives in terms of its value, rareness, and inimitability, I may be able to distinguish between initiatives that are likely to serve the firm better from those that will yield only short-term advantage and become a burdensome add-on cost factor.

Research has demonstrated that a good corporate reputation has a significant potential for value creation making it difficult for competitors to compete (Husted & Allen, 2009; Roberts & Dowling, 2002). Consider the CVS corporation. When the organization stopped selling tobacco products as part of its new strategic position as a health provider, it leveraged the firm's unique core positioning and invested in long-term planning to weather an initial sales decline. The company posted a 10 percent revenue gain in its Pharmacy Division just over one year following the smoking cessation announcement. Pharmacy revenue gains Ire result of improved social performance closely aligned with the nature of CVS' business and its core constitution. Had the firm's executives been unable to manage resources during this transitional time of uncertainty, it is likely that the presence of a differentiated CSR would not have been sufficient to maintain any advantage. With the loss of revenue from tobacco sales, expense reductions in the form of staff cuts or services could have produced negative consumer response and perhaps hindered any opportunity for reputation gain.

Conditions of Superior CSP

Organizations that possess strategic resources and capabilities can positively drive performance (Barney, 1991; Crook, Ketchen, Combs & Todd, 2008). Integrated firm resources can provide embedded advantages and firm-specific capabilities that lead to competitive advantage that other firms cannot easily realize (Powell & Dent-Micallef, 1997). When differentiated CSR is enacted and managed as a strategic capability, the expectation is a positive relationship to CSP.

According to Powell and Ment Dentcalff, competitive advantage stems from inimitable, idiosyncratic resources (2001: 877). Relative to rival activity, differentiated CSR derived from inimitable resources should moderate the CSR-social performance relationship. Thus, it can be argued that a differentiated CSR, when built-in to the firm's core business, will produce a sustained advantage that explains greater CSP among firms.

Consider the brands Google, Microsoft, and Apple. All three companies have been reported to donate computer or electronic products to school systems as learning tools. Due to similar corporate resources, this CSR initiative could be characterized as built-in for all three firms; however, it does meet the criteria for a differentiated CSR, hence only a temporary advantage may be conferred. As other similarly structured and resourced firms initiate these programs, distinction is eradicated. A more differentiated CSR that is not built-in to the firm's core business may potentially produce a temporary CSP advantage among firms. Similarly, a non-differentiated CSR that is loosely coupled to the firm's core business may produce a temporary CSP advantage among firms. Creating a CSP-based reputation via a differentiated CSR initiative, more firmly built-in to a firm’s foundation, should offer an advantage in that it sets firms apart with its ‘points of difference’ (beyond product or service offering) in a socially beneficial way that is valued by stakeholders, stimulates CSR innovation, signals firm commitment and its ability to engage in CSR issues that resonate with stakeholders; and mitigates green washing stigma. When CSR is viewed as meaningful, it fosters favorable relationships, creates customer and stakeholder loyalty, attracts qualified employees and suppliers and may allow firms to charge premium prices if its uniqueness and added value are perceived as worthy.

Built-in reputation building coupled with a differentiated CSR approach will act as the points of proof and points of difference of strategy and reputation (Dowling & Moran, 2012: 30). The interaction of the two may leverage the imperfectly mobile and non-substitutable criteria of the VRIN logic. Differentiated CSR alone may be insufficient, offering only a temporary advantage but is at risk of imitation. The built-in characteristic should allow firms to produce a differentiated CSR based on what the firm does best, and create a barrier to imitation. However, just a built-in CSR risks lack of distinction and only offers a temporary advantage. The two, when working together should create synergy.

H4: A built-in CSR initiative will strengthen the moderating influence that differentiated CSR has on the CSR-CSP relationship.

The above argument postulates the interaction of a built-in and differentiated CSR will theoretically enhance the CSR-CSP relationship better than either individually. The measure of CSR's strategic value cannot be determined solely by its strategic deployment of a focal firm. Rather, CSR's strategic value is predicated on the relative nature and form of the CSR of rival firms within its competitive environment (Moura-Leite, Padgett, & Galan, 2012).

CSR must be non-substitutable

While greater industry CSR intensity would theoretically make differentiated CSR more difficult to achieve, if done strategically, differentiated CSR should prove to be more effective in a CSR-intense industry. Within a CSR-intensive industry, where CSR practice becomes mainstream, firms that use a differentiated CSR activity should be more noticeable to stakeholders. As CSR industry intensity increases, rivals may enact CSR based on strategic necessity (Falkenberg & Brunsael, 2011) therefore the likelihood of being replaced by some other non-rare resource will lessen. Firms without CSR would be ineffective in conveying social reputation. Moreover, firms that are using CSR inefficiently should see a Iimited effect as strategic distinction is diluted (Vogel, 2006). In a non-CSR-intense industry firms may easily gain an edge with Differentiated CSR due to its uniqueness factor. Thus, the final hypotheses:

H5: Industry CSR intensity will have a negative influence on the CSR-CSP relationship.

H6: CSR intensity strengthens the moderating influences that Differentiated CSR has on the CSR-CSP relationship.

Methodology and Measures

Sample and Data Collection

The sample is obtained from the Environmental, Social and Governance factors (ESG) database provided by Morgan Stanley Capital International (MSCI). The final sample size of 2560 observations (i.e., 256 firms over 10 years) was contingent upon data availability for panels across all variables. The four industries Energy, Healthcare products/service, Real Estate and Utilities are drawn from the Industry Group sector selected are based on criteria of (1) high/low contrast on measures of the extent of industry CSR intensity and (2) sufficient and comparable sample size of firm members within each industry group.

Insert Table 1 about here

The study uses ten years of data from 2003 to 2012, a period marked by its escalation in growth of first time corporate reporting of CSR activities. The time frame of the analysis should capture the most recent trends in CSP. By 2005, CSR reporting climbed nearly 60 percent over the preceding year (CR Perspectives Global Reporting, 2013) signaling a more rapid diffusion of CSR activities in the ensuing years.

Results and Discussion

The study found strong support for its prediction that the characteristics of differentiated CSR and the built-in approach do contribute to an improved social reputation via CSP strengths. With the exception of H2 and H5, all other hypotheses in the models Ire supported per Table 2 and Table 3. It is also notable that while H2 predicted a moderating strengthened relationship between CSR (IV) and CSP (DV) through the use of Differentiated CSR (M), a main effect was found for Differentiated CSR (M) and the CSP (DV) suggesting differentiated CSR's potential as an independent variable for future examination. The findings support the premise that CSR can be an important source of social advantage and one over which managers have control.

Insert Table 2 about here

Evidence from a growing number of studies suggests that an organization's reputation may be enhanced through CSR practices, but the underlying types of CSRs that will yield best results are not Ill understood. The aim of this study was to determine the role of corporate social responsibility on firm level social reputation and identify the characteristics of firm CSR initiatives that contribute to the outperformance of rival firms' CSR initiatives. The analysis examined CSR as a strategic capability for improving social reputation applying the resource-based framework criteria of valuable, rare and difficult to imitate. The independent variable, CSR initiatives, along with moderating variables—differentiated CSR initiatives and built-in CSR initiatives—complex relationship of CSR's impact on CSP, the dependent variable. The analysis also explored industry context by positing CSR intensity within an industry as a key structural characteristic that can affect the nature of the CSR interactions among industry rivals (Basdeo et al., 2006; Sherer & Ross, 1990).

Overall, the study found the enactment of a CSR initiative provided value in its ability to enhance corporate social performance (H1), thereby empirically supporting prior research findings for this relationship. The moderated regression analysis addressed the resource-based criterion that CSR must be rare by testing the effect of a differentiated CSR on corporate social performance. Differentiated CSR’s role as a moderating variable was positive but not significant. Notably, results found differentiated CSR has a main effect as a predictor variable on CSP at ($p < .001$; 1.03). This may be explained by strategic differentiation’s industry dependence (Porter, 1980). A differentiated CSR, particularly when CSR is prevalent across an industry, will positively influence firm corporate social performance; yet, may experience diminished returns as CSR activity increases across an industry. This has meaningful implications for CSR. It supports prior research for CSR’s strategic implementation. Reputation is recognized to be a strategic resource to a firm and is influenced by the strategic actions of a focal firm as Ill the actions of its industry rivals (Basdeo, et al. 2006). The social performance dimensions that firms choose to engage in are often determined in response to salient industry concerns, driving similar CSR investment behavior (Perrault and Quinn, 2016) and suggests differentiated CSR is a necessary factor in maintaining a firm’s CSR uniqueness and enhancing its relative social reputation via CSP.

When examining the resource-based criterion that CSR must be difficult to replicate, I tested the effect of a built-in CSR on corporate social performance. The results support built-in CSR's ability to strengthen the CSR-CSP relationship (H3) affirming that not all CSR investments yield the same benefit for firms making such investments. Furthermore, the results empirically substantiate Dowling and Moran's (2012) assertion that a strategically grounded CSR will improve a firm's social reputation. When CSR is built-in to the organization's core strategy, and based on the fundamental logic of the organization, it is more likely to increase barriers to replication.

Insert Table 3 about here

When testing whether a built-in CSR can strengthen the moderating influence that CSR has on the CSR-CSP relationship the analysis found the three-way interaction of CSR x diff x built-in was significant at $p<.05$, indicative that the effect (CSR x diff CSR x built-in CSR) may vary depending on the level of CSR. The interaction plot illustrates that within a certain level of differentiated CSR, firms can outperform rivals pursuing a similar approach, provided they use built-in CSR rather than bolted-on CSR. This should mitigate rival replication. If firms operating in competitive industries are more socially responsible, as Fernandez-Kranz & Santalo (2010) point out, an important implication for practitioners is to recognize that firms need not invest in CSR proportionally in order to see improved corporate social performance outcomes. These results imply CSR initiatives may be optimized when internal and external factors are maximized to produce superior CSP, to derive social benefit that exceeds firm costs.

Insert Figure 1 about here

CSR has the ability to foster favorable relationships, create customer and stakeholder loyalty, attract qualified employees and suppliers and allows firms to charge premium prices if its uniqueness and added value are perceived as worthy. Built-in CSR may offer a greater advantage by setting a firm apart in its corporate social performance. It becomes the point of proof in a socially beneficial way that is valued by stakeholders, stimulates CSR innovation, and signals firm commitment. It has the potential to fortify differentiated CSR with its application of unique firm resources and capabilities. It maintains the ability to engage in CSR issues that resonate with stakeholders; and mitigates the green washing stigma (or the use of CSR to simply promote the appearance of being a good corporate citizen).

While built-in CSR acts as the point of proof, I theorized that differentiated CSR would contribute as the point of difference (beyond product or service offering) for reputation building. The interaction of these two characteristics leverages the imperfectly mobile and non-substitutable criteria of the VRIN logic. The findings show that while differentiated CSR on its own may be sufficient to enhance CSP, it may only offer a temporary advantage because it risks imitation. Similarly, CSR’s built-in characteristic may produce a barrier to imitation; but will risk a lack of distinction. The coefficient of .102 suggests it is unclear whether the built-in CSR will be sufficient enough to attenuate mimicry as theorized. Future research could examine the seven-factor built-in framework by Dowling and Moran (2012) to assess which CSR reputation building factors are most effective.

Industry affiliation effects can drive managerial CSR decisions. Marquis, Glynn & Davis (2007) assert that the institutionalization of the forms or focus of corporate social actions creates bandwagon effects that lead to a higher level of socially responsible activity. In addition, the researchers claim cognitive agreement on corporate social practice leads to greater prevalence of that practice infers managers follow industry best practices when implementing CSRs. This leads to the adoption of similar CSRs within certain industries (Godfrey, Hatch & Hansen, 2010; Perrault & Quinn, 2016). If all CSRs are similar amongst rival firms, strategic distinction is compromised and CSR's effect on CSP will be diminished (Vogel, 2006).

When CSR's industry intensity levels intra-industry is high, the study found an interaction effect with differentiated CSR to improve CSP (.698, p.<.01). A notable finding is the effect of both CSR characteristics' deployment on CSP strength differs by industry intensity. The study found the change in CSP strength to be greater within low intensity industries than within high intensity (per figure 1, 3-way interaction plot).

Insert Figure 2 about here

If rising water lifts all boats, logic would have it that all firm CSP's will rise as industry CSR intensity increases. Within a high intensity industry, if all firm CSP's rise, a CSP advantage for the firms deploying both CSR characteristics of built-in and differentiated CSR may be conferred. Firms within a low intensity industry will also benefit from using both CSR characteristics. The larger percentage gain in the low intensity industry confirms the less CSR activity in the industry, the greater the advantage can be conferred to those firms that do proactively enact CSR. The study advances our scholarly understanding of the conditions in which firms influence their corporate social performance through strategic implementation. The results found characteristics of CSR can positively influence corporate social performance effectively under conditions of (1) linking the CSR to the firm's core organization strategy; and (2) crafting valuable and relatively unique variations of CSR to confer a social advantage among industry rivals.

Contribution, study limitations and future research

The study contributes to the growing body of CSR literature in several significant ways. It gives exclusive attention to the concept of a novel and differentiated CSR, not considered in previous research to our knowledge. This conceptualization shifts the focus from the equivocal explanations of the CSP-CFP relationship, or the second order effects, and advances our understanding of the first-order effects within the CSR-CSP relationship, which has been largely underexplored (Rangan, Chase & Karim, 2015). The resource-based view of the firm supports the need to integrate CSR into the formulation stage of a firm's strategy consistent with prior RBV and CSR literature (McWilliams & Siegel, 2001). It provides a framework for examining CSR's potential, recognizing that CSR strategies are neither universally implementable, nor the outcomes universally consistent.

These findings contribute to previous literature on CSR strategy that calls for the disaggregation and evaluation of the specific CSR characteristics that drive effective CSP results for individual firms. Given the rapid expansion of CSR activity over the last two decades, a disaggregated, direct examination of CSR is critical to advancing contemporary CSR research and will have relevance moving forward, particularly among MNC's looking to implement multiple culturally appropriate CSRs on a global scale, a relatively new area of CSR inquiry. Few contemporary studies have drilled down to this level of the seven CSP dimensions and more than forty forms.

Furthermore, consistent with the industrial organization theoretical argument that industry context moderates the effect of CSR on corporate social performance; the study found a significant interaction effect between industry intensity and the CSR characteristics, differentiated CSR and built-in. The number of firms enacting CSR within industry, or CSR intensity level, appears to be an important structural characteristic that influences firms' social performance reputations. The study identified a cross-industry effect where CSP strength is a function of the interaction between differentiated CSR industry intensity. Within a highly intense CSR industry, where CSR is more often practiced, the advanced diffusion of CSR conveys a sense of legitimacy, driving bandwagon effects. Firms that do not engage in CSR risk falling behind their rivals in social performance. In contrast, within a less intense CSR industry, where firms are participating, there is greater opportunity to achieve a firm's corporate social performance goals when utilizing CSR capabilities.

With the fundamental question regarding CSR investment under scrutiny, managers confess to practicing multifaceted programs minimally integrated or aligned with the company's corporate objectives, mission or values (Rangan, Chase, & Karim, 2015). Given CSR's rising growth, managing the characteristics of CSR initiatives rather than managing published ratings or rankings will contribute to a social reputation advantage. The resource-based VRIN framework necessitates that CSR be designed to be difficult to imitate, valuable, and rare to improve performance (Barney, 1991).

Improved CSP has been shown to enhance firm reputation. Therefore, investment in CSR will continue to enhance the ongoing relationship between firms and stakeholders, increasing the CSR and reputational advantage relationship. Analogous to firm strategic functions of advertising and customer service, CSR strategies and their implementation yield intangible benefits of reputation enhancement and goodwill in the eyes of stakeholders. By anchoring a firm's corporate social performance effort into achieving its overall reputation goals as Dowling and Moran (2012) argue, the organization's core operations deliver greater value to stakeholders as the reputation becomes an indicator of the firm's reliability and future behavior.

As such, researchers and practitioners are challenged to deliberate on additional firm- and industry-level characteristics that will improve CSR's impact going forward. In essence, as strategic conformity of CSR campaigns becomes the norm, competing on virtue alone is insufficient. Corporate social investing may become a strategic necessity and requires careful examination of its implementation and the strategic value.

The study evaluated and contextualized the existence of a social competitive advantage in CSR strategic implementation. While the results from the analysis provide evidence that characteristics of differentiated and built-in CSR either directly influence social performance or moderate the relationship between CSR and CSP, there are a few points that deserve further consideration. One assumption for the varied results would be that with CSR initiatives, quality outweighs quantity. Consequently, by doing more CSR, one cannot necessarily equate it to greater corporate social performance. Firms can differentiate their CSR, yet need not invest heavily or frequently in order to benefit. Specifically, within a low CSR intensity industry, firms do not require a differentiated CSR, rather a CSR presence alone was sufficient when overall industry CSR activity was minimal. In fact, to achieve improved corporate social performance, firms may be able to invest fewer dollars in CSR, provided the program is built-in to its strategic core and unique relative to the actions of the industry.

With regard to industry effects, findings further conveyed firms may counter a strategic dilution effect with increasing intra-industry CSR activity and avoid the potential for lost value or CSR costs, provided firms bundle an appropriate mix of resources and capabilities when forming effective CSRs with an eye on competitive activity. Akin to advertising spending, which can also experience this effect, CSR spending levels (if available) could be catalogued and analyzed for optimization.

The primary CSR characteristics of this study are limited to built-in CSR and differentiated CSR (in alignment with Dowling & Moran's points of proof and points of difference concepts for reputation building, 2012) thus there is a need to continue to explore alternate strategic-related characteristics of CSR. The built-in coding instrument, adapted from Dowling and Moran's (2012) framework, would benefit from a detailed analysis of its efficacy as an instrument to assess the contribution and degree of variance among its seven factors. Moreover, within the RBV theory, identifying and isolating the specific firm resources that fulfill the VRIN to examine and assess precisely the resources that can produce greater differentiation and inimitability becomes a necessary next step.

Another limitation is the study compares high and low intensity levels of only four industry groups. Further analysis of a larger industry group sample perhaps using cluster analysis will provide meaningful insight into distinct industry behaviors relating to external factors of business cyclical variations, static versus dynamic industry characterization, industry- specific strategic orientation and regulatory requirement distinctions. For example, political environmental influences may interact with regulatory decisions. The rise of CSR activity occurred during the Bush administration in 2006 (G&A Institute, 2016). With a newly elected administration instituting aggressive regulatory rollbacks for business, risk mitigation efforts may drive even greater CSR activity in the ensuing years.

Investment and the costs associated with CSR initiatives remain unclear, often viewed as an expense with unproven bottom line results. However, if CSR is viewed as a strategic capability through which managers can produce a reputational advantage, then these costs may be accounted for as a necessary investment in a firm's social performance capital.

There are several additional avenues to consider for future research. The theory proposed here is consistent with the resource-based logic (Barney, 1986) implying that a unique or differentiated CSR can drive value creation by way of enhanced corporate social performance, amid an environment where CSR is widespread. This study assumes social reputation will yield greater performance in overall firm reputation. Future analysis could examine whether an increase in social reputation has moderating or mediating effects on a firm's overall reputation. The *Fortune* Reputation Index surveys the opinions of senior executives, directors, and analysts, asking them to rate the ten largest companies in their own industries on eight different dimensions of reputation, one of which is social performance. The social performance scale has been found to positively correlate with overall corporate reputation, evidence of a halo effect (Fryxell & Wang, 1994).   Moreover, social performance has been found to positively influence firm reputation (Brammer & Pavelin, 2006). Testing whether a bidirectional relationship exists between the two constructs may prove interesting. Does the overall reputation of a firm influence the outcome of corporate social performance or stakeholder perceptions of such? If so, under what conditions might this be most significant?

Managing CSR as a strategic capability, as Brammer & Pavelin (2006) asserted, contributes to CSP-based reputational advantage arguments in the literature. The findings in this study, representing the first-order relationship between CSR and corporate social performance, may lead to the discovery of a stronger or more direct linkage between the second-order relationship, CSP and corporate financial performance. This study conceptualized CSR as a strategic capability derived from specific organizational competencies enacted as an input source and embedded within a firm's core strategy to produce barriers to imitation, yet there remain several inquiries for further consideration. Following this conceptualization, additional inquiries may include: What is the role of top management teams and organizational culture in influencing and implementing built-in CSR? What are the organizational resources and competencies that drive improved outcomes for CSR? What resources within the VRIN framework are better performers? Under what other conditions do social benefits create greater value over costs for organizations? Research concerning how these conditions might interact within varied industry contexts and changes to industry structure, along with the continued analysis of disaggregated CSP data should yield additional important findings with implications for researchers and practitioners. CSR characteristics might benefit from further analysis through the theoretical lenses of signaling and market dynamics and organizational learning theories to provide additional insights into the direction of CSR's long-term trajectory.

In conclusion, firms can derive value from their CSR programs by signaling legitimate CSR intention through the implementation of a quality CSR program via its built-in and differentiated characteristics endorsing the notion that CSR strategies are neither universally implementable, nor the outcomes universally consistent.

APPENDIX
Table 1 - Measures

VARIABLE	DATA SOURCES	OPERATIONALIZATION
IV - CSR programs – CSR report disclosure	Corporate Register	Level of CSR report disclosure Sum of following indicators $CSR = REPit + ASSURit + HIPit$ Integer between 0 and 3. Dhaliwal, Radhakrishnan, Tsang & Yang (2012)
DV - CSP	MSCI ESG ; CSR strengths only	Sum of 42 forms within 7 categories of CSP strengths.
MODV1 – Differentiated CSR	MSCI, ESG	Relative CSR enacted by focal firm when compared to CSRs enacted within its industry. $DIFF = SUM(INDV\text{-}FIRMV)^2$ Litov, Moreton & Zenger (2012)
MODV1 – Built –in	Corporate Register (content analyzed; 7-item scale).	Measured using a 7-item instrument 1=built-in; 0-bolted-on to obtain total integer between 0-7 Dowling & Moran (2012)
MODV3 – CSR Intensity	MSCI ESG	$INT = \frac{\text{Total CSP}(firm)}{\text{Max Possible CSP}(industry)}$ Elchoueri & Rahman (2016)
Control Variables – Firm size, Market presence, CSR concerns	COMPUSTAT MSCI ESG; CSR concerns only	# of employees (by industry group) Natural logarithm of sales CSP concerns

Table 2 – Regression Results for Diff and Built-in CSR

Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Firm size	.00 (.97)	.00 (0.62)	.00 (0.05)	.00 (0.06)	-.00 (-0.39)	-.00 (-0.49)
Market presence	1.02*** (10.57)	.931*** (10.50)	.945*** (10.98)	.890*** (10.27)	.892*** (10.55)	.904*** (10.68)
CSP concerns	.029* (2.20)	.037** (2.81)	.031** (2.37)	.034** (2.68)	.029* (2.22)	.028* (2.20)
CSR		.593*** (10.30)	.595*** (10.46)	.149 (1.76)	.267*** (3.83)	.118 (1.41)
Diff CSR			1.03*** (5.84)		.738*** (3.53)	.875*** (4.81)
Built-in CSR				.217*** (5.54)	.267*** (8.09)	.193*** (4.95)
CSR x diff			.065 (0.60)		.420* (2.34)	
CSR x built-in				.072** (2.65)		.091** (3.34)
CSR x diff x built-in					-.027* (-2.30)	-.035* (-2.89)
Rho	.493	.387	.368	.371	.358	.361
R^2	.308	.415	.454	.459	.489	.490
Wald χ^2	185.13***	387.67***	504.23***	494.61***	601.39***	611.47***

n=2497: coefficients are shown with z values in parentheses
*p <.05; **p<.01; ***p<.001

Table 3 Regression Results for Intensity

Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Firm size	.00	.00	.00	.00	.00
	(.97)	(0.62)	(.99)	(0.64)	(0.21)
Market presence	1.02***	.931***	.862***	.853***	.814***
	(10.57)	(10.50)	(9.24)	(9.39)	(9.12)
CSP concerns	.029*	.037**	.034**	.026*	.023
	(2.20)	(2.81)	(2.61)	(1.99)	(1.78)
CSR		.593***	.654***	.614***	-.010
		(10.30)	(6.04)	(5.61)	(-0.08)
Diff CSR				1.00***	.813***
				(5.67)	(4.44)
Built-in CSR					.195***
					(4.95)
CSR intensity			.315*	.343**	.293*
			(2.36)	(2.67)	(2.33)
CSR x diff				.012	.461*
				(0.11)	(2.54)
CSR x built-in					.099***
					(3.61)
CSR x intensity			-.092	-.028	.154
			(-0.73)	(-0.23)	(1.22)
CSR x diff x built-in					-.037**
					(-3.07)
CSR x diff x intensity				.698**	.739**
				(2.74)	(2.94)
Rho	.493	.387	.383	.368	.361
R^2	.308	.415	.414	.455	.493
Wald χ^2	185.13***	387.67***	399.14***	521.95***	631.44***

Figure 1 - Three-way interaction for H4 (IV* Built-in CSR* Diff CSR)

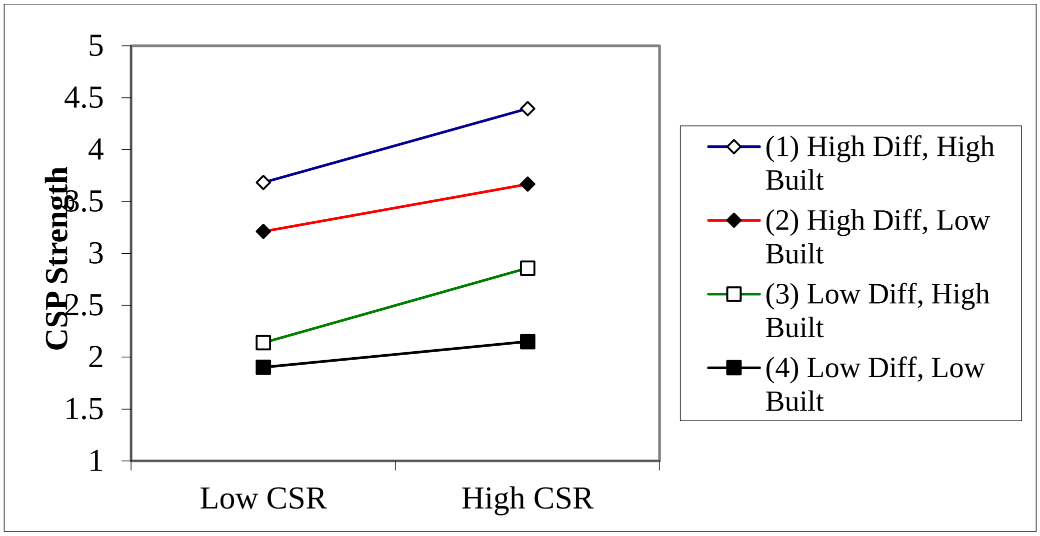
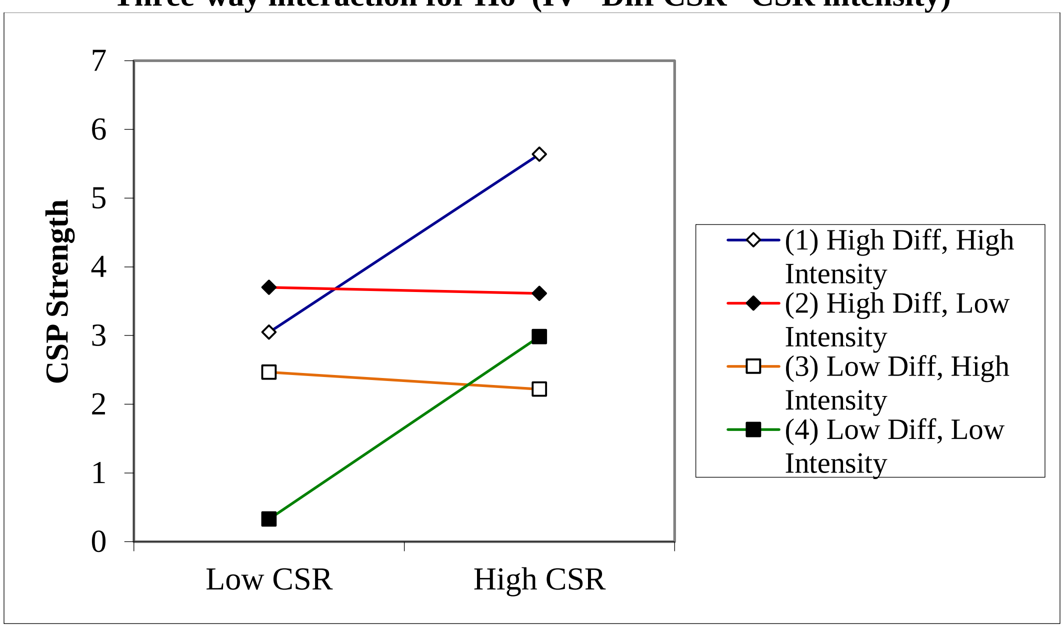


Figure 2
Three-way interaction for H6 (IV* Diff CSR* CSR intensity)



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Values and the rural-urban divide in social innovation transfer

ABSTRACT

This paper seeks to understand the process of knowledge between a pair of social enterprises, organizations that are embedded in competing social and economic logics. Through a longitudinal case study of the interaction between social enterprises operating in emerging economy settings, my study uncovers factors which influence the transfer of a social innovation from a dense, population-rich setting to one where beneficiaries are geographically dispersed and the costs of service delivery are correspondingly elevated. It does this by answering the following research question: *how do social enterprises use partnerships to transfer innovations across geographic boundaries?* Evidence from the case study suggests that institutional bricolage can serve as potent driving force in driving innovation transfer, and that the process or re-combining available resources may be facilitated by the extent to which the values between partner social enterprises are aligned. With such alignment, social enterprise partners may be able to increase trust, develop a smoother knowledge-transfer process, and find practical solutions which facilitate the transfer of a life-enhancing social innovation to neglected rural settings.

Keywords: social innovation; social entrepreneurship; inter-organizational relations; institutional complexity; institutional logics; partnerships

In recent years, the growth of social enterprises, which provide vital services across diverse sectors of the economy such as education, healthcare, and enterprise development, has received significant popular and academic attention. For instance, the growth of microfinance organizations, both for-profit and not-for-profit, has captured the imagination of government and non-governmental organization officials and a generation of students in public policy and business schools across the world (Zhao, 2014; Battilana and and Dorado, 2010). The rapid increase in attention to these firms reflects not only the tremendous demand for the services they provide, but also the potential that many see for these services to reach greater and greater numbers of people. In short, there is a clear and compelling case for social enterprises to "scale" their successful models and practices beyond their local area to maximize their impact on society.

While a number of options for scaling the impact of this knowledge exist, including developing franchises or diffusing best practices via mediating bodies such as multilateral organizations, partnering with other social enterprises remains among the most popular options (Bloom and Chatterji, 2009; van Wijk et al, 2018). Traditional research on inter-organizational partnerships has considered the value of partnerships in gaining access to new markets and technologies, sharing knowledge, engaging in organizational learning, and developing greater levels of mutual dependence between partners (Casciaro & Piskorski, 2005 ; Gulati & Stych, 2007; Horowitz & McGahan, 2019). More recently, research on partnerships has examined organizations in a cross-sector setting (Vurro, Dacin, & Perrini, 2010; Saz-Carranga & Longo, 2012; Ahmadsimab & Chowdhury, 2019), or in the context of public-private partnerships (Bishop and Waring, 2016; Si et al, 2015; Mu et al, 2011; Koppenjan & Ensenrink, 2009). In both streams of research, a focus on organizations which operate with primarily profit-maximizing or primarily social logics, has shifted in recent years to organizations where profit-making and social motivations co-exist (Friedland and Alford, 1991; Greenwood et al, 2011). What these studies have not considered in depth, however, is situations in which different forms of social logics co-exist, where the rationality for generating social impact varies between organizations in a partnership (Friedland, 2013). The social enterprise setting offers an ideal setting for the study of this phenomenon.

Organizations operating with a multiplicity of institutional demands, or in situations of institutional complexity, have varying responses to these demands (Oliver, 1991; Mars & Schau, 2011; Piatti & Dwiartama, 2016). When these demands conflict, as may be the case with organizations that balance social and economic goals (e.g., micro-finance companies), an organization's response may be a function of the nature of the conflicting demands or the way this conflict is dealt with by organization members (Pache and Santos, 2010; Pache and Santos, 2013; Wijers, 2019). This paper seeks to better understand partnership between social enterprises (Mair and Marti, 2006) where the goal is transferring knowledge (Boxenbaum and Battilana, 2005; Lounsbury, 2007) for the purpose of scaling up social innovations (Bloom and Chatterji, 2009). It does this by answering the following research question: *how do social enterprises use partnerships to transfer innovations across geographic boundaries?*

In focusing on factors which influence the transfer of a social innovation from a dense, population-rich setting to one where beneficiaries are geographically dispersed and the costs of service delivery are correspondingly elevated, this article helps to develop a better understanding of the ways in which organizations manage relationships with partners that have different logics. Further, by examining the alignment or non-alignment of logics, in particular situations where the rationality for generating social impact varies between organizations in a partnership, this study may also be able to better elucidate factors which facilitate or inhibit knowledge transfer in a partnership context. Finally, by examining innovation transfer from urban to rural areas, the article focus on a long-neglected domain in studies of social enterprise which may have significant policy impacts (Jia and Desa, 2018).

In order to address these questions I draw from a fieldwork-based case study of the transfer of affordable eye-care services from the Aravind Eye Hospitals system in India to an eye hospital in Paraguay. Evidence from this case study suggests that institutional bricolage can serve as potent force in driving innovation transfer, and that the process or re-combining available resources may be facilitated by the extent to which the values between partner social enterprises are aligned. With such alignment, social enterprise partners were able to increase trust and develop a smoother knowledge-transfer process. The paper makes three principal contributions. First, it provides evidence that alignment between the logics of social enterprise partners may influence the strategies firms use to transfer their knowledge while retaining the fidelity of that knowledge (Ansari, Zajac, and Fiss, 2010). Second, it points to the importance of such logics alignment in facilitating the institutional bricolage (Baker and Nelson, 2005; Desa, 2012; Clough et al., 2019) which enables a search for practical solutions geared towards bringing a life-enhancing social innovation to neglected rural settings. The third contribution brings together the first two and points towards an enhanced understanding of how social logics can co-exist in the context of a partnership, and how they may impact broader processes of organizational efficiency and economic concerns as organizations attempt to scale their social impact beyond their local areas of operation.

The remainder of the article is organized as follows. In the next section, I outline the study's methods. I present the case study upon which I draw for this article, including the broader study of which it is part. I also describe the data collection and data analysis process that I undertook. In the third section of the article, I present the findings from this study, including the diverse social logics that were identified in the case and the ways in which the social enterprise partners managed the innovation transfer process. In the fourth, and concluding, section, I discuss the implications of these findings to the broader fields of institutions and entrepreneurial bricolage, and for the literature on "scaling" social innovations. Some practical applications of the study are also discussed for managers, consultants, and others working with social enterprises.

METHODS

Research Setting

In order to understand how social enterprises transfer innovations from population-rich settings to rural areas with dispersed populations, I draw on a two-year-long qualitative field study of partnerships between social enterprises in developing countries that encompasses 83 semi-structured interviews, 9 weeks of on-the-ground observations, and the examination of extensive archival material and documents including emails, meeting minutes, annual reports, project reports and updates, briefs and monographs, books written about the social enterprises being studied, consulting evaluations, and survey data. These organizations were drawn from a sample of sixteen finalist organization pairs from the proposal submission process to a well-known European Foundation. Organizations submitted proposals jointly (generally in pairs) in the hopes of receiving funding for the transfer of a social innovation between a source and target organization.

Five winning proposals were selected from the sixteen finalist proposals which submitted applications, and I had access to the full proposals of all these organizations. The applications were a rich source of information regarding the organizations, the innovation being transferred, and the expected parameters and scope of their partnerships. I also had access to the full list of applicants and letters of interest for the competition, and administered a survey to all sixteen finalist source organizations (with fifteen responses) to capture information on their social innovations and their past, extant, and future knowledge transfer partnerships. Subsequently I completed field visits to four of the five winning sets of organizations (the fifth set of visits was not undertaken due to logistical and financial constraints), starting with a pilot study between a pair of Indian social enterprises. The bulk of interviews, observations, and archival material and documents were collected during these field visits. Further details regarding the data collection process for the full study are included in Table 1.

Insert Table 1 about here

Sampling Procedure

From the full sample of organizational partnerships described above, I selected a set of three social enterprises that had partnered for the purpose of transferring a system of affordable eye-care services. I specially chose this partnership for further study for two reasons. First, the innovation transferred was in the domain of healthcare within developing countries, a domain with broad potential implications in a broad range of geographies facing resource constraints. Prior research in both urban and rural settings has pointed to the importance of health-focused social enterprises in delivering care to a range of disadvantaged communities (Nirmalan et al., 2004; James, 2014; Chowdhury, 2015; McNamara et al., 2018). Second, I also selected this set of organizations as the eye care system transferred by the source organization can be configured for a range of different health care environments across different geographic regions, in particular in resource-constrained emerging (developing) economy settings. Due to the relatively repetitive nature of the refraction techniques, examination procedures, cataract surgeries, and administrative and support operations associated with the system, it can potentially be deployed across a range of settings with varying endowments of local resources. This contextual modularity may thus have important practical considerations for the eye care setting and, more broadly, the public health domain as well.

As noted above, the organizations I focused on in this study included one source (transferring knowledge) organization and one primary target (receiving knowledge), and operated within the field of eye-care services and ophthalmology. In addition, the given the greatly varied geographical scope (dense population vs. dispersed, rural population) between the source and target organizations, a third partner joined the organization to help with the implementation of the social innovation. The transferring organization, the Aravind Eye Hospital (Aravind) is located in Madurai, India and has been working since 1976 to eliminate needless blindness by providing comprehensive eye care services to the poor. Its technology has allowed millions of poor people to work, support their families, and lead fuller, more productive lives. One of the most productive eye care facilities in the world, Aravind has reached impressive scale; in 2017-18 it recorded nearly 4.2 million out-patient visits, and performed over 478,000 surgeries. Of these surgeries, nearly 49% were delivered free of charge to the patient. Aravind also has proven methodology for transferring its model to other eye care providers in developing countries through the Lions Aravind Institute of Community

Ophthalmology (LAICO). This system was being transferred via the partnership examined in this article:

Designing services - both range and the volume, based on the community need is the key for an effective eye care program. Aravind, through LAICO tries to design services based on community need by sharing its model of high volume, high quality and affordable eye care through structured Consultancy & Capacity building processes. This starts with gap analysis to facilitate eye care programs, developing a good strategic plan, and providing need-based assistance during plan implementation. This process is based on four core principles in eye care – Demand generation, Resource utilization, Quality of services, and becoming Financially viable. Over a period of time, Fundación Visión will become a similar resource center for hospitals from Latin and South American countries.

The receiving, or target, organization was Fundación Visión. Founded in 1992, this hospital system is the leader in blindness prevention in Paraguay, and operates a 6000 m² hospital in in central Asuncion, the capital of Paraguay. Fundación Visión is the only institution in the country that provides regular monthly ophthalmologist care in rural areas of the country and trains “eye health promoters” to seek out persons in need of treatment for blindness and other eye problems. The partnership with Aravind was undertaken so that Fundación Visión could increase the “quality, volume and sustainability of the eye care services” and improve the quality of its ophthalmology training programs.

At the same time, Fundación Visión also wished to increase the options for financing of eye care procedures in Paraguay, and, despite a strong in-country network of clinics, was constrained in its ability to reach the most remote parts of the country. Paraguay is country with relatively low population density of about 15 people per square kilometer (versus 416 per square kilometer in India), and outside of its four largest cities (Asuncion, Ciudad del Este, San Lorenzo, Capiata) and surrounding areas much of the population lives in small towns and villages that are very dispersed. As a result, it partnered with Fundación Paraguaya, one of the leading microfinance providers in Paraguay, to gain access to its deep network of offices and broad contacts with the rural poor in the most remote parts of Paraguay, and also to access the organization’s expertise in finance to help patients pay for what could be very expensive surgeries. Founded in 1985, Fundación Paraguaya generates most of its revenue through its microfinance operations, but is also involved in other operations such as the Junior Achievement program and an agricultural school for youth which teach the values of entrepreneurship throughout Paraguay and beyond.

Data Collection

This study uses three data sources: (1) semi-structured interviews; (2) field observations; (3) results from a preliminary survey of the partner organizations; and (4) archival data and documents. The primary source is semi-structured interviews with individual respondents. A total of 31 individual interviews were conducted. These interviews were conducted in-person in India and Paraguay with senior managers and program implementation and monitoring staff at Aravind, Fundación Visión, and Fundación Paraguaya. Interview questions focused on the innovation being transferred, the focal organization's history, operations and objectives, and the dynamics of the partnership being examined (see Appendix for full list of questions). The interviews were recorded and transcribed, and I took extensive field notes during the course of my site visits to each of the three organizations. Interviews and notes were transcribed and summarized within 24 hours of the interview's completion. Table 2 provides further information regarding the interviews.

Insert Table 2 about here

I supplemented my interview findings with field observation, including visits to field offices, screening camps, and project sites. I jotted notes on a paper pad during these visits, including notes from discussions with beneficiaries and local staff going about these work. These notes were later re-written into the field journal I kept on my laptop computer, and served as an important means for me to triangulate data obtained from in-person interviews and from company documents. Finally, as part of my collection of archival material and documents at Aravind, Fundación Visión, and Fundación Paraguaya, I was able to access both publicly-available and internal organizational records. These included emails, meeting minutes, annual reports, project reports and updates, briefs, monographs, and consulting evaluations.

Data Analysis

As befits the exploratory nature of this study, no testable hypotheses were formed prior to data collection (Glaser and Strauss, 1967). Rather, the goal of the study to use the data collected to develop specific theoretical constructs and related propositions which advance current theory in novel directions (Suddaby, 2006). This approach is particularly suitable for studies of social entrepreneurship and bricolage as it allows the development of concepts in close connection to previous theorizing, important given the dearth of prior empirical work at the intersection of these two fields (Miles and Huberman, 1984). The data was analyzed iteratively, followed the principles of open-ended, inductive theory building, as I kept going back and forth between theory development and empirical data analysis. I worked between interviews, field notes, company documents, archival records, and relevant literature to develop themes and codes in order to categorize findings related to the management of partnerships by social enterprises, including the impact of institutional logics and their alignment (or non-alignment) on organizational processes.

The principal unit of analysis for understanding the impact of institutional complexity (Greenwood et al., 2011) on the innovation transfer partnership between Aravind and its collaborators in Paraguay, Fundación Visión and Fundación Paraguaya. I attempted to make sense of the data using "temporal bracketing," in line with recommendations from Langley (1999). For the sake of clarity, I present the three steps of data analysis in greater detail below.

Step one: Identifying key moments in the partnership. In the first step of analysis, I identified key moments in the partnership, including partnership formation and development. By extracting a chronology of events for each case in this manner, I was able to develop narratives documenting how the interactions between Aravind and Fundación Visión and Fundación Visión and Fundación Paraguaya evolved as the tri-partite collaboration developed.

Step two: Coding institutional logics and key interactions. During the second stage of data analysis, I coded and compared moments in the partnerships which were associated with the social and commercial logics, the initial theoretical frame drawn from the institutional complexity literature I used to guide my analysis, cycling iteratively between data and emerging concepts related to the tensions in both cases (Suddaby, 2006). What I found was that the simple "social" logic was insufficient to explain what was going on. Rather, it became clear that the social logic was actually manifesting as distinct spiritual and social welfare logics, defined in greater detail in Findings section. These spiritual and social welfare logics, along with the commercial logic, became the organizing frame for my understanding of the interactions between the social enterprises in this study.

Subsequently, I used "pattern matching" (Miles & Huberman, 1994) to categorize the interactions between the based on the dominant institutional logic at play: (1) spiritual logic; (2) social welfare logic; and (3) commercial logic. These categories were derived from my data and existing theory (Gümüsay, 2017; Pache & Santos, 2013), and I attempted to identify how the three social enterprises dealt with alignment or non-alignment of logics by examining themes in the interviewees' comments. I found that senior executives, mid-level managers, and front-line employees at all three organizations identified tensions in their relationships, but at the same time a subset of these individuals identified specific ways in which these tensions were dealt with in order to advance the innovation transfer process.

Step three: Tying together logics, interactions, and emerging constructs. My third step was to tie the emergent spiritual logic, the social welfare logic, and the economic logic to the interactions between the three organizations in the innovation transfer partnership examined in this study. This was not a linear process. Rather, my analysis proceeded recursively (Pratt, 2009; Langley, 1999) until I had a grasp of the emerging constructs related to the management of the operations of the partnership. Codes consisting of several of the primary constructs of entrepreneurial bricolage (e.g., seeking resources, "making do", avoiding challenges) were used to capture the operations and activities used by the social enterprises in this study to negotiate the alignment or non-alignment of logics and the worldviews which influenced them. Additionally, I identified one important emergent conceptual category, or mechanism, used by Aravind and Fundación Visión to ensure the impact of Aravind's model as it was transferred from India to Paraguay, and also identified sources of tension that emerged in the course of the innovation transfer process. These constructs and interactions are outlined in detail below.

FINDINGS

Prior work on multiple or conflicting logics in organizations has highlighted the role of a dominant logic or competing logics in guiding or constraining organizational action (Pache and Santos, 2013; Battilana and Dorado, 2010). This study points to broader and richer sets of logics which prior work has not systematically considered. For instance, I found that social enterprises are not uniformly impacted by one or two dominant logics of action (e.g., a social logic and an economic logic). Rather, a rich set of logics, multiple in nature, impact their actions. While other scholars have focused on social and economic logics in the past, scholars have only recently started to examine how spiritual logics can guide the actions of enterprises (Gümüsay et al, 2019). However, no study to date has examined the impacts of spiritual logics on inter-organizational partnerships. This study attempts to characterize how the values linked to spiritual logic are manifested within the organization (Friedland, 2013), and how these link to interactions with partner organizations in the innovation transfer context in particular.

Transfers of innovations between social enterprise partners offer a unique setting for studying institutional complexity. I found that logics may channel and guide the process of innovation transfer by impacting micro-processes of transfer as they are enacted at the organizational level by social enterprises, including the role played by entrepreneurial bricolage in this process (Baker and Nelson, 2005; Desa, 2012). Specifically, different social logics and the commercial logic impact the ways in which social enterprises incorporate different practices and innovations from partners, the solutions they craft to “make do” with the resources at their disposal, and the nature of the conflicts they encounter in the course of their partnerships. This, in turn, impacts the potential for “scaling” social innovations beyond the focal organization in which it was developed. These findings are discussed in detail in the sections which follow.

Organizations’ commitment to multiple logics

Recent work (Battilana and Lee, 2014; Ebrahim, Battilana, and Mair, 2014) has examined the conditions that encourage the persistence of multiple logics in a field, in particular when the organizations contained within the field are characterized by hybridity. Among the factors proposed are multiple local contexts for practice diffusion (and thereby local adaptation) and the lack of a dominant, overarching regulatory or professional framework that is able to impose field-level standards. Both these factors exist in varying degrees for the organizations examined in this paper. As a result, the actions of organizational actors in this study seem to be influenced by multiple logics, including one which has only recently been characterized in the institutions literature. At the level of social logics, I found the most variation between the organizations. For, Aravind and Fundación Visión, I identified an underlying “spiritual logic” rooted in their own organizations’ histories which, in turn, influenced their social logic. For Fundación Paraguaya, the social welfare logic aligned with the economic logic, in line with prior work on microfinance organizations (Zhao, 2014; Jia et al, 2015). Table 3 characterizes the social welfare, spiritual, and economic logics in summary fashion.

Insert Table 3 about here

Spiritual logic

I found that Aravind, and Fundación Visión were guided by a core spiritual logic in their actions. This was in addition to the social logic common to all organizations in this study. Aravind is a pioneer in the proVisión of comprehensive eye care services to the poor. Its late founder, Dr. G.

Venkataswamy, was fifty-eight years old and recently retired from the Indian civil service when he started the organization as an 11-bed hospital founded in a private residence in 1976. Dr. Venkataswamy – or "Dr. V." as he was affectionately known – was inspired by the teachings of Sri Aurobindo, one of the leading Hindu sages of southern India. This spiritual commitment is a core guiding principle of the organization, this philosophy was clearly reflected in Dr. V.'s writings and in the interviews that he gave. Some of these words are quoted each year in Aravind's annual reports. One of the clearest statements of the link between Aravind's spiritual roots and its activities is found on the third page of the 2008 Annual Report, which quotes Dr. V.:

Our effort is to make Aravind an instrument of the Divine Will. We strive to forget our limitations and work with the direction of the Divine Will, not in a vain superficial way but with a deep commitment and faith that guidance comes from a higher level of consciousness. Then one is able to work with the great confidence that comes only with that faith and realization that we are all part of a spiritual capacity or spiritual power. It is then that all of nature works with you. You don't feel that you are a superior being but you are an instrument in the hands of a higher force and it is in that spirit that we meet our day to day struggles and successes.

More recently, in the 2018 annual report, Dr. V.'s words are again used to reflect the importance of the Divine, especially as reflected in Hindu philosophy, in Aravind's work:

The Bhagavad Gita became popular and people started reading it to understand Kharma yoga. I remember well reading it in those days. At the same time Swami Vivekananda became very popular with us. His speeches were so powerful and inspiring, they made me look forward to doing something challenging and great.

I also read the teachings of Sri Ramakrishna Paramahamsa, who had very little schooling, but who had known God in person. All these contacts influenced our thinking in those days. We were not thinking of amassing money as our goal in life. We always aspired to some perfection in our lives, like the realization of God, or reaching of higher level consciousness in Yoga.

This organization-level commitment is manifest in the daily operations of the organization, and influences the actions of organizational members. For instance, the Chief Medical Officer of an Aravind district hospital similarly referenced a "higher power" guiding the organization:

… I don't know whether you believe it or not, but in this part of country, and on the Indian subcontinent, I think it's believed everywhere, that we are instruments only. Somebody else has decided that what I should do. Whatever we are doing, I don't think it's our effort only. Many people put the same amount of effort or more, but they don't achieve that. Somebody wants us to do that

much, so we are able to do it. Whatever we are doing, that divine force is there, a higher power is pushing us.

Similarly, Fundación Visión displayed a commitment to Christian principles in its work:

Our mission is "to be a leading institution in the prevention of blindness, in the promotion of ocular health and in the delivery of high-quality services, as well as in the training of new professionals for community health." The work of the organization rests on Christian principles and relies on the Bible as the sufficient rule of faith and conduct. (Fundación Visión web site; accessed: 30 May 2018).

This commitment to a Christian God was confirmed by the physician who served as the Director of Operations at Fundación Visión, who noted how its influence extended to the care and treatment of patients at the organization:

FV is also a Christian organization. Dr. Reinhold started in a loaned operating theatre in another hospital; he was driven by his Christian values to do this. FV now has 6000 patients per year, and the result of the care that they receive here means that patients can have a better life with God. The way we interact with patients is the way God or Jesus would act with patients. The staff are devoted to the patients.

Parboteeah and colleagues (2009) have noted that religion has a strong norm-setting influence with respect to work, which is seen as an obligation to society. In this way religion creates important work expectations for individuals, expectations which grow stronger when this work is situated in religious contextual environments. Within these two hospital systems spiritual values were an integral part of the work environment. This was manifested not just in the statements of organizational members and in official documents, but also in the physical symbols and objects which reinforced these values within these organizations. For instance, statues and pictures of Sri Aurobindo are found in the main entrance of all the major buildings within the Aravind system that I visited. The spiritual logic is important in this context as it helps to create a sense of common purpose and unity not just within the organization itself and between organizational members, but also between other organizations which share the same or similar values.

The spiritual logic also informed the way actors at Aravind and Fundación Visión approached their tasks within the health care realm, with their patients, and with respect to their interactions with members of other organizations. Aravind's Executive Director saw this connection in terms of spirituality and purpose – though Aravind is named after and inspired by the teachings of a Hindu sage and Fundación Visión is inspired by Christian teachings – as a point of commonality to build upon, one that would help overcome differences in "detail" and level of maturity between the two organizations:

At some level they [Fundación Visión] and Aravind share the same foundational mission. At one level there is similarity in terms of the purpose and the leadership orientation and those kinds of things, a lot of similarity. For instance, we are both in some way fundamentally committed to some higher values, you know? We are inspired by the teachings of Sri Aurobindo, and they have a lot of connection to the Christian church.

Some of the difference is more on the detail, I think we probably have a lot of alignment than they have within the organization. And I think they are -- they are not very young but they probably have a lot more maturing to go through in terms of systems and processes and all of that.

Economic and Social Welfare logics

Beyond the spiritual logic, and consistent with theory in social entrepreneurship, the economic logic was embedded in the necessities of the sector in which the organizations operated, and were related to issues of operational efficiency and demand generation for the services that they provide (Battilana and Lee, 2014). In addition, Fundación Paraguaya had a "strong" form of this economic logic impacting its actions, whereas Fundación Visión had a "weak" form. Aravind's economic logic strength was somewhere in-between as the organization focused heavily on efficiency, but was at the same time foundationally committed to the idea of serving a "higher power" in serving patients, especially the ones least able to pay. My point of departure from prior work is in the way in which I found that economic logics and the spiritual and social welfare logics mentioned above interacted in the inter-organizational setting. Specifically, even when there was no alignment between the strength of the economic logic (e.g., medium-weak in the case of Aravind-Fundación Visión), clashes at the level of operations related to the partnership were muted due to alignment on the spiritual logic aspect. However, a mismatch between the strength of the economic logic between Fundación Visión and Fundación Paraguaya (i.e., weak-strong) exacerbated already existing tensions at the level of social logic, where no spiritual logic alignment existed to diminish tensions between the organizations.

For social enterprises, an economic logic works to counterbalance the social welfare logic and focuses organizations on questions such as demand generation and efficiency (Pache and Santos, 2013; Battilana and Dorado, 2010). In this study, the economic logic differed in strength across companies – for Fundación Paraguay, a microfinance organization, it was a major driving force; for Fundación Paraguay it was far less important or even de-emphasized; for Aravind, social and spiritual commitments were balanced with a focus on delivering services efficiently. This focus on operational efficiency, as much as any spiritual element, was considered by Aravind's Executive Director as the fundamental pre-requisite for transferring knowledge to partners:

I think most essential [element of the Aravind model to be transferred] is the mindset. Because I think the process… you can say one thing is more important than the other. For a given hospital something can be more important than the other, you know, like certain hospitals they could be already having a tremendous number of patients, you know, but then their conversion rate, they are having very low acceptance or so there we do not focus too much on marketing, you know, that will be institution-specific.

But fundamentally the most important thing is the mindset, how they start thinking…. the market focus, customer focus, all of that… wanting to become efficiency focused or wanting to become self-supporting. You know, if you are always having the mindset that you can always raise money, you are never going to become efficient.

This efficiency focus was mirrored at Fundación Paraguaya, but in the opposite direction: the company's deep social and community connections were seen as its "differentiating" factor against versus other microfinance operators in Paraguay. Here, the emphasis was on the business or economic side, and the company's social programs – such as its agricultural school for disadvantaged but entrepreneurial young Paraguayans – fed into its money-making micro-credit initiatives. The company's Director of Planning noted:

We see our programs as separate in budgetary financial terms, but they are integrated at the operational level. The principles of how to run a sound microfinance program are the same principles that we used to run the agriculture school, we used the Junior Achievement team methodology to teach entrepreneurship at the agriculture school. The agriculture school takes the sons and daughters of microfinance clients as their students, and the microfinance program gives graduates of the agriculture school lines of credit…

On the other hand, for staff at Fundación Visión, the social service of their business was paramount, even for staff at the operational rather than executive level. For instance, the manager of information technology noted to me that patient care and the spiritual side were the key drivers of the organization. The coordinator of one of the clinics at the based hospital said that the focus on caring for patients was what separated Fundación Visión from other hospitals and clinics in Paraguay. Finally, the organization's manager of social work noted that Fundación Visión is committed to its patients both inside and outside of the hospital setting. This stemmed, she felt, from its foundation in "Christian values": Fundación Visión was deeply involved in charity for patients, it is not a business like other eye clinics and hospitals in Paraguay.

Multiple logics and bricolage

That a spiritual logic was found at Aravind and Fundación Visión is noteworthy, but unsurprising given the preponderance of faith-based organizations working on health and development issues. What is interesting, however, is how organization-level action can be influenced and guided by such spiritual values. My case data suggest that Aravind and Fundación Visión developed emergent strategies to ensure that their business models and innovations got scaled up. These strategies are deeply rooted in not only the process of scaling, but also the way different institutional logics at the source and target enterprise interact, and the extent to which the logics of the source enterprise and the target enterprises are aligned. They are also tied to what prior work has called "making do" with resources available in the local environment, or entrepreneurial bricolage (Desa and Basu, 2013; Durand et al., 2013; Desa, 2012; Baker and Nelson, 2005).

Maintaining innovation fidelity

For instance, my case data indicate that the source social enterprises may be able to actively manage their partners using inter-related strategies related to the underlying balance between multiple institutional logics. These tactics can be broadly organized into one major process: *maintaining innovation fidelity*. In other words, the source enterprise, Aravind in this case, attempts to *maintain* the fidelity of their original model or innovation at the target site to preserve the intended social impact. They achieve this goal through a number of tactics, including bargaining with managers at the target organization to adopt practices and techniques developed by the source entrepreneur to ensure that the success of the original model and innovation in its new locale.

As described below, the process of maintaining innovation fidelity is related to separate aspects of the social enterprises' indirect ability to influence other organizations. This process enables source organizations with limited resources and a constrained direct ability to control of their partners' actions to exercise significant influence despite the absence of an ownership stake or even a principal-agent relationship at the target organization (Ansari et al., 2010). For Aravind, a primary way to ensure that the impact of the knowledge transferred was maintained was to induce adherence to the fidelity of their inter-linked eye care management methodology and practices (see Methods section for detailed description of the social innovation being transferred). Thus, their focus was on maintaining basic operating principles which could be shared with Fundación Visión and which would allow their system to transfer over to Paraguay.

Several Aravind managers commented to me about these principles, including the importance of starting the day early and keeping a focus on being organized to do good work. This was true of staff members both at headquarters (e.g., at LAICO, the Lions Aravind Institute of Community Ophthalmology, Aravind's training arm, and at the Madurai base hospital) and in field locations. For instance, a Faculty member at LAICO commented:

… we are trying to share principles, you know, it may not be exactly that you can replicate all our procedures but the principles can always be replicated anywhere … for example, I will tell you, we start everyday at 7 o'clock, 7 AM in the operating theatre, 7:30 AM in the out-patient department.... We don't say, you also should start at 7, if you start at 7 well and good, but not necessary. You can start at 8 o'clock, 8:30, 9 o'clock, fine… but how you start is what's important, how you are organized to do good work…. in the places where it is possible we suggest that they should start little early or something… Fundación Visión , time is not a problem for them, they start early.

At the Theni field hospital, the Medical Director made a similar comment:

… we follow certain principles, the basic principle on with the hospital Aravind Eye care to ensure those things. For instance, like discipline. We start 7:30 in the morning… Whatever we have

committed has to be honored. It's written that at 7:30 the hospital starts, and a patient coming at 7:30 should be able to see it.

For Aravind, at the root of transferring technical procedures related to information technology, patient management, and community engagement is a focus on developing values which help organizations improve in each of these areas. This was the feeling of Fundación Visión's Chief Operating Officer as well:

Especially Aravind helps us to improve our procedures and improve the way we are attending the community. They are helping us to improve the attention we give to our patients, and they are telling us to correct some procedures, so we can have a better flow of patients or we can attend more volumes. So they are helping us technically but they are also saying that we have to develop our values, and our discipline too. So they are saying we have to do both.

Logic mis-alignment and conflict

While aligned spiritual logics were a source of partnership strength for Aravind and Fundación Visión, the mis-aligned spiritual and social welfare logics were a source of conflict between Fundación Visión and Fundación Paraguaya. These difficulties arose as Fundación Visión sought to work with Fundación Paraguaya to fully implement one aspect of Aravind's model: demand generation for eye care services through screening camps. At these camps, patients are screened for cataract and other diseases, and those that are identified as needing follow-up treatment are referred for further follow-up. In southern India, with its great population density even at the village level, Aravind is able to use these camps to generate a constant flow of patients to its base and district hospitals. In Paraguay, with a much more dispersed population, this level of demand generation was not possible. Rather, camps have to be set up in the most rural locations to find potential patients.

While Fundación Visión had its own infrastructure in place for performing this screening function prior to the collaboration with Aravind, they did not have the reach of Fundación Paraguaya, which offers its microfinance and related products in the most remote regions of Paraguay. Facing resource constraints which did not allow it to operate these camps regularly beyond the major urban centers of Paraguay, Fundación Visión thus entered into partnership with Fundación Paraguaya to access its network of contacts across the country, thus “making do” with the resources at their disposal (Desa and Basu, 2013; Baker and Nelson, 2005).

However, this use of Fundación Paraguaya’s network by Fundación Visión also led to conflict between the organizations. In particular, Fundación Paraguaya’s staff felt that Fundación Visión was not concerned enough about promoting financing of different surgeries for patients screened at these camps. They felt that these surgeries would have been a “win-win” in the sense that Fundcion Visión would earn revenue from performing them, and Fundación Paraguaya would earn revenue by financing the operations. In addition, staff at Fundación Paraguay felt that Fundación Visión should have been more flexible about having more camps, by working in closer coordination the two organizations could build a future cataract surgery and eye care financing business in Paraguay.

The conflict which emerged between Fundación Paraguaya felt that Fundación Visión vis-à-vis the Visión camps and associated promotion of financing options can be tied to the mis-alignment between the social welfare logic and “strong” form of the commercial logic at Fundación Paraguaya and the spiritual logic and “weak” commercial logic at Fundación Visión. In this sense, tensions which emerged between the two organizations mirror issues encountered by social enterprise partners where values and identities are mis-aligned (Chowdhury and Santos, 2010; Smith et al., 2014). For instance, Chowdhury and Santos (2010) discuss a case wherein differing approaches to “social impact” between two partnering social enterprises, a kind of mis-alignment, led to difficulties in the transfer process and to a partial failure of the collaboration.

Logics alignment and muted cultural differences

Finally, and quite interestingly, the impact of cultural differences on the innovation transfer process was relatively muted compared to the institutional factors discussed above. Instead, what I found was that organizations tended to refer to geographic differences only with respect to actual or potential pitfalls in the transfer process; otherwise, the issue was for the most part in the background. This finding tended to go counter to expectations, as I assumed that cultural differences would be greatest when the members of the source-target pair were located in different countries, and especially where the "cultural difference" between the organizations' home countries was greatest – i.e., between India and Paraguay in the case of Aravind and Fundación Visión.

However, in the case of Aravind and Fundación Visión , which are located nearly ten thousand miles (sixteen thousand kilometers) apart, geographic separation provided an opportunity rather than a barrier for transfer, according to Aravind's Executive Director:

I saw an opportunity to create synergy because Latin America is a place where there isn't any place to just do high volume affordable care. I think it is largely a mindset kind of a thing, their models are very heavily driven by the US model. So they practice very expensive medicine, which benefits 2% of the population, and a vast majority cannot afford that price. So, but this guy really genuinely wanted to help the poor people, Reinhold Dirks [Head of Fundación Visión]. That's how that idea came up and Martin [Burt, head of Fundación Paraguaya] was willing, Reinhold was willing… we were trying to create a win-win model.

It might be the case the "foreignness" of Fundación Visión relative to Aravind actually spurred effort on the part of both parties to make the relationship work. That is, due to the potential for miscommunication organizational members actually made a greater effort to communicate effectively with their counterparts from across the world.

DISCUSSION

A number of scholars have called for research which highlights the distinctive nature of organizational processes in a social entrepreneurial context, where multiple institutional logics operate (Battilana and Lee, 2014; Pache and Santos, 2010; Dees, Anderson, and Wei-Skillern, 2004), and in particular for those areas outside of metropolitan centers which are less conducive to developing thriving social enterprise ecosystems (Jia and Desa, 2018). The present research addresses these calls by examining how social enterprises manage partnerships with other organizations that have related or distinct guiding logics and, ultimately, how social enterprises use partnerships to transfer innovations across geographic boundaries. In this sense, the article interrogates knowledge transfer processes across inequities of power, resources, market access, and governance (Wijers, 2019; Piatti and Dwiartama, 2016; Doering, 2016; Seelos and Mair, 2010; Hodge and Greve, 2007), though it explores these issues in the relatively unique context of a "South-to-South" collaboration between organizations in India and in Paraguay. The article makes three contributions.

First, this work helps to illuminate the extent to which organizations which operate in environments with multiple institutional demands and with multi-dimensional goals manage their organizational processes and behaviors in order to achieve increased impact nationally and internationally (Dacin et al, 2010). In particular, by illuminating the heretofore under-examined spiritual logic, it provides opportunities for researchers to develop these concepts further. Recent work in institutional theory has pointed to the relatively unexplored domain of religion in the study of modern organizations, and in the domain of international development in particular (Gümüsay, 2017; Tracey, 2012; Parboteeah et al, 2009; Ver Beek, 2000). For instance, Gümüsay (2017) argues that a heterogeneous intra-institutional religious logic may help scholars to theorize across different contexts about the impact of religion on organizational practices and values. While this macro-level focus is welcome, the present study goes beyond such broad-level constructs to illuminate the role that a spiritual logic may play in facilitating the transfer of ideas and practices between organizations, even when they are located at different ends of the earth. Both Aravind and Fundación Visión had prior collaboration experience with other spiritually-oriented hospitals. Where there were potential pitfalls due to language barriers, Aravind sent staff to work extensively on-site to ensure that practices were transferred, and this resulted in the successful transfer of their patient care and patient management practices to Fundación Visión.

Beyond this, what is particularly noteworthy about this partnership is the fact that while Fundación Visión is a Christian organization, Aravind's spiritual dimension is rooted in Hinduism. Nevertheless, despite vastly different religious traditions, with one organization rooted in Western, Christian, traditions even if located in a developing country setting, and the other linked to an ancient "Eastern" religion, the organizations' underlying commitment to a "higher power" served as an important point of commonality which seemed to have facilitated their collaboration. Importantly, such a focus on common values between Aravind and Fundación Visión links to the "old institutionalism" idea that values and norms, versus scripts and other taken-for-granted processes as prescribed by neo-institutional theory, can serve as a primary guide for organizational action (Gümüsay, 2017; Tracey, 2012; Dorado, 2006). This values turn in the study of institutions can be linked to the recent work of Friedland, who argues for greater focus on "the internal institutional order" of organizational actions as opposed to the "external conditions of their possibility" (2013). Fundamentally, the notion of "internal institutional order" links to the idea that values are embedded in an organization's practices, a reality that this study confirms in its exploration of organizational practices focused on care for patients as constituted by spiritual organizations such as Aravind and Fundación Visión. In these two hospital systems, the act of delivering eye care is intimately linked to the idea of a "higher power" and serving humanity as confirmed by a range of informants, organizational documents, and artifacts reflecting the influence of the Divine in structuring organizational action. What this study didn't do, however, is examine how the distinct religious traditions underlying the two principal organizations in this study, Hinduism and Christianity, differ in the ways that they influenced Aravind and Fundación Visión, respectively. Future research might explore these differences (Gümüsay, 2017; Ver Beek, 2000).

A second contribution of this paper is to highlight the tactics used by source firms to manage knowledge transfer partnerships with geographically distant partners that are operating in contexts very different to their own. A number of recent studies suggest that different institutional logics guide organizational behavior by providing specific scripts for action and by establishing core principles for organizing activities and channeling interests (Ahmadsimab and Chowdhury, 2019; Ebrahim et al., 2014; Battilana and Dorado, 2010). These studies provide little insight into the role played by divergent or convergent social logics on the unfolding of a partnership. Because values determine how partnership goals may be accomplished, this is an area of both theoretical and practical concern. For organizations with social goals, partnership is a means to "create social value" and indeed to spread the organization's key values to other organizations and locales. The organizational field plays a major role in shaping these values and the nature of the partnership (DiMaggio and Powell, 1983; Friedland and Alford, 1991; Thornton and Ocasio, 1999). As noted previously, alignment of partner social enterprises' values greatly facilities inter-organizational collaboration. When alignment isn't there, however, cultural and institutional factors become more important in determining the direction and success of a partnership (Palis, 2006), and bricolage mechanisms (Desa, 2012; Baker and Nelson, 2005) gain heightened importance.

For instance, while Fundación Visión entered into the partnership initially to gain access to new technologies and resources related to eye care delivery and process management, they nevertheless encountered difficulties vis-à-vis their cooperation with Fundación Paraguaya, their in-country partner. Specifically, these difficulties stemmed from divergent perceptions relating to efficiency with respect to their Visión camps operated distant rural areas using Fundación Paraguaya's networks but which combined both organizations' personnel. In addition, Fundación Paraguaya staff members were "disappointed" with the approach of Fundación Visión towards revenue-generating operations such as the financing of different surgeries. Here, the strong economic logic driving the microfinance organization, Fundación Paraguaya, came into conflict Thus, what emerged from the rich case data which constitute this study is that the form of inter-organizational partnership is influenced by the extent to which the source organization manages to balance its multiple logics with those of its partners. While the balance between the two hospital systems was maintained via a strong spiritual logic alignment, differences in the prioritization of the economic logic between Fundación Visión and its in-country partner, Fundación Paraguya, speak to the challenges encountered between organizations which may be operating even in the same local context when their values are not aligned (Bacq and Janssen, 2011; Friedland, 2013; Jia et al, 2015).

Building on this second contribution, by situating institutional logics research in an inter-organizational setting, this study also begins to unpack the processes which emerge when the logics of different organizations have to be simultaneously considered. In doing this, it addresses the following questions: Are these mechanisms indeed different from the traditional knowledge transfer mechanisms studied by organizational scholars? How do partners in a dyadic transfer relationship coordinate their efforts and to what extent to they ensure the fidelity of the innovation is maintained across settings (Ansari, Fiss, and Zajac, 2010)? By answering these questions, scholars may get closer to an understanding of institutional logics as strategic resources as proposed by Durand and colleagues (2013); this promising line of inquiry may have much do contribute to the ways in which the logics of different organizations interact in an inter-organizational context.

Third, and finally, this research contributes to the emerging literature on "scaling" entrepreneurial innovations in social settings (Seelos and Mair, 2017; Desa and Koch, 2014; Smith and Stevens, 2014; Chowdhury and Santos, 2010; Bloom and Chatterji, 2009). It does this by offering possible alternative views to the discussion on "scaling" in the social sector, a debate which has, to date, focused on "scaling organizations" as the primary means to expand the scope and reach of innovations developed by social entrepreneurs. For instance, Desa and Koch (2014) suggest three underlying requirements for scaling a venture across regions: compatibility of the social innovation, a market penetration strategy, and a design for affordability. Whereas the affordable design aspect and compatibility of the eye care services delivered by Fundación Visión and Aravind was a primary driver for the development of the partnership, Fundaction Visión had to "make do" (Baker and Nelson, 2005) with the resources available to it in Paraguay in terms of delivering its services to under-served rural markets in Paraguay.

In particular, the on-the-ground partnership between Fundación Visión and Fundación Paraguay allowed the former organization to utilize and country-wide network developed for the microfinance context to access greater numbers of potential patients for its eye care services. While there were clashes with respect to the social motivation of Fundación Paraguaya's approach, which sought to promote micro-enterprise approaches to addressing poverty (Doering, 2016), versus the more spiritually-grounded social motivation of Fundación Visión, ultimately this “making do” with available resources allowed the expansion of Aravind’s approach to delivering eye care services to Paraguay. In this sense, by highlighting the possibility of instead “scaling solutions” (Dees et al, 2004) through inter-organizational partnership as a means to achieve similar impact, the study puts forward novel approaches that organizations have available in their toolkit to address the issue of increased impact.

In addition to the theoretical contributions highlighted, the study also has practical implications for program managers, consultants and other actors working with social enterprises to scale the impact of their innovations. The notion of varying social motivations (emerging from varied social logics) can manifest as tensions or conflicts in partnerships, and may provide a basis for developing mechanisms for resolving these tensions as they emerge in practice. Additionally, in defining some of the tactics used by social entrepreneurs to manage the scaling of social innovations via partnering with other social enterprises (e.g., maintaining innovation fidelity), the study may offer lessons for moving beyond differences in social logics as partners work to develop joint solutions to issues of mutual concern. Beyond this, given the urban to rural transfer of the social innovation in this settings, different lessons can be developed in terms of modifying practices or taking into account the unique resource constraints encountered by organizations seeking to expand social impact to rural settings.

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Table 1
Data Collection Process

Stage	Name	Description
1	Preliminary Survey and Site Selection	Short survey was sent out to the 16 finalist organizational pairs; 15 completed the survey. Data from surveys used to construct a list of the four most promising organizational pairs for follow-up.
2	Pilot Study	An initial case study was conducted on-site at one pair of source and target organization partners, both located in India, to gain insight into the social innovation transfer process. This pilot study allowed the "field-testing" of interview protocol which was refined for use subsequent data-gathering.
3	Field Visits and Interviews	Researcher visited source and target social enterprises in the 3 remaining partnerships, located in Bangladesh, India, Paraguay, and Sri Lanka.
4	Follow-up and Data Analysis	Following and concurrent to field data collection I gathered updates on the progress of the knowledge transfer processes via email exchanges and telephone calls. I also had access to the periodic updates sent by each pair of organizations to the funding agency, up to and including the final reports. Subsequently, final phone calls with both source and target organizations were conducted.

Table 2

Description of Informants

Organization	Formal Position
Aravind	Faculty Associate (Training)
	Managing Director (Aurolab)
	Executive Director (LAICO)
	Administrator
	Administrator – LAICO
	Faculty / Senior Manager
	Assistant Manager (Field Services)
	Head Ophthalmologist
	Medical Resident (1st year)
	Assistant Administrator (Theni Hospital)
	Chief Medical Officer (Theni Hospital)
Fundación Visión	Coordinator, Mobile Visión Camps (Asuncíon)
	Medical Resident (2nd year)
	Medical Resident (3rd year)
	Director of Operations
	Manager, IT and Purchasing
	Clinic Coordinator
	Manager, Social Work
	Manager's Assistant (Administration & Finance)
	Manager, Administration & Finance
	Medical Director
Fundación Paraguaya	General Manager, Fundación Paraguaya
	Director of Operations
	Microfinance Coordinator
	Director of Planning
	Director, Paraguani (Branch Office)
	Director, Itá (Branch Office)
	Director, Mariano Roque Alonso (Branch Office)
	Microcredit Group Manager, Mariano Roque Alonso (Branch Office)
	Director, Regional Microcredit Offices (Asuncíon)
	Director, Business Development

Table 3
Comparison of Social, Spiritual & Economic Logics

Characteristic	Social Welfare Logic	Spiritual Logic	Economic Logic
Goals	Deliver services and produce products to address local social needs	Relieve Suffering of beneficiaries while adhering to core religious principles	Maximize surplus revenue through efficiency of operations
Target Population	Beneficiaries to be served, particularly those who are seen as more or less “deserving” of “support”	Beneficiaries to be served, particularly the poor and marginalized	Clients to be served with a focus on efficiency and on generating demand for future interventions
Operational principles	Design interventions to maximize impact of available funds on social impact and positive social outcomes	Design interventions to serve beneficiaries, to relieve beneficiaries’ suffering, and to serve a "higher power"	Maximize surplus revenue through efficiency of operations and demand generation

*****This table is based on Pache and Santos (2013), Gümüsay (2017), and on interviews and other data collected for this study.

Off-duty deviance in the eye of the beholder: Implications of moral foundations theory in the age of social media

ABSTRACT

Drawing from moral foundations theory, we show that differences in sensitivity to distinct moral norms help explain differences in the perceived (un)fairness of punishing employees for off-duty deviance. An initial study validates realistic examples of non-criminal behavior as reflecting violations of either purity or care norms. Participants in the main study evaluated scenarios in which coworkers were fired for those behaviors, which took place outside of work but were revealed via social media. They were more likely to judge the firing as fair, and less likely to express intent to take retributive action against the responsible manager, if they valued the norm violated by the coworker. This effect was moderated by the presence of a pre-existing organizational policy regarding off-duty conduct, which uniformly decreased negative reactions to the firing. Because social media now makes the revelation of an employee's off-duty behavior to a broad audience increasingly likely, our results suggest the importance of developing an approach for responding to employee off-duty deviance while highlighting the relevance of moral pluralism to the study of third-party reactions.

Keywords:

Moral foundations theory; social media; organizational justice; employee discipline; at-will employment

Introduction

The past decade has seen numerous cases of employees fired for behavior they engaged in outside of work which was revealed to their employers via social media. In one such case, the chief financial officer of a medical equipment company was fired for posting a YouTube video of himself confronting a Chick-fil-A cashier over the fast food chain chairman's opposition to same-sex marriage (Isidore, 2015). In another case, a National Football League cheerleader was fired after posting a picture of herself on Instagram, which team officials claimed violated a policy against posing for revealing photographs (Belson, 2018). While both of these examples concern an employee fired for off-duty behavior that employers only learned of from social media, many observers might approve of the firing in one case but not the other. In this study we examine both how individual differences in moral sensitivities and situational factors under organizational control shape third-party responses to the punishment of off-duty deviance. In doing so, we extend moral foundations theory to an increasingly common and complex managerial challenge that, to date, has received little scholarly attention.

Off-duty deviance is defined as employee behaviors committed "outside the workplace or off-duty that are deviant by organizational and/or societal standards, jeopardize the employee's status within the organization and threaten the interests and well-being of the organization and its stakeholders" (Lyons et al. 2016, p. 416). While some types of off-duty deviance (e.g., illegal activity) may raise legitimate work-related concerns, the job relevance of other behaviors is contentious (Nagele-Piazza, 2017). For example, excessive alcohol use at a weekend party or the use of profanity on a personal Twitter account may be considered deviant by some observers' standards and not others. Research on social media screening for selecting new employees indicates a wide range of opinion on whether these sorts of behaviors are relevant to hiring decisions (Landers & Schmidt, 2016; Van Iddekinge et al. 2016). Thus coworkers, customers, and other third parties may well disagree about what, if any, managerial action is warranted when current employees' off-duty deviance is revealed via social media.

Moral foundations theory explains why people judge "deviant" behavior differently; people differ in their perception of deviance, or the wrongness of an act, based on their sensitivity to a plurality of underlying types of moral norms (Graham et al. 2013; Haidt and Joseph, 2011; Haidt, 2007). Here we extend this theory to propose that a third party is more likely to see punishment for a deviant behavior as justified if it violates the norms associated with a moral foundation to which the third party is particularly sensitive. Because research on moral foundations has demonstrated that people vary substantially in their relative sensitivity to specific moral foundations (Graham et al. 2011; Clifford et al. 2015), punishment for the violation of associated norms can be controversial. Moral pluralism poses a challenge for managers because punishment for some types of off-duty deviance may be praised (or even demanded) by some third parties yet condemned by others.

The purpose of this study is to examine how differences in idiosyncratic sensitivity to moral norms predict reactions to the firing of a coworker for off-duty deviance made visible through social media. We also experimentally test whether the nature of the justification offered for the firing influences third-party judgments. The results demonstrate the practical applicability of moral foundation theory and procedural justice theory to a consequential managerial dilemma.

Off-duty deviance, social media, and third-party reactions

The rise of social media means that off-duty deviant behavior is now much more likely to become known among coworkers, managers, and even the broader public (Van Iddekinge et al. 2016). A survey of employed undergraduates found that 86% of respondents were connected with a friend from work on social media (O'Connor et al. 2016). This implies that evidence of an employee's off-duty conduct posted on social media can easily spread across an organization. Moreover, instances of deviant behavior can go 'viral' and spread to the general public, a consequence that is largely unpredictable and which can result in wildly disproportionate negative consequences (Goldman, 2015), not only for the individuals involved but for their organizations and even entire professions (Greysen et al. 2010).

If employees are terminated or suspended due to their Twitter remarks or viral videos, other employees are likely to learn of it, and the broader public sometimes does as well (Ronson, 2016). The reactions of third-party observers therefore become a matter of significant organizational concern (Skarlicki et al. 2015). While perceptions of organizational justice are often conceptualized and discussed as an individual-level phenomenon, employees base their perceptions not only on how they personally are treated but also on how their coworkers are treated (Cuguerό-Escofet et al. 2014). Employees may act against supervisors who behave abusively toward innocent coworkers (Mitchell et al. 2015). Employees who observe their peers being subjected to interactional injustice view the responsible supervisor as unethical, and they are more likely to engage in deviant workplace behavior and less likely to engage in organizational citizenship behavior (Zoghbi-Manrique-de-Lara and Suárez-Acosta, 2014).

Negative repercussions associated with third-party perceptions of injustice are likely to be especially severe in the case of termination decisions. Dismissal from employment often has a drastic effect on individual livelihood and well-being (Eliason and Storrie, 2009). While some countries require that terminations be justified based on performance, misconduct, or redundancy, the prevalence of at-will employment in the United States means that employees can legally be fired for off-duty behavior in most instances (Harcourt et al. 2013). Many American workers, however, are unaware of this and mistakenly believe they have more legal rights than they do (Eastman, 1997). Terminating an employee without "good cause" is widely viewed as a major violation of a psychological contract belief (Roehling and Boswell, 2004). While employees may sometimes disagree about the ethics of termination decisions resulting from workplace deviance, the scope for controversy associated with firings due to non-work behavior is likely to be considerably greater.

A few studies have reported variation in attitudes about the ethicality of employment-related consequences for social media activity (Roth et al. 2016; Valentine et al. 2010). In a survey of young undergraduate students at a Midwestern university, 33% agreed that a teacher should lose her job because of a social media post revealing lewd behavior at a bachelor(ette) party, whereas 39% disagreed and 28% remained neutral (Drouin et al. 2015). But to date there has been little research on the underlying reasons for this apparent lack of consensus. Here we consider a variety of off-duty deviant behaviors and test a theory-based explanation for *why* people disagree about the (in)appropriateness of termination decisions for these behaviors.

Theoretical Foundations and Hypotheses

Moral Foundations Theory

Moral foundations theory is a pluralistic theory of morality that proposes the existence of multiple basic foundations of moral reasoning (Graham et al. 2013). According to the precepts of moral foundations theory, people vary in their 'sensitivity' to specific moral foundations because they have different types of life experiences within cultures that emphasize different types of values (Graham et al. 2013). Sensitivity to a moral foundation refers to the extent to which a person endorses, values, and uses a given foundation in moral decision making (Graham et al. 2011). People vary in the extent to which they consider virtues associated with a given moral foundation as desirable, and the extent to which they consider deviance that violates the norms of a given moral foundation as wrong (Graham et al., 2013; Graham et al. 2011).

While the number of foundations and their specific labels remain the subject of debate and development, the six most widely applied and studied foundations are care/harm, purity/degradation, fairness/cheating, loyalty/betrayal, authority/subversion, and liberty/oppression (Graham et al. 2011; Iyer et al. 2012). Two of these foundations—care/harm and purity/degradation— may be particularly applicable to deviant behavior revealed on social media. The care/harm foundation addresses the adaptive challenge of ensuring the well-being of children, and norms related to this foundation are violated by cruel acts toward others, especially those who are vulnerable, such as children or animals (Graham et al. 2011; Graham et al. 2013). The purity/degradation foundation addresses the adaptive challenge of avoiding communicable diseases, and norms related to this foundation are violated by behaviors that are considered 'unclean,' including signs of sexual promiscuity or excessive use of drugs or alcohol (Graham et al. 2013; Haidt and Hersh, 2001; Oaten et al. 2009). Apparent cruelty toward disadvantaged individuals or groups shared via social media can fuel widespread condemnation and result in firings (Ronson, 2016), and the most commonly cited reasons for rejecting job applicants due to social media are content that is provocative and content that reveals drug or alcohol use (Grasz, 2014).

We predict that differences in sensitivity to moral foundations influence the way that third parties perceive and react to the punishment of people who have violated the norms associated with a given foundation. The more sensitive an observer is to a moral foundation, the more likely he or she is to respond favorably when someone who has violated associated norms is punished. Conversely, an observer who does not place a great deal of value on that moral foundation would be more likely to disapprove. Observers who do not perceive a termination decision as having a "good cause" view it as an unfair violation of the psychological contract governing employment and are more likely to take retributive action against the decision maker (Roehling and Boswell, 2004). In the case of off-duty deviance revealed on social media, we propose that observers' sensitivity to moral foundations will shape which types of deviance they perceive as constituting a 'good cause' for termination.

Hypothesis 1: Third-party observers who are sensitive to a moral foundation are more likely to view termination of employment for off-duty behaviors violating that foundation as fair and are less likely to take retributive actions against the manager responsible for the firing.

Organizational Justice and Organizational Policies

A content analysis of Fortune 500 firms' organizational codes of conduct found that 13% included an explicit statement regarding off-duty deviance (typically criminal) on their company website, and almost one out of five of these statements addressed social media usage (Lyons et al. 2016). As an example, the code provided to employees of General Motors (GM) states "you are the face of the Company, and what you publish reflects on GM and our brands. GM's Social Media Policy sets forth requirements you must follow, whether you are interacting personally or as an authorized GM spokesperson" (as quoted in Lyons et al. 2016, pg. 18). Another global study of large firms found that almost twenty percent of social media policies explicitly applied to situations outside of work, and a similar percentage of these threatened termination as a consequence for employee content in violation of the policy (Stohl et al. 2017). In a United Kingdom employment tribunal case, the termination of a long-standing employee for comments she made on Facebook was upheld because the firm had a social media policy banning conduct that could damage the company's reputation (*Plant v API Microelectronics Ltd*., 2017).

Based on procedural justice theory (Lind and Tyler, 1988), we hypothesize that the presence of an off-duty conduct policy mitigates backlash if an employee is fired for off-duty deviance that plausibly violates the policy. While the primary intention of these policies may be to deter off-duty deviance, they may also increase the likelihood that punishment of violators will be viewed as resulting from a fair process. If people are not sure whether an outcome is fair or not, they use the perceived fairness of the process as a heuristic (Van den Bos et al. 1997). In one field study, seasonal student employees who were given advance notice of video camera monitoring gave more favorable justice judgments and were more likely to return in comparison to those who were not warned (Hovorka-Mead et al. 2002). By the same logic, third-party observers who are informed that an organization had an off-duty conduct policy should be more likely to accept the punishment of those who violated the policy, even if the observers do not personally believe the behavior was a moral transgression.

Hypothesis 2: The existence of an organizational policy prohibiting off-duty conduct that could damage the organization's reputation increases the perceived fairness of terminations for off-duty deviance and lowers intentions to take retributive action against the manager responsible for the decision.

Research overview

We present results from two empirical studies. The purpose of Study 1 is to validate realistic examples of off-duty deviance that violate norms associated with a single moral foundation. In Study 2 we formally test the two hypotheses with a separate sample of participants, who are asked to evaluate scenarios where a coworker was fired for the identified exemplars of off-duty deviance. Both studies rely on samples recruited from Amazon's Mechanical Turk (MTurk) labor platform, restricted to people located in the United States. Compared to student samples and other traditional convenience samples, MTurk workers are more demographically diverse and produce data that are at least as valid (Buhrmester et al. 2011; Thomas and Clifford, 2017). In particular, MTurk samples provide a wider age range than that used in previous research (e.g., Drouin et al. 2015). We used multiple attention check questions similar to the items of interest in order to safeguard data quality (Thomas and Clifford, 2017). Informed consent was obtained from all individual participants.

Study 1

Our intent in the first study was to identify multiple realistic examples of off-duty deviance that third-party observers generally agreed constituted a violation of a single moral foundation. Moreover, we sought to identify behaviors that would pose managerial challenges in that not all observers would agree on whether punishment was merited. Thus we are not interested in examples of off-duty deviance that would be widely dismissed as trivial, nor those that would be widely condemned as monstrous, but rather those of "moderate" severity.

In order to do so, we adapted a procedure used by Clifford et al. (2015), who developed and validated a set of moral foundations vignettes of behaviors that violate a particular moral foundation but not others. Some of their vignettes are work-related (e.g. "you see an intern disobeying an order to dress professionally," which violates norms of respecting authority) and others involve extreme and bizarre behaviors (e.g., necrophilia). Accordingly, we generated a new set of vignettes describing non-work related, non-criminal behaviors that have been revealed on social media.

Method

Sample. One hundred and nineteen adults (45 women, 74 men) located in the United States were recruited through MTurk. Their average age was thirty-four years old, with a range from nineteen to seventy. One additional response was excluded for failing an attention check. Participants were paid $1.40 for completing this task, which took approximately twelve minutes.

Procedure and materials. We reviewed media reports of social media shaming cases where people had been fired, or observers had called for them to be fired, for off-duty behavior revealed on social media, and generated twenty vignettes briefly describing these "deviant" behaviors. All participants viewed each of the 20 vignettes individually in random order. Participants rated the moral wrongness of each action on a 5-point scale (1 = *not at all wrong* to 5 = *extremely wrong*). Following the method developed by Clifford et al. (2015), participants were then asked which of seven statements best described the behavior:

- It violates norms of harm or care (e.g., unkindness, causing pain to another)
- It violates norms of fairness or justice (e.g., cheating or reducing equality)
- It violates norms of loyalty (e.g., betrayal of a group)
- It violates norms of respecting authority (e.g., subversion, lack of respect for tradition)
- It violates norms of purity (e.g., degrading or disgusting acts)
- It violates norms of freedom (e.g., bullying, dominating)
- It is not morally wrong and does not apply to any of the provided choices

Results and discussion

Descriptive statistics for responses to the twenty vignettes are presented in Appendix A, which lists them in descending order of average perceived wrongness. One vignette (involving throwing a kitten as part of a joke) was eliminated because it was widely perceived as extremely egregious behavior (m = 4.5 on the wrongness scale), and one (making fun of one's own political party) was eliminated because subjects rated its wrongness as relatively low (m = 1.7).

The other eighteen vignettes had mean ratings between 2 and 4 on the 5-point scale. Of these, however, thirteen showed substantial disagreement regarding *which* specific foundation was most violated. For many situations, it is not surprising that several moral foundations may be considered relevant (Fehr et al. 2015). There were five vignettes, however, on which more than 60% of participants (of those who judged it to be wrong) agreed on which moral foundation had been violated. Three of these were perceived as most clearly violating norms of purity (listed in bold in Appendix A), and for two vignettes most people felt the behavior violated norms of care (italicized in Appendix A).

Thus this process resulted in a final set of five examples of deviant behavior that met our desired criteria; these were behaviors that most (but not all) observers felt were at least somewhat wrong but not horrific, and if so they generally agreed on which specific moral foundation norm had been violated.

Note that these five behaviors are among those typically cited as reasons for rejecting job applicants based on social media screening (see Grasz, 2014), e.g. indications of drug/alcohol use, provocative content, and badmouthing others. This suggests that the purity and care moral foundations may be the most realistic and broadly relevant when considering work-related consequences for behavior revealed on social media. It may also be the case that other forms of deviance revealed on social media are more ambiguous in terms of which moral foundations they are perceived to have violated.

Study 2

We developed termination scenarios based on the five behaviors validated in Study 1 and used them in Study 2 to formally test both hypotheses. Specifically, we hypothesize (H1) that the degree to which observers are sensitive to the moral foundation of purity will be positively associated with favorable responses to co-worker firings resulting from the three identified purity violations, and sensitivity to the care/harm foundation will positively predict favorable responses to firings resulting from the behaviors described in the two care scenarios. Because we use more than one operationalization of a violation of each moral foundation, we reduce the possibility that any observed effects would be due to the characteristics of a single specific violation (e.g., promiscuity) rather than reflective of reactions to the intended general construct (purity), thus enhancing generalizability (Highhouse, 2009).

Our second hypothesis (H2) proposed that the presence of a pre-existing off-duty conduct policy mitigates negative responses to firings for deviance revealed on social media. In order to test this, it is not enough to simply compare the presence of a policy to the absence of one. In some contexts, providing any explanation at all (even if it is not informative) has been shown to increase acceptance of an action, i.e. the well-known placebic information effect (Langer et al. 1978). In this study, we therefore experimentally manipulate whether terminations are explained as due to organizational off-duty conduct policy or due to the manager's personal reaction, in comparison to no explanation at all. We expect that the policy-based explanation will be much more effective in mitigating negative responses to terminations due to off-duty deviance.

Sample. One hundred and sixty-eight adults (90 women, 76 men, 2 other) located in the U.S. were recruited through Amazon's Mechanical Turk for a survey on workplace decisions; none had participated in Study 1. Their average age was thirty-four, with a range from nineteen to sixty-six. Seventy-two percent were currently employed part-time or full-time, and 24% percent reported that they currently supervised at least one employee. An additional twelve respondents were omitted due to their failure to pass one or more attention checks. Participants were paid $1.60 for completing this task, which took approximately 15 minutes.

Design. All participants evaluated each of five scenarios in which a coworker (Pat) had been fired for an off-duty behavior that became known through social media, with presentation order randomized. These scenarios were based on the three purity-violating behaviors and two care-violating behaviors identified in Study 1 and highlighted in Appendix A. Participants were asked to imagine that the scenarios took place in their current or most recent workplace and affected a coworker they did not personally know well.

Participants were randomly assigned to one of three conditions in which the explanation given for the coworker's termination was manipulated, such that each participant saw the same information for all five scenarios: 1) no explanation, 2) a statement that "later, Pat's supervisor explains that they fired Pat because the organization's conduct policy prohibits off-duty conduct that could damage the organization's reputation" or 3) a statement that "later, Pat's supervisor explains that they fired Pat because Pat's behavior was disgusting." (We chose "disgusting" to operationalize the personal reaction explanation as it would be a plausible potential reaction to all five behaviors.) Each scenario took the following form:

> *"You learn that Pat, a coworker whom you do not know well,* [one of the five behaviors highlighted in Appendix A inserted here, omitting the word "someone" and written in the past tense]. *A few days after this news started being shared around your workplace, you learn that Pat's supervisor decided to fire Pat because of this, which is legal in your state.* [In the two explanation conditions, explanation inserted here]."

Dependent variables. After reading each scenario, participants were asked to indicate their reaction using 7-point Likert scales (1 = *strongly disagree* to 7 = *strongly agree*). To assess perceived fairness, we used a three-item measure ($\alpha = .97$): "the decision to fire Pat was fair," "Pat's firing upheld ethical and moral standards" and "Pat's firing was justified, given Pat's actions" (adapted from Colquitt, 2001). Intention to take retributive actions was assessed with four items (α = .92) derived from "status-leveling" punishment tendencies (Skarlicki and Rupp, 2010): "I would be likely to write a letter to lodge a complaint about Pat's treatment," "I would warn my coworkers that this supervisor is unfair," "Pat's supervisor should be reprimanded for the way they treated Pat," and "I would be willing to sign a letter stating that Pat's supervisor did the wrong thing and should be more careful in the future."

Individual difference predictor variables. The Moral Foundations Questionnaire (MFQ) measures sensitivities to moral foundations; it presents six questions related to each of five basic moral foundations (care, fairness, loyalty, authority, purity) plus two attention check items (Graham et al. 2011). The first part of the MFQ consists of statements related to the explicit endorsement of the moral foundations, for example "compassion for those who are suffering is the most important moral virtue" (care/harm). Agreement with these statements is rated on a 6-point Likert scale (*1 = strongly disagree to 6 = strongly agree*). The second part of the MFQ asks participants to rate how important specific criteria are when making moral decisions on a 6-point scale (*1 = not at all relevant to 6 = extremely relevant*). "Whether or not someone was cruel" is an example of an item used to assess sensitivity to the care/harm moral foundation. The factor structure of the MFQ has been independently verified across multiple studies (Graham et al. 2011; Davies et al. 2014; Andersen, Zuber, and Hill, 2015). Participants responded to the entire MFQ, but only two dimensions are of interest for this study: sensitivity to purity (α = .86) and sensitivity to care (α = .57).

Political orientation was assessed and included as a control variable because prior research has found that liberals and conservatives differ in their sensitivity to moral foundations, and that political orientation can predict reactions to moral vignettes (Graham et al. 2009; Haidt and Graham, 2007). We asked participants to "select the category that most closely describes [their] political identity" (*1 = strongly liberal* to *7 = strongly conservative*). A similar measure has been used in prior moral foundations research (Graham et al. 2013) and single item left-right political scales are broadly applied as reliable indicators of U.S. political orientation in political science research (Kroh, 2007).

Results and discussion

Individual difference variables. The average sensitivity to care norms was 4.79 (SD = .66) and the average sensitivity to purity norms was 3.17 (SD = 1.25); they were not significantly correlated with one another ($r = .13$, *ns*). More participants tended to describe themselves on the liberal end of the scale than the conservative (M = 3.07, SD = 1.64). Greater political conservatism was positively related to sensitivity to purity norms ($r = .49$, $p < .001$) and negatively related to sensitivity to care norms ($r = -.17$, $p < .01$).

Responses to termination scenarios. Table 1 displays the mean responses across scenarios and experimental conditions; the first panel presents results for perceived fairness and the second panel shows those for retributive intentions. On average, firing someone for bragging about sexual exploits was perceived as least fair, and as most likely to engender retributive action, whereas firing due to online bullying behavior was perceived most favorably (although the mean response was only slightly above neutral). But punishments for care violations were not uniformly viewed as more justified than firings for purity violations, and there was substantial variation across individual participants and across the five scenarios.

Insert Table 1 about here

Because of the hierarchical structure of the data, we used multilevel modeling to analyze responses, which also accounts for the lack of independence among responses from the same subject, unlike ordinary least-squares (Nezlek, 2008). Models were specified with respondent-specific random intercept parameters. Each subject responded to each of the five scenarios. The specific scenario and the type of moral foundation violation (care or purity) were included as within-subjects (i.e., level one) explanatory variables, and the reason given for the firing (policy-based or disgust-based or none) was a between-subjects (i.e., level two) explanatory variable. The two moral sensitivity measures and political orientation were included as individual difference explanatory variables. Table 2 presents the results of this analysis for each of the two dependent variables, perceived fairness (ICC = 0.40) and retributive intentions (ICC = 0.43).

Insert Table 2 about here

Hypothesis 1 was supported. Participants who were especially sensitive to the moral foundation of purity were much more likely to perceive the firing of a co-worker for off-duty behaviors violating purity norms as fair ($\beta = .59$, $p < .001$), and were less likely to endorse retributive actions directed at the responsible manager ($\beta = -.53$, $p < .001$). People who were more sensitive to the moral foundation of care were more likely to perceive firings for violations of care norms as fair ($\beta = .52$, $p < .001$) and were less likely to indicate retributive intent for those scenarios ($\beta = -.43$, $p < .01$). Thus sensitivity to each moral foundation strongly predicted reactions to terminations resulting from violations of that particular foundation.

In this model, purity sensitivity was also related to the perceived fairness of firings due to care violations ($\beta = .20$, $p < .05$), which was not hypothesized. But purity sensitivity was not significantly related to retributive intent for care-violation scenarios ($\beta = -.16$, *ns*). While it is possible that people who strongly value purity as a moral foundation may be generally more inclined to perceive firings as fair, this may also be a spurious association. Care sensitivity was not significantly associated with either fairness judgments or retributive intentions for purity-violation scenarios. Controlling for purity sensitivity and care sensitivity, political conservatism was associated with more unfavorable reactions to terminations for behaviors violating care norms (perceived fairness $\beta = -.16$, $p < .05$; retributive intent $\beta = .19$, $p < .05$), but not with responses to purity violation scenarios.

Hypothesis 2 was also supported. As shown in Table 1 and Table 2, justifying termination decisions by referring to a pre-existing off-duty conduct policy increased the perceived fairness of the decision, compared to either providing no explanation at all ($\beta = .51$, $p < .01$) or explaining it as due to the managers' personal reaction ($\beta = .46$, $p < .05$). The off-duty conduct policy explanation also reduced intentions to take retributive actions (compared to no explanation, $\beta = -.50$, $p < .01$ or the personal reaction explanation: $\beta = -.52$, $p < .01$). There were no significant differences in responses between the personal reaction and no explanation conditions, either in terms of perceived fairness ($\beta = -.05$, *ns*) or retributive intent ($\beta = -0.01$, *ns*).

The finding that the policy manipulation broadly mitigated responses to termination decisions for off-duty deviance provides evidence for the practical import of off-duty conduct policies. But it is also important to note that the overall average fairness rating in the policy condition ($M = 4.03$; see Table 1) was at the midpoint of the scale; the existence of the policy did not necessarily make observers approve of the firings, but observers in the other two conditions were more likely to disapprove ($M = 3.60$ and $M = 3.52$).

General Discussion

Using scenarios based on these behaviors, the second study's results support a theory-based explanation underlying differences in how third parties respond to terminations for off-duty deviance. People who are sensitive to a moral foundation perceive firings due to violating associated norms as acceptable, whereas those who are less sensitive to that moral foundation are more likely to condemn the firing and to endorse retribution against the responsible manager. Unlike past research on observers' perceptions of discipline decisions for workplace deviance such as absenteeism (Klaas and Wheeler, 1990; Martocchio and Judge, 1995), this study breaks new ground by showing that individual sensitivities to moral norms interact with the nature of the off-duty deviance to shape reactions to punishment. Our results show that whether an observer condemns or approves of firing an employee based on social media content depends (in part) on whether the content appears to violate a moral foundation the observer cares about.

Our results also demonstrate that the presence of a prohibitive off-duty conduct policy will tend to broadly improve third-party reactions to terminations. This effect was consistent across multiple examples of off-duty deviance. Establishing and publicizing an off-duty conduct policy that covers social media, as some large organizations have now done (Lyons et al. 2016; Stohl et al. 2017), may well reduce post-punishment backlash from employees who might otherwise object to actions taken against their coworkers, regardless of the nature of the off-duty conduct. A long-held principle of progressive discipline is that employees should be forewarned of prohibited workplace behaviors and their associated consequences (Noe et al. 2017); the findings presented here show that this principle also applies to prohibited off-duty behavior.

Limitations and research needs

We found that an organizational policy prohibiting "off-duty conduct that could damage the organization's reputation" improved reactions to terminations. Other types of policies, such as one listing specific behaviors or with specific relevance to a particular industry, may affect third party perceptions differently. In contrast to more common prohibitive policies, the National Basketball Association has recently stated that it values “freedom of expression” and will not censor the social media activity of employees or players (Booker, 2019). Given that organizations have adopted a wide variety of off-duty conduct policies (Lyons et al. 2016), comparing their effects on employee (and applicant) reactions merits future research.

An important question for future research is whether managers’ moral foundation sensitivity influences their decisions about discipline for off-duty deviance. While “cyber-vetting” studies have analyzed the validity of social media as cues about applicant personality and abilities (Roth et al. 2016), an extension of the current research would be to test how individual differences in the moral foundation sensitivity of recruiters and hiring managers affect their judgments of applicants’ social media content. If organizations differ in terms of their moral foundations, as suggested by Fehr et al. (2015), then hiring managers may employ a process of ‘morality matching’ by either explicitly or implicitly considering whether a candidate’s values appear to align with those of the organization, similar to the way they evaluate ‘cultural match’ (Rivera, 2012).

Practical implications

Employees are often unaware of what does and does not violate their employer’s social media policy and are frequently left without practical advice regarding how to adhere to the social media policy (O’Connor et al. 2016). We recommend that if a company chooses to implement a social media policy, it should be clearly communicated to employees, ideally through a training program, with unambiguous language detailing the types of online behavior that are or are not permitted (O’Connor et al. 2016). While no policy is likely to address all types of behavior that could conflict with organizational interests, the vignettes we tested in Study 1 represent a broad sample of behaviors that organizations have chosen to punish in the past, and could provide a useful foundation for organizational decision-makers to determine what types of behavior should or should not be included in a social media conduct policy. Efforts to develop and communicate a detailed social media policy may not only deter social media deviance, but as shown in the results presented here, mitigate backlash from decisions to punish violators.

On the other hand, social media policies might make organizations less attractive to prospective employees (Stoughton et al. 2015) or foster negative attitudes among current employees. For example, when the New York Times announced a policy that their journalists must not promote political views or “make offensive comments” in their social media posts, it was widely mocked by journalism experts (Ingram, 2017). While the current work provides evidence that should allow managers to make a more informed decision when setting policy, the appropriate course of action is likely to vary by industry and organization. The question that employers must address, and develop organizational policy to support, is: *under what circumstances, if any, is it right to discipline an employee because of non-work related social media information*?

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Table 1

Study 2. Mean responses to termination scenarios by experimental condition

Perceived fairness of firing						
	Purity violations			Care violations		
Condition	Making out[a]	Racy selfie[b]	Drinking[c]	Yelling at server[d]	Cyberbullying[e]	Average
No explanation (n = 55)	2.79 (1.27)	4.28 (1.80)	3.02 (1.50)	3.59 (1.67)	4.32 (1.77)	3.60 (1.24)
Disgust explanation (n = 54)	2.59 (1.37)	4.01 (1.75)	3.18 (1.61)	3.35 (1.54)	4.46 (1.79)	3.52 (1.17)
Policy explanation (n = 59)	3.18 (1.67)	4.76 (1.94)	3.59 (1.55)	3.66 (1.54)	4.97 (1.38)	4.03 (1.19)
Total (n = 168)	2.86 (1.46)	4.36 (1.85)	3.27 (1.56)	3.53 (1.58)	4.59 (1.67)	3.65 (1.22)
Retributive intentions						
	Purity violations			Care violations		
Condition	Making out[a]	Racy selfie[b]	Drinking[c]	Yelling at server[d]	Cyberbullying[e]	Average
No explanation (n = 55)	4.03 (1.52)	3.10 (1.62)	3.98 (1.50)	3.34 (1.47)	2.87 (1.48)	3.46 (1.22)
Disgust explanation (n = 54)	4.46 (1.60)	3.24 (1.60)	3.94 (1.63)	3.54 (1.61)	2.76 (1.44)	3.59 (1.13)
Policy explanation (n = 59)	3.85 (1.59)	2.46 (1.51)	3.22 (1.35)	3.22 (1.40)	2.32 (1.16)	3.01 (1.02)
Total (n = 168)	4.10 (1.58)	2.92 (1.60)	3.70 (1.52)	3.36 (1.49)	2.64 (1.37)	3.34 (1.15)

Standard deviations in parentheses. Superscript letters indicate associated vignette listed in Appendix A.

Table 2

Study 2. Multi-level analyses of responses to terminations for off-duty deviance

	Perceived Fairness	Retributive Intentions
	β (SE)	β (SE)
Effects of individual differences		
Terminations resulting from violation of **purity** norms		
Sensitivity to purity	.59 (.09) ***	-.53 (.08) ***
Sensitivity to care	.11 (.14)	-.01 (.14)
Political orientation	-.06 (.06)	.06 (.06)
Terminations resulting from violation of **care** norms		
Sensitivity to purity	.20 (.09) *	-.16 (.09)
Sensitivity to care	.52 (.15) ***	-.43 (.14) **
Political orientation	-.16 (.07) *	.19 (.07) *
Effects of justification manipulation		
Policy explanation compared to No explanation	.51 (.20) **	-.50 (.20) **
Policy explanation compared to Disgust explanation	.46 (.21) *	-.52 (.20) **
No explanation compared to Disgust explanation	-.05 (.21)	-.02 (.20)

* p < .05, ** p < .01, *** p < .001.

Appendix A. *Study 1. Ratings and classifications of vignettes*

Vignette	Wrongness (SD)	Not Wrong	Moral foundation considered most clearly violated (among those who considered the act wrong): Care	Fairness	Loyalty	Authority	Purity	Liberty
Someone throws a kitten as part of a joke, causing it to yelp on impact.	4.5 (.75)	0%	**84%**	4%	0%	1%	8%	3%
Someone posts a picture of a person on Twitter without their knowledge, making fun of their weight. [e]	3.96(.95)	4%	**60%**	3%	3%	0%	3%	31%
Someone creates an account on a website intended to help people commit adultery without their spouse's knowledge.	3.84 (1.09)	6%	18%	28%	30%	2%	22%	0%
Someone tells a dirty joke at a holocaust memorial.	3.72 (1.27)	12%	31%	2%	9%	26%	30%	3%
Someone makes a post on Facebook about how people with disabilities are a drain on society.	3.61 (1.17)	8%	52%	18%	2%	1%	5%	22%
Someone disposes of a small bag of garbage by throwing it into a nearby forest.	3.54 (.95)	11%	33%	3%	0%	17%	47%	12%
Someone makes an obscene gesture in a cemetery for military veterans.	3.42 (1.15)	8%	14%	1%	14%	44%	23%	4%
Someone yells at a server at a restaurant because their meal is late. [d]	3.35 (.99)	9%	**62%**	4%	2%	5%	6%	22%
Someone posts online about a private conversation they overheard containing what they consider offensive humor, including a picture of those involved in the conversation.	3.31 (1.03)	8%	32%	5%	25%	0%	8%	30%
Someone makes a joke about how members of a specific religious group are dumb.	3.09 (1.29)	17%	36%	16%	9%	4%	3%	31%
Someone participates in a non-violent white nationalist rally.	2.86 (1.39)	31%	16%	33%	7%	6%	11%	27%
Someone makes a post on Facebook about how worthless teachers are.	2.85 (1.23)	22%	34%	4%	5%	37%	4%	15%
Someone who is a United States citizen burns an American flag at a protest.	2.73 (1.48)	31%	2%	1%	53%	39%	4%	1%
Someone states that biological differences between men and women make men better suited to do certain types of work and women better suited to do other types of work.	2.71 (1.35)	29%	13%	55%	6%	4%	1%	21%
Someone makes a post on Twitter making fun of police officers.	2.59 (1.23)	25%	20%	3%	6%	56%	3%	1%
Someone posts pornographic self-photography online. [b]	2.25 (1.41)	44%	2%	5%	5%	0%	**88%**	2%
Someone posts on social media bragging about making out with multiple strangers the night before. [a]	2.22 (1.27)	41%	1%	4%	4%	4%	**86%**	0%
Someone brags on social media about drinking excessively to the point of vomiting. [c]	2.19 (1.24)	43%	6%	4%	3%	0%	**85%**	1%
Someone refuses to stand for the pledge of allegiance at a public event.	2.13 (1.35)	47%	2%	5%	33%	57%	2%	2%
Someone makes a public online post making fun of their political party, saying they will support the opposing party's candidate.	1.74 (1.01)	58%	10%	8%	**66%**	6%	4%	6%

N = 119. Percentages are rounded to the nearest whole percent. Superscripts denote those used to develop Study 2 scenarios (see Table 1)

Leaders Should be Vulnerable, Just Not About Everything: The Dimensions of Leadership Vulnerability

Abstract

In both the popular and the academic literatures, there is a common prescription that leaders ought to display humility in the form of increased vulnerability (e.g., Brown, 2012; Ou, Waldman, & Peterson, 2018; Owens & Hekman, 2016; Wright, 2015). The current study proposes and tests theoretically-informed dimensionality of leadership vulnerability. These dimensions represent different ways leaders can expose themselves to reputational harm by admitting to mistakes and shortcomings. Employing a vignette-based survey study with a sample of 336 working professionals, we found support for leaders displaying ability-based vulnerability, as this was related to higher perceptions of leader effectiveness. However, more negative perceptions of leader effectiveness emerged from leaders displaying benevolence- and integrity-based vulnerability. Leaders who admitted to being dishonest were also seen as being less trustworthy. We also studied the effects of leader gender on vulnerability, finding there is no difference in perceptions of effectiveness for male and female leaders. The study offers insights regarding which types of vulnerability may benefit and which types may harm perceptions of leader effectiveness and trustworthiness. Ultimately, we find that the prescription for leaders to be vulnerable needs to be more nuanced as it depends on the type of vulnerability exposed.

Leaders Should be Vulnerable, Just Not About Everything: The Dimensions of Leadership Vulnerability

In both the popular and academic leadership literature, there is a growing body of research regarding leader humility and vulnerability (e.g., Brown, 2012; Ou, Waldman, & Peterson, 2018; Owens & Hekman, 2016; Wright, 2015). The essential argument weaving throughout this research is how leaders are more effective when they exhibit humility and make themselves more vulnerable to others. Being humble and exhibiting vulnerability is, at its core, about leaders *being more human* at work, where even in a digital world interpersonal vulnerability is important. In being humble and vulnerable, the extant literature says, leaders role model openness and learning behaviors while encouraging those around them to embrace their humanity.

This view of humility and vulnerability evinces an evolution in the literature, since some earlier work framed humble leaders differently. Michener and Lawler (1975) and Giacalone, Payne, and Rosenfield (1988), for example, discuss leadership vulnerability in terms of risking the loss of legitimacy; followers may not see vulnerable leaders as worthy of their followership. The perspective of humble leaders as illegitimate appeared in Tangney's (2000) review of the humility literature, noting there is an image of a humble leader who is "stoop-shouldered" and "weak-willed."

Today, much of the scholarship on humility and vulnerability acknowledges the virtue of humble, vulnerable leaders. For example, Owens and Hekman (2012, 2016) found leader humility positively related to follower learning, follower engagement, and improved team performance. Rego, et al. (2019) found leader humility contributed to increased team psychological capital and task allocation, ultimately leading to greater team performance. Sousa and van Dierendonck (2017) contribute the insight that humility augments an action orientation to increase follower engagement. Meyer, Le Fevre, and Robinson (2017) provide evidence that leaders displaying vulnerability generate trust, as evidenced by followers reciprocating with their own vulnerability.

The present paper seeks to explore in greater depth the dimensionality and nuances of leader vulnerability. Humility and vulnerability are, of course, related concepts. According to Owens and Hekman (2016, pp. 1089-1090), humility entails the related dimensions of “drawing attention to others’ strengths, being open to others’ ideas and perspectives, and being willing to acknowledge personal limits.” For the purposed of the present study, we follow Dufresne, Clair, and Ren (2013, p. 3) and define leadership vulnerability as *the degree to which a leader exposes him- or herself to emotional or reputational damage through such means as taking risk by disclosing weaknesses and failures or by revealing shortcomings as a leader*. This definition hinges on the view that being vulnerable entails making oneself, in the Merriam-Webster definition, “capable of being… wounded” or “open to attach or damage” (www.merriam-webster.com). As such, leadership vulnerability is rooted in the behavioral manifestation of Owens and Hekman’s (2016) third dimension of humility, which is the willingness to acknowledge personal limits. In this nomological network, vulnerable leaders display an aspect of humility, while not all forms of humility require vulnerability.

Furthermore, in our view, vulnerability is a social, interpersonal phenomenon, only possible in the interactions between a leader and his or her followers. As Dufresne, Clair, and Ren note (2013, p. 3), “It is not sufficient for a vulnerable leader privately to reflect on his or her true self; to be vulnerable requires a willingness to engage in public exposition” of his or her vulnerability. Only when a leader takes the risk of exposing him or herself to possible reputational damage in the view of others—by revealing weaknesses, failures, or shortcomings—can we see evidence of that leader's vulnerability.

Theory and Hypotheses

In their study of leader humility, Owen and Hekman (2016) operationalized their third aspect of humility—leaders' acknowledging their personal limits—with the statement, "I'm not sure I'm a [subject matter] expert," and they measure leader humility including items such as, "This leader admits it when he/she does not know how to do something." While their research question does not pertain specifically to leadership vulnerability, Owen and Hekman's (2016) operationalization of humility—including *acknowledging personal limits*—provides a hint at one dimension of vulnerability. In their framing, vulnerability could be seen in admitting a lack of *task* knowledge. While recognizing that admitting task-based shortcomings is indeed one way a leader can display vulnerability, our interest is to further dimensionalize the concept. Surely there are other ways beyond acknowledging lack of task knowledge whereby leaders might expose themselves to emotional or reputational damage; our project is to explore what those ways might be and how they might operate differently.

When thinking about dimensions along which leaders might display vulnerability—that is, expose themselves to possible reputational harm—we were drawn to the fact that the most common way in which vulnerability has heretofore been studied in the leadership literature pertains to its role in trust (Nienaber, Hofeditz, & Romeike, 2015). According to Mayer, Davis, and Schoorman's (1995, p. 712) commonly-employed definition of trust, it is "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party." To trust someone, therefore, requires making oneself vulnerable, thereby opening oneself to the risk of harm (Nienaber, Hofeditz, & Romeike, 2015).

In Mayer, Davis, and Schoorman's (1995) classic trust theory, trustworthiness is a function of three aspects: ability, benevolence, and integrity. Followers' decisions to trust leaders, then, require: a belief in the leader's ability, or their competence in their area of performance; their benevolence, or the degree to which they care for and prioritize the well-being of the follower; and their integrity, or the promise-keeping and truth-telling (Mayer, Davis, & Schoorman, 1995). Each of these dimensions requires vulnerability. Followers who harbor doubt about how to proceed may take the risk to trust in a leader's ability, knowing that if they were wrong about the leader's ability, they might face reputational damage for failing to complete a task. If a leader asks a follower to work overtime on an important project and that doing so would lead to positive outcomes in the long run, the follower risks the harm that perhaps the leader is just using the follower for their selfish needs (i.e., a lack of benevolence) while also risking the harm that the leader might not be telling the truth and may not deliver the positive outcomes (i.e., a lack of integrity).

Given the interdependency between trust and vulnerability, it stands to reason that vulnerability might share similar dimensionality that could apply to the ways in which leaders might make themselves vulnerable to others. The three dimensions of trustworthiness, then, would also reasonably be three ways in which leaders might expose themselves to emotional or reputational harm by disclosing weaknesses, failures, or shortcomings in terms of their ability, benevolence, and/or integrity. Looking at the Owens and Hekman (2016) operational definition of leaders acknowledging personal limits, it is apparent they are discussing an ability-based vulnerability, in that the leader is acknowledging lack of competence in a performance area. By admitting a lack of ability, leaders expose themselves to the reputational harm of not knowing what they are doing. Likewise, leaders might expose benevolence-based vulnerability, acknowledging they did not sufficiently prioritize followers' well-being or they might expose integrity-based vulnerability, acknowledging a lack of promise-keeping or truth-telling; these acts would invite the risk of reputational harm.

We believe these three dimensions of leadership vulnerability will have differential effects on followers' trust in leaders and their perception of leader effectiveness. The presumed differences would emerge from attribution theory and from leadership character theory. According to the attribution theory of Malle and colleagues (Malle, 2006; Malle, Knobe, & Nelson, 2007; Malle & Pearce, 2001), observers (such as followers) attempt to understand the causality of observable behaviors of actors (such as leaders). The more complex their understanding, the more open they are to avoid knee-jerk attributions to actors. When exposing their vulnerability, leaders admit mistakes and shortcomings, thereby complexifying followers' understandings. Leader character theory (Hartman, 1996; Holt, 2006; MacIntyre, 1984) helps us understand that some attributions are "stickier" to the leader since they might be seen as manifestations of his or her character.

Ability-based vulnerability is likely to be viewed by followers as a step toward to learning behavior. As seen in the Owens and Hekman (2016) studies, when leaders admit to ability-based shortcomings, followers tend to hear that as the prelude to the rest of the story, which is about engaging in learning to make up for those shortcomings. However, benevolence- and integrity-based vulnerabilities are more likely to be attributed to the leader's character, which is more stable (Guo, Lumineau, & Lewicki, 2017). Learning how to do a performance task is more readily done than learning how to prioritize the well-being of others or to be a consistent truth-teller. Just as Owens and Hekman (2016) found effects of humility—the root of vulnerability—on leader and team effectiveness, we believe all three forms of vulnerabilities are likely to have effects on the degree to which followers see leaders as being effective. Taken together, we hypothesize:

> *Hypothesis 1a: Ability-based leadership vulnerability has a positive effect on followers' perception of leader effectiveness.*
> *Hypothesis 1b: Benevolence-based leadership vulnerability has a negative effect on followers' perception of leader effectiveness.*
> *Hypothesis 1c: Integrity-based leadership vulnerability has a negative effect on followers' perception of leader effectiveness.*

Furthermore, similar effects are likely to apply to followers' perception of leaders' trustworthiness. Kramer and Lewicki (2010) review the trust literature and map Fraser's (2010) work on trust breakdowns onto the ability, benevolence, and integrity framework, positing that breakdowns in each dimension will harm trust. However, Meyer, Le Fevre, and Robinson (2017) found evidence that leaders' exposing ability-based vulnerability led some followers to reciprocate with their own admissions of shortcoming, thereby indicating trust in the leader. Reflecting back on the character-based leadership perspective (Hartman, 1996; Holt, 2006; MacIntyre, 1984), where benevolence and integrity lapses are likely to be attributed to the leader's character and therefore less likely to rebound from, we believe perceptions of leader trustworthiness will follow the same pattern as perceptions of leader effectiveness:

> *Hypothesis 2a: Ability-based leadership vulnerability has a positive effect on followers' perception of leader trustworthiness.*
> *Hypothesis 2b: Benevolence-based leadership vulnerability has a negative effect on followers' perception of leader trustworthiness.*
> *Hypothesis 2c: Integrity-based leadership vulnerability has a negative effect on followers' perception of leader trustworthiness.*

Finally, it is possible that these patterns may be influenced by leader gender. According to Eagly and colleagues' gender role congruity theory (Eagly & Johannesen-Schmidt, 2001; Eagly & Johnson, 1990; Koenig et al., 2011), men and women tend to be judged differently based on followers' expectations of gendered leadership styles. Eagly and Johnson (1990) found that, in experimental studies, male leaders were assumed to be more task-focused and women were expected to lead in a more relational style. More recent work (Eagly et al., 2000; Koenig et al., 2011) has found role congruity along the dimensions of agentic and communal styles, whereby men are more likely to be expected to lead in an agentic style (i.e., more assertive and competitive) and women are more likely to be expected to lead in a communal style (i.e., more supporting, sensitive, and relationship focused). Leaders are more likely to be seen positively when they match implicit prototypes (De Hoogh, Den Hartog, & Nevicka, 2015). Applying gender role congruity theory to leader vulnerability, there would seem to be differential effects on perceptions of effectiveness and trustwothiness based on leader gender. While there may be prototypical differences in leaders' agentic versus communal styles, these differences would not appear to affect perceptions of ability-based vulnerability. Both male and female leaders would be expected to possess task abilities equally. However, inasmuch as female leaders tend to be presumed to be more focused on interpersonal communality, admitting benevolence and integrity lapses may reduce evaluation of female leaders more so than such an admission may harm perceptions of male leaders. Thus:

Hypothesis 3a: Leader gender does not moderate the effect of ability-based vulnerability on evaluations of male and female leaders' effectiveness and trustworthiness.

Hypothesis 3b: Leader gender moderates the effect of benevolence-based vulnerability on evaluations of leaders' effectiveness and trustworthiness such that evaluations of female leaders are lower than those of male leaders.

Hypothesis 3c: Leader gender moderates the effect of integrity-based vulnerability on evaluations of leaders' effectiveness and trustworthiness such that evaluations of female leaders are lower than those of male leaders.

Methods

Participants and Study Design

A chain-referral sampling method was implemented to recruit participants in a web-based survey. This approach allowed for the recruitment of diverse participants, as respondents were recruited through a variety of professional networks. These networks included individuals from a variety of age groups, industries, and years of experience. That being said, respondents were screened via the survey to include only those who were 18 years old and had a minimum of two years of full-time work experience. Due to the snowball sample approach, the total number of people who learned of the survey is unknown, but a total of 476 respondents began the survey. There were 336 usable responses.

The average age of respondents fell between 34 and 41 years old, with about 17 years of work experience. Recognizing that age could be a sensitive topic for some individuals, we used age categories for answer choices, which limited our ability to determine the precise average age of respondents. There were 48% male and 52% female respondents. Over 60% of respondents had managerial experience, and the average amount of managerial experience was 5-7 years.

The heart of the survey was experimentally manipulated vignettes and related questionnaires. Careful consideration was given to ensure we crafted the vignettes in a way that was comprehensible and relatable, irrespective of a respondent’s seniority, profession, and industry. We also wrote the vignettes to be succinct to minimize the risk of survey fatigue.

For the study, a total of 12 vignettes (gender of leader [2] x dimension of leadership vulnerability [3] x presence/absence of vulnerability [2]) were used. The factorial combination of all factors results in a population of 12 fictitious bosses, six male and six female, exhibiting varying types and degrees of vulnerability. See Appendix A for the vignettes used in this study.

Each respondent viewed three out of twelve randomized vignettes, presented in random order. Each of three presented scenarios included a male or female superior exhibiting high or low ability-, benevolence-, or integrity-based leadership vulnerability. For the vulnerability manipulation, the leaders not displaying vulnerability were crafted to instill unconfirmed doubt in the his or her ability, benevolence, and integrity. In contrast, in the vignettes where the leaders exhibited vulnerability, the leader displayed vulnerability by confirming a lapse in his or her ability, benevolence, and integrity to the follower. It was important to include unconfirmed doubt in the invulnerable version to ensure the manipulation was of vulnerability, not some other construct. Had the contrast been between, say, a leader exposing ability-based vulnerability by admitting he or she didn't know how to do something and a leader who portrayed unquestioned expertise, we would have likely learned more about the importance of expertise rather than the role played by vulnerability. The manipulation, then, centered on the leaders' *choice to expose* themselves to reputational harm, the definition of vulnerability used in this study. Each respondent was exposed to all three of dimensions of vulnerability but encountered a randomized number of male or female bosses and vulnerable or invulnerable displays. Respondents were instructed to view each vignette in isolation from the other two they encountered.

Manipulation of leader gender in the vignettes was achieved by using unambiguously male or female names. This naming distinction between the bosses also allowed respondents to view the leader in each vignette as independent from the next to ensure that respondents were responding to each type of vulnerability display separately. We conducted a manipulation check of the vulnerability conditions to confirm respondents identified the vulnerability we intended. To do so, we constructed a three-item scale asking about perception of vulnerability (sample item: "My boss voluntarily disclosed personal weaknesses or failures to me") in each vignette;

the scale was sufficiently reliable (ability-based vulnerability α=0.79, benevolence-based vulnerability α=0.69, integrity-based vulnerability α=0.73). T-tests indicated the leaders we intended to be seen as being vulnerable were indeed seen by respondents in that way, with mean differences significantly different at $p < .001$ across all three conditions; this indicated a successful manipulation of leader vulnerability.

Dependent Variables

The two hypothesized dependent variables across the different dimensions of leader vulnerability are perception of leader effectiveness and perception of leader trustworthiness. We used a three-item modified version of the Perceived Leader Effectiveness scale (Ragins, 1989) to measure perception of leader effectiveness for each of the three forms of leader vulnerability. The reliabilities in all three conditions were sufficient (ability-based effectiveness α = 0.91, benevolence-based effectiveness α = 0.93, integrity-based effectiveness α = 0.90). For each of the three types of leader vulnerability, we measured the aspect of trustworthiness with each respective type of vulnerability; in the case of ability-based vulnerability, for example, we assessed ability-based trustworthiness. To do so, we used a slightly modified version of Mayer & Davis's (1999) trust scale, where "top management" was replaced with "your boss." Each aspect of trustworthiness included three items, where reliability measures for the subscales were: ability-based α=0.68, benevolence-based α=0.70, integrity-based α=0.61. Since all Cronbach alphas were 0.70 or lower, reliability for each scale was also assessed by computing the average variance extracted (*AVE*) and composite reliability (*CR*). For ability-based trustworthiness, *AVE*=0.59 and *CR*=0.81; for benevolence-based, *AVE*=0.53 and *CR*=0.77; and for integrity-based, *AVE*=0.49 and *CR*=0.73. These results indicate sufficiency for using the three-item scales for each aspect of trustworthiness in further analyses (Fornell & Larcker, 1981).

Independent Variables

With the success of the vulnerability manipulation (described above), we coded each scenario according to the type of leadership vulnerability and its presence or absence. We used this as an independent variable to minimize common methods bias that would be introduced by using a perceptual variable instead. We also coded each scenario with leader gender, according to the gendered names we used to signal the leader's gender.

Covariates

We measured two dispositional variables that could reasonably affect respondents' answers on the dependent measures. These controls were propensity to trust and moral identity.

Propensity to trust. Given that trust entails a willingness to be vulnerable, there is reason to presume that an individual who has a greater dispositional propensity to trust—that is, a greater tendency to be vulnerable to others via trust—may be more accepting of vulnerability. Given that a follower with high trust propensity is more willing to take a risk by trusting, he or she may view interpersonal risks less critically. As such, we included propensity to trust as a control variable in this study, using a slightly modified version of the Propensity portion of the Measures of Trust, Trustworthiness, and Performance Appraisal Perceptions scale (Mayer & Davis, 1999). The eight-item scale had a Cronbach alpha of 0.67.

Moral identity. Since the vulnerability scenarios entailed leaders admitting to mistakes and shortcomings, we reasoned it would be important to control for the degree to which respondents possessed a moral identity. As a whole, "people with strong moral identities attend to the immoral behaviour to a greater extent because they are more sensitive to it, and are therefore expected to be more discerning about such behaviours when they make judgements about their leaders" (Grover, 2014, p. 51-52). Consequently, follower's high moral identity could impact the perceptions of a leader displaying benevolence- and integrity-based leadership vulnerabilities. Additionally, one of the characteristics mentioned in the moral identity assessment is “hardworking,” thus moral identity could potentially play a role in a follower’s response to ability-based leadership vulnerability as well. To measure a respondent’s moral identity, we used a slightly modified version of the Self-Importance of Moral Identity Measure (Reed & Aquino, 2003), excluding the symbolization items. The five-item scale had α=0.76.

Analysis

To test our hypotheses, we conducted a multiple analysis of covariance (MANCOVA). This approach is appropriate when there are multiple dependent variables that would likely be related. We are interested in both perceptions of trustworthiness and perceptions of effectiveness, and it is reasonable to believe these variables would be correlated. MANCOVA also allows us to include covariates as controls, enabling us to focus on the contributions of leader vulnerability.

Results

We report descriptive statistics and correlations in Table 1. We conducted three MANCOVAs, one for each aspect of leadership vulnerability. The overall MANCOVA for the ability-based scenarios showed significant effects for both perception of leader effectiveness ($F_{5,329}$ = 2.45, p < .05) and perception of leader ability-based trustworthiness ($F_{5,329}$ = 4.34, p < .01). The overall MANCOVA for the benevolence-based scenarios also showed significant effects for both perception of leader effectiveness ($F_{5,329}$ = 3.14, p < .01) and perception of leader benevolence-based trustworthiness ($F_{5,329}$ = 3.93, p < .01). Lastly, the overall MANCOVA for the integrity-based scenarios showed significant effects for both perception of leader effectiveness ($F_{5,324}$ = 4.67, p < .01) and perception of leader integrity-based trustworthiness ($F_{5,324}$ = 5.92, p < .01).

Hypotheses 1a-1c considered the differential effects of the three dimensions of leader vulnerability on perceptions of leader effectiveness. With ability-based leadership vulnerability, there was a significant effect for perception of leader effectiveness ($F_{1,335} = 6.40$, $p < .05$); with benevolence-based vulnerability, there was a marginally-significant effect for perception of leader effectiveness ($F_{1,335} = 2.36$, $p < .10$); and with integrity-based vulnerability, there was also a marginally-significant effect for perception of leader effectiveness ($F_{1,328} = 2.64$, $p < .10$).

Since all effects were at least marginally significant, we conducted an analysis of the estimated marginal means to determine size and directionality of the differences across the conditions. Table 2 displays the comparison of the marginal means in each condition (invulnerable vs. vulnerable) for each dimension of leader vulnerability. Supporting Hypotheses 1a-1c, leaders displayed ability-based vulnerability were judged to be significantly more effective than those not displaying ability-based vulnerability, while leaders displaying benevolence- and integrity-based vulnerability were judged to be marginally less effective than leaders not displaying these dimensions of vulnerability.

While not a subject of our hypotheses, Table 2 also shows the relative order of perceptions of leader effectiveness according to the different dimension of leader vulnerability. The leaders seen as most effective are those who display ability-based vulnerability, followed by ability-based invulnerability, benevolence-based invulnerability, benevolence-based vulnerability, integrity-based invulnerability, and, finally, integrity-based vulnerability. Beyond the differences within the conditions noted in Table 2, an ANOVA revealed perception of leader effectiveness in both ability-based conditions was significantly higher than in the other two conditions, perception of effectiveness in the benevolence-based invulnerability condition was significantly higher than in both integrity-based conditions, and perception of effectiveness in the benevolence-based vulnerability condition was significantly higher than in integrity-based vulnerability condition.

Hypotheses 2a-2c concerned the differential effects of the three dimensions of leader vulnerability on perceptions of leader trustworthiness relative to each dimension. There were no significant differences in perception of leader trustworthiness in the ability- and benevolence-based scenarios. As such, Hypotheses 2a and 2b were not supported. There was, however, a significant effect in the integrity-based scenario for perception of integrity-based trustworthiness ($F_{1,328} = 3.21$, $p < .05$). Adjusted for the covariates, the mean level of integrity-based trustworthiness in the vulnerable condition was 7.19 and in the invulnerable condition was 7.62, indicating—in support of Hypothesis 2c—that leaders who display integrity-based vulnerability are judged to be less trustworthy than those who do not.

Hypotheses 3a-3c considered the effects of leader gender on the patterns of evaluation in the vulnerability vs. invulnerability conditions. In support of Hypothesis 3a, there were no gender differences in assessments of leader effectiveness or trustworthiness in the ability-based vulnerability scenarios (see Figure 1 for a graphical depiction). In the case of benevolence-based vulnerability (Hypothesis 3b), comparison of the estimated marginal means indicated that the effects on perceived leader effectiveness are seen with male leaders, who are seen as marginally more effective when not displaying benevolence-based vulnerability than when displaying vulnerability ($\bar{x} = 7.27$ vs. $\bar{x} = 6.95$, $p < .10$). There was no difference in ratings for female leaders, nor was there any difference in ratings of benevolence-based trustworthiness. This partial finding runs contrary to Hypothesis 3b (see Figure 2 for a graphical depiction).

This same pattern was apparent in the case of integrity-based vulnerability (Hypothesis 3c), whereby comparison of the estimated marginal means indicated that the effects on perceived leader effectiveness are seen with male leaders, who are seen as marginally more effective when not displaying integrity-based vulnerability than when displaying vulnerability ($\bar{x}$ = 6.89 vs. $\bar{x}$ = 6.32, p < .10). There was no difference in ratings of effectiveness for female leaders. The opposite pattern appeared when considering perceived trustworthiness, where the effects were seen with female leaders. They were seen as marginally more trustworthy when not displaying integrity-based vulnerability than when displaying vulnerability ($\bar{x}$ = 7.46 vs. $\bar{x}$ = 6.96, p < .10). There was no difference in ratings for male leaders. Finally, when comparing only the vulnerable condition, female leaders were rated marginally less trustworthy than male leaders ($\bar{x}$ = 6.96 vs. $\bar{x}$ = 7.40, p < .10). While this last finding supported Hypothesis 3c, the rest of the integrity-based findings did not (see Figure 3 for a graphical depiction).

Discussion

Taken together, this study indicates that there is dimensionality of leader vulnerability. The extant findings regarding the positive effects of leaders displaying vulnerability, as well as the normative advocacy for leaders being more vulnerable, can be seen as applying only specifically to an ability-based form of vulnerability. The present study, in line with previous research, finds that leaders are seen as more effective when they openly admit to lacking task-related knowledge. Although not the subject of the present study, the path found in previous research (Owens & Hekman, 2016) would lead us to presume that followers see ability-based vulnerability as expressing a step toward learning behaviors. By openly acknowledging lack of knowledge, leaders contribute to followers' reasoning that those leaders are more likely to seek to close those knowledge gaps.

However, the results are different when considering the benevolence- and integrity-based types of leader vulnerability. When leaders expose themselves to reputational harm by either admitting to not prioritizing followers' well-being or by admitting an integrity lapse, followers see them as less effective; in the case of admitting an integrity lapse, followers also see them as being less trustworthy. In these cases, it is better for a leader to be suspected of lacking benevolence or integrity than for the leader to make themselves vulnerable by confirming the suspicions. Benevolence- and integrity-based vulnerability may signal character-based concerns (MacIntyre, 1984) that may prompt follower perceptions that the exposed shortcoming is a stable characteristic. Unlike believing that leaders can learn how to complete task requirements, followers may not believe that leaders can readily learn how to be more benevolent or have more integrity. According to attribution theory (Malle & Pearce, 2001), this thought would lead followers to make stable, internal attributions, thereby making benevolence- and integrity-based vulnerabilities risky for leaders to display.

The results regarding leader gender were more mixed. There were no differences in the case of ability-based vulnerability for male and female leaders; both were seen as more effective when they displayed ability-based vulnerability. Inasmuch as gender role congruity theory (Eagly et al., 2000; Koenig et al., 2011) doesn't lead us to think there are different prototypical assumptions regarding male and female leaders' ability, this is unsurprising. In the case of benevolence-based vulnerability, male leaders are seen as being less effective when vulnerable, but there is no difference for female leaders. This is similar to the case of integrity-based vulnerability, where male leaders are seen as being less effective when vulnerable, with no difference for female leaders. However, when considering integrity-based trustworthiness, female leaders were seen as being less trustworthy than male leaders when they displayed integrity-based vulnerability.

To help us better understand the dynamics here, we conducted post hoc analyses of benevolence-based effectiveness and integrity-based effectiveness and trustworthiness. In the benevolence-based case, we found that female respondents (i.e., “followers” in the scenarios) rated both male and female leaders as being marginally less effective when they are vulnerable. Similarly, in the case of integrity-based vulnerability, female respondents rated both male leaders and female leaders as being less effective when vulnerable (the difference with male leaders was marginally significant, and the difference with female leaders was not significant). Likewise, female followers saw female leaders as being marginally more trustworthy when there were invulnerable. These *post hoc* analyses would indicate that the communal prototype may exist as expectations within *followers* rather than being expectations about the leader’s prototypical gender role. All leaders, it would seem, risk being perceived as less effective if they expose benevolence- and integrity-based vulnerability to female followers.

Taken together, these findings advance the theory of leader vulnerability by illustrating the different types of vulnerability and their differential effects. Furthermore, the findings advance gender role congruity theory in leadership by showing how the congruity may be more a function of followers’ expectations than the expectations of a leader’s behavior.

Managerial Implications

The unique contribution of this study is to complexify the now-common advice for leaders to embrace vulnerability. Not all forms of vulnerability, we found, are equal. In line with previous research, the present study would lend credence to the leadership wisdom that it is better for leaders to openly admit lack of task knowledge. Rather than punishing leaders for displaying ability-based vulnerability, followers see such leaders as being even more effective. Importantly, this effect holds for both male and female leaders alike. Admitting a lack of task knowledge may indicate an openness to learning, which followers appreciate. Presumably, though, this positive effect of ability-based vulnerability will disappear if over-used. That is, if a leader continues to admit a lack of task knowledge—without following through on the learning behaviors—followers will likely begin to see that leader as being less effective. Leaders are rewarded for being human when they admit to making task mistakes.

While the findings regarding ability-based vulnerability largely replicate those in extant research, the findings regarding benevolence- and integrity-based vulnerability are both new and portray the risks leaders face when displaying these types of vulnerability. In both of these cases, from the perspective of leadership effectiveness, leaders benefit from remaining silent about their lack of benevolence or integrity. Openly admitting to de-prioritizing followers' well-being and being untruthful result in lower perceptions of effectiveness. Better to be thought as lacking benevolence or integrity than to confirm it openly. Put differently, at least in the case of integrity-based vulnerability, it appears that honesty (about dishonesty) is not always the best policy.

Furthermore, the *post hoc* analysis leads us to think that leaders especially need to be wary of exposing benevolence- and integrity-based vulnerability with female followers. Female followers seem to have a more common expectation that leaders behave in communal and relational ways, so violating those expectations by admitting to benevolence or integrity lapses may lead female followers to think even less of leaders than male followers would.

Limitations and Future Research

The meaning and generalizability of the findings in this study ought to be viewed in light of the study's strengths and limitations, which we describe below.

Vulnerability dimensionality. This study theorized leaders could manifest vulnerability—exposing themselves to emotional or reputational damage—by disclosing weaknesses and failures along the three dimensions of ability, benevolence, and integrity. As we wrote, these three dimensions underlie the concept of trustworthiness, which is a concept premised on making oneself vulnerable to another. Our study indeed found differential effects for these three dimensions, thereby providing support for our conceptualization of vulnerability's dimensionality. There may be, however, other ways of dimensionalizing ways in which leaders can display vulnerability and expose themselves to reputational damage. We would encourage further research which might ultimately help leaders better navigate when and how they should manifest vulnerability (or not).

Vignette construction. Since each respondent saw, in random order, a randomly-selected version of presence or absence of vulnerability with a randomly-selected set of leader genders, we wrote the vignettes to be brief in an effort to avoid respondent fatigue. While our choice for brevity was intentional, a longer vignette would have provided more context that could help respondents better assess the leader's effectiveness and trustworthiness. Although the vignettes were brief, the manipulation check provided confidence that respondents could identify when a given leader was displaying vulnerability. However, more robustly-described vignettes may result in perceptions of vulnerability that are starker, resulting in an even greater effect size of the difference between the vulnerable and invulnerable conditions that could have resulted in more unambiguous findings.

As acknowledged by Patton (2011), ecological validity, or how generalizable a study's results are to society, is an inherent limitation of vignette-based studies due to their "artificial nature." In the present study, we stripped away considerable complexity and portrayed a leader who made a one-time admission of vulnerability, which may not be a high-fidelity representation of how leadership vulnerability can be manifested. Nonetheless, using a quantitative approach through the manipulation of vignettes and questionnaires allowed the study to feature all three dimensions of vulnerability, alter the gender of the leader along each dimension, and measure respondent dispositional factors that a qualitative study may not have been able to as accurately capture. Future research should move beyond vignettes and into real world organizational contexts.

Survey distribution. Lastly, the chain-referral snowball sampling was intentional, as it allowed for the recruitment of respondents who are professionals with diverse backgrounds. However, this sampling method, of course, was not randomized and it restricted the population that the study could reach due to its reliance on a network of personal and professional contacts, which is limited in nature. Future research can overcome these limitations by pursing a large random sample. Furthermore, future research could make theoretically-informed decisions regarding which types of work contexts might have different norms and expectations surrounding leadership vulnerability. There may be contexts, for example, where zero-tolerance norms may lead to lower perceptions of leader effectiveness when leaders display ability-based vulnerability, or other contexts where “coming clean” about lack of benevolence or integrity may be rewarded.

In summary, although the present study’s findings complexify the advice for leaders to embrace vulnerability and provide insights on the costs and benefits of the various dimensions of leadership vulnerability, there is much more work to be done in this domain. Further research can further help leaders understand the processes of leadership vulnerability and guide their choices regarding when and how to embrace vulnerability, and with whom.

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TABLE 1. Means, standard deviations, and correlations among study variables

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Trust propensity [a]	23.71	3.80	(.67)													
2. Moral identity	22.72	2.60	$.14^{**}$	(.76)												
3. AbilityScenario gender[b]	0.48	0.50	-.01	.01												
4. AbilityScenario vulnerability[c]	0.47	0.50	-.01	-.02	.02	(.79)										
5. Ability-based trust	9.04	2.36	$.24^{**}$	-.02	.01	.01	(.68)									
6. AbilityScenario effectiveness	8.76	2.62	$.13^{*}$	-.01	-.01	$.14^{*}$	$.63^{**}$	(.91)								
7. Benev.Scenario gender[b]	0.51	0.50	.04	-.04	-.01	-.09	-.02	-.04								
8. Benev.Scenario vulnerability[c]	0.47	0.50	.07	.00	-.07	.05	-.02	-.08	.08							
9. Benev.-based trust	8.05	2.36	.07	$-.20^{**}$	-.09	-.07	$.33^{**}$	$.17^{**}$	.07	.04	(.70)					
10. BenevScenario effectiveness	7.07	2.64	.06	$-.17^{**}$	$-.13^{*}$	$-.13^{*}$	$.18^{**}$	$.30^{**}$	.02	-.07	$.64^{**}$	(.93)				
11. Integrity-Scenario gender[b]	0.53	0.50	-.02	-.08	.06	-.02	.03	-.03	-.04	-.04	.02	-.05				
12. Integrity-Scenario vulnerability[c]	0.50	0.50	-.02	.00	.08	.00	-.08	-.06	-.06	$-.16^{**}$	$-.13^{*}$	$-.11^{*}$	.10			
13. Integrity-based trust	7.41	2.29	.08	$-.23^{**}$	-.10	-.06	$.30^{**}$	$.12^{*}$	-.02	.07	$.44^{**}$	$.30^{**}$	-.07	-.10	(.61)	
14. Integrity-Scenario effectiveness	6.48	2.49	.05	$-.22^{**}$	$-.12^{*}$	-.10	$.16^{**}$	$.29^{**}$	-.09	-.03	$.23^{**}$	$.46^{**}$	-.05	-.09	$.60^{**}$	(.90)

[a] Scale Cronbach alphas along diagonal

[b] Gender coded as 0 for Male and 1 for Female

[c] Vulnerability coded a 0 for Invulnerable and 1 for Vulnerable

* $p < .05$

** $p < .01$

TABLE 2. Comparing marginal means for perception of leader effectiveness

	Perception of Leader Effectiveness			
	N	Mean[a]	s.d.	Pairwise comparison (Vul-Invul)
Ability-based Scenario				
Vulnerable	162	9.13	2.60	
Invulnerable	179	8.42	2.60	.71**
Benevolence-based Scenario				
Vulnerable	162	6.83	2.63	
Invulnerable	180	7.27	2.62	-.44†
Integrity-based Scenario				
Vulnerable	166	6.24	2.44	
Invulnerable	171	6.67	2.42	-.43†

[a] With covariates of trust propensity and moral identity at their respective means

† $p < .10$

* $p < .05$

** $p < .01$

FIGURE 1. Estimated marginal means of perceptions of trust and effectiveness by leader gender in ability-based scenario

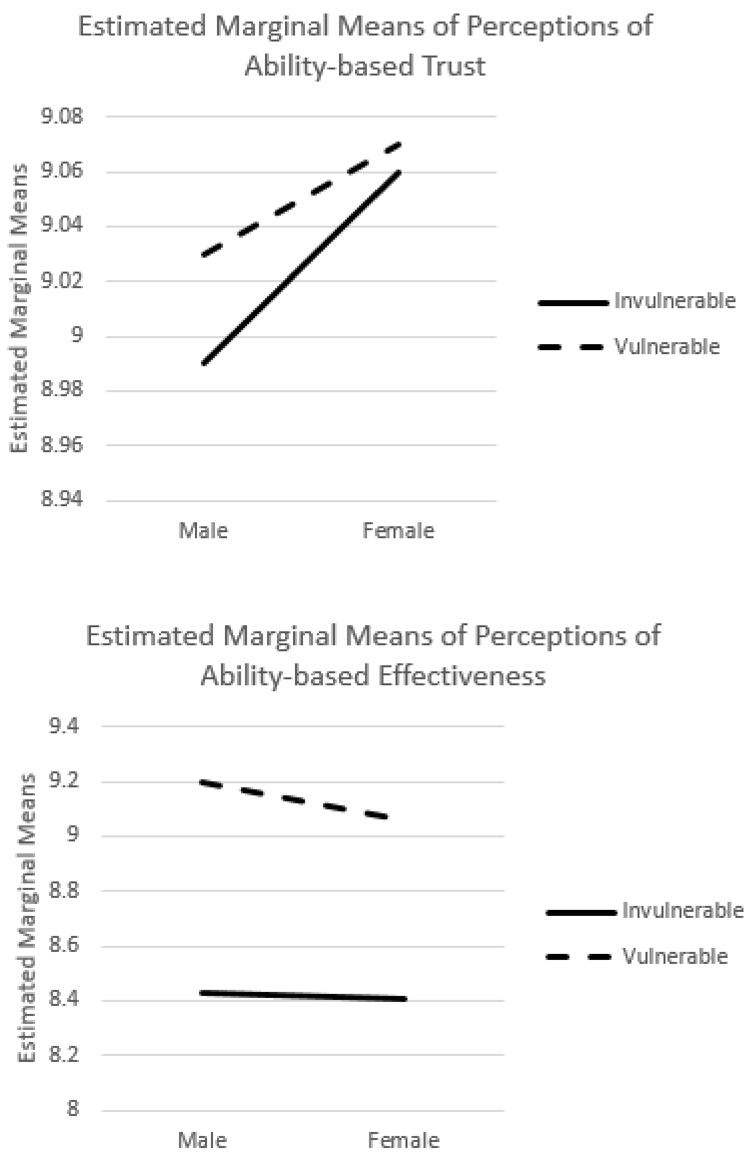
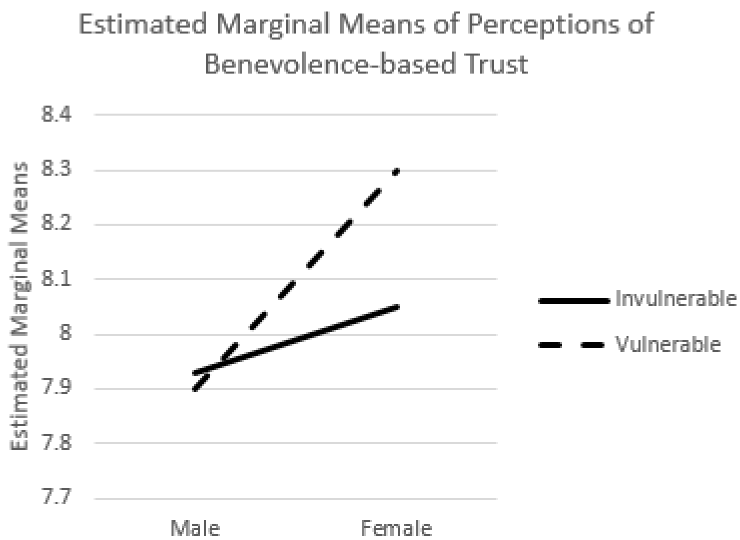


FIGURE 2. Estimated marginal means of perceptions of trust and effectiveness by leader gender in benevolence-based scenario



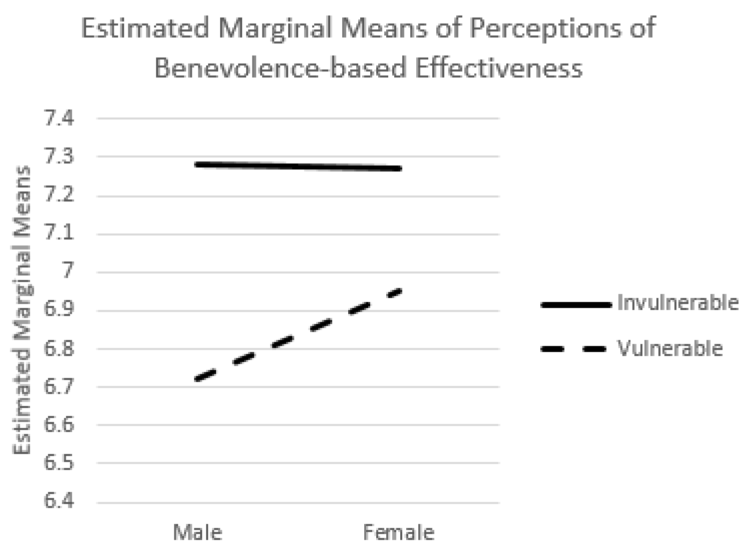
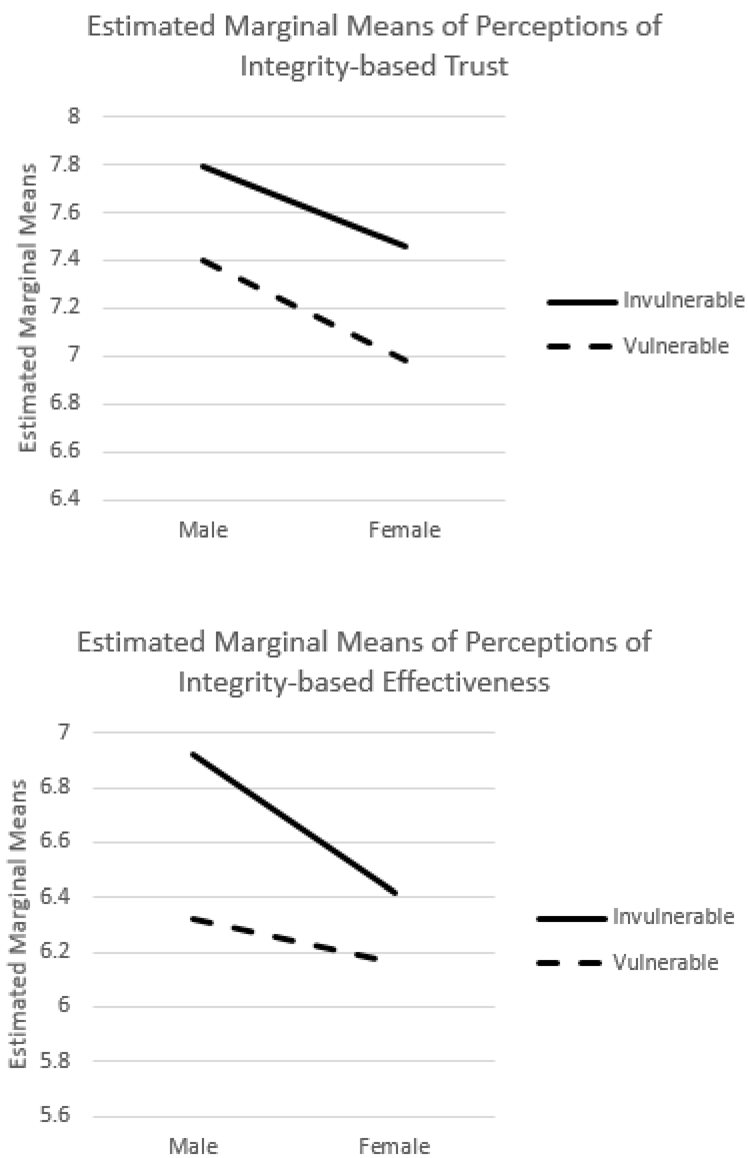


FIGURE 3. Estimated marginal means of perceptions of trust and effectiveness by leader gender in integrity-based scenario



APPENDIX A: Vignettes

N.B.: Following are half of the vignettes employed in the study. Only one of the two gendered leaders is shown; other than the name, though, the content of the scenario is the same.

Scenario Overview

Your boss has been at the company for 10 years and is generally considered credible and reliable. You interact with your boss on a regular basis, but this is the first time that you have encountered a situation like the following.

Ability-Based Leadership Vulnerability Vignette (with male leader)

Michael, your boss, has you involved in a project with a one million dollar budget. While reading the final proposal, you recognize that the assumptions built into the formulas are too optimistic, indicating that the proposal is flawed. You are fairly certain the incorrect proposal is a result of Michael's lack of knowledge in this area. However, before you can ask, Michael openly admits that he did not know the necessary and appropriate measures to construct the proposal.

Ability-Based Leadership Invulnerability Vignette (with female leader)

Sarah, your boss, has you involved in a project with a one million dollar budget. While reading the final proposal, you recognize that the assumptions built into the formulas are too optimistic, indicating that the proposal is flawed. You are fairly certain Sarah must not have known the necessary and appropriate measures to construct the proposal. However, she does not address her actions with you.

Benevolence-Based Leadership Vulnerability Vignette (with female leader)

Emily, your boss, has you involved in a project with a one million dollar budget. While reading the final proposal, you recognize that the assumptions built into the formulas are too optimistic, indicating that the proposal is flawed. You are fairly certain the incorrect proposal is a result of

Emily's concern for her own personal interests. However, before you can ask, Emily admits that she made the proposal optimistic because it would make her look better despite the stress it would cause you to achieve the outcome.

Benevolence-Based Leadership Invulnerability Vignette (with male leader)

Matthew, your boss, has you involved in a project with a one million dollar budget. While reading the final proposal, you recognize that the assumptions built into the formulas are too optimistic, indicating that the proposal is flawed. You are fairly certain Matthew will benefit from achieving the outcome, and he disregarded the stress it would cause you to try to achieve it. However, he does not address his actions with you.

Integrity-Based Leadership Vulnerability Vignette (with male leader)

John, your boss, has you involved in a project with a one million dollar budget. While reading the final proposal, you recognize that the assumptions built into the formulas are too optimistic, indicating that the proposal is flawed. You are fairly certain the incorrect proposal is a result of John's intentional manipulation of the numbers. However, before you can ask, John openly admits to fudging the numbers to make the flawed proposal look more attractive.

Integrity-Based Leadership Invulnerability Vignette (with female leader)

Jennifer, your boss, has you involved in a project with a one million dollar budget. While reading the final proposal, you recognize that the assumptions built into the formulas are too optimistic, indicating that the proposal is flawed. You are fairly certain Jennifer fudged the numbers to make the flawed proposal look more attractive. However, she does not address her actions with you.

Do Employees Benefit from Firm Productivity Improvement?

Abstract

The issue of wealth distribution has been a controversial but important research topic, which involves how wealth created by a firm is distributed among stakeholders: between capital and labour, and between ordinary employees and senior managers. In this study, we focus on wealth distribution derived from a company's productivity gains; that is when a company improve its productivity, which stakeholder –employees, top management teams or shareholders – can benefit. Using a large sample of 5,580 U.S. firms from 1980 to 2016, we find evidence that firm's productivity improvement does benefit employees, and comparatively wealth distribution to employees is higher than that to shareholders but slightly lower than that to top management teams. Furthermore, the distribution of wealth to employees from productivity improvement varies between capital and labour intensive industries. In addition, the distribution of wealth to employees from productivity improvement is influenced by firm characteristics such as R&D intensity and size.

Keywords: wealth distribution, agent theory, employee benefit, productivity, data envelopment analysis

INTRODUCTION

The wealth distribution issue has been controversial and widely discussed for a long time. Since the eighteenth century, there have been many different views about wealth or income distribution. For example, economists such as Karl Marx in the nineteenth century believed that the dynamics of private capital accumulation inevitably led to the concentration of wealth in ever fewer hands. On the other hand, Simon Kuznets, in the twentieth century, thought that the balancing forces of growth competition and technological progress led to reduced inequality and greater harmony among the classes in later stages of development.

One major issue related to wealth distribution is whether employees benefit from firm wealth growth. If the wealth does not flow to employees, the inequality of wealth distribution may be exacerbated, which will lead to employee strikes and social unrest. According to the inequity aversion and relative deprivation theories, employees may hold back a firm's productivity if their pay has no relationship with such firm improvement. If they can gain a slice of profits derived from firm improvement, such financial "carrots" may become employees' incentive to increase workforce productivity, which may lead them to be less sensitive to income inequality. Indeed, the Fordism has advocated that "the eponymous manufacturing system designed to spew out standardized, low-cost goods and afford its workers decent enough wages to buy them." (Grazia & Victoria, 2005), which provides the basis of modern economic and social systems in industrialized, standardized mass production and mass consumption. Ccompanies' target is not only to make profits, but also to ensure that everyone in the company can enjoy opportunities and benefits.

In the management literature, scholars view the question of whether employees can benefit from firm productivity improvement as a pay–performance problem. Scholars have chosen agency theory as their theoretical framework in order to understand the myriad factors that underlie top management compensation in businesses, particularly how it relates to firm performance (Gomez-Mejia, Tosi, & Hinkin, 1987; Tosi, Werner, Katz, & Gomez-Mejia, 2000; Wright, Kroll, & Elenkov, 2002). Although firm owners urge employees to maximize firm performance, agents including average agents and executive agents (employees and CEOs) may want to maximize their own benefits. Agents typically face decisions on the job: Should I work hard or not? Should I spend the extra time and effort required to improve firm performance or not? Should I efficiently use resources or simply waste them (paid for by my employer) to make my work easier? Therefore, it is necessary to forge tighter linkages between agent pay and performance, so that agents could make decisions in alignment with firm owner' interests. The agency perspective has advanced our understanding of executive compensation; however, it has not been applied extensively to explain compensation of employees at lower levels. Among the limited literature, Werner, Tosi, and Gomez-Mejia (2005) found that owner-controlled and owner-managed firms had significant pay/performance sensitivity for all employees, but their focus was on the influence of ownership structure, not wealth distribution to employees. Little research has been conducted to investigate whether employees at lower levels can benefit from firm productive improvement. To fill this gap, we analyse whether or not a firm's wealth growth benefits its employees and if employees will in return help the firm productivity improve through efforts like using resources more efficiently. We construct a sample of 43,211 firm-year observations of U.S. firms from 1980 – 2016, a time period that saw technology innovation and productivity substantially increase. Our results show that firm's productivity improvement does benefit employees, and comparatively wealth distribution to employees is higher than that to shareholders but slightly lower than that to top management teams. In addition, the distribution of wealth to employees from productivity improvement varies between capital and labour intensive industries and also influenced by firm characteristics such as R&D intensity and size. Our findings contributed to both the industrial relation literature and the pay–performance research in management by linking the relationship between firm productivity improvement and employee pay to inequality wealth distribution issues. We also consider endogeneity issues and compare employees with CEOs and shareholders, which brings us one step closer to the understanding of wealth distribution within the firm.

THEORY AND HYPOTHESES

Firm performance improvement and employee benefits

The management literature views the pay–performance problem through the lenses of the agent theory; that is, owners (principals) prefer to tie agents' pay to performance since it aligns the agent's and principal's goals, thereby reducing the threat of a moral hazard (Fama, 1980; Fama & Jensen, 1983; Tosi et al., 1999). In fact, owners or shareholders (principals) may face two kinds of agents: CEOs at the higher level (executive agent) and average employees at the lower level (average agent). Prior studies have devoted much effort to understanding the myriad factors that underlie top management compensation based on agency theory and the theory of managerial capitalism. Indeed, the literature on executive compensation have found a positive relationship between CEO pay and firm performance (Jensen & Murphy, 1990; Coughlan & Schmidt, 1985). In addition, prior studies assume that firm performance lead to executive compensation; that is, CEOs could benefit from firm improvement.

If CEOs could benefit from firm improvement, could employees at lower levels also receive such benefits? On one hand, owners or shareholders (principals) may prefer to share firm performance risk with employees in exchange for potential gains. CEOs who are under close scrutiny will be likely to forge the linkages between employee pay and performance to reduce CEOs' complement and compensation risk in order to be in good standing in the eyes of their monitors. On the other hand, the incentive at the top will have the cascade effect throughout lower levels within the organization as a form of internal monitoring (Fama & Jensen, 1983; Williamson, 1964; Werner & Tosi, 1995). Thus, the upper echelon-imposed performance-based incentives are likely to establish similar pay policies at lower levels. That is, if powerful equity holders impose performance-based incentives at the top, these upper echelons are likely to develop similar pay policies and practices at lower levels to mimic the risk they incur. This, when firm performance can positively influence CEO pay (Jensen & Murphy, 1990; Coughlan & Schmidt, 1985), it is likely that employee pay could be affected similarly (Werner, Tosi, and Gomez-Mejia, 2005).

From the perspective of Fordism that links worker wages and firm performance, “the eponymous manufacturing system designed to spew out standardized, low-cost goods and afford its workers decent enough wages to buy them" (Grazia & Victoria, 2005). This theory is the basis of modern economic and social systems in industrialized, standardized mass production and mass consumption. Named after Henry Ford, Fordism has been used to explain production, working conditions, consumption, and other related phenomena in social, economic, and management areas through “regime of accumulation” or a macroeconomic pattern of growth. Its virtuous circle involves rising productivity based on economies of scale in mass production, rising incomes linked to productivity, increased mass demand due to rising wages, increased profits based on full utilization of capacity, increased investment in improved mass production equipment and techniques, and a further rise in productivity. Therefore, employee wage increases and firm productivity improvements course reciprocally associated with each other in the capital regime of accumulation.

In sum, we propose that:

H1: Firm performance improvement is positively associated with employee benefits.

Industry capital and labour intensity

An industry can be characterized by the proportion of capital vs. labour used in the production process. Accordingly, two types of industries can be identified: labour intensive industry where there is higher proportion of labour (compared to capital) used in production processes, and capital intensive industry that requires large amount of fixed or real capital in production processes. Some prior studies in management found that the capital-to-labour ratio is positively correlated with employee wage (Dickens, 1986; Hodson & England, 1986; Arai, 2003). In particular, capital intensity is found to be positively related to worker bargaining power and wages in efficiency wage models and insider bargaining models (Dickens, 1986). However, high wages in capital intensive industries for employees may be generated for other reasons rather than firm improvement. Actually, firms in high-capital intensity industries tend to have a greater concern for cost and asset considerations and reinvest more outputs of the firm into fixed assets such as buildings or machinery. Therefore, firm performance may benefit less for employees. Conversely, high-labour intensity firms tend to focus on the investment into their employees, and thus firm performance improvement may then benefit employees more. Thus, we hypothesize:

H2a: Industry capital intensity will moderate the relationship between productivity improvement and employee benefit. When industry capital intensity is high, the positive relationship between productivity improvement and employee benefit is weaker than that when the industry capital intensity is low.

H2b: Industry labour intensity will moderate the relationship between productivity improvement and employee benefit. That is, when industry labour intensity is high, the positive relationship between productivity improvement and employee benefit is stronger than that when the industry labour intensity is low.

Industry R&D Intensity

A firm is likely to get only part of the benefit of innovations because other firms and consumers will also benefit from the knowledge spillovers and other forms of externalities (Audretsch & Feldman, 1996; Coe & Helpman, 1995; Cohen, Goto, Nagata, Nelson, & Walsh, 2002; Coe, Helpman, & Hoffmaister, 2009; Barrios, Görg, & Strobl, 2003). Although many studies have examine how R&D impacts firm performance as well as its relationship with TMTs, few studies have paid attention to how firm R&D activities impact its average employees except for Ballot, Fakhfakh, and Taymaz (2006) that found a positive effect of R&D on worker wages. In some sense, the R&D impact can be analogous to the impact of capital intensity in industries. That is, in R&D intensive situations, the positive relationship between productivity improvement and employee benefit could be weaker because firms tend to reinvest more back to their R&D activities rather than benefit their employees, while in R&D less intensive industries, the impacts could be the opposite. Therefore, we propose that there is a positive moderation effect of industry R&D intensity on the relationship of firm improvement and employee benefit. That is:

H3: Industry R&D intensity will moderate the relationship between productivity improvement and employee benefit. That is, when industry R&D intensity is high, the positive relationship between productivity improvement and employee benefit is weaker than that when industry R&D intensity is low.

Industry concentration

Industry concentration often represents competitive performance in the industry as the result of market structure. Competition plays a significant role in influencing corporate strategies and internal governance mechanisms. High industry concentration means low competition and vice versa. Nickel (1996) first found that product market competition will increase the total social output and labour demand, enhance the bargaining power of wages, and improve them. This study can enlighten us that, in higher competitive markets, more labour demand will urge for an increased benefit from firm improvements to flow to the employees. That is, competition will strengthen the positive relationship between firm improvement and employee benefit.

What's more, Kaurna's (2007) study found that firms in strong competitive industries to provide a stronger incentive (pay–performance sensitivity) to executives. Following the thinking that the cascade effect flows from high hierarchies to low levels, we infer that stronger competition also strengthens the pay–performance relationship to employees. The positive relationship between firm improvement and employee benefit will be strengthened in a more competitive market. Therefore, we hypothesize that:

H4: Industry concentration will moderate the relationship between productivity improvement and employee benefit. That is, when industry concentration is high, the positive relationship between productivity improvement and employee benefit is weaker than when industry concentration is low.

Firm size

Extant literatures have indicated that employees in large companies are more likely to benefit than those in small companies (Brown & Medoff, 1989; Dunn & Lucia, 1986; Schmidt & Zimmermann, 1991) because power, salary, status, and security of CEOs may be augmented in larger organization sizes due to relatively higher managerial discretion (Baumol, 1959; Maris, 1964), which means CEOs could benefit more from larger firms. According to the cascade effect logic, employees as agents in lower levels will get more positive influence in larger firms.

What's more, there are welfare protection systems and the robustness of the stable financial performance of large companies. Further, large companies are more likely to develop a "corporate culture" in which profit sharing is most effective, which more intensively promotes the link between firm performance and employee benefit. Therefore, we suspect that large companies have a positive moderating effect on that relationship:

H5: Firm size will moderate the relationship between productivity improvements and employee benefit. That is, when firm size is high, the positive relationship between productivity improvement and employee benefit is stronger than when firm size is low.

<Figure 1 inserts here>

DATA AND METHODS

Sample and Data Source

For the empirical analysis, we collected data on U.S. companies for the time period of 1980 to 2016. The firm-level annual financial data and industry-level data were taken from the COMPUSTAT North America database. The data of the top management team (TMT) in firms came from the COMPUSTAT executive compensation database for the time period of 1992 to 2016 (the data are available from 1992). The initial sample at the firm level includes 391,896 firm-years. We measured productivity improvement by deleting the data that did not meet the requirements, yielding 227,846 firm-years. The sample of comparison between the three kinds of stakeholders was 262,169 firm-years observations. After eliminating data points with missing values, our final regression sample consisted of 43,211 firm-year observations with 5,580 firms.

To classify the industry, we used the Fama and French (1997) classification method to classify SIC code into 48 industries, which enabled us to calculate productivity for peer firms with similar businesses and to get more accurate industry-level control variables.

Measures

Dependent variable

We measured employee benefit by the percent change of staff expense: $\text{employee benefit}_t = \frac{\text{staff expense}_{t+1} - \text{staff expense}_t}{\text{staff expense}_t}$.

Total staff expense was obtained from COMPUSTAT. This includes salaries, wages, pension costs, profit sharing, incentive compensation, payroll taxes, and other employee benefits, but excludes commissions.

Independent Variable

Productivity improvement was measured as a Malmquist index for firm productivity change in each year. Färe et al. (1992) constructed the Data Envelopment Analysis (DEA)-based Malmquist productivity index as the geometric mean of two Malmquist productivity indexes of Caves et al. (1982), which are defined by a distance function D(·). It is an index representing Total Factor Productivity (TFP) growth of a Decision Making Unit (DMU), in that it reflects progress or regress in productivity along with that of the frontier technology between two periods of time under the multiple inputs and multiple outputs framework.

Suppose we have a production function in time period t and t+1. The Malmquist index calculation requires two single period and two mixed period measures. The two single period measures can be obtained by using the CCR DEA model (Charnes et al., 1978).

$$D_o^t(x_o^t, y_o^t) = \min\ \theta$$

$$\text{s.t.} \quad \sum_{j=1}^{n} \lambda_j x_{ij}^t \leq \theta x_{io}^t, \qquad i = 1,2,\dots,m,$$
$$\sum_{j=1}^{n} \lambda_j y_{rj}^t \geq y_{ro}^t, \qquad r = 1,2,\dots,s,$$
$$\lambda_j \geq 0, \qquad j = 1,2,\dots,n,$$

where $o \in Q = \{1,2,\dots,n\}$ is computed as the optimal value, x_{io}^t is the ith input, and y_{ro}^t is the rth output for DMU_o in time period t. The productivity $D_o^t(x_o^t, y_o^t) = \theta_o^*$ determines the amount by which observed inputs can be proportionally reduced by producing the given output level. Using $t+1$ instead of t for the above model, we get $D_o^{t+1}(x_o^{t+1}, y_o^{t+1})$, the technical productivity score for DMU_o in time period $t+1$.

The first of the mixed period measures, which is defined as $D_o^t(x_o^{t+1}, y_o^{t+1})$ for each DMU_o, is computed as the optimal value to the following linear programming problem:

$$D_o^t(x_o^{t+1}, y_o^{t+1}) = \min\ \theta$$
$$\text{s.t.} \quad \sum_{j=1}^{n} \lambda_j x_{ij}^t \leq \theta x_{io}^{t+1}, \qquad i = 1,2,\dots,m,$$
$$\sum_{j=1}^{n} \lambda_j y_{rj}^t \geq y_{ro}^{t+1}, \qquad r = 1,2,\dots,s,$$
$$\lambda_j \geq 0, \qquad j = 1,2,\dots,n,$$

Similarly, the other mixed period measure, $D_o^{t+1}(x_o^t, y_o^t)$, which is needed in the computation as the optimal value to the following linear problem:

$$D_o^{t+1}(x_o^t, y_o^t) = \min\ \theta$$
$$\text{s.t.} \quad \sum_{j=1}^{n} \lambda_j x_{ij}^{t+1} \leq \theta x_{io}^t, \qquad i = 1,2,\dots,m,$$
$$\sum_{j=1}^{n} \lambda_j y_{rj}^{t+1} \geq y_{ro}^t, \qquad r = 1,2,\dots,s,$$
$$\lambda_j \geq 0, \qquad j = 1,2,\dots,n,$$

The input-oriented Malmquist productivity index proposed by Färe et al. (1992), which measures the productivity change of a particular $\mathrm{DMU_o}$, $\mathrm{o} \in \mathrm{Q} = \{1,2,\dots,\mathrm{n}\}$, in time $\mathrm{t}+1$ and t, is given as:

$$\mathrm{M_o} = \left[\frac{\mathrm{D_o^t}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^t}(\mathrm{x_o^t},\mathrm{y_o^t})}\frac{\mathrm{D_o^{t+1}}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^{t+1}}(\mathrm{x_o^t},\mathrm{y_o^t})}\right]^{1/2}$$

It can be seen that the above measure is actually the geometric mean of two Caves et al.'s (1982) Malmquist productivity indexes. Thus, following Caves et al.'s (1982) suit, Färe et al. (1992) stated that $\mathrm{M_o} > 1$ indicates productivity gain; $\mathrm{M_o} < 1$ indicates productivity loss; and $\mathrm{M_o} = 1$ means no change in productivity from time t and $\mathrm{t}+1$. Färe et al. (1992) decomposed their Malmquist productivity index into two components:

$$\mathrm{M_o} = \left[\frac{\mathrm{D_o^t}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^t}(\mathrm{x_o^t},\mathrm{y_o^t})}\frac{\mathrm{D_o^{t+1}}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^{t+1}}(\mathrm{x_o^t},\mathrm{y_o^t})}\right]^{\frac{1}{2}}$$

$$= \frac{\mathrm{D_o^{t+1}}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^t}(\mathrm{x_o^t},\mathrm{y_o^t})}\left[\frac{\mathrm{D_o^t}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^{t+1}}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}\frac{\mathrm{D_o^t}(\mathrm{x_o^t},\mathrm{y_o^t})}{\mathrm{D_o^{t+1}}(\mathrm{x_o^t},\mathrm{y_o^t})}\right]^{\frac{1}{2}}$$

The first component $\mathrm{TEC_o} = \frac{\mathrm{D_o^{t+1}}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^t}(\mathrm{x_o^t},\mathrm{y_o^t})}$ measures the change in technical productivity. The second component $\mathrm{FS} = \left[\frac{\mathrm{D_o^t}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}{\mathrm{D_o^{t+1}}(\mathrm{x_o^{t+1}},\mathrm{y_o^{t+1}})}\frac{\mathrm{D_o^t}(\mathrm{x_o^t},\mathrm{y_o^t})}{\mathrm{D_o^{t+1}}(\mathrm{x_o^t},\mathrm{y_o^t})}\right]^{\frac{1}{2}}$ measures the technology frontier shift between time period t and $\mathrm{t}+1$. In our regression, we did not decompose the Malmquist index, and we used it as the total productivity improvement.

In the DEA-based Malmquist index model, we used two inputs: total assets and employee (Chen et al., 2015), and one output: sales, namely, total revenue (Chen & Ali, 2004; Chen, 2004).

All the variables were taken from the COMPUSTAT database. We calculated the Malmquist index of firms for every two years from 1980 to 2016 in each industry using MATLAB 2017b software.

Moderating Variables

In H2, H3, and H4, we are interested in the effect of industry characters. The moderating effects at the industry level: capital intensity, labour intensity, R&D intensity, and industry concentration are therefore the interaction terms of productivity improvement. To measure the relative capital and labour intensity of industries, we used the logarithm of the capital-to-labour ratio (Mitton, 2012). Using this ratio is convenient in that higher values indicate higher capital intensity and lower values indicate higher labour intensity. We calculate the logarithm of the ratio of total assets to employees in the firm-level of each year, then take the median across all firms in each industry, defined by 48 industries. Similarly, the industry R&D intensity is measured as the median of the R&D expense-to-sales ratio across all firms in every industry each year. It represents all costs incurred during the year that relate to the development of new products or services, including software expenses and amortization of software costs. To measure industry concentration, we used the industry Herfindahl index. For H5, firm size was considered as an another interaction term of productivity improvement. We measured firm size as the logarithm of assets at the firm level.

Control Variable

In our paper, we use ROA as a control variable, which has been frequently used as a measure of performance in compensation and governance research (Werner, Tosi, & Gomez-Mejia, 2005).

RESULTS

Results for Hypotheses 1, 2, 3a, 3b, 4 and 5

Table 1a reports our descriptive statistics and correlations. We find that there is no collinearity among them. In addition, we used the variance inflation factors (VIFs) test and find that VIF<10, which confirms that there is no collinearity.

<Table 1a inserts here>

Table 2 presents the fixed-effect regression results for productivity improvement and employee benefit. The independent variable is productivity improvement and the dependent variable is employee benefit. We also include the logarithm of the capital-to-labour ratio, R&D intensity, industry concentration, and firm size as moderating variables. ROA is considered as the control variable. Model 1 indicates that productivity improvement is positively related to employee benefit ($b=0.145$, $p<0.01$), as predicted in H1. Models 2 to 5 add the moderating variables respectively for studying interaction effect. In model 2, the interaction between productivity improvement and the logarithm of the capital-to-labour ratio is significantly negative ($b=-0.017$, $p<0.01$), suggesting that a positive relation between productivity improvement and employee benefit is weak in industries that have greater capital intensity and stronger in industries that have greater labour intensity. The distribution of wealth to employee from productivity improvement in high capital-insensitive industry is 1.7% lower than it in in the labour-intensive industry. H2a and H2b therefore receive support. Model 3 shows that the interaction between productivity improvement and industry R&D intensity is significantly negative ($b=-0.164$, $p<0.01$), indicating that a positive relation between productivity improvement and employee benefit is weak in industries that have greater R&D expenses, as predicted in H3. It also means that the firm with high R&D intensity has a 16.4% lower distribution to employee than the average firm. The interaction between productivity improvement and industry concentration is included in model 4. The result is not significant (b=0.036, p>0.1), which means that there is no significant interaction effect between them. H4 is not supported. In model 5, the interaction between productivity improvement and firm size is significantly positive (b=0.004, p<0.01); that is to say, there is a positive relation between productivity improvement and employee benefit that is stronger in larger firms. The large firm has a higher distribution to employee than a small firm. This result is consistent with H5. In model 6, the four interaction effects are included simultaneously, showing consistent results with models 2 to 5.

Figure 2-4 shows the margin analysis for these models with interaction effects. In figure 2, the interaction between productivity improvement and the capital-to-labour ratio is significantly negative. Figure 3 shows that the interaction between productivity improvement and industry R&D intensity is significantly negative. And we can also find that the interaction between productivity improvement and firm size is significantly positive in figure 4.

<Table 2 and figure 2-4 insert here>

Post-hoc Test

How does productivity improvement influence other stakeholders? Here, we examine the correlation relationship of productivity improvement and stakeholder (employee, TMT, shareholder) benefits. Our sample data are described and the variables are pairwise correlatively analysed in Table 1b. Then we examined the fixed-effected models for employee, TMT, and shareholder. Productivity improvement represents a significantly positive relationship with them respectively. We also find that the distribution of wealth to employees from productivity improvement is slightly lower than the distribution to top management teams, but higher than that to shareholders (Based on the same observation window).

<Table 1b and Table 3 insert here>

In our literature review, we found that most literature topics have a pay–performance relationship; that is, wage also impact firm performance. Though our results show that the productivity improvement would benefit employees, we wondered whether there is a reverse influence. This will generate simultaneity bias if the independent variable and dependent variable (productivity and employee wage) affect each other. The independent variable is related to the error term of the regression model, contrary to the assumption. To address the endogeneity problem, we used four different models based on the instrument variables method. The first column represents the Two-Stage Least Squares (2SLS), where we used firm diversification (Herfindahl index) and the lag of productivity improvement as instruments because firm diversification is always deemed as a factor related to firm performance (Palich et al., 2000), but there is no evidence that it has a direct relationship with employee wage. However, it cannot pass the over-identification test. Considering the panel data situation, the fixed effect IV (instrumental variable) model would be more suitable. The second column shows the results of the panel data

IV model. We find that this model is more suitable by passing the over-identification test. Furthermore, some economic theories hold that the individual's current behavior depends on past behavior due to inertia or partial adjustment, such as impact of the lag of wages (Baltagi & Khanti-Akom, 1990), which indicates working experience. Considering that the wages of one year often influence the wage of the next year, which could be better explained by dynamic panel data model, we used the difference GMM model and system GMM model in columns 3 and 4. We used a one-year lag of employee benefit as an additional independent variable, all lag years of employee benefit, productivity improvement, and firm diversification as instruments. The two dynamic panel data models can both pass the over-identification test. The ‘m2’ is a test index of the autocorrelation test for second-order serial correlation in the first-differenced residuals. Our models passed the test, which satisfies the basis assumption that there is no autocorrelation in the residuals. All results from the four instrumental variable models support our main hypothesis: productivity improvement is positively related to employee benefit.

<Table 4 inserts here>

DISSUSSION

Discussion and Contributions

Overall, the results strongly support H1, H2a, H2b, H3 and H5. H4 is not supported. Firm productivity improvement is beneficial to employees in that employees’ lives will improve if the firm’s productivity improves. In the post-hoc test, we find that the productivity improvement is also highly related to shareholder or manager benefit.

We further studied other factors that could moderate this relationship as well. Our data demonstrated that a labour-intensive industry could be friendlier for employees than a capital-intensive industry. The distribution of wealth to employee from productivity improvement in high capital-insensitive industry is lower than that in the labour-intensive industry. R&D industry is similar to a capital-intensive industry. The firm with high R&D intensity has a lower distribution to employee than the average firm. In addition, from the perspective of company size, large companies have advantages in terms of sound corporate welfare, financial stability, and robustness. Our results showed that large firms are more beneficial for labour. However, we also found that there is no significant moderating effect of industry concentration. The reason may be that industrial concentration only has an impact on the firm, but has little effect on the profits of employees.

Our study studied whether employees can benefit from firm productivity improvement. The wealth distribution problem partly is answered from labour perspective. We also consider the endogeneity problem and compare employees with CEOs and shareholders, which brings us take a step closer to the study of the wealth distribution within the firm. Firms can not only aim to make profits, but also that everyone in the company can enjoy opportunities and benefits as well. Furthermore, the phenomenon we found also illustrates that, possibly because of the government supervision and public pressure, wealth is indeed flowing to employees.

Limitations and Further Research

This study has limitations that could provide opportunities for further research. One is R&D

intensity measure. Some literatures have represented that R&D measures of expenses will result in problems. Thus, other measures can be used. Another limitation is that the relationship between employees, managers, and shareholders' benefits and productivity improvements can be studied with additional company characteristics. We can do more research about those characteristics at the firm level. In addition, we can also do research on the whether the business's district is located in a Democratic or Republican area and whether there are unions in the firms. Democratic party and existence of unions will have more support and maintain labour benefit.

CONCLUSION

Many management literature has pointed out that firm wealth will be significantly distributed to CEOs. However, there has been few research on how firm productivity improvements benefit employees. We find that firm productivity improvements will benefit the employees, as well as managers, shareholders, or employees. Our findings about the benefits for employees will have a significant contribution to the understanding of the wealth distribution issue.

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Table 1a. Description statistics and correlation matrices.

	Obs	Mean	SD	1	2	3	4	5	6	7
Employee benefit	43,211	0.129	0.343	1						
Productivity improvement	43,211	1.060	0.396	0.197**	1					
Capital to labour ratio	43,211	2226.41	3879.363	-0.011*	-0.021**	1				
Industry R&D intensity	43,211	0.030	0.109	0.050**	0.082**	-0.095**	1			
Industry concentration	43,211	0.043	0.041	0.041**	0.067**	-0.420**	0.061**	1		
Firm size	43,211	13170.29	43401.8	-0.046**	-0.027**	0.328**	-0.034**	-0.054**	1	
ROA	43,211	-0.027	0.439	-0.018**	-0.148**	0.04**	-0.14**	-0.06**	0.027**	1

Standard errors in parentheses： ** p<0.01, * p<0.05

Table 1b. Description statistics and correlation matrices.

Pairwise correlation	Obs	Mean	SD	1	2	3	4
Productivity improvement	227,846	1.103	0.527	1			
Employee benefit	57,232	0.147	0.429	0.197**	1		
TMT benefit	44,179	0.312	0.950	0.058**	0.154**	1	
Shareholder benefit	132,582	0.236	1.409	0.044**	0.131**	0.044**	1
Correlation	Obs	Mean	SD	1	2	3	4
Productivity improvement	4903	1.105	0.173	1			
Employee benefit	4903	0.098	0.209	0.197**	1		
TMT benefit	4903	0.228	0.728	0.054**	0.162**	1	
Shareholder benefit	4903	0.235	1.031	0.028**	0.073**	0.025**	1

Standard errors in parentheses： ** p<0.01, * p<0.05

Table 2. Fixed effect models for productivity improvement and employee benefit.

	1	2	3	4	5	6
	Employee benefit					
Productivity improvement (X)	0.145**	0.252**	0.163**	0.143**	0.130**	0.306**
	(0.004)	(0.019)	(0.005)	(0.006)	(0.007)	(0.02)
Capital to labour ratio(M1)	0.016*	0.03**	0.016*	0.015*	0.016*	0.0469**
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Industry R&D intensity(M2)	0.097*	0.098*	0.28**	0.097*	0.096*	0.27**
	(0.046)	(0.046)	(0.050)	(0.046)	(0.046)	(0.050)
Industry concentration(M3)	0.050	0.041	0.053	0.010	0.056	0.132
	(0.117)	(0.117)	(0.117)	(0.137)	(0.117)	(0.138)
Firm size(M4)	-0.098**	-0.099**	-0.099**	-0.098**	-0.103**	-0.109**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
X*M1		-0.017**				-0.028**
		(0.003)				(0.003)
X*M2			-0.164**			-0.159**
			(0.018)			(0.018)
X*M3				0.036		-0.073
				(0.063)		(0.067)
X*M4					0.004**	0.008**
					(0.001)	(0.002)
ROA	0.094**	0.095**	0.095**	0.094**	0.095**	0.097**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Constant	0.536**	0.426**	0.515**	0.538**	0.550**	0.362**
	(0.036)	(0.041)	(0.036)	(0.037)	(0.037)	(0.043)
Observations	43,211	43,211	43,211	43,211	43,211	43,211
R-squared	0.066x	0.066x	0.068	0.066	0.066	0.069
F statistics	440.46	382.42	390.40	377.57	378.72	280.38

Standard errors in parentheses： ** p<0.01, * p<0.05

Table 3. Fix effect models for productivity improvement and stakeholder benefit.

	1	2	3	4	5	6
	Employee benefit	Employee benefit	TMT benefit	TMT benefit	Shareholder benefit	Shareholder benefit
Productivity improvement	0.241**	0.145**	0.257**	0.197**	0.183*	0.160**
	(0.016)	(0.004)	(0.064)	(0.018)	(0.088)	(0.013)
Capital to labour ratio	0.001	0.015*	0.031	0.025	-0.031	0.074**
	(0.014)	(0.007)	(0.055)	(0.020)	(0.076)	(0.014)
Industry R&D intensity	0.262	0.097*	0.548	-0.119	-0.606	-0.193
	(0.159)	(0.046)	(0.620)	(0.124)	(0.852)	(0.110)
Industry concentration	-0.805*	0.050	-1.641	-0.883**	-3.948	0.050
	(0.395)	(0.117)	(1.542)	(0.313)	(2.117)	(0.208)
Firm size	-0.075**	-0.098**	-0.124**	-0.173**	-0.030	-0.122**
	(0.008)	(0.003)	(0.032)	(0.009)	(0.045)	(0.008)
ROA	0.228**	0.094**	-0.750**	-0.042	-0.441	0.039*
	(0.044)	(0.006)	(0.172)	(0.032)	(0.236)	(0.018)
Constant	0.529**	0.536**	0.917**	1.295**	0.683	0.390**
	(0.077)	(0.036)	(0.301)	(0.095)	(0.413)	(0.065)
Observations	4,903	43,211	4,903	41,613	4,903	107,078
R-squared	0.0838	0.0656	0.0135	0.0168	0.0031	0.042
F statistics	65.08	440.457	9.71	108.306	2.19	66.261

Standard errors in parentheses： ** p<0.01, * p<0.05

Table 4. Instrument variable models for productivity improvement and employee benefit.

	1	2	3	4
	2SLS model	Fix-effect IV model	Arellano-Bond dynamic panel-data model	System dynamic panel-data model
L. employee benefit			0.066**	0.080**
			(0.000)	(0.000)
Productivity improvement	0.875**	0.284**	0.107**	0.019**
	(0.186)	(0.031)	(0.000)	(0.000)
Capital to labour ratio	-0.000	0.021*	0.121**	0.036**
	(0.003)	(0.010)	(0.000)	(0.000)
Industry R&D intensity	-0.049	0.118*	0.130**	-0.012**
	(0.037)	(0.057)	(0.000)	(0.000)
Industry concentration	-0.071	-0.128	0.184**	-0.033**
	(0.082)	(0.158)	(0.000)	(0.001)
Firm size	-0.001	-0.095**	-0.256**	-0.116**
	(0.003)	(0.005)	(0.000)	(0.000)
ROA	0.104**	0.094**	0.122**	0.111**
	(0.018)	(0.008)	(0.000)	(0.000)
Constant	-0.795**	0.305**	0.886**	0.611**
	(0.202)	(0.059)	(0.007)	(0.003)
m2			0.476	0.620
Over identification test	10.377 (1)**	0.669 (1)	1,165.92 (1197)	1,265.703 (1267)
Observations	20,378	20,378	17,337	20,464

Standard errors in parentheses： ** p<0.01, * p<0.05.

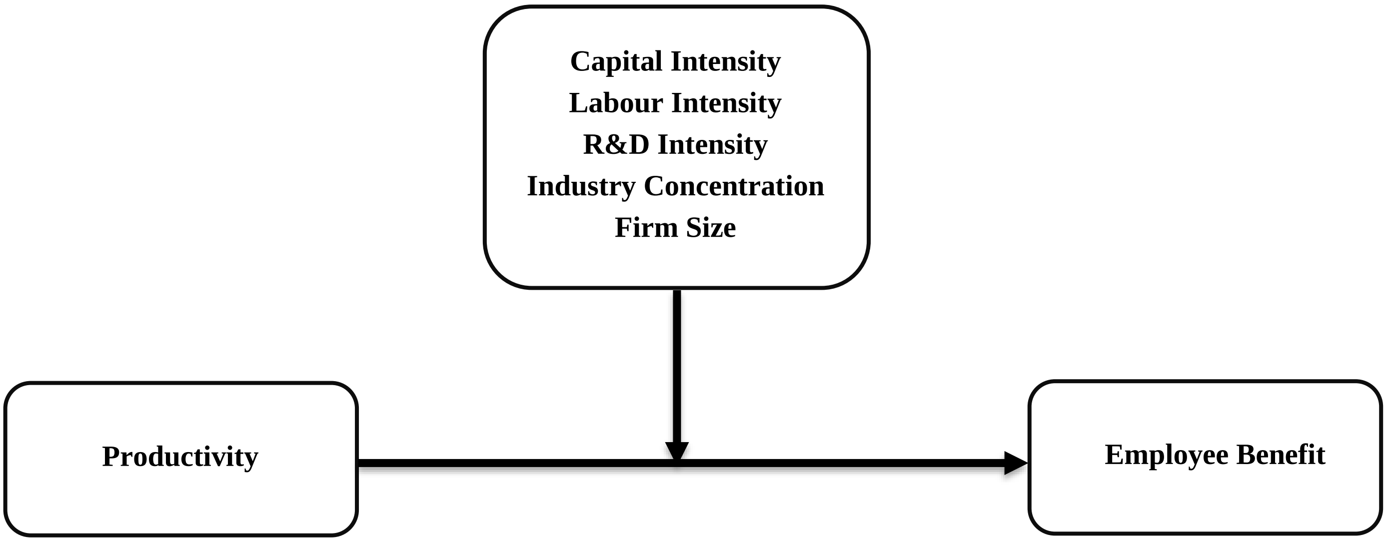


Figure 1. Proposed Conceptual Model

Figure 2. Margin analysis with interaction between productivity improvement and the capital-to-labour ratio.

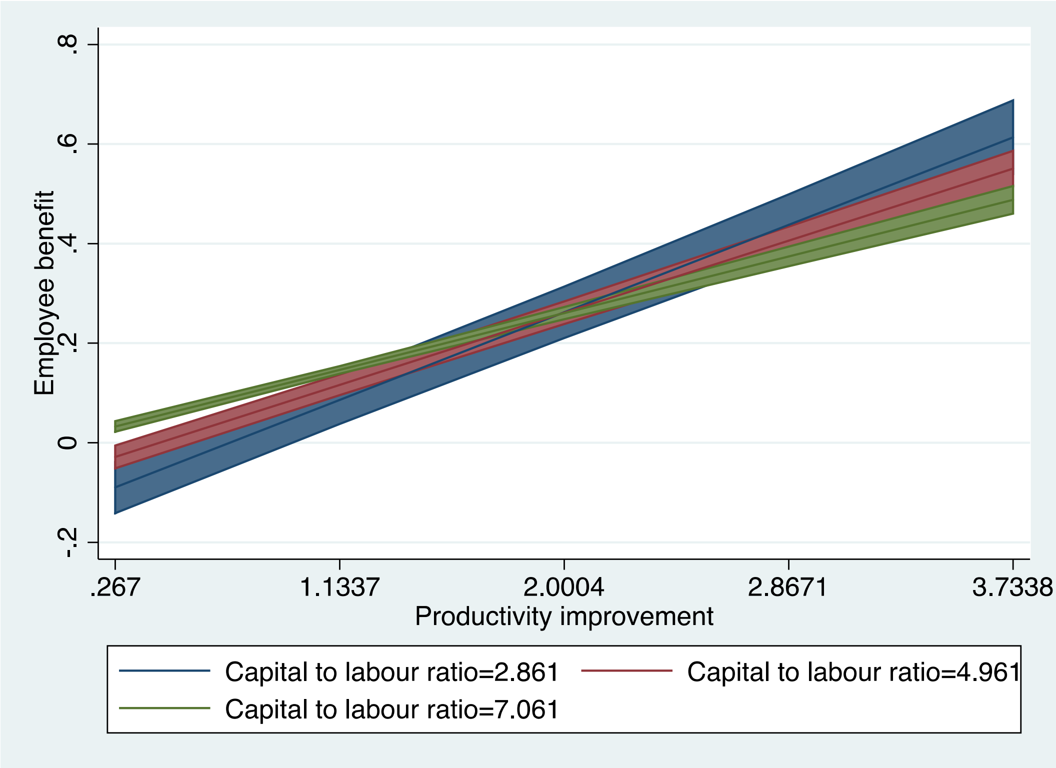


Figure 3. Margin analysis with interaction between productivity improvement and industry R&D intensity.

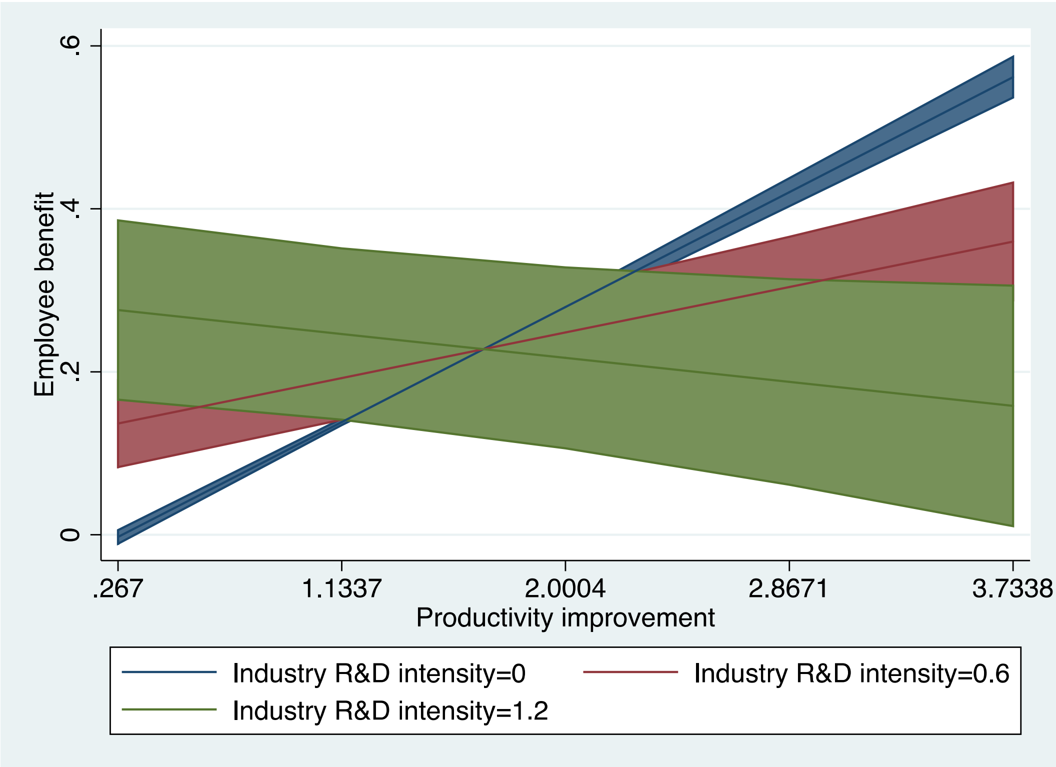
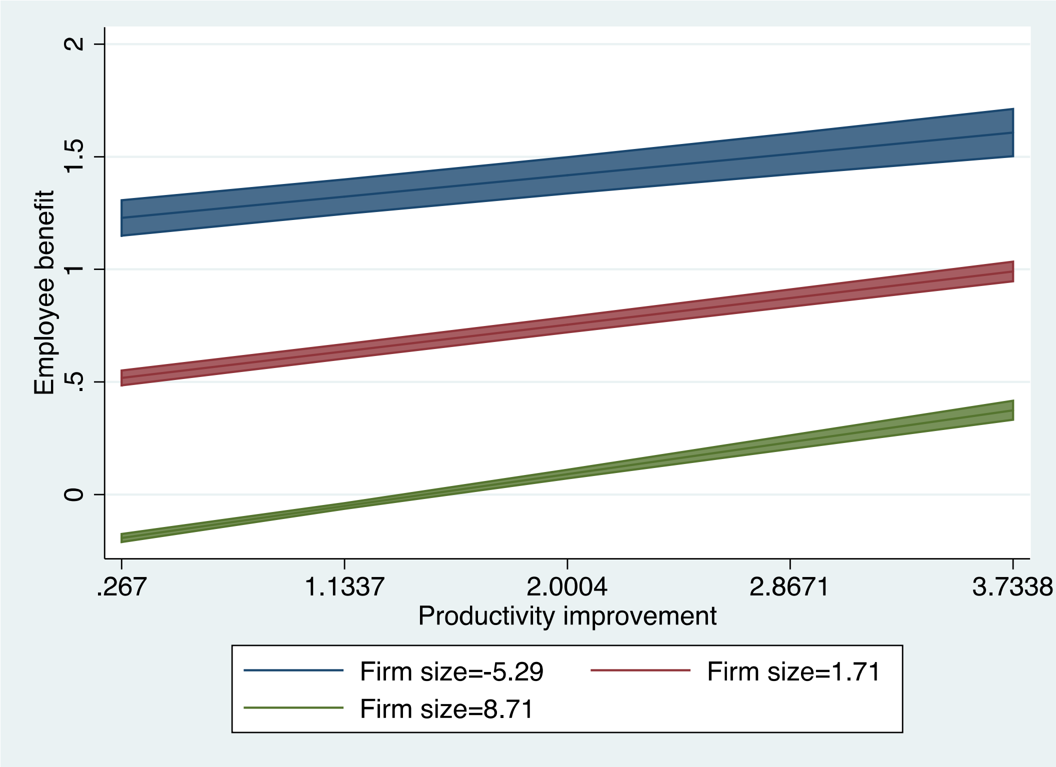


Figure 4. Margin analysis with interaction between productivity improvement and firm size.



Industrial Democracy in the Age of Conscious Capitalism

Abstract

Some consider conscious capitalism as an oxymoron! Others view conscious capitalism as an enlightened version of capitalism operating in a digital world. This paper argues that the greatly increased emphasis in our civilization today on expanding one of the oldest and most basic values, the idea of democracy, has given the public an interest in wanting more participation in the decision-making processes that vitally affect their welfare. It is the thesis of this paper that and extension of participative decision making into capitalism could develop what is called a theory of industrial democracy in the age of conscious capitalism.

Keywords: Conscious capitalism, industrial democracy, decision making process

INTRODUCTION

Conscious capitalism is the latest trend among academics as well as business community. This trend as initiated by the publication of a book by the same title. In their attempt to liberate the heroic spirit of business, they emphasized four principles: conscious leadership, stakeholder definition, conscious culture and higher purpose (Mackey and Sisodia, 2014). Although some commentators have treated discourse on conscious capitalism as heroic or dealing with the heroic spirit of business, we find this topic as another attempt to reinvent the wheel! Every principle in conscious capitalism discourse have been dealt in a better scholarly and sufficient form by the discourse on industrial democracy.

To revisit the discourse on industrial democracy we need to review current changes in management thinking. Management thinking is undergoing a profound transformation, a change caused by global thirst for democracy. The new world order is driving our civilization toward an even greater upheaval--a unified global order. The wave of change is the beginning of a transition to remarkably different social order. This process carries an unprecedented move toward implementing democracy into the livelihood of humankind. The same forces, William Halal and Alexander Nikitin have noticed, are extending democracy into capitalism by developing participative relations with workers, clients, other firms, and government (Halal & Nikitin, 1990:12).

Nowadays, for the expansion of capitalism, it has been said that democracy is necessary because the only systems that can successfully cope with the changing demands of contemporary civilization is business as well as in government is the democratic system. Yet, despite universal acknowledgment of democracy, Philip Slater and Warrant Bennis argue that we have a long way to go for fully implementing democracy into the corporate world because as some cynical observers have always been fond of pointing, business leaders who extol the virtues of democracy on ceremonial occasions would be the last to think applying them to their own organizations (Slater & Bennis, 1990: 167).

Indeed, to respond to such a challenge we faced with a trend which advocated the implementation of democracy into the working structure of corporations since modern democracy and capitalism proceed from identical historical impulses (Novak, 1982:14). To do so, the thinking goes, corporate America needs to introduce internal markets, a phenomenon that is often called Perestroika in the American corporations—a restructuring movement that should aim at a democratic organizational design for corporate America (Carrol, 1990:16). Often the idea of Perestroika in many firms means to reconsider the implementation of internal markets through the concept of profit centers (Halal, 1994: 69). The ultimate goal is to re-create within big corporations small entrepreneurial enterprises able to reap the advantages fostered by the market while minimizing risk, conflict, and other disadvantages (Halal, 1990:45). Subject to minimal constraints, profit centers should have the freedom to buy any service or product they want at whatever price they want or are willing to accept (Ackoff, 1993: 242).

On the other hand, we are left with an important discourse that we can call the industrial democracy discourse (Ackoff, 1994). This discourse aims at the social, political, environmental, and organizational challenges that corporate America has gone through since the 1960s, a phenomenon that Russell Ackoff has labeled as the role of business in a democratic society (Ackoff, 1990a: 341-342). In fact, many advocates of industrial democracy argue that employee rights of participation in decision-making provides a profound challenge to traditional organizations of work (Hodson, 1996: 719).

In this respect, the industrial democracy discourse begins with the role of management in contemporary society. The emergence of management in every advanced country is associated with the development of a society of organizations. A service-oriented knowledge society organizes every major task, whether it be concerned with economic development, health care issues, education, the protection of the environment, the pursuit of new knowledge, or defense through big organizations. Such an historical transformation, in the meantime, means an institutionalization of democracy through a society of organizations resulting in a different form of class structure, one in which the professional salaried middle class has gained the new majority (Drucker, 19992b: 92).

Today, management as a profession has become the pervasive universal institution of modern society and there is as much management outside business as there is in business and maybe more (Drucker 1987a:13). The universal institutionalization of management through the rise of the corporation is what Peter Drucker has called “a post-business, post-capitalist, knowledge society" (Drucker, 1993). Characteristic of such a society is dependence on the knowledge and skills of professional groups. This means that the professional middle class is rapidly becoming the representative and most important group in business and in society, according to Drucker, the "knowledge society" is a society of large organizations—government and business—that necessarily operate on the flow of information. In this sense, as Drucker asserts, all advanced societies of the West have become "post business or post-capitalist," with business no longer being the main avenue of advancement in society (Drucker, 1989: 23). In a knowledge society, Drucker argued, knowledge is the primary resource for individuals and for the economy overall. Moreover, the traditional economic factors such as land, labor, and capital have become secondary to the specialized knowledge which is organized through a blending of the corporation and democratic organizational structures (Drucker,1992: 95).

THE RISE OF POSTMODERN CAPITALISM

To make a stronger case for the industrial democracy discourse some management researchers are also pointing out the postmodern conditions and its impacts on capitalism. What is called postmodern capitalism still obeys the laws of classical capitalism, namely the primacy of industrial production and the omnipresence of class struggle. Moreover, postmodern capitalism manifests another stage in the evolution of capital—a pure stage highlighting a transition from market capitalism to monopoly capitalism and now towards a late or consumer capitalism (Jameson, 1984: 78).

All that is a product of the capital accumulation process, embracing a sea of change in the development of capitalism after the 1972-75 recession. Entering a period of difficult readjustment, sparked by low growth rates, high unemployment and inflation, as well as the breakdown of U.S. hegemony, capitalist restructuring has resulted in technological change, reorganization of production techniques, financial shake-ups, product innovation, and massive expansion into cultural and image production (Harvey, 1991: 66).

Amid all that, postmodern capitalism raises concern about a shift from an era of organized to disorganized capitalism (Lash and Urry,1987). The contemporary social system has been transformed into a disorganized capitalism by three simultaneous processes: globalization of the economy, decentralization of managerial decision-making processes, and disintegration of the corporation, all of which have created a much broader set of changes that are taking place within Western Europe and North America (Urry, 1988: 33). Consequently, disorganized capitalism has witnessed the beginning of an erosion of the cultural foundations of the contemporary social systems in contrast to an era of organized capitalism which began as the turn of the twentieth century and which entered into crisis in the 1960s and 1970s (Lash, 1987: 146-147).

In an era of disorganized capitalism. The production of social differences is the most pressing hallmark of the postmodern drift in economy. The high-tech revolution, time-space compression, and the effects of globalization of business are not only causing greater instability, but they are also producing a social condition in which the ability and means for people to define themselves differently from one another has dramatically increased (Brown, 1992: 388). In this respect postmodern capitalism presents both fears of greater divisiveness, fragmentation, insecurity and turmoil, and paradoxically, the opportunity for mobilizing greater democratic decision-making. Yet, this is a sea of change within the parameters of consumerism, profit-oriented growth, and wage-labor (Brown, 1991: 1101).

As a concept which addresses the end of an organized economy, postmodern capitalism is also clearly linked to the decline of economic modernity—that is, the notion that business activities can be unified around a single logic of organizational rationality devoted to industrial progress through the medium of "big business" (Daly, 1991: 87). The logic of economic modernity, as formulated by meta-history of industrial manufacturing since 1800, nowadays has been eroded due to the end of the mass production era (K. Williams et al., 1987: 409).

Culminating in a shift from mass production to flexible specialization, postmodern capitalism looks into a transition from "Fordism" to "postfordism". The prevailing model of industrial efficiency for most of the 20th century, "Fordism" is based on the mass production of homogenous products, using the ridged technology of the assembly line with dedicated machines and standardized work routines. But following the logic of economic sale, "Fordism" works only if there is a mass market for standard goods. Yet, in a period of fragmenting and differentiate markets where firms produce for changing demands on a world scaled and must respond to competitor's product innovations rapidly, mass production is more often than not a liability (Hirst and Zeitlin, 1989: 168).

In contrast, under flexible specialization or "postfordism", a combination of universal equipment and versatile workers can produce a wide and changing range of semi-customized goods while reducing the cost of differentiated products through economics of scope. Reiterating the call for the model of a flexible firm, "postfordism" is linked to a new form of artesian production made easily adaptable to the changing needs of the market (Hirst and Zeitlin, 1991: 2). In the meantime, the sweeping changes stemming from "postfordism" entail the functional disintegration of "fordist" big corporations into a plethora of smaller firms (Lash, 1991: 104).

But, the collapse of big businesses seemed to be tied to an institutional crisis within the contemporary economy. As the central institution of modern economy, the disintegration of fordist big corporations will bring fundamental changes. Prior to the development of big business in the late 19th century, the economy was primarily dependent upon the price system to coordinate the market and maintain macroeconomic balance. With the rise of big business, the market has been increasingly controlled by the direct efforts of large enterprises as the central institution of modern capitalism (Piore, 1987: 26).

Embracing changes in the areas of consumption, work, and technology, the postmodern drift in capitalism reverses the role of big business through invigorating the institution of the almighty market and the increasing quest for industrial democracy. No wonder that the worldwide move toward privatization within the era of disorganized capitalism reaffirms that the postmodern method of allocation of scarce resources is based on the "laws" of laissez-faire rather than organizational rationality of big business along with the further implementation of workplace democracy (Oglivy, 1989: 21).

Replacing the visible hand of managerial capitalism with the invisible hand of the market and workplace democracy, disorganized capitalism also means "the second industrial divide". The second industrial divide primarily points to one kind of crisis, easily visible, and marked by the realization that giant corporations can no longer secure a workable match between the production and consumption of goods. A turbulent situation which is neither temporary nor an aberration, the big corporation as a solution to the organizational problems created by the rise of mass production, is dismantling in favor of the strategy of craft production (Piore and Sable, 1984: 73). Most notable, the strategy of craft production claims to open greater opportunities for small and "dynamic" firms. Replacing the notion of industrial dualism (i.e., big business vs. small firm") the strategy of craft production is drastically changing the role of small size firms because we are moving away from a situation where the small company typically subordinated to the big company and largely operated at its direction (Piore and Sable, 1985: 36).

In doing so, a reversal of the logic of economic modernity takes place. Since the core of economic modernity is the idea that an increase in productivity depends on increasingly specialized use of resources, the logic of mass production relies upon an economy of size and scale as the price for industrial progress. Instead, the strategy of craft production relies upon an intimacy between the small firm and the market forces through the motion of craft (Sable and Zeitlin, 1985: 136). In this respect, the strategy of craft production becomes handy especially in the light of a long debated concern over the alienation of the workforce under the system of mass production and an entrepreneurial explosion since the 1980s. To respond to both, postmodernism raises the possibility of democratization of economy in an era of disorganized capitalism.

THE INDUSTRIAL DEMOCRACY DISCOURSE

How can postmodern capitalism be tied to the idea of industrial democracy? To answer this question, we must go back to the failure of big firms in directly involving their employees in the general affairs of the organization—that is, the discourse on empowerment. No matter what type of short term solution is adopted by the big firms, in the long term, a sustainable productivity relies on the degrees of employee participation in the corporation. Or as Paul Blumberg once put it, the failure of public corporation suggests that direct involvement of employees is essential if the meaning of work is to be changed (Blumberg, 1968: 4).

By “industrial democracy” or “workplace democracy” some researchers mean all substantial shift of power from management to employees insofar as worker participation in the decision-making process is concerned (Lane, 1985: 624). While more than any previous time, the language of industrial democracy is spoken by members of the business community and academia these days (Fraser, 1983: 99), and often the call for industrial democracy grows out of a concern about job dissatisfaction and alienation of both blue-collar and white-collar workers

(Wrenn, 1982: 23). In a way, much of the corporate activity and experimentation in the area of work humanization relates to the call for industrial democracy and the paradox of enterprise authoritarianism operating within a formal democratic political system in the United States (Greenberg, 1980: 552).

Time and time again, it has been said that democracy is inevitable because this is the only system that can successfully cope with the changing demand of contemporary civilization in business as well as in government. Despite universal acknowledgment of democracy, as Philip Slater and Warren Bennis have argued, we have long way to go before democracy is fully implemented into the corporate world. While business leaders extol the virtues of democracy on ceremonial occasions, often they would be the last to think of applying them to their own organizations because of peculiar attitude which claims that democracy is a nice way of life for nice people, yet a kind of expensive and inefficient luxury for managing an organization (Slater and Bennis, 1990: 167).

Traditionally, the democratization of business is lined to the question of corporate control or who has power within the corporation. There are three possible explanations for dealing with the question of corporate control. First, the theory of family control suggests that the large corporations are controlled by members of upper-class families with large stockholding in those corporations. Second, the theory of financial control presumes that the large corporations are controlled by large financial institutions through the combination of stockholding and debt holdings. Third, the theory of management control maintains that large corporations are controlled by professional managers (Allen, 1978: 701).

Both the theory of family control and the theory of financial control treat the question of corporate control within the Marxist paradigm of “monopoly capitalism,” which as best is satisfactory for the conditions of the late 19^{th} century. Although the theory of management control became one of the most, if not the most, influential interpretations of the nature of 20^{th} century capitalism (Ayala, 1989: 99), recent corporate restructuring has led some management researchers to claim that the present-day revolt of corporate shareholders signifies that management's total control over the large corporations has to come to an end (Useem, 1990: 701).

Due to the contemporary battle between shareholders and management, some management researchers also argue that corporate control should be placed within "the stakeholder theory of the firm". For the stakeholder theory of the firm advocated that decisions regarding corporate control should be made from the perspective of society. In this respect, the stakeholder theory of the firm links the question of corporate control to the role of business in a democratic society and the call for industrial democracy (Ackoff, 1990a: 341). Since the essential characteristics of democracy is the absence of an ultimate individual authority the idea of industrial democracy aims at the implementation of democracy within the firm—among its parts, while the stakeholder theory of the firm emphasizes the link between the firm and the larger containing whole of which it is a part—society (Ackoff, 1990b: 431-432).

The inability to achieve a democratic system within the company often is attributed to the need for exercising authority from the top down due to the maxim of efficiency (Cochran, 1956: 43). Yet, the recent rise of the stakeholder approach suggests that managers more than even need to enhance democratic citizenship of the corporation and its members avoid the drift to authoritarianism because many have come to recognize that the fruits of capitalist enterprise should be distributed across society (Henzler, 1992: 60). As Robert Bellah and William Sullivan have argued, the tendency toward despotism inherent in a profit-oriented bureaucratic corporation could be muted at the "bargaining table of society" where wages, work conditions, everyday participation in decision-making processes, and corporate-community partnerships have all become subject to quasi-political negotiations between the firm and its various stakeholders (Bellah and Sullivan, 1981: 45).

At the same time, the stakeholder theory of the firm raises another important issue concerning the idea of industrial democracy—property rights and transferring control to employees. Often, the idea of industrial democracy is objected to on the grounds that it would violate the right of owners to use their property as they choose (Dahl, 1984: 54). However, of a right to property is understood in its fundamental moral sense as a right to acquire the personal resources necessary to political liberty and a decent existence, then the idea of industrial democracy could be easily justified through "the pension fund revolution."

The pension fund revolution is an "unseen" revolution that has transformed corporate ownership in the United States. The rise of pension funds as institutional investors controlling close to 40% of the common stock of America's large corporations and many midsize firms represents the most startling power shift in economic history. In a way, as Peter Drucker once noted, the pension fund revolution has created an alternative explanation to the traditional reasoning concerning industrial democracy (Drucker, 1976: 6). This power shift has led to an unnoted transformation in term of ownership of corporate America through which employees have become the owners of America's means of production. But their ownership is exercised through a fairly small number of very large "trustees" known as the pension funds (Drucker, 1991a: 107).

The pension fund revolution demonstrates that the old relationship between the institutions of property and the individual has broken down. The specific reasons for this breakdown are too complex to describe in a short article but many researchers agree that the split of ownership from control in America's big business economy has also cause a shift from "private" to "corporate" ownership, which sociologically means a shift in the power structure of capitalism. In organizational terms, the pension fund revolution extends the democratic process of governance that capitalism has introduced beginning with the Age of Enlightenment. The hereditary basis of rule is no longer believed to be the source of legitimacy. As Talcott Parsons once argued, this has confronted the capitalistic business firm which traditionally is being ruled like a "petty monarchy" with the extension of democracy in a deeper sense. In this respect, the idea of industrial democracy advocates the ultimate source of organizational authority must rest on a democratic basis (Parsons, 1957: 132).

As a radical as the idea of industrial democracy may appear, recent events in the structure of our economy have pushed many corporate managers to rethink the maxim of democracy once again. We are today on the rising slope of a third technological revolution, the postindustrial economy requires passage from the plus-minus stage of innovation into the crucial period of diffusion in which a new challenge of productivity must be addressed (Bell, 1989: 164). No wonder that the single greatest challenge facing managers in the developed countries is to raise the productivity of knowledge and service workers (Drucker, 1991b: 69).

To address the new productivity challenge, some management researchers suggest that we need to overcome the dominant organizational structure which seems to be responsible for outdated practices. The idea of industrial democracy complies with a growing concern for humanization of organization by bringing organizational objectives into accord with individual objectives with giving members of organization a voice in its control (Ackoff, 1972: 12). Organization theorists Russell Ackoff, Peter Ducker, Chris Argyris, Warren Bennis, and Daniel

Bell have been suggesting the need for more free-form, humanistic, and democratic organization that provides greater scope for personal fulfillment as well as productivity. The new information-based organization of the postindustrial economy requires clear, simple, common objectives that translate into actions by a self-disciplined and responsible workforce (Drucker, 1988: 47).

The key to such a system is in decentralizing the organization into autonomous units which are capable of doing research, development, manufacturing, and marketing. Facilitating a shift, the information-based organization of the knowledge specialists introduces innovation through an organized entrepreneurship and by implementing industrial democracy. Indeed, such a transition from command-and-control autocracy to a circular information-based democracy, enhances an organization's readiness, willingness, and ability to change (Ackoff, 1989: 11). In respect, a circular organizational design to make it possible for the discipline of innovation to embrace the highest form of ethical-moral judgement: a democratic decision-making process (Ackoff, 1987: 187).

Since in a democratic decision-making the way a choice is made is critical, the design of an effective process of facilitating participation requires understanding of the systemic characteristics of an enterprise. Put another way, the idea of industrial democracy refutes the myth of entrepreneurial hero in favor of an organized entrepreneurship because the performance of an enterprise is never equal to the sum of the performances of its parts taken separately; it is the product of their interactions (Ackoff, 1985: 187).

All that, says Drucker, represents a unique historical opportunity in order to restore the legitimacy of corporation because this is a system of ownership interest with a democratic society will accept as legitimate (Drucker, 1976: 20). In doing so, the question of corporate legitimacy is twofold in nature. There is the internal issue of the mode of governance of the corporation, i.e. the basis of the authority of mangers to make decisions, and the external issue of legitimacy that deals with the relationship between the corporation and other participants in society.

CONCLUSION

In this paper, we have focused on the United States experience in discussing how an interest in the theory of industrial democracy should be linked to some fundamental theoretical issues concerning the function of the corporation and management, the changed nature of capitalism, and a new social system centered around the professional middle class. Although no one can deny the existence of national as well as regional differences when one speaks of these issues, we believe that these universal attributes prevail everywhere and particularly the idea of industrial democracy. The wealthy industrialized nations that are often called the triad market (U.S.A., Canada, Europe, and japan) share much in common in terms of their institutions of livelihood and citizenship.

The quest for industrial democracy for the advanced economics of our civilization is a tangible factor which has historical roots in their social systems. In the developing economies of the worlds, the quest for industrial democracy could act as a categorical imperative (a central value) which should guide further expansion of capitalism. In a word, the field of comparative international management could use the guiding principle of industrial democracy for its suture studies of both developed and less developed economies of the world where no exception would be granted on the basis of cultural, social, or political diversity.

In conclusion, this paper argues that the idea of industrial democracy may be the locus for emerging knowledge society and the subsequent structural changes within big firms in the global economy. Given the rise of new technological reality, more than ever before, many big firms are forced to push for a decentralized power structure in which their knowledge specialists are encouraged to participate within a circular democratic organizational order. In a post-capitalist workplace, the professional workforce, require little direct supervision from managers and more participation in the decision-making processes (Mintzberg, 1998: 141).

Furthermore, the discourse on industrial democracy enhances empowerment of employees in the light of fundamental changes within the structure pf contemporary economy, due to the pension fund revolution and its profound impacts on the polity of a democratic society (Argyris, 1998: 98). By answering this challenge, we can settle accounts with and emerging discourse concerning what scholars in different countries and disciplines have called the post-modern, post-fordist, or even post-industrial capitalism. (Harrison, 1990: 8).

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Eastern Academy of Management 2020 – Presenter Symposium Submission

Required Submission Date: Jan. 5, 2020

Time Option Request: 45 or 30 minutes

Proposal Submission Details website: https://www.eaom.org/Guidelines-for-submission

Presenters: Ann Cullen, Tufts University with as a panelist Vince Bruni-Bossio, University of Saskatchewan

Symposium Title: Who's in charge? Designing experiential project courses to expose students to the multi-stakeholder world of work today

Overview of the Symposium:

In appreciation of the conference theme of "Being Human in the Digital World" this symposium will cover a method for analysis and curriculum development of the multi-stakeholder pedagogy of experiential project-based learning. It will first present the *FBL Social Network Model*, that can be used for this type of analysis and ways it can be applied. The remaining time will be given to discussion of this framework and issues in general on effectively designing Field-based Learning (FBL) courses to prepare students for the digital world of work today.

Synopsis of each participant's contribution:

For students in business schools today, where so much of their course materials and in many cases course experience is online, hands-on experiential team projects allow students to apply and test out with other human beings what they have been learning in their courses. These include such skills as applying digital analytical tools to a specific problem and having productive team discussions. Experiential projects give students the opportunity to practice what they are learning in a more controlled, safe environment in preparation for their future careers. Doing so, addresses employers concerns that MBA programs are not adequately preparing students for the actual processes and practices of managerial work and its often ambiguous, complex challenges (Mintzberg, 2004; Raelin, 2009; Somers, Passerini, Parhankangas, & Casal, 2014). And this need for better prepared business school graduates is only augmented by the increasing pervasiveness of AI and digital tools in the business environment (Dwivedi et al, 2019; Klotz, 2019). Consequently, in recent years as Willness and Bruni-Bossio (2010) state "there has been a growing emphasis on experiential learning approaches as one potential remedy… Experiential learning can enhance learning outcomes for students and provide them with opportunities to practice what they learn in the classroom" (p. 135).

One form of experiential pedagogy is Field-Based Learning (FBL) with a real company or organization. Baker and Schomberg (2003) define a field study as "a for-credit course or project where a small team of MBA students conducts a consulting-type study, for a business or other organization" (p. 35). The outcome of this type of experiential learning, which in business school programs also goes by other names such as "project-based learning" and "action-based learning," requires the production of a final report or a presentation to the sponsoring organization (DeFillippi & Milter, 2009; Savery, 2006; Ungaretti, Thompson, Miller & Peterson, 2015).

A considerable amount of ambiguity and uncertainty surround field-based project courses (Lenton et. al., 2014) where students rely on support roles that include teaching assistants, practitioners, alumni, and librarians who help them understand unfamiliar areas of the business. The array of stakeholders involved is a key distinction of this instruction. Instead of leading the instruction, the professor, with the help of others, works in a coaching role to facilitate learning (Datar, Garvin & Cullen, 2010). FBL requires "more individual coaching and assessment, and thus … requirements for quantitative and qualitative increases in teaching effort and infrastructural support" (Skipton & Cooper, 2012, p. 36). Programs consequently can face many challenges in their delivery of FBL courses. These include the artificial constructs of a course timeframe, the limitations of working within an academic format and the potential inadequacy of types and number of staff needed to provide the necessary customized attention to students teams. Other factors include contending with the variability of projects reflective of the changeability of business, the challenges faced in staff and faculty in adapting to new roles to support FBL instruction and adequately communicating learning outcomes to all stakeholders beyond those directly involved in this instruction (Cullen, 2017, p. 148).

It truly is incredible given how prominent this form of instruction is in MBA programs and business schools that we are not further along in investigating the development of instructional and curricular design models for it. Despite its current common deployment in business school curriculum, research on ways to take a step back and compare the ways these courses are structured at different schools and the options available to analyze program offerings and improve upon them is not common (Willness & Bruni-Bossio, 2017). For many faculty the "sage on the stage" concept of instruction is deeply ingrained and a professor could find designing and teaching these courses difficult. Fully appreciating all the stakeholders involved in this instruction can be a challenge, so it would be useful to have tools to help them see the different dynamics of this instruction and to fully understand all the parties involved.

In the general area of "service learning" where these sorts of project courses are done in other disciplines some models and frameworks do exist in the teaching and learning literature (Lowery, 2006; Zhang, 2011). But in the area of business school curriculum despite the increase of FBL courses (Rynes & Bartunek, 2013), there has been very little focus on models for business educators to use to help them to assess and analyze their design and structure. Looking more closely at course structures could benefit student learning outcomes. Other institutional benefits could also be gained through closer examination of the structure of this instruction and all of the stakeholders involved. For example it offers a way to connect with alumni in a different way and also a way to identify alumni that could assist with supporting this curriculum that otherwise would have remained unknown. It also provides a way to identify individuals and entities inside as well as outside your institution that could feel a strong affiliation with it that otherwise might not have been uncovered.

There is ample evidence (Lau, 2001) that education can benefit by taking a broader and deliberative approach to the instructional design of courses (Whetten, 2007). By doing so, course designers can guarantee they are considering all the factors and stakeholders to address the needs of their institution's students, faculty and staff as well as particularly in the case of experiential project-based learning, the surrounding community. The *FBL Social Network Model* is an example of a tool for this form of analysis that can be used for curriculum design work.

FBL Social Network Model

The *FBL Social Network Model* was developed as part of dissertation research examining the organizational infrastructure of experiential field-based learning courses in six of the top 20 U.S. two-year MBA programs based on the *US News & World Report* ranking (Cullen, 2017). Each school had their own model for the organizational design and grouping of roles providing customized support to guide these team projects. Schools varied in the structure of their courses, the definition of roles, and levels of role support engagement. To give an example of what these networks look like, Exhibit 2 presents both a template and the models for the case study institutions examined. Roles that student teams were required to meet with are represented with the number "1". The numbered levels of engagement were more distant from teams after that. To the point that the "Advocacy" (A) role advocated for the FBL curriculum but had no direct connection in actual instructional support for student teams but still represented an important part of pedagogical support. By adding a node in a network for roles not directly proximally connected gives us a way to think about stakeholders that we know are very important to this form of instruction but not actually coaching or teaching. For example some Career Service Professionals interviewed were identified in their school network diagrams as "Advocates" because even though they were not involved in this instruction they stated how helpful these courses could be in their work positioning students to get jobs (see p. 136-142, Cullen, 2017 for further details). Exhibits 1 and 2 show the roles identified in the six case studies analyzed, but there certainly could be other types as well in other programs.

The *FBL Social Network Model* with its use of qualitative case study data differs from standard social network methodology. Typically the social network analysis method analyzes network data sets using mathematical models to study multi-relational networks. According to Carolan (2014), there are four distinguishing features that define the typical research methodology of a social network analysis:

> First, this work had strong structural intuitions – a focus on the embedded patterns of relations within and between groups. Second, it emphasized the systematic collection and analysis of empirical data. Third, this work incuded graphical imagery as part of its tools; and fourth, there

was the use of explicit mathematical models, which helped induce the highest degree of objectiveity possible. (p. 26)

So clearly from the perspective of employing quantitative analysis, the proposed *FBL Social Network Model* diverges from current research practice. However a case can be made that the positional analysis that the use of a social network model affords is relevant when applied to qualitative data as well.

Traditional social network analysis because of its use of empirical modeling claims towards greater objectivity in understanding the relationships between people in a social network. But an issue to be confronted is how much the analysis of these ties is also appreciating context. A more qualitative use of this method is able to include contextuality through graphically mapping out relationships in the case of the social network model of stakeholders to the student teams. FBL courses are impacted not only by the internal institutional resources available for support but also the external contextual features such as where the institution is located and the type of alumni networks that can be tapped into. For example MBA programs located in urban locations will likely have more nearby project partners at their disposal than rural locations. So having a tool to map out those types of factors offers a more objective way to approach curriculum design and analysis. A point could be made that the deliberative exercise of collecting the data about the stakeholders and relationships in the courses using the charts presented (see Exhibit 2) can make the process of analysis and design of these courses more empirical and objective. Offering course designers a way to graphically see what they are doing and make suggestions and changes accordingly.

The model proposed offers an objective mechanisms to inform discussions about FBL curriculum design to see everything that is going on and all the stakeholders involved. These stakeholders are "anyone who affects or is affected by a particular course or program. This may include students, faculty colleagues, department heads, and deans (all of whom can be considered internal stakeholders), as well as community-based organizations, funding agents, government, and businesses (external stakeholders)" (Willness & Bruni-Bossio, p. 150, 2017).

Our institutions need to deploy FBL instruction well. We need to effectively identify all related stakeholders for so many reasons such as funding, adding current ideas to the classroom, getting high quality real life expertise injected just in time in the course, engaging the community in current learning at our institutions, bringing diverse perspectives to the classroom and creating opportunities for peer learning. Using this tool, the structure of these courses can be analyzed to consider the many stakeholders enriching this learning for students that makes it so distinct. The *FBL Social Network Model* gives us a window into graphically seeing what is being done.

In applying this model it is recommended to identify other frameworks that it might be paired with to inform the model. For example, the *Curriculum Innovation Canvas* created by Chelsea Willness and Vince Bruni-Bossio to assist with the design of experiential learning courses could be a useful framework to reference. It is structured as follows (see Exhibit 3): "The two sides of the curriculum *Curriculum Innovation Canvas*, delineated by the thick arrows, represent different phases of the curriculum development process. First on the left, are the foundation elements, such as identifying stakeholders, building relationships, and developing inclusive communication processes. On the right are the action elements that involve moving the idea toward implementation, such as identifying resources and defining desired outcomes…[and] in the center are the value propositions… to which all other elements connect". (p. 148). The *Curriculum Innovation Canvas* in one visual document lays out all the key stakeholders connected with these courses and the inter-relationships between them. The focus in the *Curriculum Innovation Canvas* is the "Value Proposition" offered with related details revolving around that. Its structure "prompts breaking things into smaller tasks so that they can be combined, examined, and molded into an infinite variety of patterns and possibilities. " (p. 148). Linking this framework together with the *FBL Social Network Model* could offer a useful method for curriculum design and analysis of these courses. It is an example of how an already established framework could inform and enhance the *FBL Social Network Model*.

Scenario for Applying the FBL Social Network Model

This section will now describe a scenario of how an organization might apply the *FBL Social Network Model* paired with another relevant framework, in this case the *Curriculum Innovation Canvas* (See Exhibit 4). The designers will first consider the various blocks of the *Curriculum Innovation Canvas* and answer the questions posed by each block as completely as possible (see Exhibit 3). Once all the blocks in the *Curriculum Innovation Canvas* have been filled in, attention then would focus on the blocks for “Stakeholder Groups” and “Stakeholder Relationships” to inform the content of the *FBL Social Network Model*. To analyze a course, one would first take the roles listed in the “Stakeholders Group” block and then using the attributes listed in the “Stakeholders Relationships” block, identify the proximal levels of stakeholder nodes. And then plot this data out in the *FBL Social Network Model* with the project team at the center. Then use the attributes Once all the stakeholders are placed in network model it might be realized that certain individuals and relationships were missed in the originally devised *Canvas*. Thus, the *FBL Social Network Model* could also serve as a check when using the *Curriculum Innovation Canvas* for curriculum designers to make sure all stakeholders are included.

Additional Scenarios

In using the *FBL Social Network Model* the student team is central because the key element of the value proposition is student team learning. Since a key element of the *FBL Social Network Model* is its placement of the student team at the center of the model, the positional analysis is only between the stakeholders at whatever level they may be and the student team. No analysis in this model is assessing the strength of ties between the stakeholders themselves outside of the student team. Using the *FBL Social Network Model* possibly a second stage of analysis could look at the ties between various other stakeholders.

By visually seeing where stakeholders are in relation to student teams, this model could also serve as a way to determine how to better integrate FBL curricular support. For example, let’s say we plot the External Relations department as a clear FBL advocate, but their connection with FBL in this regard has been frustrated because they have also approached alumni we are working with in other institutional initiatives that are counter-productive to FBL course learning objectives. Looking closely at FBL instruction with this model could give us a mechanism to do a deeper analysis and improve this stakeholder relationship. For example we could extend the social network on the one hand to illustrate the FBL course with the student team at the center and then have another positioning the External Relations department at the center. Doing this allows course designers to examine this department's value proposition to the institution as well as to FBL instruction. Then by closely looking at the networks from those two vantage points, using that as a method of evaluation to correct a misalignment of activities and examine how relationships might be rethought to improve outcomes and streamline processes.

Another way analysis using the *FBL Social Network Model* could be applied would be for a curriculum team design exercise. First identifying all the stakeholders using the chart in Exhibit 2 to plot out individually what each member of the design team saw the levels to be. Then together as a group as a form of collective member checking, review each other's lists and debate where they saw various stakeholders. Through this discussion the group could then arrive at a consensus on these levels to plot out the *FBL Social Network Model* for the course together to create a visual diagram to work from. This might also be applied to a computer tool where each individual in the design group could first go through the exercise of filling out the levels and then using that information to inform a graphical computer model of what the proximal levels are. By plugging this information into a computer program there might also be the option to statistically calculate the proximity values, plotting out on a network those stakeholders levels everyone agreed on and those that still needed to be debated in person amongst the groups in terms of what the agreed upon position was in this network.

As Willness and Bruni-Bossio state, with the *Curriculum Innovation Canvas* "core elements of curriculum, such as content and evaluation, remain essential components but are framed somewhat differently in the context of substantiating the value propositions and co-creation with stakeholders" (p. 157). The same can be said of the *FBL Social Network Model* which offers yet another way to view the structure of these courses. This framework can be used in the design or evaluation of a single course, but elements of it could also prove useful in a multi-institutional analysis of these sorts of courses. In either case, offering rich information for institutions to work with if they wish to study options or refine how they are offering this type of learning and to identify gaps that need to be addressed.

Conclusion

There is wide agreement on the advantages of FBL in MBA curriculum (Brown et al., 2013; Datar et al., 2010) but no comparative descriptions and analysis have been produced of the deployment and structural design of these courses. The *FBL Social Network Model* highlights the centrality of the student team rather than the typical hierarchical organization chart to examine this form of learning. It offers a way to think about closeness of support as a pedagogical lever for the design of these courses. It stresses the student team as the center of this form of learning surrounded by various levels of instructional support as opposed to the traditional "sage on the stage" instructor-student dynamic. This symposium will review this model with the complete acknowledgement that this is a work in progress. We welcome feedback and discussion that might include identification of other existing diagnostic tools available that participants might be aware of relevant to this form of curriculum design and analysis.

The presenters see an opportunity to use this model to further our understanding of the structure of this multi-stakeholder form of learning. This pedagogy uniquely prepares students for the multi-faceted and ambiguous aspects of a digital business environment that typical classroom and online teaching do not. The many stakeholders involved in project work today require being more skilled in this area making students a step above the rest in today's competitive, highly dynamic work environment; made even more fluid with the influence of the increased digitization of business. Without the tools to appreciate and call out the stakeholders and the distinct types of relationships between them there is the possibility that those designing these courses could overlook the full contributions of all of these human roles. This is why we hope the proposal for this symposium discussion is accepted so an opportunity is created at this conference on the theme of "Being Human in a Digital World" to discuss this important matter.

We see this session as an important beginning of further examination and exploration of these course structures and ways to help designers refine them to assist in addressing the at times uneven student team learning outcomes of these courses. We need better structures and tools at our disposal to understand all the dynamics of what is going on in this type of learning that is so different from the typical classroom. We believe the *FBL Social Network Model* offers a new way to examine the design of these courses. By taking a deep analysis of how a program has chosen or will choose to structure this type of course by having a thorough understanding of all the stakeholders involved can open up exciting new avenues of awareness about how these courses operate.

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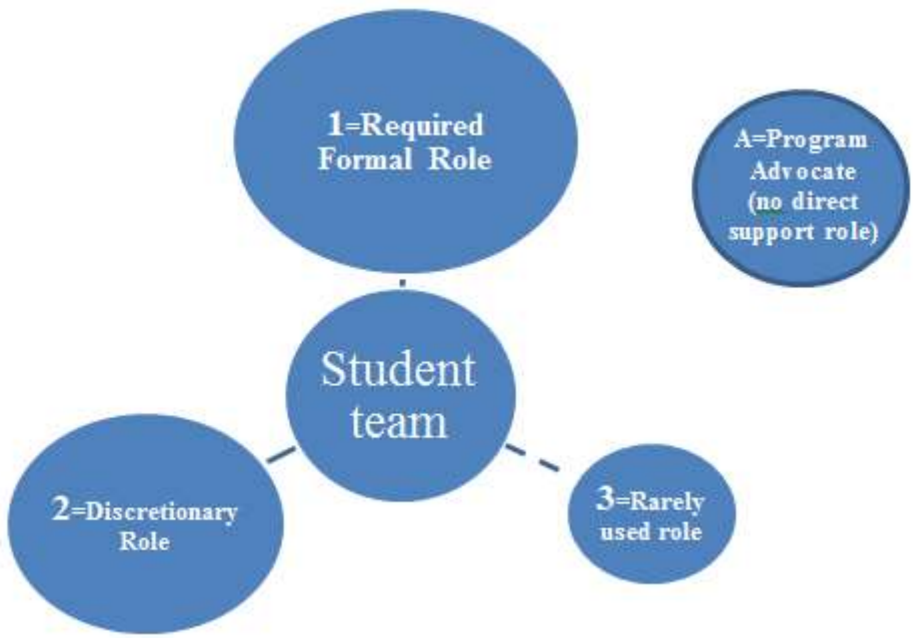
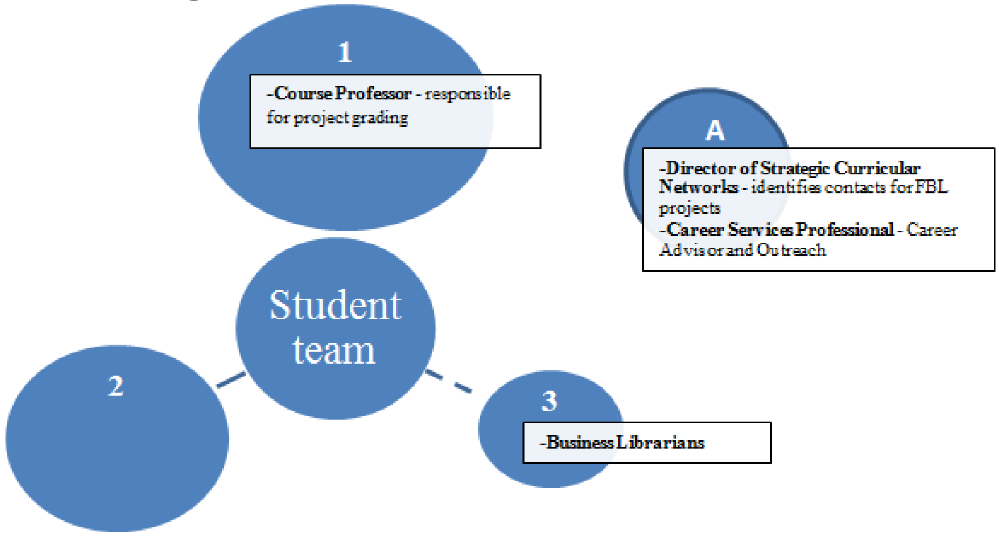
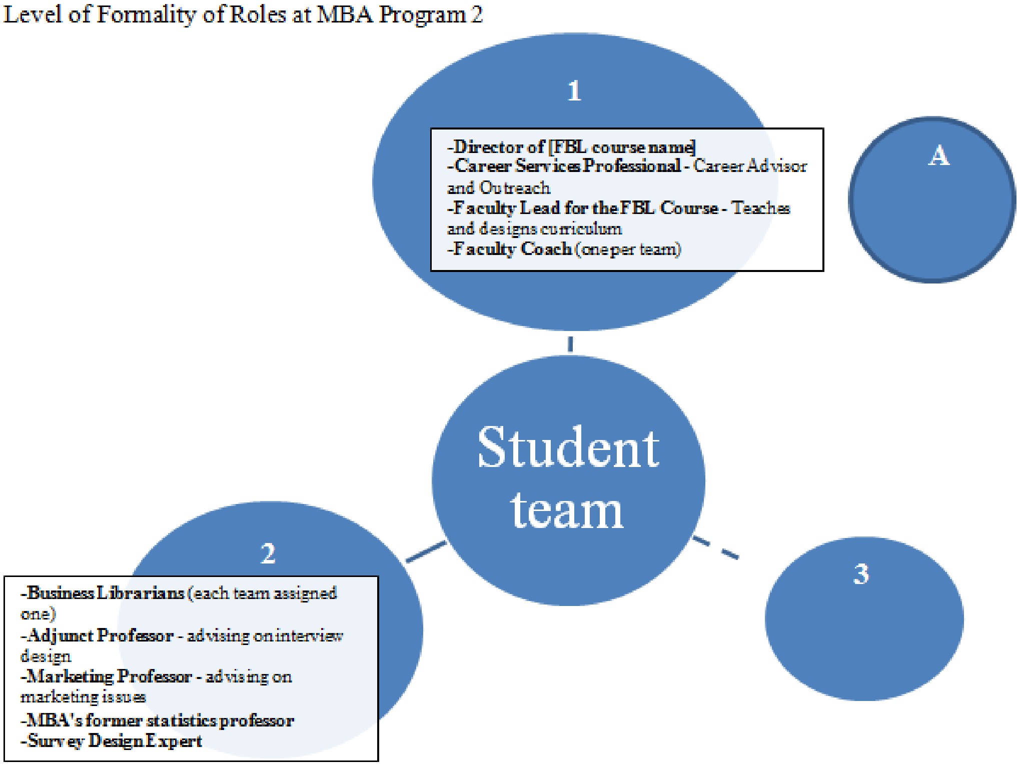
Exhibit 1 *FBL Social Network Model* for Level of FBL Student Team Role Support and Models of Six Case Study Institutions (exhibit continues through page 16)



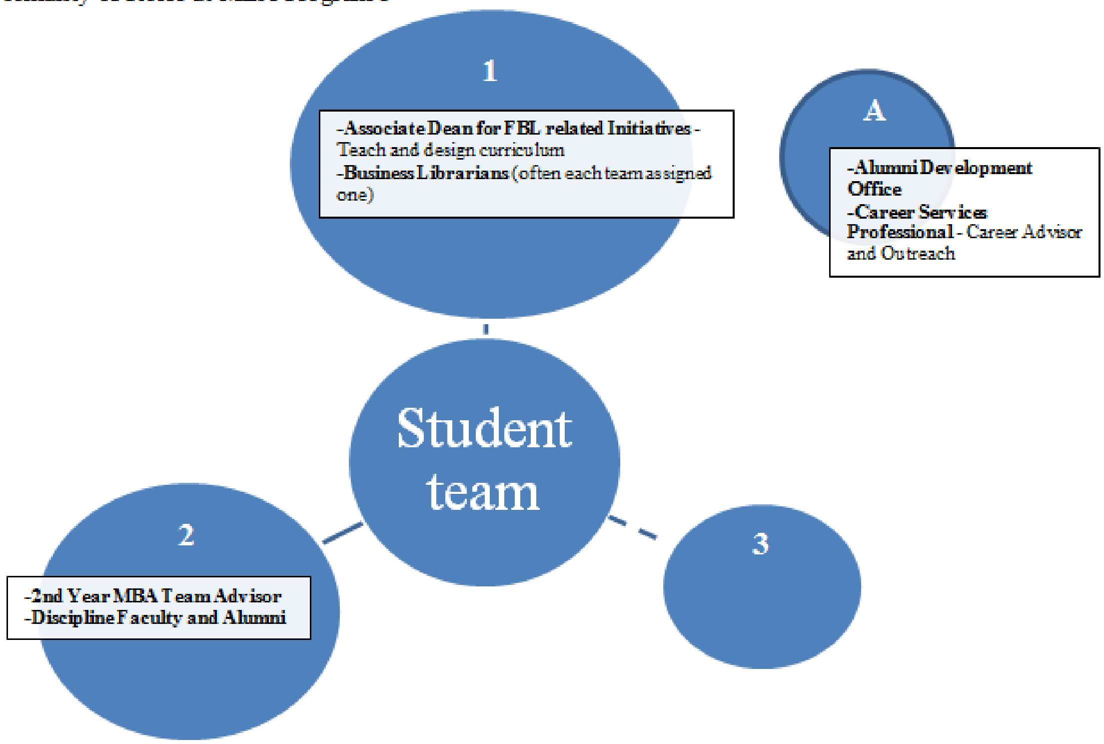
Level of Formality of Roles at MBA Program 1



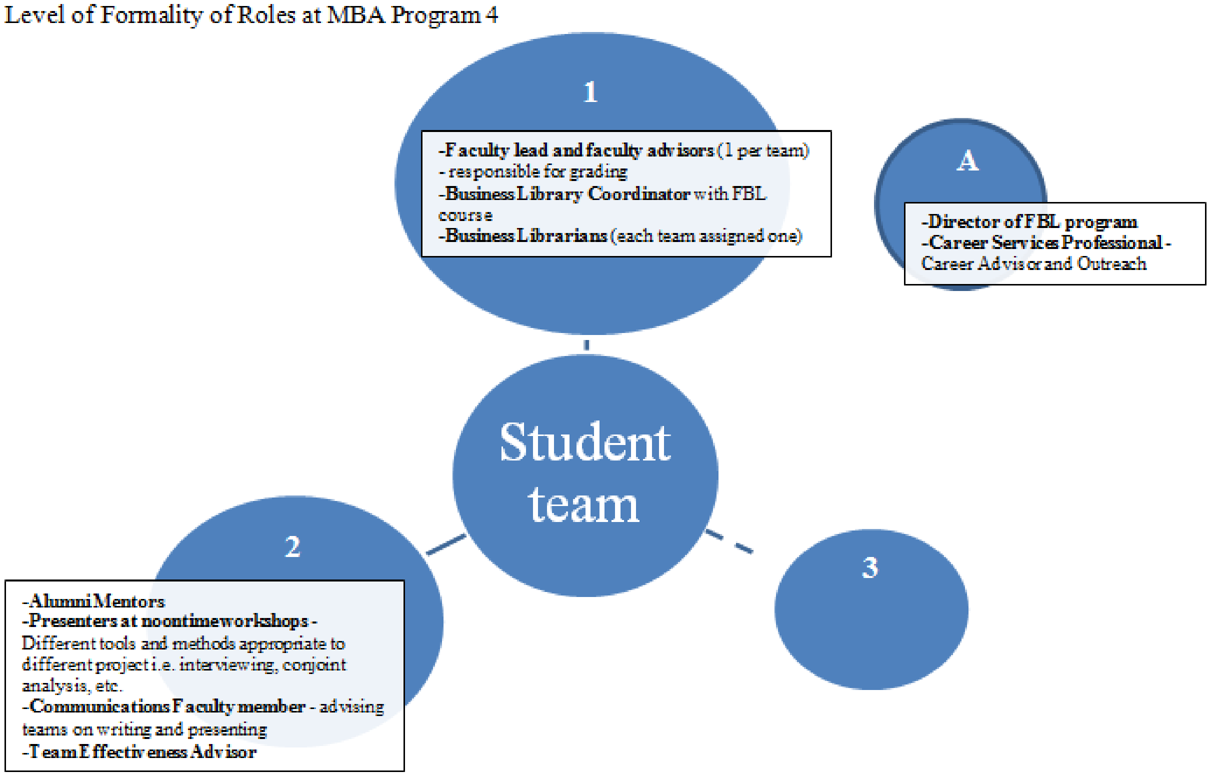
Level of Formality of Roles at MBA Program 2



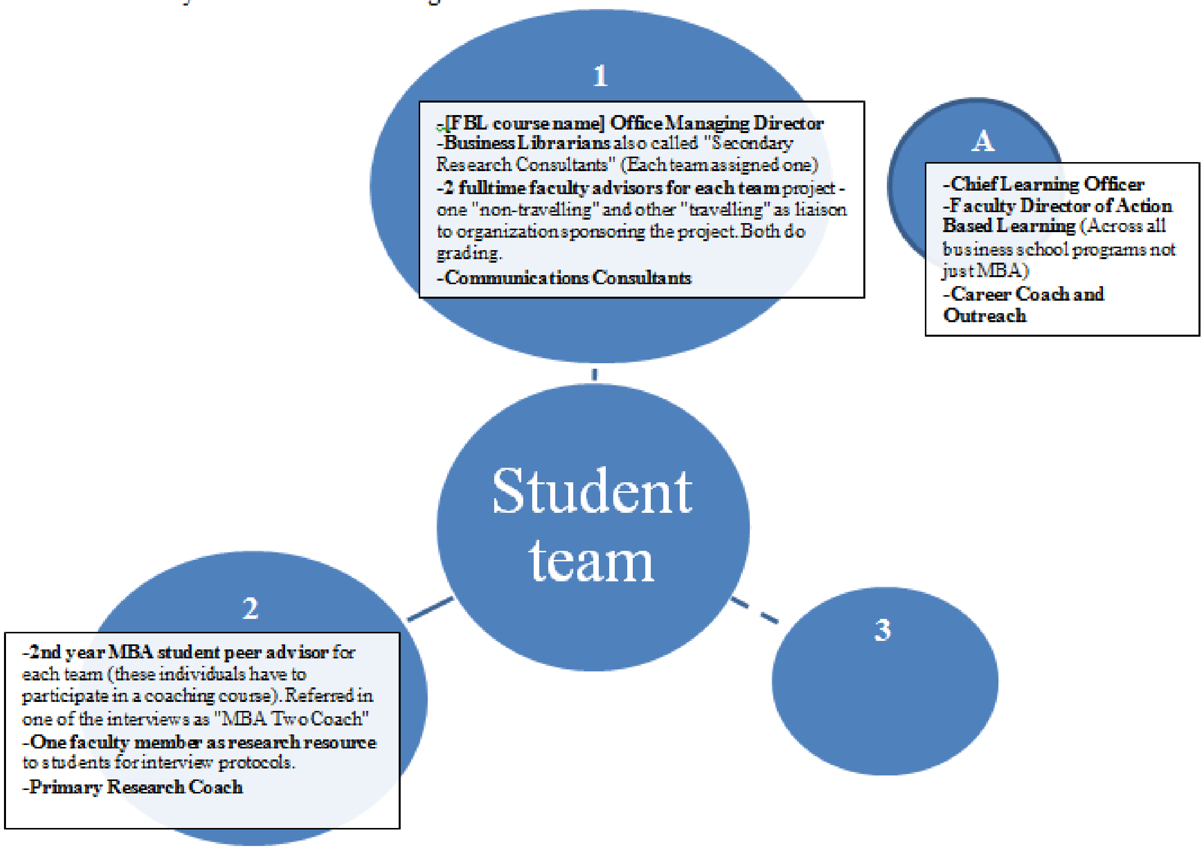
Level of Formality of Roles at MBA Program 3



Level of Formality of Roles at MBA Program 4



Level of Formality of Roles at MBA Program 5



Level of Formality of Roles at MBA Program 6

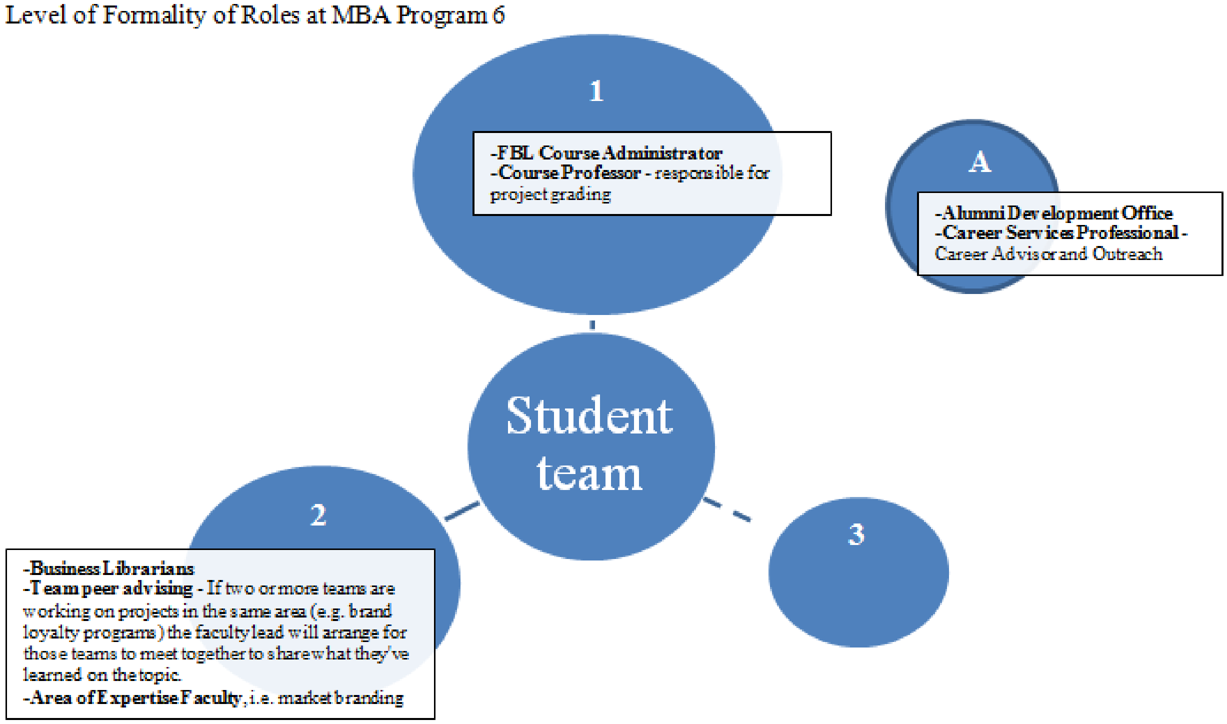


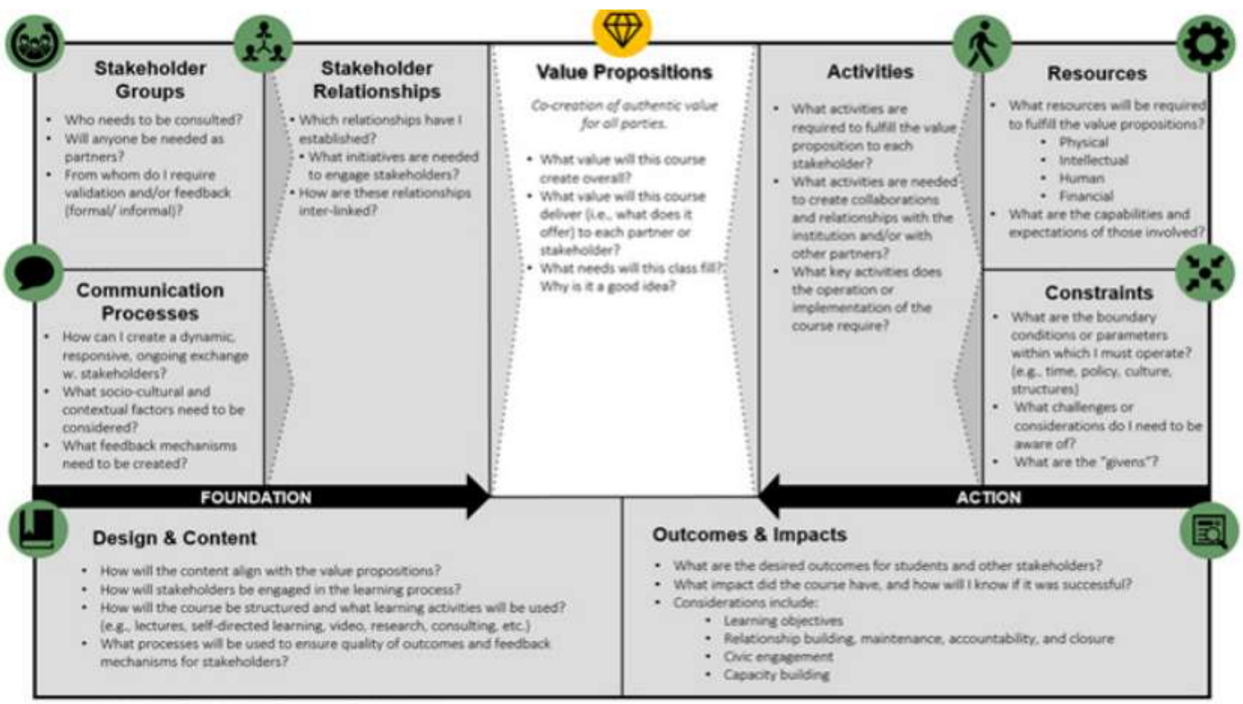
Exhibit 2 Types and Number of Roles mentioned at six MBA Programs

Types of Role=Administrators, Faculty, Team Advisors, Sponsors, Career, Business Librarians, Students, Alumni
Level of Formality (1=required; 2=discretionary; 3=rarely used; A=Program Advocate not working with student teams)

Type of Role	Role Description	School	Level of Formality	Number of Roles at each school
Administrators	Director of Strategic Curricular Networks - to identify contacts for the school for things like clients for FBL elective classes	MBA1	A	4
Business Librarian	Business Librarians		3	
Career	Career Services Professional - Career Advisor and Outreach		A	
Faculty	Course Professor - responsible for project grading		1	
Administrators	Director of [FBL course name]	MBA2	1	9
Business Librarian	Business Librarians (each team assigned one)		2	
Career	Career Services Professional - Career Advisor and Outreach		1	
Faculty	Faculty Lead for the FBL Course - Teaches and designs curriculum		1	
Faculty	Faculty Coach (one per team)		1	
Team Advisors	Adjunct professor advising on interview design		2	
Team Advisors	Marketing Professor advising on marketing issues		2	
Team Advisors	MBA students former statistics professor		2	
Team Advisors	Survey Design Expert		2	
Alumni	Alumni Development Office	MBA3	A	6
Business Librarian	Business Librarians (often each team assigned one)		1	
Career	Career Services Professional - Career Advisor and Outreach		A	
Faculty	Associate Dean for FBL related Initiatives - teach and design curriculum		1	
Student	2nd Year MBA Team Advisor		2	
Team Advisors	Discipline Faculty and Alumni		2	
Administrators	Director of FBL program	MBA4	A	9
Alumni	Alumni Mentors		2	
Business Librarian	Business Library Coordinator with FBL course		1	
Business Librarian	Business Librarians (each team assigned one)		1	
Career	Career Services Professional - Career Advisor and Outreach		A	
Faculty	Faculty lead and faculty advisors (1 per team) - responsible for grading		1	
Team Advisors	Presenters at noontime workshops - Different tools and methods appropriate to different project i.e. interviewing, conjoint analysis, etc.		2	
Team Advisors	Communications Faculty member - advising teams on writing and presenting		2	
Team Advisors	Team Effectiveness Advisor		2	
Administrators	[FBL course name] Office Managing Director	MBA5	1	11
Administrators	Chief Learning Officer		A	
Administrators	Faculty Director of Action-based Learning (Across all business school programs not just MBA)		A	
Business Librarian	Librarians also called "Secondary Research Consultants" (Each team assigned one)		1	
Career	Career Coach and Outreach		A	
Faculty	2 full-time faculty advisors for each team project - one "non-travelling" and other "travelling" as liaison to organization sponsoring the project. Both do grading.		1	

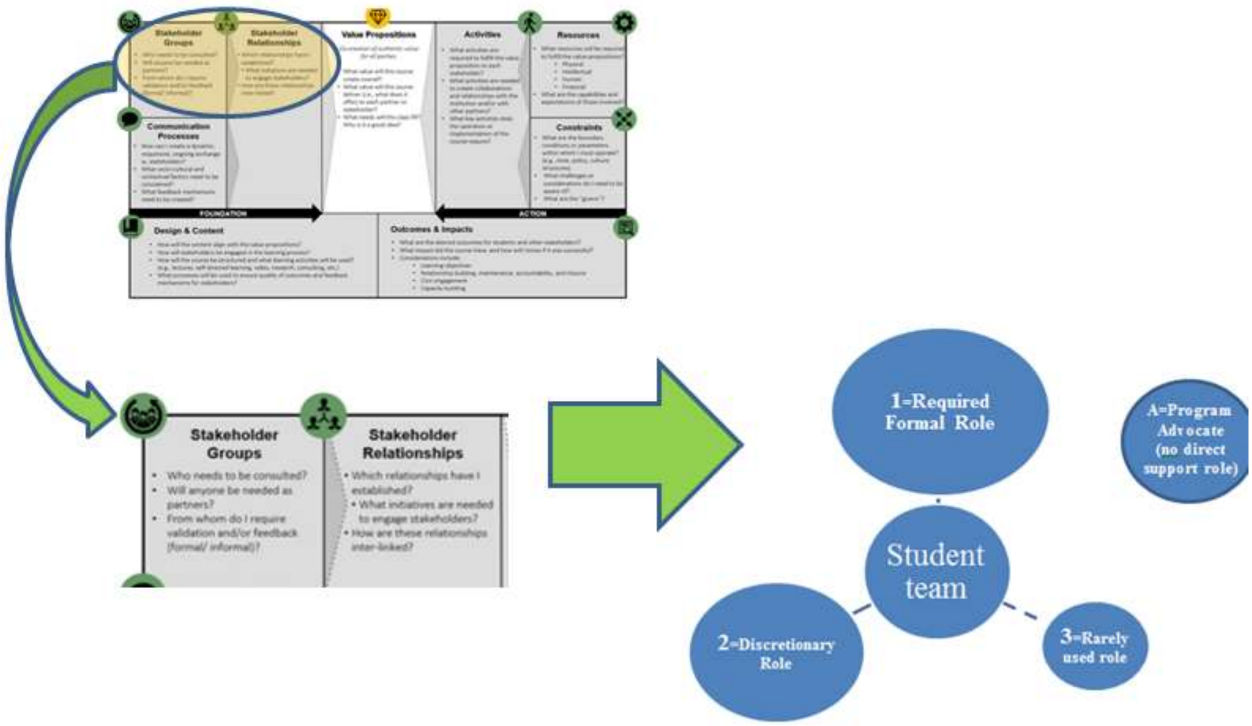
Student	2nd year MBA student peer advisor for each team (these individuals have to participate in a coaching course). Referred in one of the interviews as "MBA Two Coach"		2	
Team Advisors	Communications Consultants		1	
Team Advisors	One faculty member who is a research resource to students for construction and interview protocols.		2	
Team Advisors	Primary Research Coach		2	
Administrators	FBL Course Administrator	MBA6	1	7
Alumni	Alumni Development Office		A	
Business Librarian	Business Librarians		2	
Career	Career Services Professional - Career Advisor and Outreach		A	
Faculty	Course Professor - responsible for project grading		1	
Student	Team peer advising - If two or more teams are working on projects in the same area (e.g. brand loyalty programs) the faculty lead will arrange for those teams to meet together to share what they've learned on the topic.		2	
Team Advisors	Area of Expertise Faculty, i.e. market branding		2	

Exhibit 3 *Curriculum Innovation Canvas*



Source: Willness, C. & Bruni-Bossio, V. (2017). The Curriculum Innovation Canvas: A design thinking framework for the engaged educational entrepreneur. *Journal of Higher Education Outreach and Engagement*, 21(1), p. 146, https://files.eric.ed.gov/fulltext/EJ1139524.pdf.

Exhibit 4 Parts of *Curriculum Innovation Canvas* informing the *FBL Social Network Model*



Optimizing student satisfaction measures through teacher presence interventions and contextual awareness in an online course

ABSTRACT

Online teaching is growing rapidly in higher education. Faculty approaches successfully used in traditional classroom settings do not necessarily translate smoothly into online environments and new methods are required to be effective. In this paper we explore teacher presence, a simple concept in a classroom setting; however, a nuanced construct in online environments. With online teacher presence less can be more and presence must be consciously managed versus being a by-product of the teaching environment. Courses, as in this case, are also contextually embedded within learning management systems and program curriculum that are critical to consider in specific course designs. Through the use of a single longitudinal case study, we track the evolution of an online MBA course from its initial offering through major revisions made to improve faculty performance. Explicit changes to improve faculty presence are discussed and the importance of contextual factor considerations are proposed.

Keywords:

online teaching, community of inquiry, pedagogy, teacher presence, structuration theory

Optimizing student satisfaction measures through teacher presence interventions and contextual awareness in an online course

INTRODUCTION

Online teaching is growing rapidly in higher education. Teacher presence has been identified as an important predictor of positive student outcomes (Croxton 2014; Spears, 2012); however, ways to optimize teacher presence in online environments are not obvious (Baker, 2010). Models exist to conceptualize teacher presence in online environments (Garrison, Anderson & Archer, 1999). The methods to optimize presence in such environments remain unclear (Overbaugh & Nickel, 2011) and calls have been made for more research to better understand online teacher presence (Tsiotakis & Jimonyiannis, 2016) and to consider the importance of context (Garrison & Arbaugh, 2007).

This paper starts with a targeted review of the research literature on presence and the Communities of Inquiry model that frames the various forms of presence critical in learning environments. A single longitudinal case is next presented where interventions were made to improve faculty performance, as measured by student evaluations of teaching (SET), between the first and second times a new online course was delivered. Specific actions are highlighted and the counter-intuitive result that "less can be more" in optimizing teacher presence is noted, confirming similar research observations by Arbaugh (2010). In the closing discussion our case observations are used to revisit the Community of Inquiry model and the difficulty in definitively being able to identify specific actions that consistently improve teacher presence in online environments. Structuration theory (Giddens, 1984) is considered in identifying the need for incorporating context, both of the configured learning management system (LMS) on which the course is being delivered and of the academic program and its online norms and behavior in which all courses are embedded.

PRESENCE IN ONLINE LEARNING ENVIRONMENTS

Picciano (2002) defines presence in online environments from the student's perspective: their sense of belonging in and being able to interact with other students and their instructor. Garrison, Anderson, and Archer (1999) proposed the community of inquiry (CoI) model to more fully capture the multi-dimensional nature of presence in learning environments. In this model three dimensions of presence are identified as critical to learning: cognitive presence, social presence and teacher presence.

Cognitive presence refers to the degree to which learners construct and confirm meaning through discourse and reflection (Arbaugh, 2008). The elements of cognitive presence comprise a triggering event, exploration, integration, and resolution (Garrison & Arbaugh, 2007). A triggering event is something that causes students to be interested or motivated to engage in the course driving further exploration and integration drawn from various sources both from within and beyond the course. Resolution is the student's ability to apply their newly acquired knowledge.

Social presence can be viewed as performative, with teachers and students interacting and engaged together on activities (Kehrwald, 2008). Social presence represents a students' feeling of connectedness, both socially and emotionally, with others in the online environment (Swan, et al., 2008). Social presence encompasses three elements: affective expression, open communication, and group cohesion all of which impact student success (Scott, 2016; Shea, Li & Pickett, 2016, Garrison & Arbaugh, 2007).

Teacher presence includes a course's design and organization as well as a teacher's facilitation of course discourse and direct instruction if applicable (Scott, 2016; Arbaugh, 2010;

Garrison & Arbaugh, 2007; Anderson, Rourke, Garrison, & Archer 2001). Course facilitation includes coherent presentation of content, raising questions that stimulate discussion and advance conversations, establishing time parameters, focusing student efforts, summarizing diverse materials, and confirming understanding (Baker, 2010; Anderson et al, 2001).

Teacher presence characteristics

Faculty can establish online teaching presence by engaging students through effective design, facilitation, and direction of their course (Picciano, 2002). Careful design can convey a sense of instructor social and teaching presence from a courses' onset (Ladyshewsky, 2013). Anderson, et. al. (2001) describe this design process as the planning and design of the structure, process, interaction and evaluation aspects of the course.

Facilitation requires real time faculty engagement and includes encouraging, acknowledging and reinforcing student contributions; driving online discussions to consensus and understanding, prompting discussion across all participants; and assessing overall efficacy (Shea, Li, & Pickett, 2006). Regular discussion board postings, responsiveness to student inquiries, focusing and summarizing discussions, confirming understanding and general instructor visibility are necessary elements in establishing teacher presence (Anderson et al, 2001; Mandernach, Gonzales, & Garrett, 2006; Pallof and Pratt,2003). Simple measures of online presence include posting presentation slides on the course site, developing video mini-lectures, providing personal insights into the course material, and clearly identifying required activities (Anderson, et. al., 2001). Significant correlation between student reporting of such behaviors and perceived course satisfaction have been noted (Shea, Swan, Pickett, & Sau, 2005).

Measuring outcomes of teacher presence change

Research indicates that teacher presence has an impact on students' success in online learning (Bliss & Lawrence, 2009; Garrison & Cleveland-Innes, 2005; Garrison, Cleveland-Innes, & Fung, 2010; Wu & Hiltz, LaPointe & Gunawardena, 2004). Teacher presence characteristics such as participation management and course structures that encouraged participation (Dzuiban, Shea & Arbaugh, 2005; Brower, 2003) and direct or perceived faculty to student interactions ((Jiang & Ting, 2007; Marks, Sibley, & Arbaugh, 2005) have been found to significantly, and positively, impact online student satisfaction and overall faculty ratings from student evaluations of teaching (SETs).

These impacts however are not necessarily linear in nature and appear to be contextually defined. Overbaugh & Nickel (2011) note that ever larger levels of faculty facilitation may be a "waste of faculty time" in highly structured courses. Arbaugh, 2010 even suggests the possibility of a peaked curve structure where increasing teacher presence over a certain level, i.e. high levels of online faculty forum posts, lead to declines in student satisfaction. Student engagement in the course can also be negatively impacted by such behavior (Dennen & Wieland, 2007). Some research even suggests that faculty should minimize their online discussion participation (Dennen, & Wieland., 2007; Levy, 2008; Shea, Li, and Pickett, 2006; Young, 2006) Context was again suggested as important with a particularly likely decline anticipated in post-graduate MBA programs from such "hyper" teacher presence (Arbaugh, 2010).

Wise, Chang, Duffy, and del Valle (2004) found that student evaluations of different course related characteristics were not consistently impacted by the various measures of teacher presence. For example, increased faculty presence impacted student's faculty perceptions and overall satisfaction but not the student's perceived learning or actual course performance.

Teacher presence embodied in clear and consistent online course designs however has been consistently found to be a leading predictor of high course ratings by students (Swan, 2002; 2003; Shea, Li, Swan, & Pickett, 2005).

While some may question self-reported student outcomes as a measure of course success Picciano (2002) argues that such measures, when positive, clearly demonstrate a student's desire for continued learning and thus satisfaction. Such student satisfaction measures have been found critical to online course success (Howell, Jeffrey, & Buck, 2012; Roblyer & Wiencke, 2003; Swan, 2001) and teacher presence serves as a significant factor influencing such measures (Croxton, 2014; Estelami, 2012; Harrison, Gemmell, & Reed, 2014; Kranzow, 2013; Spears, 2012). Student satisfaction measures are "…an emotional response … induced by actual product, service, or process quality…" (O'Leary & Quinlan, 2007), and reflect "… outcomes and reciprocity that occur between students and an instructor" (Thurmond, Wambach, Connors, & Frey, 2002). Student satisfaction and course satisfaction are distinct measures (Arbaugh, 2000; Artino, 2008, Croxton, 2014; Keeler, 2006; Lee et al., 2011) and thus complicate the interpretation of the relationship between teacher presence and "satisfaction" unless clearly defined (Khalid & Quick, 2016).

In the next section a case is considered where teacher presence characteristics were manipulated to improve faculty SET ratings. Outcome measure pre- and post- the intervention are analyzed.

EXECUTIVE MBA (EMBA) ONLINE CLASS INTERVENTION ANALYSIS

This study focuses on an extreme case where liberal arts and management disciplines are incorporated in a 15 month, joint degree, EMBA program developed between a U.S. liberal arts institution and a European business school. The program is delivered over 8 face-to-face full time weeks spread across 5 different periods and the remainder of class time is online. Students are engaged with either 2 or 3 online courses during any given week. The program curriculum was designed to blend the liberal arts/social sciences into a traditional MBA program with approximately equal numbers of faculty from each institution involved in program course delivery.

Online course delivery is conducted using the business school's learning management system (LMS) which is deployed across all their management programs. The LMS is configured to optimize delivery of asynchronous discussion boards involving students and faculty. In the business courses these asynchronous discussions typically have students engage in case discussions led by a faculty member. Discussion boards open for student participation on Tuesday morning at 6 AM EST and close on Friday at noon EST.

Prior to the start of the program students participated in online activities on the LMS led by the business school's academic director. The objective of this pre-program work is to familiarize the students with the LMS and the asynchronous discussion board format.

The average student in the program is 39 years old and has a minimum of 10 years work experience. Students come from around the world and generally work in senior management positions across multiple industries. Student educational backgrounds are equally spread across technical, business, and social science/humanities majors.

For many faculty at the liberal arts institution engagement with this program was the first time they taught online and, in many cases, the first time they utilized an LMS. The liberal arts courses in the curriculum are selected and custom designed to meet the overall management curriculum objectives while retaining the unique perspectives of their disciplines. This merger of disciplines in the curriculum requireed modest changes to the traditional management courses to remove content where the learning objectives can be achieved through the liberal arts offerings. Achieving this required the introduction of unique liberal arts courses that consider business relevance and address requirements of the business curriculum. An example of this and the case studied in this paper is a course taught by an anthropology faculty member from environmental sciences that directly contributes to the learning objectives of a traditional corporate strategy/ethics business course. The case study focuses on the initial offering of this course and the changes in the course design that were incorporated for its second offering the following year. The initial class had 23 students with 30 students enrolled in the following year. Student feedback on the course and faculty are analyzed pre- and post- the course changes and an independent comparison of means analysis is conducted to determine significance.

The anthropology faculty member was assigned a quarter length course (five weeks of student engagement) that was delivered via four weeks of online discussion board interactions and one week via a synchronous 90 minute video-conference. Delivery occurred in the third term of the five term program and the five weeks of student engagement took place over a ten week period. The majority of the prior courses in the program were traditional business school classes providing the foundation materials for the overall program curriculum.

The anthropology faculty member had never taught online before and, since the course had not been run previously, needed to create the initial program syllabus. The syllabus designed did not include any traditional business case material however it did include a large number of required and optional readings. Final assessments for the class were individual student papers that applied learnings from the course into a relevant real world situation of the students choosing.

The program has an instructional design team that serves as a resource faculty can draw upon to assist with course design and delivery. The instructional design team provides recommendations to faculty on design and delivery of course materials however the faculty member has final say on the course design and delivery executed for their class. The faculty member in this case did engage with the instructional design team however the initial design was primarily derived from the faculty member’s inputs. Faculty engagement with an instructional design team member typically starts with a face to face meeting to discuss the course intentions and to provide an introduction to the online LMS system capabilities and mechanics. Faculty are required to format syllabi in a specific way for LMS posting which is introduced at this meeting. Following this meeting faculty typically communicate their evolving teaching intentions to their instructional designers and feedback and suggestions are provided. This communication typically takes place via a small number of email interactions across several weeks post the first meeting. A final syllabus and course plan must be submitted one month prior to the start of a course and is reviewed by the program academic directors before final approval. The academic director review focuses mainly on issues concerning course content, student deliverables and evaluation criteria.

In this case the faculty member worked directly with an assigned instructional designer (ID). The assigned ID supported a number of faculty members teaching in the EMBA program and was familiar with the programs overall curriculum, LMS, and methods applied by the business school faculty for online course delivery. The ID had nearly 20 years work experience, an M.A. in communication and educations, 3+ years experience in online instructional design and was a certified peer reviewer for the Quality Matters program. The ID team had frameworks[1] they leveraged in working with faculty not unlike those available from Quality Matters, an organization that spearheads efforts to guarantee course quality. In the case of Quality Matters the frameworks has eight general standards and forty two specific course review standards. The discussions relevant to this case focus on issues related to the general standards on course overview and introduction, instructional materials and learning activities and learner interactions.

Initial course offering

The environmental sciences course was first offered in the fall of 2016. The first four weeks of the course were delivered via the online asynchronous discussion boards and the fifth session was delivered via video conference. Student teams were tasked with facilitating each of the online discussion sessions, including moving the forum forward and the wrap up discussions. Although the professor provided instructions and ideas for facilitating the forums, the students didn't feel prepared to taken on this role. They felt overwhelmed by this task because the course topics were new for many of them.

The instructor started the online discussion sessions and participated along the way. Feedback was provided to students after the session ended. As an example, during the first online class the faculty member posted 7 times with a cadence of 1 post on Monday before the forum started on Tuesday morning, 5 posts on Wednesday (1 at 5 PM EST and rest between 7:45 and 8:45 PM EST) and a closing post on Saturday after the forum had ended.

[1] Quality Matters Standards from the QM Higher Education Rubric
https://www.qualitymatters.org/sites/default/files/PDFs/StandardsfromtheQMHigherEducationRubric.pdf

As noted in comments in the SETs for this course the students felt the professor was not present. Quotes included: “The professor was barely active in the online sessions.” And “Very little facilitation of the discussions by the professor, the groups were left on their own to accomplish the tasks and facilitate the discussion. “

The initial 15 page syllabus provided students with the rationale for the course, objectives, session types and flow, course materials, evaluation criteria and expectations, and information about the instructor. The syllabus was overloaded with information including; how to facilitate a forum, required and optional materials, annotations about the assigned readings, references for further study, and links to more resources than were required. The instructor provided information intended to help students navigate the course and make informed decisions but the intention was lost due to the amount and organization of information in the syllabus.

The SET feedback on the course was 3.06 (out of 5.00 where 5.00 is “very high”) for the measure “global evaluation of the Professor”. This program strives to have all faculty ratings exceed 4.00 so the Instructional Design team was enlisted to aggressively engage with the faculty member to adjust the program’s design and delivery to improve the SET performance in year 2.

Course offering year 2

For year 2 delivery in the fall of 2017 the syllabus was reduced in size to 8 pages. Specifically, on the design front the syllabus language was edited to reduce verbosity and the course information was better organized on the LMS. Text formatting tools were used to make the syllabus easier to read. All required readings were attached by week to the syllabus and optional readings were organized in a folder on the course site.

The course flow was adjusted to start with the asynchronous video conference rather than ending with one. Students got to know the professor better through this up-front synchronous engagement.

For the online discussions the faculty member now facilitated all forums instead of making student teams responsible for this task. The faculty member engagement all took place within the time period scheduled for the online discussion period.

Comments from the SETs improved dramatically with quotes following: “Professor(s) … insights/coaching also very helpful. One of the best courses in terms of applied environmental responsibility. To me, this is what differentiates an EMBA such as this one.” “(Professor) … led a great course that was impactful, in a very short amount of time.” And “A passionate teacher who was engaging and innovative in her expectations and teaching methods.” The SET feedback on the course improved as well, to 4.11 (out of 5.00 where 5.00 is “very high”) for the measure “global evaluation of the Professor” meeting program requirements.

Quantitative comparison year 1 to year 2

As noted in the literature review, adjustments to design and discourse facilitation approaches can improve measures of teacher presence. On the design front simplification and improved communication were targeted between the two course delivery periods with a “less as more” recommendation used as a key design principle. To that end the syllabus decreased in size from 15 to 8 pages. A text analysis of the Methodology and Course Objectives sections of the syllabus from years 1 and 2 provides a further visualization of this reduction and simplification with an across the board reduction in word count, sentences and syllables between the two versions. The text analysis was conducted with utility:[2] The Methodology section text analysis results for year 1 versus year 2 follow: word count 399 to 182, sentences 23 to 11, and syllables from 682 to 319. Similar results were seen in a comparison of Course Objectives between year 1 and year 2: word count 218 to 75, sentences 7 to 4, and syllables 419 to 170.

Session participation comparisons note adjustments in online discussion facilitation approaches between year 1 and year 2. Observations include on average slightly more and shorter posts in year 2 by the faculty member. On average the post position is higher in year 2 suggesting more guidance versus just responsive posts to ongoing discussions. During the week of the video conference (video conference was week 5 in year 1 and week 1 in year 2) in year 2 the faculty member also engaged with the students in the online discussion boards as well continuing the discussion post the actual video conference that week. In the second to last online discussion week in year 2 the faculty member was extremely active (23 posts) with an average post position of 2 suggesting more responsive interactions to students towards the end of the course period. The faculty member was also active in online discussions during the final week of class interactions. Overall minimum post length increased and maximum post length decreased in year 2. Full data is available in Table 1.

INSERT TABLE 1

Measures of teacher presence change

[2] https://www.online-utility.org/text/analyzer.jsp

As noted in the literature review teacher presence change impacts can impact student SET feedback. To that end independent sample t-tests were conducted to compare the SET results from year 1 and year 2 to determine the significance of the observed change. The sample size response was 18 students. The descriptive statistics and t-test results are reported in Tables 2 and 3. The results show that measures of teacher performance are significantly improved post the interventions. The measure evaluating how much you have learned from the course is statistically unchanged pre- and post- intervention.

INSERT TABLES 2 AND 3

DISCUSSION

Garrison and Arbaugh (2007) suggest a need to consider other variables when evaluating courses in concert with the Community of Learning construct. Suggestions include subject matter, software, characteristics of learners, and characteristics of instructors. These variables are significant and to the extent possible we have attempted to control for them. In our temporally extended single case analysis by analyzing the same course before and after an instructional design intervention we kept the subject matter constant. The LMS software did not change between the periods of this analysis. The students in the class were different however the program in which the class was taught remained the same and the high level demographics of the students (average age, gender mix, industry mix, geographic distribution and levels of careers) were extremely similar. To further control for learner characteristics we analyzed the SETs for another faculty member teaching a non-traditional EMBA class during the same time periods who did not engage with the instructional design team during this entire period; no statistical difference was noted in this courses SETs between these two cohorts of students. The anthropology professor for the class being studied was constant year to year as was the faculty member for the control course. The course by its nature however was quite different from the majority of the others students were taking in the program by that point in their studies. This situation was consistent across the time period studied however perceptions of this course could have been impacted by its consistent but different subject matter.

This case suggests that instructor willingness to internalize feedback and adjust their course is critical to SET improvement. If the instructor in our case had been unwilling to work on redesign with our ID or unwilling to modify materials in the online platform or unwilling to put in the time required when the course is live online the positive results observed in this case could not have been achieved.

This extreme case also suggests another contextual variable that is important to determining appropriate actions to take to improve teacher presence. The course in our case is part of an overall curriculum that has embedded within it a model of online interaction in both the LMS (software), training of the students (pre-work on how classes work online) and in the execution of other courses students take. When faculty try new things that are not consistent with these online curriculum norms (i.e. faculty posting before and after an online session is supposed to be closed, setting up a class where students direct the online discussions independently as examples from this case) students will be confused and react accordingly. Student feedback for the first year of the course in this case study included recommendations that this faculty member speak with other faculty members in our curriculum to gain a better understanding of how online discussions should be managed. Breaking norms can have impacts on SET results. These recommended contextual elements can be visualized as boundary conditions within which course design should be interpreted. Fortunately, our ID member was familiar with the norms of behavior being exercised in the rest of the curriculum.

Structuration theory (Giddens, 1984; DeSanctis & Poole, 1994; Poole, 2008), commonly applied in the information systems space, raises the importance of both structure and agents, on an equal level, in social system analysis such as the online learning environments being analyzed in this paper. This proposed contextual extension to the Community of Inquiry and other standards frameworks is consistent with the call from structuration theory to consider structure in all such analyses. These contextual elements may also help explain some of the inconsistent results noted in the literature review for certain interventions to improve teacher presence.

Study limitation

While efforts were made in the study design to control critical variables the change in tacit knowledge about the program, the students and the LMS that the faculty gained after their first experience in this new course context remains a confounding variable for this study (Devaraj and Kohli, 2003).

Future work

A number of future research efforts are suggested by our study. One is to manipulate the environment (with controls) to test the setting of student expectations on norms for online delivery by providing up front training to some students on the LMS where a larger aperture of what is acceptable online faculty presence is explained and potentially visualized. A second potential research effort would be to compare the same course delivered by the same faculty across different LMS environments. Analyses could also be conducted to determine any underlying assumptions, in this case about pedagogical methods, embedded in the LMS configurations.

Further Implications

While this paper reports on a specific course case study the implications of the finidngs are far broader. Contextual constraints require more strategic thinking on the part of faculty in designing and delivering online courses and customization of course design to the contextual environment is a critical findings from this study. However, as faculty design and customize delivery of their coursework for online programs the residual artifact has characteristics of a book or song that deserves proper intellectual property protection which is not necessarily protected in current online environments. In addition to the extent time and effort on customization are highly situational specific faculty compensation for one off customizations may also be warranted.

TABLE 1

SESSION PARTICIPATION

SESSION	TOT. POSTS		AVG. POST LENGTH		AVG. POST POSITION		MAX. POST LENGTH		MIN. POST LENGTH	
	Yr 1	Yr 2	Yr 1	Yr 2	Yr 1	Yr 2	Yr 1	Yr 2	Yr 1	Yr 2
1	7	3	1352	2099	2	2	4362	3692	89	639
2	7	8	2799	1639	3	1	8069	10434	51	115
3	7	8	2281	752	4	1	7413	2836	103	142
4	10	23	1703	778	3	2	14763	11478	63	0
5	0	6	0	1307	0	2	0	3803	0	112

TABLE 2

SET RESULTS

	YEAR	MEAN	STD. DEV.	STD. ERROR
GLOBAL EVALUATION OF THE PROFESSOR (LOW, NOT BAD, ACCEPTABLE, HIGH, VERY HIGH)	1	3.06	1.11	0.26
	2	4.11	0.96	0.23
THE EFFECTIVENESS WITH WHICH THE PROFESSOR MANAGED DEBATES HAS BEEN (VERY LOW, LOW, ACCEPTABLE, GOOD, VERY GOOD)	1	2.83	1.43	0.34
	2	4	0.91	0.21
EVALUATE HOW MUCH YOU HAVE LEARNED FROM THE COURSE (NOTHING, VERY LITTLE, SOMETHING, ENOUGH, A LOT)	1	3.22	0.94	0.22
	2	3.78	1.31	0.31

TABLE 3

INDEPENDENT SAMPLE T-TEST SET RESULTS

	SIG	MEAN DIFFERENCE	STD. ERROR DIFF	95% CONF. LIMIT LOWER	95% CONF. LIMIT HIGHER
GLOBAL EVALUATION OF THE PROFESSOR (LOW, NOT BAD, ACCEPTABLE, HIGH, VERY HIGH)	0.004	-1.05	0.35	-1.76	-0.35
THE EFFECTIVENESS WITH WHICH THE PROFESSOR MANAGED DEBATES HAS BEEN (VERY LOW, LOW, ACCEPTABLE, GOOD, VERY GOOD)	0.007	-1.17	0.4	-1.98	-0.35
EVALUATE HOW MUCH YOU HAVE LEARNED FROM THE COURSE (NOTHING, VERY LITTLE, SOMETHING, ENOUGH, A LOT)	0.153	-0.56	0.38	-1.33	0.22

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Managerial Knowledge Acquired through Virtual Team Collaboration on International Entrepreneurial Projects

ABSTRACT

This exploratory study evaluates managerial knowledge gained though coordination in international virtual teams. Faculty in US and Chile teaching similar courses formed virtual teams by pairing two students from a private northeastern United States (US) college with two students from a Chilean university. Student teams were required to design a strategic plan for a new business venture. Tests of before project and after project knowledge suggest that both US and Chilean students gain knowledge from the project. This suggests that multinational virtual teams are an effective method for learning business concepts. Mixed results occurred for US and Chilean students concerning virtual team coordination and learning. Test results suggest that coordination with foreign team members had no correlation on US students' gains in managerial knowledge, while for Chilean students ease of coordination with foreign or domestic team members showed significant association with gains in managerial knowledge. Results and implications are discussed.

Key words: Virtual teams, multinational, collaboration, coordination, international, entrepreneurship

INTRODUCTION

Rapid advances in video technology are dramatically increasing the occurrence of virtual meetings for global businesses as delegates based in different locations can connect, communicate and collaborate using videoconferencing facilities that are delivering higher quality pictures and sound (Coleman, 2016). Large companies incur in substantial cost savings by reducing face-to-face meetings with employees located in distant places, and CMC technologies facilitate Small companies to compete globally. Paralleling this explosion in communication technology advances are a proliferation of virtual global teams that include team members from different cultures and countries. Business school graduates entering the exciting environment require virtual team skills, a level of comfort in communicating through electronic media, and the ability to effectively work with individuals of different cultures. In this exploratory study we seek to determine learning in virtual teams, coordination of international virtual teams communicating through computer mediated communication (CMC) systems, and locational differences in incremental managerial knowledge attainment. The study involves undergraduate business students from the US and Chile working in virtual teams on a course project.

BACKGROUND

Business educators strive to prepare their students for an ever-changing business environment caused by dramatic advances in information technology and an increasingly competitive global economy. Global virtual teams help students "develop the management skills required for a career in logistics and supply chain management" (Trautrims, 2016, p. 886). Additionally, global virtual teams provide opportunities to develop cross cultural skills through direct experiences in interacting with counterparts in other cultures (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, & Zengyu Huang, V., 2013; Clark, & Gibb, 2006). Powell, Piccoli and Ives (2004) suggest that the importance of an individual's ability to perform in virtual teams is a critical business skill and that virtual teams are a potential training ground for new skill development. An important output of virtual teams is the ongoing training they provide. (Powell et. al. 2004). Virtual team learning opportunities include business content knowledge and management skills in coordinating activities with other team members.

Communication amongst virtual team members occurs through CMC and selection of CMC tools has been shown to impact virtual team performance (Rivas & Sauer, 2012). Enhanced communication capabilities offer opportunities for further research on the coordination and synchronization of activities (Shen, Lyytinen and Yoo, 2015). "Lack of interactivity associated with asynchronous CMC may reduce the efficiency of the sequential communication needed to clarify complex ideas."(Galegher & Kraut, 1994, p. 113). The impact of CMC may depend on the task being performed (Galegher & Kraut 1994). Accordingly matching the appropriate technology to task will improve performance (Goodhue & Thompson, 1995).

The make-up of the global virtual team membership affects communication and coordination amongst team members. Maznevski and Chudoba (2000) propose that "in effective global virtual teams, the greater the organizational and geographic boundaries spanned by a global virtual team's members and the greater the cultural and professional differences among team members, the more complex the team's messages will be." Several virtual team studies have investigated the role of cultural differences among team members. Cultural differences appear to lead to coordination difficulties (Kankanhalli, Tan, and Kwok-Kee, 2007; Maznevski and Chudoba, 2000), create obstacles to effective communication (Klitmøller and Lauring, 2013;

Sarker and Sahay, 2002) and impact team performance (Gheni, Jusoh, Jabar and Ali, 2016). Cultural and language differences are common in global virtual teams.

RESEARCH STUDY

Goal of Study

The purpose of our study is to expand our knowledge of effectiveness of virtual teams in the international education arena. The current study is exploratory in nature. We investigate managerial knowledge attainment, coordination of multinational virtual teams communicating through computer mediated communication, and locational differences in incremental knowledge attainment.

Research Questions

Virtual teams provide an environment that fosters members gaining skills and expanding their knowledge base (Powell et. al. 2004). Multicultural differences and language differences create communication challenges (Klitmøller & Lauring 2013; Sarker & Sahay, 2000). Consideration of these two opposing forces raises the first research question regarding business knowledge attainment for bi-country virtual team members.

- *RQ1: Does an international student team's use of CMC improve managerial knowledge acquisition in four areas of businesses and business operations?*

Team communication through CMC rather than face-to-face communication may negatively affect team performance based on the type of task being performed (Galegher and Kraut, 1994; Goodhue and Thompson, 1995). Additional considerations are the communication (Klitmøller & Lauring, 2013; Sarker & Sahay, 2000) and coordination challenges (Taras, et al., 2013; Kankanhalli, et al., 2007; Maznevski and Chudoba, 2000) of multi-cultural virtual teams.

Both, the communication medium, as well as communication and coordination challenges may affect team member's knowledge attainment. Further, this effect may differ for team members located in different countries. This leads us to our second research question.

- *RQ2: Do team members located in the US differ in managerial knowledge gained from members from the same team located in Chile?*

The greatest influence on the level of team performance is the knowledge that each team member brings into the virtual realm (Wilson, 2000). While virtual teams create an environment that promotes knowledge attainment (Powell et. al., 2004), the level of knowledge attainment may vary within the team by the level of knowledge that each team member may have had prior to the project. This leads us to our third research question.

- *RQ3: Did students who had relatively more managerial knowledge before the project also have relatively more managerial knowledge after the project?*

METHODOLOGY

Experimental Setting

Alavi (1994) identifies three elements of effective learning: a proactive approach to development of knowledge, use of cooperation and teamwork, and a problem-solving context. In our study, all three of these criteria are met in 1) that students are required to work together in bi-national virtual teams to complete a business plan, 2) requiring problem solving for a new venture, and 3) proactive self-motivation in acquisition of knowledge is needed to effectively complete the project. Two (or three) US students work with two (or three) Chilean students in four (to five) person virtual teams (virtual means all interaction during the project was through MIDC technology). Managerial Knowledge is measured before and after a project assignment based on self-reported levels of knowledge. Knowledge is assessed based upon the unique type of project (import / export, or international service business plan) that each team chose to do. Because there are at least two students from two different countries on each virtual team, there are opportunities for these two students from each country to have face-to-face meetings. It is in cross-national coordination and collaboration that computer mediated communications (CMC) technologies must be exclusively employed.

Project Design

Students are charged with creating a proposal for an international business venture. Both the US and Chilean students are enrolled in senior level courses. One course section of a college in the US is matched up with one course section of a university in Chile. Each virtual team consists of undergraduate US business students paired with undergraduate Chilean business students. Faculty of both US and Chilean classes jointly organize the setting up of teams. From start to finish this international business venture project lasts four weeks in duration. Joint faculty participation is required in the evaluation of all teams' advance and final reports. The two professors also select the three top performing virtual teams to present their proposals in a video conference simultaneously to both the US and Chilean classrooms. A panel of invited judges select the winning team at end of the videoconference.

To build trust among team members the project is introduced in a joint synchronous class led by both the US and Chilean professors. US and Chilean students interact with both of the professors during the question and answer session portion of the introduction. Virtual teams are encouraged to have a kick off meeting using video synchronous communication. To facilitate effective team member interaction and trust building among team members, both US and Chilean courses include cultural sensitivity training. Cross-cultural training, such as sensitivity training, prior to cross cultural interactions increases student gains in cultural intelligence (Eisenberg, Lee, Brück, Brenner, Claes, Mironski and Bell, 2013)

Sample

The study sample consists of US and Chilean students participating in the virtual team projects. Virtual teams of at least four students were formed by combining at least two students from an undergraduate management class at a small private university in the northeastern United States, with at least two students from a similar course at a university in Chile. Each virtual team was responsible for developing a business plan for exporting a product or service either from the U.S to Chile or vice versa. All students from each class in each country answered the survey at the end of the semester as a final assignment required for a grade. Sample characteristics are shown in Table 1. Sample sizes differ for the different characteristics due to missing values.

Table 1. Sample Characteristics with T-Tests of Mean Differences

Item	Population	N	Mean
Age	US Students	223	21.92*
	Chilean Students	239	22.35*
Spanish Language Proficiency	US Students	218	2.01**
	Chilean Students	236	4.81**
English Language Proficiency	US Students	220	4.89**
	Chilean Students	237	3.63**
Years College	US Students	221	3.34**
	Chilean Students	239	4.09**
Years of Work Experience	US Students	200	4.03**
	Chilean Students	196	1.30**

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

While the mean differences for all five sample characteristics are statistically significant, some are more meaningful than others are. Self-perceived language proficiency was measured on a 5-point scale with 5 being very proficient. As expected, on average, perception of Spanish and

English language proficiency are different for the Chilean and US students' native and non-native languages. Not surprisingly the mean Chilean students' English Proficiency (m = 3.63) is higher than the US students' proficiency of Spanish (m = 2.01). A major benefit of this project is for students to interact with students with different native languages and language proficiencies. On average, US Students have much greater years of work experience than Chileans. However, the type and quality of work experience would shed further light on the differences in work experiences. The mean difference in age of US and Chilean students of less than a half of year and the mean difference in years of study in college of three quarters of a year though statistically different are not substantially differences.

Survey Instrument

The survey instrument consisted of 30 items that measured students' perception of before project and after project managerial knowledge, ease of working with domestic and foreign team members, cohesiveness and other team characteristics plus characteristics of the students. The survey items used in this analysis are shown in Table A1 in the Appendix. All items, except those related to the personal characteristics of the student were measured on a five-point -agree-disagree scale. The scale ranged from (1) Strongly Disagree to (5) Strongly Agree. Students were notified by email invitations that the survey was available. The survey ran on the last day of presentations in nine separate class sections, predominantly in spring semester based on college dictated course scheduling, from 2007 to 2013. The course instructor encouraged students to respond. As an incentive, students were told that to receive a grade on the virtual team project, they would need to complete the survey.

DATA ANALYSIS

To answer our research questions data analysis included t-tests, factor analysis, and bivariate correlations techniques contained in the SPSS version 24 software package were used. For Research Question 1, mean sample values were used in paired-sample t-tests to analyze the difference between <u>before</u> project and <u>after</u> project perceived knowledge of US and Chilean students. For Research Question 2, data analysis consisted of an exploratory factor analysis and Pearson correlations of the factor scores of the interaction and coordination impact on before project and after project learning for US and Chilean students. Each of the scales were factor analyzed using a common factor procedure – Principle Axis – with an oblique rotation – Promax. The min-Eigen criterion that a factor's eigenvalue must exceed 1.0 for the factor to be retained was imposed. To identify the factors, all variables with a factor loading of absolute value |0.4| or higher were used. Pearson correlations of the resulting factor scores were then performed. For Research Question 3, data analysis included Pearson correlations of the before and after levels of knowledge of business and business operations for US and Chilean students to determine whether those students who knew the most before the project still knew the most after the project.

RESULTS

Table 2. Paired-sample t-test results: Means of Managerial Knowledge areas before and after Project

		Mean	
Knowledge of	**Questionnaire Items**	**US Students***	**Chilean Students***
Pair 1: Type of Business, Mission, Product	AFTER PROJ: After doing the project, I had a very good knowledge of the type of business, mission, product/ service of a company such as "PROJECT COMPANY NAME"	4.30	4.19
	BEFORE PROJ: Knowledge of type of business, mission, product or service	2.85	2.78
Pair 2: Manager Characteristics	AFTER PROJ: After doing the project, I had a very good knowledge of the personal characteristics of the managers in charge of a company such as "PROJECT COMPANY NAME"	4.31	4.02
	BEFORE PROJ: Knowledge of personal characteristics of managers in charge	2.96	2.79
Pair 3: Management - Leadership style	AFTER PROJ: After doing the project, I had a very good knowledge of the management-leadership style of the managers of a company such as "PROJECT COMPANY NAME"	4.31	4.04
	BEFORE PROJ: Knowledge of management-leadership style of managers	3.09	2.79
Pair 4: Management Policies	AFTER PROJ: After doing the project, I had a very good knowledge of the management policies of a company such as "PROJECT COMPANY NAME"	4.25	4.01
	BEFORE PROJ: Knowledge of management policies	2.92	2.60

* Note: All mean differences significant as $p<.01$

Research Question 1

US and Chilean students experienced a meaningful increase in managerial knowledge from before to after the project. For both US and Chilean students, all four knowledge areas show a statistically significant (Table 2: $p<.01$) increase in managerial knowledge.

Table 3. Factor Analysis Results – Ease of Virtual Team Coordination with Local and International team members

Pattern Matrix*[a]		
	Rescaled Factor	
Questionnaire Items	**Ease of Local Virtual Team Coordination**	**Ease of International Virtual Team Coordination**
My interactions with my local team members was clear and understandable	0.920	
Coordinating with my local team members was easy for me	0.884	
Reaching agreement with my local team members was easy to do	0.884	
I found it easy to get my local team members to do what I want them to do	0.864	
My interactions with my foreign team members was clear and understandable		0.848
I found it easy to get my foreign team members to do what I want them to do		0.841
Reaching agreement with my foreign team members was easy to do		0.797
Coordinating with my foreign team members was easy for me		0.771

*Extraction Method: Principal axis Factoring.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Research Question 2

Because the four items assessing group collaboration dynamics are highly correlated, we ran a principal-axis factor analysis with promax rotation to generate factor scores subsequently used in testing the coordinated team effects on management knowledge acquisition from completing this project. Initially we ran the factor analysis separately for US and Chilean students, but the factor loadings and loading patterns were nearly identical. Therefore, we pooled the US and Chilean student data in calculating factor scores shown on Table 3. Correlations, however, were run separately for Chilean and US students. Results for US students revealed that gaining knowledge was not correlated with team coordination for any of the four knowledge areas (see Table 4).

Table 4. Correlation of Factor Scores for Team Coordination with Knowledge Gained from Project (After-Knowledge minus Before-Knowledge)

	Gain on Knowledge of	**Ease of Virtual Team Coordination w/US Team members**	**Ease of Virtual Team Coordination w/Chilean Team members**
US Students	Type business, mission, product or service	-0.019	-0.111
	Personal characteristics of managers in charge	-0.069	-0.012
	Management-leadership style of managers	-0.025	0.011
	Management policies	-0.064	0.029
Chilean Students	Type business, mission, product or service	.147*	.130
	Personal characteristics of managers in charge	.161*	.133
	Management-leadership style of managers	.168*	.151*
	Management policies	0.105	0.198**

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

For US students, there is no significant correlation between ease of coordination and managerial knowledge acquired, as shown in Table 4. For Chilean students instead, coordinating with domestic (i.e. Chilean students) and with foreign (i.e., US students), revealed significant ($p < .05$) effects on management knowledge gain that was positively & significantly found as shown in Table 4 and summarized in the following grid:

Table 5. Summary of Chilean Students Correlations of After minus Before Knowledge with Team Coordination Factor Scores displayed in Table 4

Chilean Students – Positive correlation of team coordination with managerial knowledge attainment		
Gain on Knowledge of	**Ease of International Virtual Team Coordination w/US Students**	**Ease of Local Virtual Team Coordination w/Chilean Students**
Type of business, mission, product or service	Yes	Not significant
Personal characteristics of managers in charge	Yes	Not significant
Management-leadership style of managers	Yes	Yes
Management policies	Not significant	Yes

Research Question 3

For US students all four areas of knowledge before and after the project were highly ($p < .05$) correlated (see Table 5). The more a student knew about an area of business or business operations before the project, the more that same student knew after the project was completed.

For Chilean students, those with the greatest knowledge of the type of business, mission, and product/ service, the correlation was not statistical significant (see Table 6). Thus, the Chilean students greater or lesser before project knowledge did not lead to greater or lesser after project knowledge in regards to business, mission, and product/ service.

For the Chilean students the other three areas of managerial knowledge were highly ($p < .05$) correlated. For these three areas of managerial knowledge, the more a student knew about an area of business or business operations before the project, the more that same student knew after the project was completed.

Table 6. Correlation of Before and After management knowledge areas

	Relative Gain on Knowledge of	**US Students**	**Chile Students**
		Correlation	Correlation
Pair 1	Type business, mission, product or service	0.219**	0.116
Pair 2	Personal characteristics of managers in charge	0.289**	0.299**
Pair 3	Management-leadership style of managers	0.276**	0.172*
Pair 4	Management policies	0.257**	0.154*

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

Research Question 1 results suggest that international project team communication through a computer medium is an effective method for students to gain business knowledge. Additionally, these virtual teams enable students to interact with students of other cultures and gain exposure to computer based communication tools. These skills are becoming increasingly valuable with expanding global commerce using modern computer mediated commination.

Combining the results of Research Question 2 and Research Question 3 offers insight into the impact of the cultural characteristics of educational approaches. For US students, the high levels of correlation of before and after knowledge coupled with the lack of correlation between ease of coordination and knowledge gain suggest ease of coordination of the virtual team experience did not facilitate an increase in managerial knowledge. Perhaps some cultural factor of US students may be influential in attaining knowledge on a difficult to coordinate global virtual team. It may be that the individualistic- collectivist dimension explains that the highly individualistic nature of US people, in general, enables them to acquire knowledge regardless of the level of challenges in coordinating global virtual team activities.

For Chilean students, the high correlations between ease of coordination/interaction and some areas knowledge indicates that some knowledge gains were more likely to occur by means of virtual team interactions than by other means. Perhaps a more collectivist culture in the educational environment in Chile than in the US explains the positive association of coordination with knowledge gain. Note that the difference in individualistic—collectivist culture pertains to the educational environment and not the general cultural environment of the country as a whole. Another possible explanation relates to the difference in the make-up of the students in regards to commuter versus residential students. Nearly all the Chilean students are commuting students and the majority of the US students are residential students. The commuter students need to coordinate more home responsibilities, including traveling back and forth to school, as well as their course responsibilities. Perhaps this commuter versus residential aspect caused team coordination to be important for Chilean student knowledge acquisition but not for US students.

This study could be extended by investigating the effect of trust on the coordination of team member interactions. Developing trust in virtual teams presents challenges when team members have not met face-to-face (McDonough, Kahn, and Barzak, 2001). Trust is very important for successful completion of virtual team projects (De Jong, Dirks and Gillespie, 2016; Sarker and Sahay, 2000; Jarvenpaa and Leidner, 1998). Building trust by having students communicate through synchronous CMCs such as Skype software should be investigated. Included in this further research should be examining the effect of trust building activities in the virtual team project on team coordination activities and knowledge acquisition of non-US students. In addition, investigating the effect of trust on interactions between foreign country team members may help shed light on ways to improve coordination and performance of global virtual teams.

The generalizability of the results of our reported study is limited by the fact that the two schools at which the study was conducted include a US college of a particular type (a private, Liberal Arts College) that is located in a specific geographic region of the United States and a foreign university from one country (Chile). In order for the results to be more representative of the general university population, the study needs to be extended to other US colleges and universities as well as universities in additional countries. Although the study was limited to one school and one foreign country, it still offers valuable evidence to educators. Future research should address scale refinements based on results of studies of a broader range of US schools and schools in different countries.

CONCLUSION

This exploratory study provides evidence that a virtual team project is an effective method for students to acquire managerial knowledge, in teams formed by members located in two different countries, with different cultures. Knowledge gain associated with team member coordination varied dramatically for Chilean and US students. US student knowledge gain was not associated with team member coordination, while Chilean student knowledge gain was positively associated with coordination with foreign or domestic team members. While virtual teams are an effective learning platform, team interactions, such as coordinating communications, may be more important to students of one country than another country. Further virtual team research in an educational setting will build on the foundational understanding of virtual team knowledge gain and team coordination provided in this paper.

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Appendix
Table A1. Survey Items used in Current Study

The following items were used to measure the constructs in our models using a scale ranging from (1) Strongly Disagree to (5) Strongly Agree

BEFORE PROJ: Knowledge of type business, mission, product or service
BEFORE PROJ: Knowledge of personal characteristics of managers in charge
BEFORE PROJ: Knowledge of management-leadership style of managers
BEFORE PROJ: Knowledge of management policies

After doing the project, I had a very good knowledge of the type of business, mission, product/ service of a company such as "PROJECT COMPANY NAME"
After doing the project, I had a very good knowledge of the personal characteristics of the managers in charge of a company such as "PROJECT COMPANY NAME"
After doing the project, I had a very good knowledge of the management/ leadership style of the managers of a company such as "PROJECT COMPANY NAME"
After doing the project, I had a very good knowledge of the management policies of a company such as "PROJECT COMPANY NAME"

Coordinating with my group in Chile was easy for me
I found it easy to get my group in Chile to do what I want them to do
My interactions with my group in Chile was clear and understandable
Reaching agreement with my group in Chile was easy to do

Coordinating with my US group was easy for me
I found it easy to get my US group to do what I want them to do
My interactions with my US group was clear and understandable
Reaching agreement with my US group was easy to do

I felt part of a collaborative community in my team

Personal Information:
Foreign or Domestic Student in Country of University
Foreign or US College
Team
Years Work Experience
Months & Years International Experience
College
Years College
Foreign Student Country
English Language Proficiency
Spanish Language Proficiency
Age
Gender
Student ID

ELA submission, Portland 2020

Title:

Speed Interviewing - Violating Cultural Values

1. Introduction

The focus on dimensions of cultural values (Hofstede, 1980) continues to be relevant to participants who will graduate and work within global firms, interact with clients and vendors from other regions, and travel abroad for personal or business reasons. Participants understand the more obvious differences between cultures, but can be surprised by or unable to handle the more subtle differences that arise from fundamental contrasts in values. This exercise has participants react to workplace situations without normative expectations regarding their answers. In the debrief they consider how their responses may reflect their own cultural values. Even if participants have similar values, the debrief uses recent work by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project (Javidan & House, 2001) to provide information and examples from cultures on the opposite side of each values scale. The GLOBE project was a large scale study of middle managers in 62 societies that compares cultural similarities and differences across nine critical cultural dimensions: performance orientation, future orientation, assertiveness, uncertainty avoidance, power distance, collectivism, family collectivism, gender differentiation, and humane orientation. Successful managers require knowledge and insight into cultural differences and similarities among countries, and the ability to understand the implications of these differences on the employees they manage. This exercise includes the element of speed to focus participants' attention on answering interview questions. The intent is for participants to provide responses quickly before having too much time to consider cross-culturally acceptable responses.

2. Instructions for presenting the exercise

a) Learning Goals:

1. Participants will engage in a simulation that involves job interview questions designed to elicit a candidate's cultural values.
2. Participants will develop increased awareness of behavioral norms and differences across cultures.
3. Participants will compare peers' "interview" statements to the GLOBE dimensions of cultural values.

b) Approximate timing

This activity is designed to be run in a 75-90 minute session. The timing varies dependent upon the speed of distributing the handout, pairing students, transitioning between questions and interviewers, and the amount of time spent on each debrief question.

An accelerated version of this activity can be run in 45 minutes if participants are limited to asking their partners only two questions each (e.g., setup/instructions: 10 minutes; abbreviated rounds: 15 minutes; debrief 5 minutes per question: 20 minutes)

c) Number of participants

This activity can be scaled to any size group as the participants are paired up to work together. We suggest a minimum of 4 participants so that all the "interview" questions are used and some discussion can take place regarding the cultural dimensions.

d) Materials and technology needed

Instructors need to bring handouts to the session. Half of the participants will need a printed copy of the instructions for "First Interviewer" and half will need a copy of the instructions for "Second Interviewer." The handouts can be found in Appendix A.

e) Appropriate level

The target audiences are graduate or undergraduate students, or participants in a corporate training workshop.

f) Preparation needed

Students: none

Instructor: copy the two handouts per "Materials and technology needed" above.

Teaching Notes – instructions to run the exercise

1. Provide an overview (3 min.)
    a. This activity is intended to help you refine your interviewing skills by having you act as interviewers as well as interviewees. You will all have a chance to be both an interviewer and an interviewee. As an interviewee you will respond to three scenarios presented to you. As an interviewer you will ask three questions and record information on your handout.
    b. The activity is set up to move at a fast pace. There are no right or wrong answers to the questions, but the interviewers will want to understand the reasons for your answers.
    c. When we start the activity, you will be paired with another person. One of you will be the First Interviewer and one of you will be the Second Interviewer. The

First Interviewers will ask the first of three questions, and will listen and make notes as their partners speak. After 2-3 minutes, the First Interviewers will make some notes and then ask their second question. Their partners will again have 2-3 minutes to answer. The process will repeat for a third question. WHEN I CALL TIME, we will start Round 2 and the Second Interviewers will pose their first question, listen for 2-3 minutes, make notes, then move on to their second questions, etc.

2. Distribute handouts (5-7 min.)
    a. Assign half the participants to the role of First Interviewer and half to the role of Second Interviewer.
    b. Distribute the handouts based on their assigned role.
    c. Instruct participants to familiarize themselves with the handout.
3. Pair participants (5 min.)
    a. Indicate how participants are to find their partners (e.g., they chose a partner with a different role or the instructor assigns partners. The latter is useful to prevent participants from interviewing their friends.)
    b. Have partners sit across from one another.
4. Round 1 (10-15 min.)
    a. Remind participants that First Interviewers will ask question 1 and interviewees (i.e., second interviewers) will have 3 minutes maximum to answer it.
    b. Indicate that you will signal the 3 minute cutoff so they can go to the next question.
    c. They will have three questions to complete for this round (each has 3 minutes for answers to be given).

d. At the end of the third question, announce that is the end of Round 1. They should now look at Round 2 on their handout.

5. Round 2 (10-15 min.)

   a. Remind participants that Second Interviewers will ask Question #4 and interviewees (i.e., First Interviewers) will have 3 minutes maximum to answer it.

   b. You will continue to signal the 3 minute cutoff so they can go to Question #5 and do the same for Question #6

6. Debrief (45 min.)

   a. See below. Note: Additional details are provided in Appendix B on the cultural differences included in this simulation, as well as links to videos and readings with examples and more information.

4. Debriefing

a. Have participants rearrange the seating to something conducive to a group discussion.

b. Discussion questions are provided below.

Discussion Questions:

a) First Interviewers, you posed **Q#1** about Morgan, an older employee and the new use of technology. This question related to valuing **Assertiveness**.

   1. Who thought the interviewee's answer "Expressed sympathy for Morgan; emphasized the need for harmony and positive relationships".

      - Does that description link to High or Low Assertiveness?
      - If you raised your hand, can one of you share an example of an interview answer that was scored low on assertiveness?

- In cultures that value low assertiveness such as Sweden, people prefer to maintain harmonious, cooperative relations and may emphasize loyalty and solidarity at work.

2. Who thought the interviewee's answer "Wanted Morgan to confront the coworker; emphasized the older employee should have taken initiative"
    - Does that description link to High or Low Assertiveness?
    - If you raised your hand, can one of you share an example of an interview answer that was scored high on assertiveness?
    - In cultures that value high assertiveness like the United States, people tend to value competition and encourage strength and winning.

b) Let's go to Second Interviewers: you posed **Q#4** about a task force and who should be on it.

1. Which GLOBE dimension does this question related to? [Answer: **Power Distance**]
2. Who thought the interviewee was "Willing to let lower-level employees join the committee and participate in decision-making"?
    - Does that description link to High or Low Power Distance?
    - If you raised your hand, can one of you share an example of an interview answer that was scored low on power distance?
    - In cultures that value low power distance such as Denmark and the Netherlands, people tend to be egalitarian, and do not differentiate between those with power and those without.

3. Who thought the interviewee was “Less willing to include lower-level employees on the committee and in the decision-making”?
    - Does that description link to High or Low power distance?
    - If you raised your hand, can one of you share an example of an interview answer that was scored high on power distance?
    - In cultures that value high power distance such as Russia, people tend to expect obedience towards superiors, with clear differences between those with power and those without it.

c) First Interviewers, you posed **Q#2** about forcing a board to change and have more women.

1. Which GLOBE dimension does this question related to? [Answer: **Gender Differentiation**]
2. Who thought the interviewee “Suggested that there are plenty of experienced, educated, and capable women who should get an equal chance to be on the board in this leadership capacity”?
    - Does that description link to High or Low Gender Differentiation?
    - If you raised your hand, can one of you share an example of an interview answer that was scored low on Gender Differentiation?
    - In cultures that value low Gender Differentiation such as Hungary and Denmark, women tend to hold higher social status and take more of a role in decision-making.

3. Who thought the interviewee “Suggested that the reality is that men have had work experiences that prepare them better so they are more capable of serving in this type of leadership capacity”?
    - Does that description link to High or Low Gender Differentiation?
    - If you raised your hand, can one of you share an example of an interview answer that was scored high on Gender Differentiation?
    - In cultures that value high Gender Differentiation such as South Korea and China, men tend to hold higher social status, with relatively few women in high-level positions.
    - NOTE: if participants don’t believe that people would express the views in the quoted piece above, provide them with examples of other ways in which this value may influence thinking or decisions (e.g., gender role differences are emphasized, with stereotypically masculine characteristics admired of successful leaders, and a lower level of female educational attainment).

d) Second Interviewers: you posed **Q#5** about traditions, feedback and rewards.

1. Which GLOBE dimension does this question related to? [Answer: **Performance Orientation**]
2. Who thought the interviewee “Prefers merit awards go to the group not individuals; keeping traditions; not a fan of individual feedback”?
    - Does that description link to High or Low Performance Orientation?
    - If you raised your hand, can one of you share an example of an interview answer that was scored low on Performance Orientation?

- In cultures that value low Performance Orientation such as Russia and Italy, the emphasis is on loyalty and belonging, where feedback is discomforting and attention is paid to family background more so than performance.

3. Who thought the interviewee "Prefers to reward individual performance or those who get extra training; sees individual feedback as useful"?
    - Does that description link to High or Low Performance Orientation?
    - If you raised your hand, can one of you share an example of an interview answer that was scored high on Performance Orientation?
    - In cultures that value high Performance Orientation such as the United States and Singapore, feedback and continuous training are highly valued, along with a direct and explicit communication style.

e) First Interviewers, you posed **Q#3** about how structured team meetings are.

1. Which GLOBE dimension does this question related to? [Answer: **Uncertainty Avoidance**]
2. Who thought the interviewee "Showed a preference for less structured meetings, a broad agenda, and fewer guidelines and procedures"?
    - Does that description link to High or Low Uncertainty Avoidance?
    - If you raised your hand, can one of you share an example of an interview answer that was scored low on Uncertainty Avoidance?
    - In cultures that value low Uncertainty Avoidance such as Greece and Venezuela, people are used to less structure and are not concerned about following rules and procedures.

3. Who thought the interviewee “Showed a preference for orderliness, using an agenda, have guidelines and procedures for meetings”?
    - Does that description link to High or Low Uncertainty Avoidance?
    - If you raised your hand, can one of you share an example of an interview answer that was scored high on Uncertainty Avoidance?
    - In cultures that value high Uncertainty Avoidance such as Germany, people tend to value orderliness and consistency, with structured lifestyles that include rules and laws.

f) Second Interviewers: you posed **Q#6** about two different job offers, one that has an important title and perks, and one that has a supportive, caring atmosphere.

1. Which GLOBE dimension does this question related to? [Answer: **Humane Orientation**]
2. Who thought the interviewee “Suggested that people are motivated by material possessions and signs of their authority”?
    - Does that description link to High or Low Humane Orientation?
    - If you raised your hand, can one of you share an example of an interview answer that was scored low on Humane Orientation?
    - In cultures that value low Humane Orientation such as France and Singapore, people tend to be motivated by power and material possessions, and are expected to be independent and solve their own problems.
3. Who thought the interviewee “Suggested that people are motivated by friendships, harmony, support, and bosses who care for them.”?

- Does that description link to High or Low Humane Orientation?
- If you raised your hand, can one of you share an example of an interview answer that was scored high on Humane Orientation?
- In cultures that value high Humane Orientation such as Malaysia and the Philippines, people tend to have sympathy and value belongingness; they care for the well-being of others, are friendly, sensitive, and tolerant.

g) NOTE: if little variation in the cultural values is demonstrated by participants' responses, it may be helpful to address this homogeneity. Ask students to reflect on the challenges of anticipating, understanding, or handling potential challenges caused by differing values if they are not exposed to such diversity on a regular basis.

h) Wrap up question: Think about your future career and your own effectiveness in that workplace. How might you use your knowledge about the ways in which values differ across regions and cultures?

5. Summary of student reactions

This exercise is being used with 90 undergraduate students in a junior year business course near the end of this semester. We will gather student responses to the debrief questions and reactions from a brief survey they will complete at the end of class.

6. Presentation at ELA

To present this activity as an ELA workshop, the following modified version is proposed:

a) Provide a brief introduction of the activity's purpose and use and the foundational cultural values research of Hofstede and GLOBE (5 min.)

b) Read the instructions, but indicate that ELA will only do two rounds of question answering rather than the three in the full activity (3 min.)

c) Distribute First Interviewer and Second Interviewer handouts and ask participants skim it and ask clarifying questions (2 min.) *(Note for ELA reviewers: Appendix A uses a different font and single spacing so as to fit the forms on one page).*

d) Pair participants with a partner who has the other type of handout and instruct them to begin. (1 min.)

e) First Interviewers pose Question 3 and Second Interviewers have 3 minutes to reply. The First Interviewers complete the related scoring. (3 min.)

f) Second Interviewers pose Question 6 and First Interviewers have 3 minutes to reply. The Second Interviewers complete the related scoring. (3 min.)

g) The debrief (sections E and F) focuses on the two questions posed

7. References

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Javidan, M. & House, R.J. (2001). Cultural acumen for the global manager: Lessons from Project GLOBE. *Organizational Dynamics, 29*(4), 289-305.

Website: www.globeproject.com

8. Appendices

Appendix A Handouts for Participants

Appendix B provides supplemental career assignments.

Appendix A   Handouts for Participants

First Interviewer

Part 1 Instructions:

1. Fill in the requested information at the bottom of the page.
2. Skim the interview questions and the scoring items in the table below. Make sure you understand them.
3. When you are given the signal to start, pose Interview Question #1 to your partner. Your partner will have only a minute or two to answer, so listen closely to what is said and jot down a few notes if you are able to. [If your partner's answer is too short, ask a follow-up question, such as "Can you elaborate on that?" or "Can you give me an example?"]
4. Quickly score your partner on Question #1 in the correct location in the box below.
5. Pose Interview Question #2, listen closely, then score your partner's answer below.
6. Pose Interview Question #3, listen closely, then score your partner's answer below.

Part 2 Instructions:

1. You will be asked three questions. For each, answer quickly and thoroughly in the time allotted.

	Scoring *(for each row, check the box that best describes your partner's answer)*		
Question #1 What is your reaction when Morgan, one of the older employees on your team, fails to update the new sales lead database that is critical to your performance goals. Morgan claims nobody provided training, tips, or offered to demonstrate. Morgan feels unappreciated for years of tracking sales leads without technology.	Expressed sympathy for Morgan; emphasized the need for harmony and positive relationships ☐	A bit of both ←→ ☐	Expressed frustration or exasperation; thought Morgan should have taken initiative to get help or training ☐
Question #2 Right now your company's board of directors comprises 12 men and 2 women, all with executive level experience. A government ruling mandates your firm has one year to change so that half of the board is women. Is this a change that you think is realistic or valuable? Why or why not?	Suggests that there are plenty of experienced, educated, and capable women who should get an equal chance to be on the board in this leadership capacity ☐	A bit of both ←→ ☐	Suggests that the reality is that men have had work, educational, and sports experiences that better prepared them to serve in this type of leadership capacity. ☐
Question #3 At your new company you attend both weekly *team* meetings and monthly *division* meetings. Your *team* manager has detailed agendas with guidelines for who speaks, how long they have to present, and how to have your items added to the agenda. The monthly *division* meetings are very useful, even though the agenda is vague, anyone can speak, and it is often unstructured. Which do you prefer?	Showed a preference for less structured meetings, a broad agenda, and fewer guidelines and procedures ☐	A bit of both ←→ ☐	Showed a preference for orderliness, using an agenda, have guidelines and procedures for meetings ☐

Your name: ________________________________ Country/region from: ________________________

Partner's first name: ________________________ Country/region from: ________________________

<u>Second Interviewer</u>

Part 1 Instructions:

1. Fill in the requested information at the bottom of the page.
2. You will be asked three questions. For each, answer quickly and thoroughly in the time allotted.

Part 2 Instructions:

1. Skim over the list of interview questions and the scoring items in the table below to make sure you understand them.
2. When you are given the signal to start, pose Interview Question #4 to your partner. Your partner will have only a minute or two to answer, so listen closely to what is said and jot down a few notes if you are able to. [If your partner's answer is too short, ask a follow-up question, such as "Can you elaborate on that?" or "Can you give me an example?"]
3. Quickly score your partner on Question #1 in the correct location in the box below.
4. Pose Interview Question #5, listen closely, then score your partner's answer below.
5. Pose Interview Question #6, listen closely, then score your partner's answer below.

	Scoring *(for each row, check the box that best describes your partner's answer)*		
Question #4 You work at a consulting firm that will form a task force to study how people are promoted there, and to suggest how policies should change. There's a debate about whether the task force should have only managers on it, or if lower-level employees should also be members. What do you think it should be?	Willing to let lower-level employees join the committee and participate in decision-making. ☐	A bit of both ←→ ☐	Less willing to include lower-level employees on the committee and in the decision-making. ☐
Question #5 It's rumored that your new manager wants to change important long-standing traditions in your department. The manager wants to start something new and give feedback to individuals (not just to teams the way the old boss did) and reward any employee who completes additional training beyond their peers. Do you agree with these changes and why or why not?	Prefers merit awards go to the group not individuals; keeping traditions; not a fan of individual feedback ☐	A bit of both ←→ ☐	Prefers to reward individual performance or those who get extra training; sees individual feedback as useful ☐
Question #6 You have two job offers. One firm promises numerous rewards and perks for performance goals, such as a large private office, a discretionary budget, better job titles, and a parking space. The other firm promises equally good pay, but their culture focuses on the positive and supportive relationships between the team and supervisors, as well as individual growth. Which do you prefer and why?	Suggested that people are motivated by material possessions and signs of their authority. ☐	A bit of both ←→ ☐	Suggested that people are motivated by friendships, harmony, support, and bosses who care for them. ☐

Your name: ________________________________ Country/region from: ________________________

Partner's first name: ________________________ Country/region from: ________________________

Appendix C: Supplemental Career Assignments

Application Reflection

The time pressure in the Speed Interviewing exercise was artificially imposed so that you would not think too much about your answers to the questions. In cross-cultural situations, when people respond quickly to a situation, they may do so intuitively based on their own cultural values. Vigilance (and practice) to react to situations with culturally-appropriate responses allows you to slow down and make sure you are attuned to the values and cultural differences of your current situation.

a. How can you remain aware of differences in cultural values when focused on responding quickly to requests in the workplace?
b. Based on your potential career plans, in what professional situations might you experience a clash of cultural values?
c. In what other ways can you apply the learning from this exercise?

Expatriate Research

Consider your potential career path or the industry you want to work within, then research a region or culture where you might be assigned or to which you might request a transfer. As an expatriate working in a different culture, you'll encounter some obvious and many subtle differences in how people behave, interact, and perceive situations. Identify business etiquette recommendations for the region you are targeting, and then extend your research to include the cultural values and norms that underlie them. Cite all sources.

a. What are the key cultural differences that expatriates would need to know when assigned to work in this region?
b. How might differences in cultural values negatively affect you when on a global assignment or working with a global team?
c. Describe three methods to deepen your learning about the business etiquette, interpersonal norms, and other cultural differences in that region.
d. Based on this activity in class, what advice would you give to someone interviewing for a job across cultures?

“A Nudge Away from a Tuna Sandwich: An Influence Exercise”

ABSTRACT

In September 2019 a New Jersey school district instituted a policy of serving only tuna sandwiches to students with overdue meal fees. This “lunch shaming” attempt to force parents to pay-up seemed to punish children for their parents’ wrongdoing. It became national news and embarrassed the school district. However, it also created an opportunity to build an experiential exercise around the way organizations could use “Nudge Theory” to encourage people to do the “right things.” This session will be a hands-on exercise demonstrating how this case can be used to generate classroom awareness, solutions, and critical thinking regarding organizational influence.

Key Words: nudge theory, organizational influence, experiential exercise

"A Nudge Away from a Tuna Sandwich: An Influence Exercise"

In September 2019 the Cherry Hill, New Jersey school district instituted a policy of serving only tuna sandwiches to students with overdue meal fees. This attempt to force parents to pay-up for meals was described as "lunch shaming" and seemed to punish children for their parents' wrongdoing. It became national news and embarrassed the school district. However, it also created an opportunity to build an experiential exercise around the way organizations could use nudge Theory to encourage people to do the "right things."

A question that quickly arose was why did the school board not make a better decision (or, at least, a less controversial) decision? We have long known that the choices we make are framed in ways that will affect our decisions. The classic example of this is the observation that putting salads at eye level in a cafeteria line leads to more healthy eating especially if the desserts are tucked away out of immediate focus. This sense of framing messages and designing outcomes has been applied to a variety of choices from participating in an employer sponsored 401k to reducing water consumption in California and even a program in the U.K. of getting better targeting in public urinals. In each case, how the decision is presented to people can dictate their choice. From this idea, we get the evidence that "even small and apparently insignificant details can have major impacts on people's behavior and some ways of presenting the choices may give a gentler 'nudge' than others, and we may think some settings are neutral only because we're so used to them. But whoever is presenting the choices will inevitably bias decisions, in one direction or another." (Friedman, 2008)

What is Nudge Theory?

Nudge theory, named and described in Thaler and Sunstein's 2008 book '*Nudge - Improving decisions about health, wealth and happiness*, is an approach to understanding and changing people's behavior by analyzing, improving, designing, and offering free choices for people, so that their decisions are more likely to produce helpful outcomes for those people and society in general. “Nudge theory was initially envisaged to apply chiefly to areas of economics and health, especially those managed by the state and local/ corporate authorities, but the 'Nudge' concept is actually much more widely applicable, to most human decision-making, and the ways that human-decision-making can be assisted. Note that Nudge theory can also be used to identify and modify or remove existing unhelpful 'nudges'." (Chapman, 2014) Some other interesting examples of “nudges” include: footprints painted on the floor leading to recycling bins or putting a few dollars into the tip jar before setting it out in front of customers. Nudge theory can also be used as a model for change management and unpacking organizational decisions to see what drove the decision thinking.

Four Key Aspects of Applied Nudge Theory

1. Anchoring and Adjustment (comparison and guessing)
    - Using a known/comparable 'fact' or belief and adjusting it to guess/decide something which is unknown.
    - Comparable references are commonly inaccurate
    - Decisions may be affected (unhelpfully 'primed') by mass media, misreporting, popular misconception, and myths.

2. Framing (orientation, presentation, and accentuation)
    - 'Framing' affects the way people feel and think about something primarily due to the way in which a choice or option is described.
    - The presentation or orientation of information can alter its perceived meaning/nature.

- This includes positive/negative accentuation, juxtaposition, association, or many other ways of distorting the attractiveness/unattractiveness of something.

- The description of a choice can change the way people notice and perceive the meaning and implications of the choice.

3. Priming (preparing people for thinking and decisions)

   - People can be helped to approach choices in a more prepared state.

   - This can be done in a positive or negative way.

4. Feedback (during thinking and decision-making, enabling correction and useful experience)

   - Feedback equates to helping people understand their situations, thinking, and decisions, responsively during thinking and deciding processes.

   - Feedback is a crucial element in designing choices.

   - Feedback is a necessary element of optimizing the effectiveness of Nudge theory.

Nudge principles and techniques are widely used in marketing, organizational leadership, politics, economics, and education. The ideas can fit any situation where someone or a body of some sorts seeks to influence a person or a group of people, for example a customer group, a government agency, or society. (Bennhold, 2013)

Nudge theory tries to influence through indirect methods, rather than by direct enforcement. An important aspect of the Nudge concept is that people can be helped to both think appropriately and make better decisions by being offered choices that have been designed to enable these outcomes. (Chapman, 2014)

Understanding that there could be manipulative uses of his theory, Thaler presented 3 rules for the ethical application of nudge Theory. These are:

1. All nudging should be transparent and never misleading.

2. It should be as easy as possible to opt out of the nudge, preferably with as little as one mouse click.
3. There should be good reason to believe that the behavior being encouraged will improve the welfare of those being nudged.

These guidelines should not be hard to follow, and nudge theory clearly can be an important concept in management education, yet it is not ordinarily found in most organizational behavior text books. As evidence, neither of the two best-selling OB textbooks (Robbins and Judge and Colquitt, LePine, & Wesson) have any mention of the concept in their chapters on Power or Influence.

Why do Good People Make Bad Decisions?

The Cherry Hill School District case makes for a compelling study in problem framing as well as the potential use of nudge Theory. The messaging and various threats of student punishment to get parents to reimburse the district for giving lunch to their children has several interesting components that yield engaged class discussion. At the end of the 2018-19 school year, the district had a $14,343 meal debt incurred by about 340 students. The district, one of the largest in the area, enrolls about 11,000 students. About 20% are eligible for reduced-price or free meals. About 6.2% of Cherry Hill’s 71,000 residents have incomes below the poverty line.

The $14,000 owed is significant. However, when the Tuna sandwich decision became public there was a predictable outcry from anti-hunger advocates, anti-poverty groups, and those with interest in civil liberties. The School Board members were understandably defensive about their decision and after several public meetings developed a new approach that calls for withholding privileges such as prom and after-school activities when meal payments are delinquent. The restrictions vary based on grade level. This quickly created a new controversy labeled “Prom shaming.”

It is reasonable to ask why the School District chose a solution that punished the children instead of the parents. Perhaps they could not find any other ways to get the parents to pay the back fees for lunches. However, when this story was published in the local papers, several citizens came forward and offered to reimburse the school district in full rather than have children be punished by no prom attendance or the hated tuna sandwiches. This called into question the school board’s objectives. If they were working to recover funds, why not accept the offers to cover the cost. One school board member commented that it sent a bad message to allow some people get for free what others were paying for. That comment added a moral issue to the problem.

No one on the school board has been accused of being evil but research in moral disengagement shows that how individuals process, frame, or understand information relevant to ethically meaningful decisions plays an important role in their ethical or unethical choices (Moore, 2012). Once the School Board decided that collecting the money owed for school meals was imperative, that frame drove their decision-making. Imagine if another frame was used. Suppose the board framed the problem as “how do we make sure all students get lunch without embarrassing anyone about unpaid fees?” That might have resulted in a much different outcome. The question of problem framing, and the possibility of a nudge Theory solution then became the basis for the following experiential exercise.

Overview of the Exercise

The learning goals of the exercise are as follows:

1. To have business students be able understand the concepts of Nudge Theory and problem framing.
2. To apply knowledge to the Cherry Hill School District "lunch shaming" case in a problem-solving workshop environment.
3. To identify the value of looking at decisions through the various lens of conflicting objectives, messaging, and a behavioral influence theory.

Instructions for Presenting the Exercise

Preparing the Class for the exercise:

One class before the exercise, ask the student to read several articles from the local papers on the Cherry Hill School District decision. This was to offer only tuna sandwiches to students had no other lunch if the parents were in arrears for re-payment to the district for previous lunches. The articles are: "Cherry Hill school district considers 'prom shaming' with proposed changes to unpaid lunch policy, critics say." And "Cherry Hill school district rejects a Philly businessman's offer to wipe out students' lunch debts." These are shown in the reference section with links to the articles. In my classes, I also put the articles in a reading list on Canvas.

Presenting the Exercise

Timing and Target Audience

This exercise was designed for 2 class periods (75 minutes each) but can easily be scaled for 55 minutes or a 3-hour graduate course. In addition, the exercise is designed for both traditional-age, undergraduate business students and MBA students. It can be used in any size class but small groups (3-5 people) are best to encourage discussion. Finally, no special equipment is required.

The instructions to the groups are as follows:

Briefly introduce the topic by referring to the school board articles and answering any short questions regarding the case or the role of the school board in deciding on a solution. Some of the items to cover at this point are: What are the school board's goals? Who was the intended audience? Did you ever encounter a similar situation in your high school or here at the university?

To begin the activity, divide the class into teams with the following assignment:

1. Take a few minutes to the lunch money case and the school board's decisions.
2. Try to identify the problem and consider what outcome you think is needed to get a better solution. Why is this problem important? Why is the solution in important? (5 minutes)
3. Next, think about ways to achieve the school board's goal. What would help the goal to be implemented? What are the best ways to make this happen? Why would this be helpful?
4. Create a short announcement for the school board using your group's solution. (20 min.).

Large group and debriefing

1. After hearing the from the class groups, have a brief discussion of their solutions. Typically, most student groups will develop a kinder and gentler message that tries to avoid lunch or prom-shaming penalties. An interesting point is that the graduate student class in a part-time MBA program generally had tougher and less empathetic solutions and more direct statements to the public.

2. Following this brief discussion, have the student groups meet again to list the following thing:
    a. The problem they identified
    b. The objectives for the school board
    c. Their assumptions behind the decision (e.g. Some parents are taking advantage of the system. Or, we don't want to punish children for their poverty or their parents' unwillingness to pay.). Put the objectives and assumptions on the board so we can see and discuss the various ideas. (10 minutes)
        i. It is helpful to capture the various solutions on slides or in a photo to use as comparison with the product of the second part of the exercise.
3. The next step is to roll this exercise into the next class so students can read the Nudge Theory articles. If there is no time for that in the course design, use remaining class time to introduce Nudge Theory and show some examples of how a slight behavioral push can influence decisions. In a 3-hour course, a small break to allow students to read the Nudge Theory articles is sufficient. The reading gives students additional skills and ideas to set up the next step in the exercise.
4. On the second day of the exercise (or in the second half of the 3-hour class), start with a brief discussion of Nudge Theory and ask for questions about key concepts and usage. The instructor should focus on the four key Nudge Theory concepts mentioned above (Anchoring, Framing, Priming, and Feedback). Student meet with their groups again to create new solutions to the school lunch fee problem. Appendix B has a worksheet to remind them of the key Nudge concepts help design their solutions. Some questions to get the groups started are:

a. Suppose you reframe the school board's problem away from cost and to some other goal, what could that be?
b. Is there a way to get around the moral issue of parents not paying for lunch?
c. Using what you have learned about Nudge Theory and the four key concepts, can you come up with a different direction and plan for a school board decision? (20 min)

5. Groups report their new assumptions and re-designed nudge solutions for full class discussion.

Debriefing Notes for the Instructor

Following the exercise, discussion questions are useful for surfacing learning and anchoring the ideas behind the effective use of nudge theory. Some suggestions for discussion are:

1. Did you notice the difference in solutions between the first effort and the second round using Nudge ideas? What were some differences?
2. Are there any ideas that the class created in Nudge mode that seem particularly useful for the school board?
3. Are any ideas that could never be used by the school board for social or local political reasons?
4. Were there ideas that might work but were not the "right thing to do" in terms of ethics or empathy?
5. Did your second-round solutions make use of the anchoring, framing, priming, and feedback concepts?
6. Can you think of other places here at the university or in your clubs, teams, or work where a nudge solution could be used in place of a direct order or instruction?
7. Is there a place in this class where Nudge Theory could be used to create some different decisions?

The discussion of Questions #5 and #6 above yielded some interesting suggestions. Some examples are below:

1. The problem: students in the class not buying the text. The nudge: "It might help for the professor to show some data at the start of the semester showing the percentage of class member with the book compared to those without. Also, "showing the difference in test grades between those with books and those without books."
2. "At the start of the semester, give some information on places where cheap used copies or older edition can be bought. Repeat it a lot in class instead of just putting it on Canvas."
3. "Instead of having penalties for missing class use a reward system of extra points for good attendance."
4. "Use sort of 'social proof' nudge to guide students in choosing courses. Like Amazon…'people who signed up for BUS 203 also liked Mgt 311."

A Final Debriefing Note:

The Framing idea is particularly important for students to see ways to make different (and better) decisions. Nudge Theory suggests that the orientation, presentation, and accentuation of a problem drives the way we make decisions. If the information is presented in a different way, different choices or options are likely to surface. For example, in the "Lunch-Shaming" case, the problem presented to the school board was "how to get parents to pay back charges for their children's lunch.

Some re-framing suggestions might be problem statements that ask,

- "Suppose the problem being how the district can be reimbursed for the cost of the lunches?"

- "Suppose we say the problem is the moral issue of parents taking advantage of the system?"
- Suppose you say the decision is how to make sure all kids get lunch?"

As Nudge Theory suggests, the presentation or orientation of information can alter its perceived meaning or nature. Even presenting the work as a decision or a choice instead of a "problem" makes a difference in how people will imagine solutions.

Student Reactions

Evidence is anecdotal evidence but reactions from 2 undergraduate classes at one MBA suggest a positive response in terms of class enthusiasm for the exercise and thoughtful follow-up comments on the discussion board. There were no negative comments about the activity.

Some additional ways to enhance the exercise

1. A follow-up assignment that often yields interesting comments is to create a discussion board on Canvas or Blackboard asking: What is new and interesting in this discussion of Nudge-based influence? What surprised you when you saw the different ideas of how to meet the school board's problem? Are there parts of Nudge Theory that you don't understand or support?
2. This exercise work equally well in a hybrid or fully online course. Class groups can work within their own Discussion Board and a Zoom class works for debriefing the exercise.
3. The instructor can also use this activity as way to reference other class topics like perception, decision-making, influence, or ethical decision-making.

For the Experiential Learning Association Exercise

This exercise can be demonstrated at the Experiential Learning Association Meeting in 30 minutes. The Cherry Hill School District “lunch shaming” case can be quickly presented, and ELA attendees will form small groups for a group discussion (5 minutes) with the goal of considering the problem and choosing new statement for the school board. After a quick report out from the groups, the Nudge worksheet will be given to the groups for another round of decision-making. (10 minutes). Those decisions will be shared, and the large group discussion will reflect on the exercise. Suggestions for improving or modifying the exercise will be encouraged (15 minutes)

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Appendix A

District Policy
Item 8550. UNPAID MEAL STANDING FOOD SERVICE CHARGES

Section: Operations
Date Created: August 2017
Date Edited: September 2019

The Board of Education understands a student may forget to bring breakfast or lunch, as applicable, or money to purchase breakfast or lunch to school on a school day. When this happens, the food service program will provide a student a breakfast or lunch with an expectation payment will be made the next school day or shortly thereafter. However, there may be circumstances when payment is not made and a student's school breakfast or lunch bill is in arrears. The school district will manage a student's breakfast or lunch bill that is in arrears in accordance with the provisions of N.J.S.A. and this Policy.

In the event there are no funds in a student's account, or a student's school lunch or breakfast bill is in arrears, **the student will not be permitted to charge a la carte items.** [*meaning that the student will get only what the school decides to give them. In this case, only a tuna sandwich. Instructor's note.]*

In the event a student's school lunch or breakfast bill is in arrears in excess of $75.00, the parents will be required to attend an in-person meeting with the Superintendent or designee, to address the outstanding balance. Payment in full must be provided by the parent within ten school days after this meeting. Failure to address the arrears will result in the matter being governed by Policy 5513-Care of School Property. This may bar students with overdue lunch fees from attending their prom, senior class trip, and school dances until payment is made. Students also would not be allowed to participate in extracurricular activities or purchase a yearbook. They would be allowed to participate in athletics.

Appendix B

Nudge Theory Worksheet				
	Nudge type	**Brief description**	**Usage examples and guidance**	**Use with**
1	Anchoring and adjustment	Using known things to estimate unknown things.	Give the audience **factual comparisons** and **references** that are **relevant** to them Offer **statistics** which give **true scale** of popularity, frequency or rarity of issues.	Selling an idea; changing thinking about a situation.
2	Framing	Presentation or orientation of information that alters its perceived nature.	Design communications so that choices are positioned and explained positively - relevant and clear to audience. Orient communications according to receivers' meaning.	Creating new ways of thinking about a decision or situation.
3	Priming	Preparing people for change.	Help people visualize positive actions and outcomes. Encourage people to consider, explore, and assess steps or strategies. Educate and inform people, especially as to relevant causes and effects. Give people tools and training, not answers.	Getting people ready to think about a coming decision.
4	Feedback	To people, during and after thinking and decisions.	Build checking and feedback into choice processes wherever possible. Reflect people's responses back to them. Design processes that offer feedback while people are engaging with them.	Creating a system to be sure the decision has the desired outcome or response.

Questions for Your Group:

1. Suppose you reframe the school board's problem away from cost and to some other goal, what could that be?
2. Is there a way to get around the moral issue of parents not paying for lunch?
3. Using what you have learned about Nudge Theory and the four key concepts, can you come up with a different direction and plan for a school board decision? (20 min)

Notes:

In-Basket Exercise: Is “ESG” A Competitive Advantage?

Overview: Why this Activity?

Many organizations use an “in-basket exercise” to assess a candidate’s ability to perform an administrative job. In this approach, the candidate is confronted with issues and problems that have accumulated in the manager’s “in-basket” after returning to work from an extended absence. They might include memos, correspondences, e-mails, telephone calls, directives, requests, reports, forms, messages, minutes, hand-written notes, etc. from management, supervisors, staff members, colleagues, customers, and other stakeholders. This easy to implement In-Basket exercise offers multiple ESG learning opportunities. While it was developed for an MBA course on “environmental sustainability” it has broader application to critical thinking. The initial intent was to familiarize students with this concept in advance, then engaging in class discussions and finally a more formal presentation. Scholars generally agree that students can benefit from critical thinking exercises. Rather than jumping to conclusions based on the all-to-easy to access “sound bite,” critical thinking provides the individual the opportunity to contemplate opposing issues and form a carefully considered conclusion. The ability to think critically is of vital importance to business management as significant decisions are made related to both corporate financial performance as well as corporate socially responsible behaviors. Hence, it can be used in a variety of management courses from Organization Behavior to Strategic Management; and given its strong ties to finance and accounting could conceivably be used in those as well.

Learning Objectives:

- Identify “ESG” strategies and critically consider multiple factors surrounding their implementation
- Discuss opportunities and challenges of engaging in “ESG”
- Form and defend an opinion of whether a firm should implement “ESG” strategies
- Enhance critical thinking skills, particularly related to corporate strategies

Group Size:

Any number of groups of 4-8 members each

Related Topics:

- Business ethics and corporate social responsibility
- Business resilience and adaptability
- Enhancing reputation
- Mitigating risk
- Socially responsible investing

Introduction: What is “ESG” and why is it important to both investors and corporate strategists?

In a nutshell, the traditional and well-known “Triple Bottom Line” of people, planet, and profits have been replaced by Environmental, Social, and Governance (ESG) considerations. Hence, ESG factors are increasingly prominent in business. The UN-backed Principles for Responsible Investment (https://www.unpri.org/) advocates investors should incorporate ESG factors into decisions to better manage risk and generate sustainable, long-term returns.[1] Its voluntary framework enables informed decisions on sustainability, ethics, and governance practices. The

[1]For instance, see https://bized.aacsb.edu/current-issue and https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/five-ways-that-esg-creates-value.

growing interest in ESG factors from institutional investors, in particular, reflects the view that these issues can affect the performance of investment portfolios and should therefore be given appropriate consideration by investors. These are aligned with the UN Global Compact (https://www.unglobalcompact.org/) that encourages companies to have strategies and operations that advance societal goals. Most recently, the United Nations adopted 17 Sustainable Development Goals (https://sustainabledevelopment.un.org/) to promote a range of global social needs including education, health, equality, and job opportunities while tackling environmental issues. What really got everyone's attention, however, was when BlackRock's Larry Fink encouraged ESG in investment decisions in his annual letter to CEOs titled "A Sense of Purpose."[2]

Besides the explosion of exchange-traded funds linked to ESG indexes, there has also been a proliferation of ESG indexes and research providers.[3] For example, the MSCI KLD 400 Social Index (https://www.msci.com/esg-indexes) contains companies exhibiting outstanding ESG ratings ("saints") and excludes those with negative social or environmental impacts ("sinners") and https://finance.yahoo.com/ provides ESG data for companies. Most of 2,000+ studies of ESG and corporate financial performance (CFP) found positive relationships that appear stable over time.[4] This is partly explained by the United Nations Industrial Development Organization's report *Creating Shared Prosperity*[5] that explains the rationale for corporate social responsibility (CSR) as follows: "A properly implemented CSR concept can bring along a variety of competitive advantages, such as enhanced access to capital and markets, increased sales and profits, operational cost savings, improved productivity and quality, efficient human resource base, improved brand image and reputation, enhanced customer loyalty, better decision making and risk management processes."

In addition to above-average market returns (or at least, no evidence of losses), there are two other explanations for this growing movement. One is that companies will mitigate the following risks when considering ESG factors in strategy and their investment decisions:

1. *Regulatory* – Corporations that fail to act proactively may face penalties or tighter regulations resulting in diminished value, e.g. carbon emissions legislation;
2. *Shareholder activism* – Institutional investors, civil society groups, and trade unions are using shareholder litigation to pursue corporations and their directors for material failures;
3. *Litigation* – Affected stakeholders, including workers and local communities, litigate corporations who may have violated relevant national or international norms, hence lose their social license to operate and incur expensive post-hoc remediation; and
4. *Reputational* – Rapidly evolving societal expectations regarding corporate behavior mean that corporations must react quickly and proactively to issues as they arise or deal with public relations embarrassment … or watch as competitors seize the high ground for greater appeal.

The second reason is that achieving triple-bottom-line success requires new products, processes, and business models. One study of more than 3,000 companies from 2002-2011 found that ESG indeed enhanced corporate financial performance when innovation was substantial because achieving multiple missions requires taking a high risk and making large-

[2]*Source:* See https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.
[3]*Source:* R. Smith, "Investors Sharpen Focus on Social and Environmental Risks to Stocks," *The New York Times* (December 14, 2016) https://nyti.ms/2hPALxS
[4]Friede, Busch, & Bassen (2015) "ESG and financial performance: aggregated evidence from more than 2000 empirical studies," *Journal of Sustainable Finance & Investment*, 5(4): 210-233.
[5]*Source:* See https://www.unido.org/our-focus/advancing-economic-competitiveness/competitive-trade-capacities-and-corporate-responsibility/corporate-social-responsibility-market-integration/what-csr.

scale investments over five years.[6] Under these circumstances, Adam Smith – considered the father of classical free market economic theory – was prophetic when he wrote: "The rich … are led by an invisible hand … and thus without intending it, without knowing it, advance the interest of the society … ."[7] For investors, the bottom-line is that pursuing ESG factors can simultaneously result in greater financial returns.

The corporate performance matrix is beginning to transcend a single focus on financial achievements by including a firm's sensitivity to environmental concerns and its behavior toward employees, customers, communities, as well as shareholders. Therefore, we believe an exercise that coalesces the practice of critical thinking with strategic decisions of corporations can be uniquely beneficial. Controversies remain over data sources and methods, and of course we cannot assume causality. In this in-basket exercise, students are offered the opportunity to practice their critical thinking skills as they enhance their knowledge of ESG and strengthen their skills of persuasion.

The Exercise

The activity, roles and instructions, and in-basket items begin in the Appendix (page 5). The course was developed for the sustainability program "Going Green Globally" which treated the class as a consulting firm "Going Green Globally Group" or G4. The email correspondence uses fictional email addresses of the 2 co-authors ("Prof. 1" is the Managing Partner and "Prof. B" is the Senior Partner), but the instructor might want to change these to their own names and email addresses. Finally, the in-basket items can be regularly updated.

Step 1-Pre-Session

Instructions to Students:

1. Read "Your Role" and "Your Assignment" on your own and review the items in the Appendix. You are not expected to read every citation, reference, or the Additional Materials/Sources on the last page unless you are skeptical or want to see the original source or want additional information. Use the "Strategy Recommendation – Staff Consultant Review" on next to the last page for your group and class discussion.
2. Your group will play the role of a consulting team asked to recommend an "ESG" strategy decision. Your task is to review these varied issues and problems. Then, meet with your group to review the questions in Step 3.
3. The last page has some thoughts for a "Post-Exercise Self-Reflection" you might want to consider. There is also a section "Just for the Fun of it" that is not necessarily part of your assignment but after this exercise you might be interested in seeing the videos mentioned to get other points of view.

Students' Role:

You are a staff consultant with the **"Going Green Globally Group" (G4)** and, with your team of fellow young members, will develop a cogent assessment of the value of working with what is popularly referred to as "ESG" factors. One way for our consulting company to become sustainable is through an ESG strategy. Therefore, G4 would like your team to develop an evidence-based business model that current and prospective clients would be interested in. If successful, we would help them implement these factors in their strategy. That way, we increase our client base and encourage more organizations to be socially responsible.

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[6]*Source:* R.G. Eccles & G. Serafeim, "The Performance Frontier: Innovating for a Sustainable Strategy" (May 2013) https://hbr.org/2013/05/the-performance-frontier-innovating-for-a-sustainable-strategy.

[7]*The Theory of Moral Sentiments* (1759): Part IV, Ch. I, Para 10

Preparing for the Class Presentation/Discussion/Debriefing:

For companies and investors, the bottom-line is that pursuing ESG factors can simultaneously result in greater financial returns. Discuss your answers to the following questions. Based on your answers, select one of your group members to make an informal 10-minute presentation (you might want to have a hard copy handout) to the class followed by an open class discussion.

1. To what extent do you believe ESG investments and activities are merely "greenwashing" or window dressing to look good rather than actually being good or making an impact? Why not just ignore all the hoopla and wait for this fad to die down? Meanwhile, why not just put your money elsewhere where you can get better returns?
2. How can self-interested capital markets possibly align with sustainable development and public policy goals? When would it be worth a company's time, effort, and resources to join the ranks of the "top ten" lists? What are the pros and cons: What could it expect to get out of it and what's the downside?
3. How should a company take advantage of this movement? Is it worthwhile to develop core competencies for this initiative? Develop a generic business model and plan that shows how corporate social responsibility will also maximize profits.

Step 2-Session Plan

Have the teams sit together and have one representative from each summarize their recommendations and conclusions. Feedback can be offered to each group, and the other groups can be encouraged to offer their views as well. Have each non-presenting team ask one relevant question. Have the teams think about the feedback and respond later after all have expressed their opinions.

Step 3-Timing

Overall, the groups should be able to read through the materials alone in about one-half hour and take an hour to discuss and debate it. Actual class discussion can take another half hour that can be followed up with a lecture or presentation (available upon request). An alternative would be to assign teams to focus on one company and assess their ESG practices, in which case you should provide a list of potential "client" companies.

Summarizing the ESG In-Basket Exercise

1. It is primarily designed to be a teaching aid in graduate (particularly MBA) courses but also has potential for advanced undergraduate courses.
2. It is a CRITICAL THINKING project, encouraging students to debate multiple alternatives and identify the most viable option. Since there is no black or white answer, the exercise promotes carefully considered strategic approaches such as those employed by top management teams.
3. It centers on clarifying socially responsible corporate governance and models the potential consequence of implementing supportive ESG strategies. Hence, students are expected to develop a thorough understanding of ESG and be able to explain it unambiguously. (*Resources and websites are suggested throughout the exercise*).
4. Students are expected to fulfill the role of staff consultant and develop a "best practices" model that offers the opportunity to achieve ESG objectives while maintaining (or even enhancing) overall firm attractiveness to investors. They are expected to propose definitive strategies and defend their choices when challenged, as well as demonstrate how components of their "best practices" model can be integrated into their client's business and to explain the proposed benefits of this integration.

Going Green Globally Group (G4)

CLIENT CONFIDENTIAL: Green Funds

The S&P 500® Index is an unmanaged index of 500 selected common stocks, most of which are listed on the New York Stock Exchange. It is heavily weighted toward stocks with large market capitalization and represents approximately two-thirds of the total market value of all domestic stocks. There is a "green" fund that uses both ESG rankings and values-based screens (including fossil fuel company exclusions) to provide investors with deeply green and sustainable investments.[8] It claims to improve corporate environmental policies and supply chains to make a measurable impact. As you can see in the table, these returns currently are much below the stock market average – not financially green!

Average Annual Total Returns as of 12/31/18

S&P 500® Index	*9.21%*
Green Century MSCI International Index Fund – Individual Investor Share Class GCINX (Inception Date 9/30/2016)	1.27%
Green Century MSCI International Index Fund – Institutional Share Class GCIFX (Inception Date 9/30/2016)	1.52%
MSCI World ex USA Index (Inception Date 9/30/2016)	2.76%
Green Century Equity Fund - Individual Investor Share Class GCEQX (Inception Date 6/3/1991)	8.09%
Green Century Equity Fund – Institutional Share Class GCEUX (Inception Date 6/3/1991)	8.10%
Green Century Balanced Fund GCBLX (Inception Date 9/30/2016)	6.58%

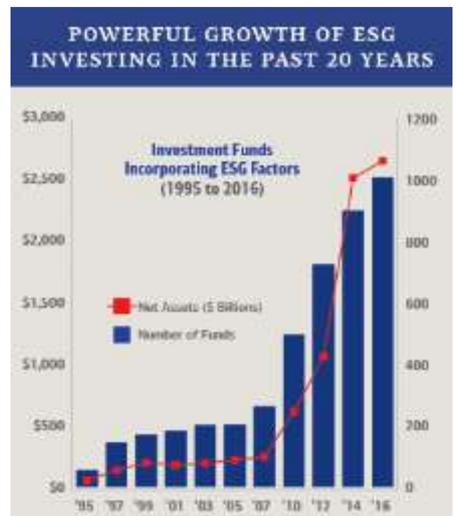
[8] *Source:* Green Century Funds at https://www.greencentury.com/fund-performance/

Going Green Globally Group (G4)

Memo

From: Prof. B, Senior Partner
To: All Staff Consultants
cc: Prof. 1, Managing Partner
Date: January 3, 2020
Re: Growth of ESG Investing[9]

Please look at this chart! ESG investing has grown globally from billions to trillions in dollar value in the past twenty years while the number of investment funds has increased from a handful to a thousand. What do you think explains this? One clear factor is the lingering effect of the 2008 financial crisis. Now, a decade later, slow economic growth in much of the world has led to a conviction that traditional laissez-faire capitalism alone may not be the panacea many predicted back in 1989 — that perhaps a greater sense of underlying purpose could lift prosperity of companies and countries alike. In fact, there is increasing evidence that concern for environmental, social and governance (ESG) practices isn't just good for the world but also for a company's financial performance by not only enhancing returns but also mitigating risk. Well, global CEOs surveyed in 2015 by the Conference Board identified sustainability as one of their top five challenges, in part because of intense and growing interest among investors wanting to support "responsible companies." Moreover: "Among S&P Common Stock companies, those with high ESG ratings averaged 5% higher return on total equity than did poorly rated companies."[10]



Source: U.S. SIF Foundation; Bank of America Merrill Lynch Global Research, "ESG Good Companies Can Make Good Stocks," Dec. 18, 2016.

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[9] *Source:* "Exploring ESG: A Practitioner's Perspective" (June 2016) at https://www.blackrock.com/investing/literature/whitepaper/viewpoint-exploring-esg-a-practitioners-perspective-june-2016.pdf and Scott, "$8.72 trillion, or one in every five dollars of assets under management in the United States," *Forbes* (Feb 17, 2019) at https://www.forbes.com/sites/mikescott/2019/02/17/what-do-investors-want-to-know-about-your-sustainability-strategy-now-companies-have-a-guide/#118614e63dfd.
[10] "Capitalism and the rise of responsible growth" at https://www.merrilledge.com/article/responsible-growth-capitalism.

From: Prof. B [mailto:profb@g4.com]
To: All Staff Consultants
Sent: 1/3/2020 12:06:31 PM
Cc: Prof. 1 [mailto:prof1@g4.com]
Subject: The Business Case for Sustainability

Importance: High

Staffers – I just found an interesting five-minute video at https://sustainabilityillustrated.com/en/portfolio/business-case-sustainability/ - check it out and let me know if it makes the case.

Also, I'm wondering if we can broaden the business case for environmental sustainability to social responsibility and corporate governance. Please develop a business model we can sell to our clients.

Thanks!

Prof. B

From: Prof. 1 [mailto:prof1@g4.com]
To: All Staff Consultants
Sent: 1/3/2020 12:06:31 PM
Cc: Prof. B [mailto:profb@g4.com]
Subject: Sustainable Stock Initiatives

Importance: High

Hi All – The UN Secretary General launched the Sustainable Stock Initiative (SSE) in 2009 to build the capacity of stock exchanges and securities market regulators to promote responsible investment in sustainable development and advance corporate performance on environmental, social, and governance.[11] This initiative encourages exchanges from around the world to sign a voluntary public commitment to further the 17 Sustainable Development Goals (SDGs) and its 169 targets, especially the following: #5 Gender Equality, #8 Decent Work and Economic Growth, #13 Responsible Consumption and Production, and #13 Climate Action. In doing so, the SSE also contributes to #6 Clean Water and Sanitation, #7 Affordable and Clean Energy, and #11 Sustainable Cities and Communities all of which fall within #13 Climate Action. How can we possibly contribute to such a large global initiative? It seems to be beyond our expertise.

Thanks!

Prof 1

[11]*Source:* Sustainable Stock Exchanges Initiatives at http://www.sseinitiative.org/.

Going Green Globally Group (G4)

<u>CLIENT CONFIDENTIAL:</u> Who's Doing the Right Thing?

This list of companies can be sorted by communities, customers, environment, job creation, leadership, products, and worker treatment.[12] Just for the heck of it, here are the top 10 for 3 of these "drivers". Is there a pattern?

Rank	Communities	Environment	Worker Treatment
1.	Freeport-McMoRan	***Microsoft***	NVIDIA
2.	***Intel***	Biogen	***Microsoft***
3.	Kimberly-Clark	Bank of New York Mellon	Facebook
4.	***IBM***	Accenture	***Texas Instruments***
5.	***Texas Instruments***	Apple	Intuit
6.	General Mills	Xerox	Salesforce.com
7.	Ford Motor	n/a	Procter & Gamble
8.	Merck & Co.	Adobe Systems	VMware
9.	Hewlett Packard Enterprise	***IBM***	Zillow Group
10.	PepsiCo	***Intel***	Eli Lilly

[12]*Source:* "Just 100: Companies Doing Right By America," *Forbes* at https://www.forbes.com/just-companies/list/.

Going Green Globally Group (G4)

Memo

From: Prof 1, Managing Partner
To: All Staff Consultants
cc: Prof. B, Senior Partner
Date: January 3, 2020
Re: What is Corporate Social Responsibility (CSR)?

Some individuals are misguided into believing that the only responsibility of companies is to maximize its return to its shareholders who legally own the company. In fact, going further Milton Friedman famously wrote that doing anything else is subversive.[13] But do these objectives have to be conflicting, or can we integrate social and environmental concerns in our business operations while keeping our shareholders happy? How can we possibly be responsible for such disparate issues as environmental management, eco-efficiency, responsible sourcing, stakeholder engagement, labor standards and working conditions, employee and community relations, social equity, gender balance, human rights, good governance, and anti-corruption measures? I recently read that a properly implemented CSR concept can bring such a variety of competitive advantages as enhanced access to capital and markets, increased sales and profits, operational cost savings, improved productivity and quality, efficient human resource base, improved brand image and reputation, enhanced customer loyalty, better decision making and risk management processes.[14]

In fact, many advocates of free markets recognize the need to consider both short-term and long-term strategies. If protecting long-term share value means strategies that focus not only on financial performance but also on qualitative performance (e.g., corporate citizenship) maximizing shareholder wealth should not come at the expense of other stakeholders.

Let's try to develop a business model around social responsibility investing (SRI)[15] that we can offer to our clients. What do you think?

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[13]Milton Friedman, "The Social Responsibility of Business is to Increase its Profits," *The New York Times Magazine* (September 13, 1970): 122-126. He was an American economist who received the 1976 Nobel Memorial Prize in Economic Sciences.
[14]See UN Industrial Development Organization, "What is CSR?" at https://www.unido.org/our-focus/advancing-economic-competitiveness/competitive-trade-capacities-and-corporate-responsibility/corporate-social-responsibility-market-integration/what-csr. For financial returns, see "7 Great Socially Responsible Mutual Funds" at https://www.kiplinger.com/article/investing/T041-C009-S002-7-great-socially-responsible-mutual-funds.html.
[15]See https://www.ussif.org/sribasics.

Going Green Globally Group (G4)

CLIENT CONFIDENTIAL: Top Green Companies

Check out these environmental rankings of the top 500 public companies – you can even view them by industry![16] Sustainability performance is measured using key environmental performance indicators (KPI). It seems all this concern is because of the increasingly obvious deadly costs of climate change.[17] Extreme storms, floods, and fires have wreaked havoc around the world. With these human tragedies also becoming economic and business disasters, investors are awakening to climate risk[18] and the benefits of sustainability. Helping matters is the inexorable improvements of the economics of every major green technology.

Rank	Company	Green Score
1.	L'Oreal SA	89.90%
2.	Centrica PLC	88.70%
3.	Enbridge Inc	86.00%
4.	Siemens AG	85.30%
5.	Cisco Systems Inc	83.70%
6.	Henkel AG & Co KgaA	82.60%
7.	Accenture PLC	82.50%
8.	BT Group PLC	82.50%
9.	Adidas AG	79.60%
10.	Koninklijke Philips NV	77.90%

BTW, you might be interested to know that there's been a backlash to the U.S. leaving the Paris climate accord and dismantling environmental protections with very strong "sub-national" support for climate action in the United States.[19] More companies (including Apple, Facebook, Google, HPE, Ingersoll Rand, Intel, Microsoft, PG&E, Tiffany, and Unilever) are increasingly committed to climate action, and states such as California, Washington, and New York as well as cities and universities have also signed on. One prediction is that these mega-trends have too much inertia to completely disrupt, leading to the following predictions:

1. As the climate continues to get more volatile, business leaders will have to understand climate as a systemic risk and opportunity.
2. Millennials (Gen Y) and Centennials (Gen Z) will continue to push for purpose and meaning in work and life.
3. AI, big data, blockchain, and other technologies will change how we understand companies, products, and services, leading even more to embrace "clean labels".
4. Companies will set more and more aggressive sustainability goals.
5. Clean tech will continue to prevail globally.

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[16]*Source:* https://www.newsweek.com/top-10-global-companies-green-rankings-2017-18.

[17]For instance, see "Bringing climate-related reporting in from the cold" (June 29, 2017) at https://pwc.blogs.com/sustainability/2017/06/bringing-climate-related-reporting-in-from-the-cold.html and "Why investors should act in response to climate-related risks and opportunities: a survey of current evidence," ClientEarth (August 2018) at https://www.documents.clientearth.org/wp-content/uploads/library/2018-08-13-why-investors-should-act-in-response-to-climate-related-risks-and-opportunities-a-survey-of-current-evidence-coll-en.pdf.

[18]For instance, see https://riskybusiness.org/ and the video at https://www.youtube.com/watch?v=P_Lahx6pcVw.

[19]*Source:* Winston, "The Top 10 Sustainable Business Stories of 2017," *Harvard Business Review* (December 2017) at https://hbr.org/2017/12/the-top-10-sustainable-business-stories-of-2017.

Strategy Recommendation – Staff Consultant Review

Directions: Complete this review sheet for ESG initiatives by circling the appropriate numbers, then provide two pieces of feedback at the bottom of this page.

1=Highly risky given political and technological uncertainties

2=Mediocre performance; requires stronger effort or remedial work to be worthwhile

3=Average risk/return as well as stakeholder impacts; technology shows promise

4=Exemplary environmental and social impacts; below average returns

5=Superior returns expected at minimum risk

Image

-Going Green Globally Group (G4) will obtain sufficient publicity to make this worthwhile.

1	2	3	4	5

Innovative

-We are doing something that is unique and novel.

1	2	3	4	5

Communications

-We can explain this to our constituents and they will support it.

1	2	3	4	5

Commitments

-This initiative is worth the time, effort, and funds we are expending, and it is sustainable.

1	2	3	4	5

Staff Consultant Comments:

*One defensible reason to support this initiative is …

*One possible way we can improve this initiative is to …

Additional Materials/Sources:

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Smith, "Investors Sharpen Focus on Social and Environmental Risks to Stocks," *New York Times* (December 14, 2016) at https://www.nytimes.com/2016/12/14/business/dealbook/investors-social-environmental-corporate-governance.html.

U.S. Global Change Research Program, *Fourth National Climate Assessment* (Volume II: Impacts, Risks, and Adaptation in the United States) at https://www.globalchange.gov/nca4.

Post-Exercise Self-Reflection:

"Green is green" is a double entendre referring to profitable environmental investments. Having heard your classmates and the debriefing, reflect on your own views about "green values can result in valuable green" and compare them to your classmates. What does this exercise suggest about "Business is best suited to solve sustainability problems"? What personal actions in both your personal or professional life can you commit to as a result? What else would you like to know about environmental, societal, and governance issues or anything discussed before committing to significant changes?

Just for the Fun of it:

Michael Porter contends on *TedGlobal 2013* that shared value is "a higher kind of capitalism – as it was ultimately meant to be."[20] In his view, businesses can solve social values by collaborating with others. Compare it to Vinay Shandal's "How conscious investors can turn up the heat and make companies change" on *TED@BCG 2018*.[21] If these don't convince you, maybe "What is the Purpose of the Corporation?" (http://www.purposeofcorporation.org/en) as explained by Frank Bold will.[22]

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[20]Available at https://www.ted.com/talks/michael_porter_why_business_can_be_good_at_solving_social_problems.

[21]Available at https://www.ted.com/talks/vinay_shandal_how_conscious_investors_can_turn_up_the_heat_and_make_companies_change?language=en.

[22]Available at https://www.youtube.com/watch?v=mwLhoR04Qe8.

Negotiate to Survive: An exercise to help develop students' understanding of negotiations

Submitted to the Experiential Learning Association

Eastern Academy of Management

Negotiate to Survive: An exercise to help develop students' understanding of negotiations

Abstract

To help instructors teach students the meaning of negotiations, and to help students understand the different types of negotiations, we developed the "Negotiate to Survive" activity. In this activity, students work in teams to participate in both distributive and integrative negotiations, in an effort to help them understand the difference between the two. Statistical results show both that the activity helped students understand the difference between the two negotiation types and that they enjoyed participating in it. Student comments support the statistical results.

Keywords: Experiential exercise; negotiation

Introduction

It is important for students to understand topics in management in order for them to be successful in the real world. They often fail to understand these concepts, however, due to limited working experience, practice, and self-awareness. One important topic for business students to understand is negotiations -- in particular the difference between distributive and integrative negotiations and when each type of negotiations applies.

In addition, students today generally benefit from participating in experiential exercises in class. Such exercises help students understand business-related subjects better and students also enjoy participating (Conant, 2018; Turner & Turner, 2015). In fact, others have demonstrated the effectiveness of developing and using an experiential exercise to teach negotiations and the difference between distributive and integrative negotiating (Beenen & Barbuto, 2014; Seltzer & Smither, 2007). We developed this exercise as an alternative to teach students the different types/styles of negotiations and when to utilize each type.

After developing the exercise, we tested it in three classes in order to investigate whether the exercise helped the students understand negotiations styles and to assess their feelings about participating in it.

Background

Negotiation/Bargaining is an important topic for business students to understand. It is covered in virtually every Organizational Behavior text (e.g. Robbins and Judge, 2017) and there are multiple texts exclusively devoted to the topic (e.g. Lewicki, Barry & Sanders, 2020). Clearly, negotiations comes up in many aspects of business, making it important for students in business school courses to understand. There are a variety of subtopics included within the broader topic of negotiations; subtopics include how to prepare for negotiations, conflict in negotiations, gender differences in negotiations, negotiation styles, and more. One particularly important subtopic is the difference between distributive and integrative negotiations, and when each of these applies.

Distributive bargaining is the type with which most people are familiar. It assumes a fixed "pie" and the parties bargain over which (who) gets a bigger piece of the pie. It is often referred to as a "win-lose" scenario because in distributive bargaining, since the pie is fixed, if one party gets more, the other(s) must get less. Integrative bargaining, by contrast, occurs when the size of the pie is not fixed; if the parties bargain through an integrative approach, they both (all) can win. Alternatively, if the parties are bargaining over more than one issue, each party can do better on some issues and less well on others, making integrative bargaining a possibility.

As stated above, it would be helpful for students to be able to participate in an activity to experience the different types of bargaining, given the efficacy of experiential learning in business. And while there are a number of bargaining exercises available, many of these are commercial, requiring someone to bear the cost. We did, however, find two other negotiations exercises that appear in academic journals. In "Let's Make a Deal: A Dynamic Exercise for Practicing Negotiation Skills" (Beenen & Barbuto, 2014), the authors developed an exercise involving the sale of a used car. The main learning experience students gain from this exercise is an understanding of "BANTA" (what the negotiators are left with if they fail to reach a negotiated agreement). In "Where there is a will…:A New Exercise to Explore Distributive and Integrative Conflict" (Seltzer & Smither, 2007), the authors created an exercise involving two brothers who bargain over the distribution of items from their father's estate. We created an alternative exercise to enable students in business to experience the two types of bargaining. That exercise is described below.

The exercise

Purpose and background

The purpose of this exercise is to help students understand the difference between distributive and integrative negotiation situations and how to negotiate effectively in each. The learning objectives are as follows:

1. To differentiate between the two negotiation approaches – distributive and integrative
2. To appreciate under what conditions to use each approach most effectively
3. To identify effective strategies when negotiating in distributive and integrative bargaining

In the exercise, students are placed into five teams and each team starts with one of five resources (food, water, shelter, medicine, and clothing) and 50 coins. Then, each team negotiates with the other teams to acquire resources to "live." There are two rounds. In the first round, the goal of the activity is to "live" by acquiring at least four of the five resources at some point during the game *and* by having the most coins at the end of the game. In the second round, the goal is to "live" by acquiring all five resources at some point during the game. The number of a team has at the end is irrelevant as long the team had all five resources at some point during the game. In the first round, students need to recognize that only one team can win, making this a distributive bargaining situation. In the second round, however, the students should recognize that all teams can win, making this an integrative bargaining situation. In both situations, students should consider effective strategies, such as aggressive first offers and compromise, depending on the type of bargaining involved.

Materials and preparation

Before class, the instructor needs to prepare by first getting items to represent the resources. In our exercises, the following items were used to represent the five resources:

1. Water - A water or Pepsi bottle
2. Food - An empty food container (e.g., cereal box or a sprinkles container)
3. Clothing - A sock or a hand towel
4. Medicine - An empty Advil bottle
5. Shelter - An empty box

Instructors can purchase toy coins for currency. Alternatives, such as Monopoly money or marbles, can be used as well. The authors purchased plastic, gold coins on Amazon for the exercise.

Instructors should display the rules somewhere, whether it be via a handout, PowerPoint, or whiteboard. A timer is also needed, such as a Google timer, a stopwatch, or a timer on a smartphone. In our exercise, we displayed the rules in a PowerPoint on a projector and displayed a Google timer next to the PowerPoint rules.

The Activity - instructions

Students first form teams or are assigned to teams. Team size depends on class size, but teams of three to six work well. Teams that are too large may result in social loafing (Mohammed, Ferzandi, & Hamilton, 2010). Next, students are given the materials. Each team randomly receives one resource and 50 coins. Students are given instructions for Round 1 (see PowerPoint Slide, Appendix) and are asked if they have any questions before the negotiations begin. The instructions are as follows:

- In teams, you have 50 coins. Use these as a bargaining tool (money) to purchase the resources you need to live.
- To begin, each team has one resource (there are five in total).
- In order to "live," you must use your coins to collect at least four of the five resources. You do not need to possess all the resources at once; you simply need to have at least four at some point during the game.
- All goods are about equal in value.
- You cannot barter goods; you must negotiate with coins.
- Each transaction must be documented through the class facilitator.
- The resources are: water, food, clothing, shelter, medicine
- To win: You must "live" and have the most coins at the end of the game.
- If you win, you receive 1-point extra credit towards your final grade.
- Time limit: 10 minutes

The instructor should document and keep track of the resources that each team has throughout the game in order to decrease the likelihood of confusion and disputes at the end of the negotiation. The authors created a grid and displayed it on the whiteboard and simply checked off the boxes for the resources for each time as the required them. We asked students to tell us, "Team X purchased Resource Y for -- coins (record the number of coins used to purchase the resource)." The instructor role is to observe and answer any questions. It is important to make observations for the debriefing and discussion that follows the exercise. Once questions have been answered, the timer is started and the negotiations begin.

After the first round finishes, the winner is declared. Debriefing is optional and a few minutes may be needed for students to decompress emotionally. The instructor then should ask students to prepare for Round 2 by getting their original resource and 50 coins. In Round 2, a new set of instructions is given (see Appendix for PowerPoint slide):

- In teams, you have 50 coins. Use these as a bargaining tool (money) to purchase the resources you need to live.
- To begin, each team has one resource (there are five in total).
- In order to "live," you must use your coins to collect ALL five resources. You do not need to possess all the resources at once; you simply need to have all of them at some point during the game.
- All goods are about equal in value.
- You cannot barter goods; you must negotiate with coins.
- Each transaction must be documented through the class facilitator.
- The resources are: water, food, clothing, shelter, medicine
- To win: You must "live."
- If you win, you receive participation credit for today's class.
- Time limit: 10 minutes

Similar to Round 1, the instructor should document and keep track of the resources that each team has throughout the game in order to decrease the likelihood of confusion and disputes at the end of the negotiation. The whiteboard approach can be used along with asking students to say, "Team X purchased Resource Y for -- coins (record the number of coins used to purchase the resource." Once questions are answered, the timer is started and the negotiations begin.

One point of confusion that should be clarified before the exercise begins is that teams do not have to have all the resources at once. Once they have obtained a resource, they have "accessed the resource and satisfied their need." They then can sell that resource and purchase others.

Debriefing and discussion of activity

Once the activity is over, it is important to give students a few minutes to decompress as the activity can be very emotional. In an open-ended response question after the activity, some of the student responses were: "It was so annoying, our class is just super competitive so that made it kinda stressful," and "Some people are nuts and take certain activities too seriously." It is important to give students time to discuss their feelings about the activity before beginning the substantive discussion about the activity and how it relates to the course material.

Once students decompress, a discussion about the learning gained from the activity can take place. Questions that can be asked (individually or collectively) include: What did you observe? What strategy did you use or observe? What negotiating skills did you use or observe? With whom would you want to negotiate and why? Typically, student responses vary from class to class. Some students report developing a strategy within their team (e.g., gather all resources at any cost to control the supply and prevent other teams from being able to survive) whereas others report confusion and a lack of communication within their team. For example, some team members reported not even knowing that some of their other team members had acquired a resource. Individual differences often get discussed - aggressive negotiators are often pointed out. This often leads to discussions about trust. Also, some students carry over what they learned from Round 1 into Round 2. An important lesson in negotiations to note that if negotiations with the same team will occur over multiple rounds, it is important to be cognizant of that because what happens in one round may affect what happens in later rounds. If parties negotiate only once, there is no incentive to build a long-term relationship for later rounds. If it is likely that parties will negotiate again in the future, however, it may be better for each party to act more cooperatively and less aggressively. In our situation, some students learned who was aggressive and not trustworthy in Round 1 and those feelings carried over into Round 2, making certain teams/individuals not want to work with others. In one of our classes, a student reported feeling "beef" with some of his classmates, even after the activity was over.

Next, we asked students to differentiate between the two rounds. Through discussion, we learned that students realized the first round can only have one winner, whereas in the second round everyone can win through collaborative efforts. This is sometimes difficult if trust or interpersonal issues developed from the first round, however. Important lessons should be discussed. First, the two types of negotiation -- distributive and integrative -- should be identified and compared. Round 1 is an example of a distributive negotiation and Round 2 is an example of an integrative negotiation. Related to this, students should consider how the type of negotiation affects their strategies. Aggressive, first offers are often beneficial in distributive negotiations (Robbins & Judge, 2017). For example, some students come out and ask for 20 coins for a resource whereas others ask for five coins. Students who make more aggressive first offers set the standard or an anchoring bias (Magee, Galinksy, & Gruenfeld, 2007) for negotiations going forward and often get more from the negotiation. Information sharing is also important. Research suggests that extraverts can perform poorly in distributive negotiations because they talk too much and give away information (Amanatullah, Morris, & Curhan, 2008; DeRue, Conlon, Moon, & Willaby, 2009). In one of the classes, a student told another team what his team paid for a resource. By sharing this information, the other team immediately responded by saying it would not pay more than that value, hurting his negotiating efforts.

Individual differences also can be discussed. We discussed how self-efficacy can be intimidating and therefore can be beneficial during a negotiation (Sharma, Bottom, & Elfenbein, 2013). Students also can be asked how personality, such as the Big Five factor Agreeableness, affects successful negotiation. In an integrative negotiation, agreeableness can be beneficial, as agreeable individuals are warm and care about the other party (Judge, Livingston, & Hurst, 2012), which makes for better communication and collaborative efforts. Agreeable individuals may not do as well in a distributive negotiation, as they are often compliant and cooperative, causing them to give in and lose.

Through this activity, other important organizational behavior and management topics may come up. For example, individual personality differences, trust, teamwork, communication, and ethics often come up. Students who are high on agreeableness often report "giving in" in the negotiations. Other students take the approach that "in the real world" it is cut throat and you have to do what is best for you, even at the expense of others. These comments, though unpredictable, can generate conversations that are important and relevant to the real world and experiences that students have in the classroom.

Assessment of exercise effectiveness

Sample

The exercise was conducted in an Upstate New York college using three different undergraduate classes. The first class was an introduction to management course (Business Organization, *n* = 37) and the other two classes were organizational behavior courses comprised of more experienced undergraduate students (*n* = 50 in total, *n* = 20 in Class 1; and *n* = 30 in Class 2). All students were mostly traditional students, Caucasian, and male. The study received

Interval Review Board (IRB) approval and we collected consent from participants before any quizzes, lectures, or activities.

Analyses and results

We used three classes to test our exercise and we measured its effectiveness with multiple choice quizzes to assess student learning (see Appendix). First, in the introductory business course, we gave students the quiz before a quick lecture and the activity (pre quiz). Immediately after we conducted the activity, we gave the students the same quiz (post quiz) to see if students performed better, which would suggest that the exercise was effective in teaching students about bargaining. Using a paired *t*-test, we found a significant difference ($t(36) = 5.44$, $p < .001$) in performance between the pre quiz (*mean* =1.14 , *sd* = 0.92) and post quiz (*mean* = 2.43, *sd* = 1.5).

We further tested the exercise effectiveness by comparing the two organizational behavior classes, one that had two days of lecture about negotiations and no activity (class 1; control group) and one class that had two days of lecture and the activity on the third day (class 2; experimental group). In this way, we could assess whether the exercise was effective in helping students understand negotiations. Again, we gave all students a quiz before any lecture or activity took place (pre quiz). For class 1 (control group), we gave the participants the same quiz after the lecture on day two (post quiz). For class 2 (experimental group), we gave the same quiz after the lecture on day two (lecture quiz) and the same quiz again after the activity on day three (post quiz). To assess activity effectiveness, we first compared the two classes on the pre quiz (class 1: *mean* = 1.15, *sd* = 0.93; class 2: *mean* = 1.07, *sd* = 0.87) and found no difference between the two classes to start ($t(39.79)=.32$, $p = .75$). We then compared the two classes on the post quiz (class 1: *mean* = 1.6, *sd* = 0.99; class 2: *mean* = 2.2, *sd* = 1.16) and found a marginally significant difference between the two classes ($t(44.83) = 1.96$, $p = .057$). This suggests that the activity was effective in reinforcing the negotiations material.

Last, we compared class 2 (experimental group) on pre- and post- quizzes to see if the lecture and exercise helped student learning. We found a significant difference ($t(29) = 4.49$, $p < .001$). In order to assess the effectiveness of the exercise more fully, we also compared the lecture quiz (the quiz participants took on day 2 after the lecture) with the post quiz (the quiz participants took on day 3 after the exercise) and found a significant difference ($t(29) = 2.89$, $p = .007$). We see this as evidence that the activity added to student learning *beyond* the two days of lecture.

We also collected data on subjective satisfaction with the activity. We asked students to report on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) the extent to which they agreed with three statements. Table 1 reports the means and standard deviations for the management and organizational behavior classes. For the organizational behavior classes, only four participants responded Disagree (2) with the question "*I enjoyed this activity"* whereas 39/47 (83%) responded Agree (4) or Strongly Agree (5). Moreover, for the question "*This exercise helped me learn the chapter concepts on negotiation,"* only one participant responded Disagree (2) whereas 43/47 (91%) responded Agree (4) or Strongly Agree (5). Though the results were not as positive for the management course, the results were overwhelmingly positive in that class as well. The results suggest that students enjoyed the activity and felt it helped them learn the material better.

INSERT TABLE 1 HERE

Finally, we also collected qualitative data by asking students to leave comments about the activity. Examples included:

- *It was a fun activity negotiating, definitely one of the best activities we have done all year*
- *I enjoyed being able to get up and be involved with my classmates while getting a better understanding of the chapter*
- *This activity put the chapter into a real life perspective made it easier to remember and understand the concepts*
- *Enjoyed how it related to the chapter. I feel like I understand the material a lot better. At first I was a little annoyed about an activity but now I understand how it related*
- *This was extremely helpful in knowing and understanding myself more as well as others.*

Students reported positive feedback overall. Students touched on having a fun, enjoyable experience. They also felt the exercise helped them learn and apply the material rather than just talking about it in a lecture. Students also appreciated getting to interact with their peers, which helped them better understand themselves and others.

Appropriate courses and variations

Our exercise can be used in business, management, organizational behavior, or negotiations courses. Though this activity was tested in 55-minute, undergraduate introduction to business and organizational behavior courses, it can be adapted for other courses. The activity can also be adapted for different class sizes as well. We used class sizes of approximately 20 and 40. We gave the teams ten minutes to negotiate but if class sizes are larger, it is possible to increase the number of groups and therefore resources (e.g., adding a vehicle for transportation).

More time can be added as well. For space, any type of class is doable. A room where desks can be moved so students can freely move around to interact and negotiate is ideal, however.

In addition to adding groups and resources and changing the time limit, it is also possible to modify the exercise. For example, in our activity, we posted on the whiteboard the teams' resources acquired. It is possible for the instructor to keep the information hidden from the students, however. This lack of transparent information can affect how students negotiate. In fact, in one of the post-activity discussions, a student made the suggestion to keep the information hidden and believed it would have affected how he negotiated.

Moreover, in one of our classes (management class) we did not offer the winning teams anything. In the organizational behavior classes, we offered the winning team for Round 1 one bonus point towards their final grade and in Round 2 we told the students they needed to "win" in order to receive their participation credit for the day. There did not appear to be any difference between the activities regarding the incentive. Either way, the activity can be adapted to encourage participation if participation is part of students' grades. It does not appear necessary to motivate students to participate.

Discussion

Overall, the activity seemed effective, but there were some students who felt it was difficult to participate. One student reported, "I feel the activity itself was chaos and I was unsure how to begin participating in the activity. I feel this activity would possibly work better on a smaller scale (EX: Instead of teams, only have 5 resources allotted for 5 individuals)." It is possible that students who are more introverted or less aggressive are less likely to participate, thus decreasing their engagement and ability to learn from the exercise. A future exercise could be developed or adapted from the existing exercise so that bargaining would take place among individuals rather than among teams. Despite this, conducting the exercise using teams may still be useful. For example, one student reported, "I wasn't really participating first until the second part. My team was arguing and so I decided to let them argue but during the second part I decided to make better deals and give an insight." From this exercise, students learn to better understand themselves and others by working in a team.

Lastly, we found more positive responses to the satisfaction questions in the organizational behavior course compared to the management course. One possible explanation for this inconsistency may be due to the fact that the management students were not assigned a negotiation chapter to read whereas the organizational behavior students were. Therefore, it may have been difficult for students to respond positively to questions about how the activity helped them understand the chapter material if there were no assigned chapter readings. Regardless, both teams positively responded to enjoying the activity, suggesting a positive learning experience.

Presentation at ELA

This exercise can be demonstrated in 30 minutes at the conference. We will form groups, give instructions and then, initiate both rounds of negotiations, ten minutes each. After the teams complete both rounds we will discuss the effectiveness of the exercise and ask for suggestions regarding how to improve it.

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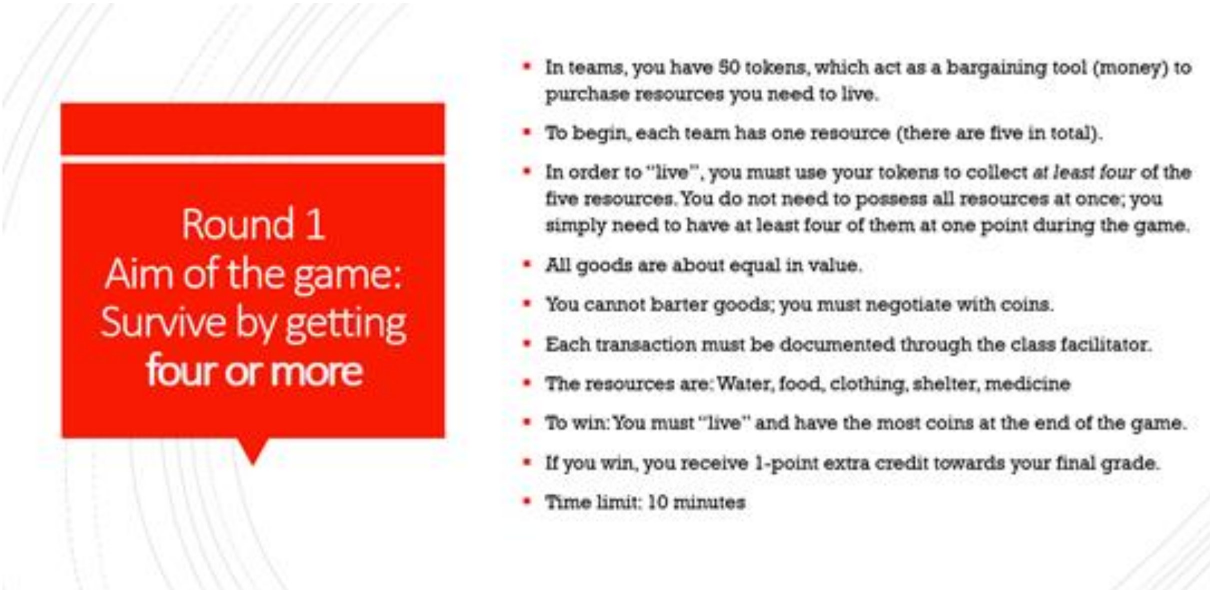
Table 1

Means and standard deviations for satisfaction questions by class type.

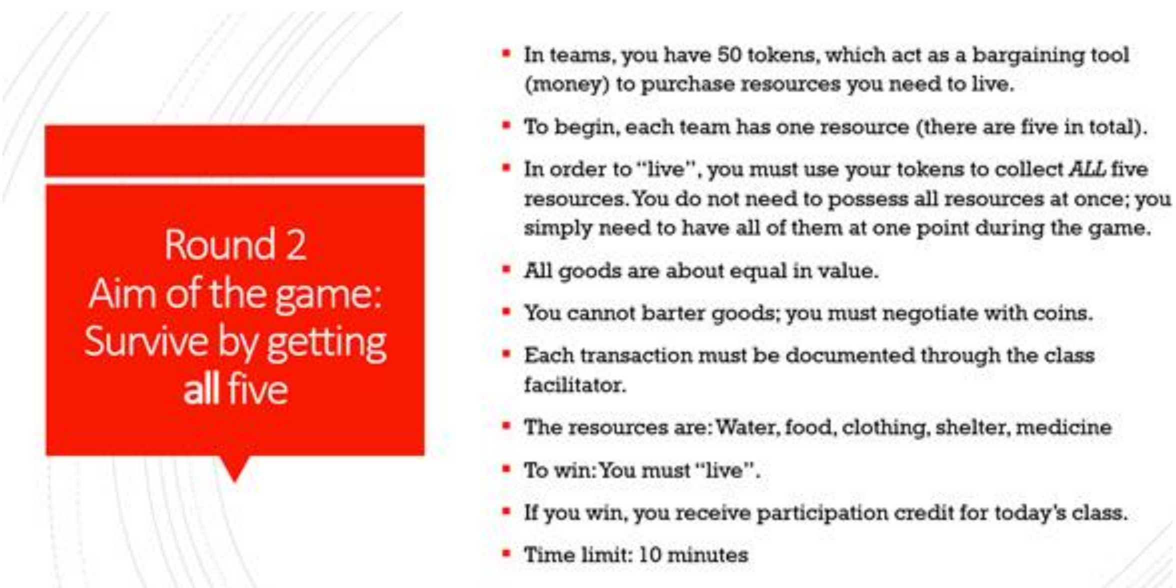
	Management class		Organizational behavior class	
Question	*mean*	*sd*	*mean*	*sd*
This exercise helped me better understand how I negotiate.	3.95	1.15	4.49	0.69
This exercise helped me learn the chapter concepts on negotiation.	3.97	1.04	4.51	0.72
I enjoyed this activity.	4.24	0.89	4.43	0.97

Appendix

PowerPoint Round 1



PowerPoint Round 2



Pre- and post-exercise quiz

Please reach each question and select the best answer. Do not leave any questions blank.

1. In this type of negotiation approach, the goal is to try to get as much of a fixed amount of resources as possible. In this approach, the more I win, the more you lose. Which of the following best describes this negotiation approach?

    1. Mediation
    2. Distributive
    3. Integrative
    4. Assertiveness

2. In this type of negotiation approach, the goal is to try to create a win-win situation. Which of the following best describes this negotiation approach?

    1. Mediation
    2. Distributive
    3. Integrative
    4. Assertiveness

3. In this type of negotiation, a good strategy to use is to make an aggressive first offer. Which of the following best describes this negotiation approach?

    1. Mediation
    2. Distributive
    3. Integrative
    4. Assertiveness

4. In this type of negotiation, parties share information and build long-term relationships. Which of the following best describes this negotiation approach?

    1. Mediation
    2. Distributive
    3. Integrative
    4. Assertiveness

When Personal Code Trumps Professional Code:

Ethical Failure in the Oversight of a Nursing Home Facility

Abstract

This case study provides an example of ethical challenges Care Management managers face. Arkesha, Access Management Company's Senior Administration Manager, had vouched for Caroline's integrity and professionalism when Senior Executives considered hiring her. But just 2 years into her position as Administrative Manager, Caroline defrauded the organization $84,000 in care management fees used to care for her ailing father. Arkesha struggled in deciding between retaining Caroline so as to her save her father and nephew (with Down's Syndrome) from future financial hardship and firing her, and then reporting her to senior executives in a bid to save the organization's reputation before the Center for Medicaid and Medicare Services (CMS). Following careful deliberation, reliance on her college training, and applying Reardon's six steps to ethical decision making, Arkesha made a life changing decision.

Learning Outcomes

By the end of this case students will be able to:

1. Understand how to *identify* relevant facts and information, assess ethical conflict, discover alternative justification of decision for selected course of action, and e*valuate* principles underlying decisions as well as their utility and consequences.
2. Learn how to articulate a response to an ethical dilemma using Reardon's (2007) six (6) steps to ethical decision making.
3. Develop their ability to critically evaluate ethical challenges and enhance their capacity for moral reasoning

4. Learn practical moral tools needed to sustain a cohesive and productive organizational life, as well as how to review critically compliance with the organization's codes of conduct.
5. Review and understand the steps to ethical decision making, emphasizing the importance of intentions, power and influence structures, and stakeholder roles.

Discussion Questions

1. How will you apply Reardon's (2007) six (6) steps to making ethical decisions to the case?
2. Assume Caroline's role. Now consider her mother's financial hardship, her conflicting personal interest to safeguard her family's savings versus ensuring the company earned sufficient federal revenue. What decisions or actions would you take? Will your decision be similar to or different from Caroline's?
3. If you were in Arkesha's position, what critical factors will you consider in making a decision to report and resolve the incident? Would you focus only on the utility and consequences of your actions or, would you do only what you think is right without any regard to the potential socio-economic consequences?
4. What advise will you give Caroline to resolve her ethical dilemma caused by her conflicting personal and professional moral principles?

Case Context[1]

Residents of Valley House (commonly referred to as *Valley*), a reputable nursing facility in a mid-western town, enjoy access to the high-quality services in applied gerontology. In addition, they are provided a number of unique hospitality services that increase their quality of life and optimal comfort in their golden age. For example, a local hairstylist and her assistant visit the facility twice a week and have made many friends with residents in Valley

House. Frequently, many family members and residents choose to join residents in the social engagements offered through the Office of Community Engagement, such as regular trips to local restaurants and destinations, visits to shopping centers throughout the community, and attendance of church services.

These additional services come at a cost commonly covered by the residents' family members and friends through an established virtual account held within the larger pool of the resident trust fund maintained by the facility's business office. Backed by the authority of the State's Center for Medicaid and Medicare Services (CMS), this fund is routinely monitored by employees using a CMS approved software developed and provided by Resident Funds Management Systems, LLC. This software or RFMS, as it is commonly called in the front office at Valley, generates a monthly statement that is sent to the responsible party named on an individual resident's account. It details how funds were used at the request of individual residents to either increase their quality of life or to finance elective services that they use. As CMS emphasizes accountability and transparency in the management of these funds, field accountants of the State Agency conduct quarterly audits of the fund to ensure responsible maintenance of residents' resources.

In some limited circumstances, however, residents enter the facility without providing the name of a responsible party. These circumstances include either self-aware clients that are using the facility's excellence as a 'swing-bed' short-term rehabilitation service or clients with no family members within the area that are linked to their personal network of care. In either case, the facility supports the housing and care of these minority residents who are self-registered within the admissions process. When an account is established within the resident fund for these individuals, the facility's administrator serves as the recipient of the client's monthly maintenance statements.

Regardless of the resident's registration status within the Trust Fund, for all residents who receive federally administered benefits from Social Security, Veterans Affairs, or another structured benefit source that supports their cost of living within the facility (alongside any eligibility within the State or Federal Medicare or Medicaid funding), funds are deposited bi-monthly. Funds are lodged via an electronic upload direct deposits into the resident's trust fund virtual account. All of these transactions are monitored, recorded, and balanced by an accounts receivable clerk who reports to the facility's Senior Administration Manager. With these safeguards in place, it appears that no ethical failure could occur in this context or in the organization.

Case Content

Valley House, a former non-profit co-operative nursing-home organization, has undergone a major organizational change and a high turnover in the front office staff once it Access Management Corporation (AMC)[2] privatized it and included the organization in its network of continuing care facilities located within the Midwestern United States. During the privatization process, AMC Regional Account staff combed through the resident trust fund's statements of cash flows from the previous year and became aware of unusual bookkeeping practices previously ignored within Valley's internal audits. This and other issues related to reconciling accounting records did not fall fully under Access Management's control until the Colorado CMS completed an exit survey of the facility. The exit survey is necessary for approving benefit payments after the closing of the sale as major deficiencies, in any category, can jeopardize a successful completion of the facility's sale to Access Management.

Access Management's corporate office sent summer interns to reconcile a pile of beauty parlor slips and other individual receipts for resident community outings that remained on the desk of the departed accounts receivable clerk. This pile of unrecorded transactions has been rising since the resident population at Valley has grown to fill 167 of the 175 beds available within the facility. Busily reviewing the work before them, a team of two aspiring graduates from the local university's Masters in Accountancy program were preparing to unofficially complete their audit. Upon the audit completion, they were required to report their findings to both Valley's new administrator and Access Management's regional accountant responsible for overseeing the facility and its future operations. All those involved understood the gravity of the audit as it was the crucial hurdle that had to be cleared to expedite the acquisition. Expediting the acquisition was AMC's priority as adding the facility and its correspondingly high Medicaid residency population to the Access portfolio would allow stability within the region's cash flows, as the State's CMS reimbursements for Medicaid beneficiaries remained uncharacteristically high.

In parallel to the interns' work of preparing a thorough audit aimed at shaping the books for CMS' inspection, Access brought in regional executives and a select membership of its Board of Executives to assist in hiring a number of front-office staff. Arkesha, the facility's new Senior Administration Manager had just relocated to the area to be closer to her soon to be husband's family. She spoke highly of Caroline, a member at her newly found home for worship. Caroline, a single mother who had worked for some time as the bookkeeper for a number of small pizzeria locations in the neighboring city, not only needed the work but also boasted a strong history of performance. While her previous employment was terminated on the basis of her inconsistent attendance, Arkesha assured the hiring committee (comprising her superiors) that Caroline's lackluster attendance was the result of her unwinding marriage that had now been resolved through successful divorce proceedings settled within the last 90 days. Amply able to argue her cause, Arkesha was proud to make Caroline her first hire.

Access Management, a company run by an osteopathic physician, operates its facilities under the supervision of a medical director and supervisory nurse practitioner licensed to practice gerontology and internal medicine within the State. The company's code of conduct requires reporting any appearance of conflict of interest. However, the Medical Director, Robert Antston, who would preside over Valley was retained from previous arrangement and, unbeknownst to Access' senior team, was the father of Arkesha's boyfriend, Jusitone. In fact, as the couple had just relocated to Valley's location, they were living in the medical director's guest cottage. With this living arrangement, working from home had never had such a clear meaning to Arkesha, but she believed that for the benefit of the organization the truth should be discovered only after the dust of ownership transfer and privatization of the facility had settled. Regional care managers would later likely say this was a minor lapse in due diligence, and shift their attention to getting nurses and aides up to speed on Access's care model and online recording system for medical record maintenance.

Caroline was brought in to join the organization on April 1, 2016 as the July 31 deadline for filing preliminary findings in advance of an August CMS survey window grew nearer. While the audit team was busy with Trust Fund accounts reconciliation, Caroline was left to exercise her best judgement in processing admissions information such as verifying insurance coverage and meeting with family members to collect payments. To meet the deadline, Caroline was conditionally allowed to work independently, provided she would meet with her Access-assigned mentor once a week.

The audit schedule was hectic, but the work was eventually successfully completed. When ownership was transferred to AMC upon the approval of the exchange of the facility's CMS certification, the interns returned to college to continue their graduate studies. Since the records still showed an exceptionally high resident census at Valley, Arkesha encouraged Caroline to not investigate the diagnoses of resident's seeking admission into the facility because the administration tried to avoid the possibility of discriminating anyone. In other words, AMC wanted to operate within the community as an organization recognized for promoting access for all, on a first-come, first-serve grounds.

Ethical Dilemma

As Caroline consistently performed well, Valley House reduced the level of its supervision. With the formalities of probationary periods duly satisfied, hiring processes and procedures in place were confirmed as expected. However, the quarterly audit review suddenly uncovered glaring errors in the billing statements submitted for a given resident that Caroline admitted. Specifically, because the amount of $84,000 in receivables from the State CMS Bursar had yet to be paid, the Regional Accountant overseeing Valley became highly concerned. Encountering Caroline on her way through the building one day, Arkesha told her to send the routine Attestations of Care to CMS Billing where additional reconciliation documents had been requested. Caroline seemed flustered by this request, but promised to supply the documentation duly.

A few days later, Arkesha received incongruent documents that appeared to indicate congestive heart failure in hospice care as the primary diagnosis requiring skilled nursing on a continuing basis as the reason the resident in question was within Access Management's facility. While Arkesha oversaw the fiscal operations of many facilities, she vaguely recalled meeting a family member of this resident at a dementia caregivers and family members support group facilitated by the State Association of Assistance in Living. However, things didn't seem to add up. Caroline had sent the documents for CMS review, but nothing had been done to adjust the elderly man's account. Arkesha would have to mark this for review before the facility received a visit from a CMS auditor.

Unfortunately, Arkesha did not make her visit in time, as it was assessed that the $84,000 cost of the resident's stay in Valley's private room would not be a recoverable care cost because the resident was coded as eligible for Medicaid assistance coupled with the fact that he was well above the minimum threshold of financial standing that would qualify one for public assistance. While reviewing these facts and the situation at hand, Arkesha remembered her human relations training experiences acquired during her college years of studying to become a nurse practitioner specialist in health care management. The experience taught her that misunderstandings may sometimes occur.

One day, when filing an individual income statement with their accountant, the family of the resident elderly man ran into garnishment claims levied against their ailing father's assets by the CMS. Puzzled, they phoned Caroline. Coincidentally, that same day, Arkesha walked through the facility's front door just in time to hear the last sentence of Caroline and her sister's faint conversation: "Sis," Caroline said, "I know that mom is worried about us losing Dad's money, but you have to trust me on this. I'll call you later."

Arkesha knocked on Caroline's door and began asking for the resident's admissions paperwork. Caroline mumbled an excuse that she was called away from her desk but promised to return after a brief visit. Arkesha agreed to wait for her, because it was the proper timing for an opportunity to catch up on emails that were not replied over the past few days. Soon after, however, she heard the faint murmur of a wander guard alert at the nurses' station on an adjacent hall alerting those on the floor that a resident with dementia had exited the building. Caroline and the man, who would later be identified as her father Aaron, could be seen on security camera footage leaving the building.

Arkesha, thinking quickly, hurried to meet the pair outside another door and demanded to know what was going on. Caroline, stunned to be caught this late in the game, fumbled to find an excuse for her strange behavior. Opting for tears, she admitted that the resident was her father and that her mother was worried that private pay rates for care would decimate the savings which would eventually become inheritable income for Caroline and her sister. Unable to care for her husband any longer, the family sought out the prescription pad of Valley's medical director to receive an order for admission. The records had been falsified such that Caroline had changed the names and diagnoses to indicate that she was admitting an elderly woman suffering through the end stages of Congestive Heart Failure (CHF) instead of honestly stating that Caroline's father needed care for his dementia. The statements would be revised, albeit with signatures affixed, for submission to the corporate office and CMS. Caroline never thought that she would be discovered in her dishonesty.

Begging for understanding, Caroline claimed that the inheritable funds would be crucial for Angel, her sister's son, born with Down Syndrome. Caroline then turn toward Arkesha, looked straight at her eyes, and said, "I know all about your boyfriend. Why is it that only in your case, it is okay for a family code to trump professional code?" Viewing the issue only in personal terms, Caroline however failed to grasp the reality that there was no leeway to reconcile with the State's Medicaid payment office for some discounted payment. On the other hand, she might have counted on the fact that Arkesha was highly experienced in continuing community care, and knew how to blame the "newcomer's mistake" to not only prevent a re-processing of the paperwork but also to ensure an arrangement could be in place for Aaron's continued care.

Unable to jeopardize the facility's good standing (Winstead, Novicevic, Humphreys, & Popoola, 2016), Arkesha drove back to Access' corporate office recognizing her crucial professional obligation to maintain the facility's ability to receive legitimate reimbursement for its care of many other eligible residents who depended on public assistance in seeking out their residency. The operation of the entire organization, she concluded, should not hinge on hiding the poor practice of one. With a heavy heart, Arkesha walked into her office and made a corporate disclosure call to the Office of the CMS Ombudsman. She knew that the reimbursement percentage paid to the facility would be reduced and that Caroline would immediately be terminated, but she could not risk losing all State supported funding in the operation of Valley. Therefore, Arkesha told the General Accounting Office of the Colorado Department of Health as much as she knew, including the disclosure of her personal relationship with the Medical Director, At the end of the conversation she offered her resignation due to her moral conviction that, for those in managerial positions, professional code of conduct should always trump family code of conduct. Though she went home expecting to sleep peacefully, she could not stop thinking about Caroline's nephew (Angel) with Down Syndrome whose adult life seemed bleak partially due to her moral action.

Resolution of the Dilemma

Residents of Valley House depend on the good faith exercise of care provided in their daily contact with nurses, physicians, and medical professionals who are present in the facility because of its mandated ability to compensate for their labor. While many of these residents are partially paying the cost of their care out of personal resources, the importance of State and Federal funding in balancing the remainder of medication costs, medical supplies, and professional expenses cannot be understated. Moreover, for residents who are not self-aware to their present circumstances and environment, the ability to manage their own finances independently is no longer a reality of their daily living. For these residents, the full faith and backing of a State agency is crucially important as an oversight mechanism protecting their ability to access necessary financing for their continued care and ultimate palliative process.

While working in Valley, Caroline and Arkesha were engaged in the process of discernment throughout their individual labors. On one hand, Caroline's ethical bias towards giving primacy to ethical family values diminished her ability to remain a fully engaged professional participating in the management of Valley's State-provided funds. In particular, her personal moral code trumped her professional moral code in a way that was negatively consequential for Valley House. On the other hand, Arkesha’s omission to disclose the close nature of her personal relationship with the facility's medical director did not have a negative impact on residents or their ability to receive full care. Yet, this act of omission was morally inappropriate.

In terms of the harm done to the stakeholders, the most pressing issues are those with potential to materially jeopardize Valley’s ability to continuously provide quality integrative care management for all of its in-house residents and other stakeholders. A risk in this regard is that self-reported incidences of fraud require resolution under due supervision of the CMS and bear the imposition of some financial penalty. This penalty is generally a reduction of the total percentage of recoverable costs allocated by the CMS to the business at the year-end. The failure to immediately disclose fraud, coupled with the potential future discovery of other immoral incidents, could not only endanger CMS’ authorization of the State license granting the facility permission to operate but also it might result in the immediate termination of all pending payments from the State. Consequently, Arkesha is obligated to either report the event to both Access’ Management and the State or to omit to do so and thus cause irreparable harm to both the organization and its current and future residents.

Arkesha may feel conflicted about the economic and social impact of her decision to disclose her findings on the lives of Caroline, her father, and her nephew. On one hand, if Caroline loses her employment, 1) her father will have to bear the full care management cost or be discharged from the facility, 2) her nephew’s adult future remains financially uncertain due to increasing healthcare cost, and 3) the organization resigns itself to losses arising from Caroline's fraud. On the other hand, the organization has to evaluate later its ability to receive reimbursement for services it rendered in good faith and under the premise that it would be awarded full Medicaid reimbursements in order to reconcile its financial account balances.

Conclusion

Categorical Imperative principle on one hand requires the considerations of timelining the impact and stakeholder analysis (Martela, 2017). Arkesha alone is the willing actor ready to enter into such discussion. On the other hand, the principle of Altruism requires that individuals consider their limitations in providing care for those to whom they have a specific obligation. Access as a whole is not obligated to provide concessions in care for able individuals while endangering its ability to care for those with specific medical needs. While there may be benefits to allowing Caroline commit fraud, the entire organization relies on the successful operation of the business and accurate reimbursements from its clients.

References

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Winstead, J. L., Novicevic, M. M., Humphreys, J. H., & Popoola, I. T. (2016). When the moral tail wags the entrepreneurial dog: the historic case of Trumpet Records. *Journal of Management History*, *22*(1), 2-23.

Further Readings

Baker, S. & Commer D. (2011). Business ethics everywhere: An experiential exercise to develop students' ability to identify and respond to ethical issues in business, *Journal of Management Education*, 36(1), 95-125.

Klingler, C., Schmitten, J. & Marckmann, G. (2015). Does facilitated Advance Care Planning reduce the costs of care near the end of life? Systematic review and ethical considerations, *Palliative Medicine*, 30(5), 423-433.

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Trevino L., Hartman, P. and Brown, M. (2010). Moral Person and Moral Manager: How executive develop reputation for ethical leadership, *California Management Review*, 42(4): 128-142.

Web Resources: Ethics Resources available at the Santa Clara University: https://www.scu.edu/ethics/ethics-resources/

Notes

Note 1: The names of persons, organizations, and locations have been changed to ensure anonymity and to protect the identity of all parties.

Note 2: Within this case, Access Management Company is referred to as AMC, Access, or Access Management.

TEACHING NOTES

Case Summary

This case study provides an example of ethical challenges Care Management managers face. Access Management Company's (AMC) Senior Administration Manager, Arkesha, had personally vouched for Caroline's integrity and professionalism when the company's Senior Executives interviewed and considered hiring her for a permanent position with the organization. However, 2 years into her position as the Administrative Manager, Caroline scammed the organization $84,000 - the care management fees related to caring for her close ailing family member. Arkesha struggled immensely in deciding between retaining Caroline so as to save her family from future financial hardship and firing her, and subsequently reporting her to the organization's senior executive in a bid to save the organization's reputation before the Centers for Medicaid and Medicare Services (CMS). Through careful deliberations, reliance on her college training in human relations, and the application of Reardon's (2007) six (6) step to ethical decision making, Arkesha made a life-changing decision.

Teaching Objectives

This case teaches students that ethical behavior is an *invisible glue* that underlies every cohesive and productive organizational life. To maintain such productive cohesiveness, managers and employees, as organizational members, should have learned as students the moral tools of maintenance that they could apply in practice. Moral tools are concepts (e.g. utilitarianism) and frameworks (e.g. Reardon's six-step approach) that help managers and employees not only to improve their ethical behavior but also to understand others' moral principles and justifications guiding their ethical behaviors. Ethical dilemmas can be resolved by understanding others and these tools are useful in reviewing critically whether compliance with the code of conduct is achieved in interactions between managers and employees on one hand, and between the organization and its stakeholders on the other hand (Martela, 2017). The case further provides the students the chance to learn from similar experiences of other students while critically assessing the practical steps taken to resolve the ethical dilemma.

Target Audience

The case was developed for use by undergraduate junior and senior students taking courses such as Bioethics, Contemporary Business, Theories and Applications in Contemporary Ethics, Healthcare Ethics, and Human Resource Management. The case will provide the students with the opportunity of learning to integrate ethical theories and practice, specifically those related to business fundamentals. Junior and senior undergraduate students further have the opportunity to understand as well as compare and contrast real-world situations with personal experiences.

Suggested Teaching Strategy

The Instructor may decide to discuss the case in the classroom using the suggestions provided in the teaching notes, assign the case to students as a take home assignment, or conduct a role-play exercise that will last for 30 minutes. As an in-class teaching session, the instructor should plan to spend about 75 minutes of class time. Relevant concepts such as reputation, power balance, Reardon’s ethical steps, Medicare, bioethics, should have been covered earlier in the semester. The first 15 minutes of the class can be spent going over these key topics. Subsequently, the instructor divides the students into groups of either four, five, or six, and advises students to exchange their personal notes and to spend the next 20 minutes discussing potential solutions to the case questions. The next 25 minutes is spent concluding the group session, discussing the case questions as an entire class, and providing appropriate feedback to students. The instructor can then spend the last 10 minutes debriefing students. When debriefing, the instructor summarizes the key case issues, ethical concepts, provides real life examples as well as the importance of maintaining an ethical stance despite the situation or financial consequences.

SUGGESTED ANSWERS (OR SOLUTIONS) TO DISCUSSION QUESTIONS

1. **How will you apply Reardon's six (6) steps to making ethical decision to the case?**

Reardon's six-step approach to ethics illuminates the path Arkesha must take in order to affirm the decision that will allow her to sleep soundly at night. His six steps to ethical decision making are as follows: 1) set your primary and secondary goals in the high-risk situation at hand, 2) determine your goal importance given that high stakes and high emotions are involved in the situation, 3) evaluate the power balance and the support of top management for your decision, 4) weigh the risks and benefits of your decision, 5) select the right timing to make concessions and compromises before taking an action, and 6) develop contingency plans as a versatile thinker.

a. **Primary and secondary goals in the high-risk situation at hand**

This is assuredly a defining moment in her career, as Arkesha would not work for Access Management (AMC) if she were not oriented towards providing the highest quality of care to residents of the firm's facilities. While primarily, she may well desire to help the families of her employees more so than the general public, secondarily, as an agent-specific preference to providing care that best benefits employees and their loved ones, Arkesha would endanger an agent-relative obligation to provide care throughout the population as a general provider.

b. Goal importance given the high stakes and high emotions involved.

Arkesha has dedicated her professional career to the advancement of the care offered by Access Management and Valley House as a facility managed by her organization. While she may not know all residents by name, understanding the human impact of their conditions allows Arkesha to deliver consistent excellence in auditing and managing the back-end processes that enable nurses and medical professionals to continue offering the highest caliber of care. In other words, Arkesha's strong identification with the organization has been the foundation of her moral identity.

c. Roles power and influence structures play in this ethical dilemma

The power and influence both administrators possess impact how they leverage them in their daily tasks of care management within the organization. Furthermore, the organization's power and influence structures have predisposed that both women have leverage over those who depend on their individual and collective performance to enable due professional care to patients. Arkesha and Caroline, however exert the weight of their influence in different ways. On one hand, Caroline used her communication network and experience to manage the firm's ability to continue serving the well-being of her father (Aaron) and family members. Thus, she failed to recognize that she was endangering the organization's ability to continue its full operation, in good faith. On the other hand, Arkesha always gave moral primacy to the organization's interest.

d. Analyze the risks and benefits of alternative resolution of this ethical dilemma?

Arkesha could have taken the risk of ignoring the losses, which continued to grow, and allowed Caroline to eventually take the fall. While there would be a considerable amount of funds left off the table through the use of this approach, there could be some 'processing period' in which no party would have to fully admit fault before the Center for Medicaid and

Medicare Services (CMS) review. If the fraud were ultimately discovered and the facility were to suffer, it would be the result of Caroline's actions, and Arkesha could claim ignorance to the relevant facts. However, this approach falls short of meeting the requirements of Utilitarianism, which weighs the comparative advantages or harms of alternatives on the merits of their impacts on the greatest number of stakeholders. The logic of Utilitarianism would hold Arkesha to the standard of her full professional exercise and forbids preference of one's interest over the majority of others. The risks of self-reporting are clearly defined in the punitive measures that will be assigned to the facility. However, the improvements possible in reporting and making necessary organizational changes will be beneficial to the whole of the organization and all residents. The benefits of the discovered fraudulent reporting filed by Arkesha extend far into the future and have implications for all residents. Arkesha’s actions trump Caroline’s preference to protect her family’s assets.

e. Select the right timing

Considering the timing of Arkesha’s decision, Arkesha is willing to see the long-term implication of her actions, and evaluates the community's stake in her decision where Caroline has the immediate preference of her own family's advantage in the immediate frame. Kantian ethics require that the choice made has to be possible in multiple locations at the same time while providing an equal advantage. Caroline's fraud would reach an unsustainably high margin of foregone profit if acted out by multiple residents and their compatriots at once. Arkesha's decision to self-report and correct deficiencies, however costly in the short-term, could be repeated in order to improve and sustain the long-term wellbeing of the organization.

f. Develop contingency plans

Reardon suggests that contingency planning as a versatile thinker requires that decision makers be prepared with alternative routes when faced with disaster. Arkesha believed that no harm to the organization should result from her actions, whereas Caroline sought personal gain for her family with no regard to the harm done to the organization. The sustainability of the whole enterprise and individual facility relies however, on both parties operating in a transparent and accountable manner. This clear delineation in the consequential undertaken by both parties indicates a preference be given to Arkesha's moral choice to report Caroline's incorrect ethical behavior to the CMS. Faced with having to take significant steps towards securing the organization's going concern coupled with her ethical duty to be open in dealing with stakeholders, Arkesha needs to immediately collect all relevant documents related to the financial fraud. Next, she should store the information in a secure location with restricted physical and/or electronic access. By "begging for understanding" Caroline believed that Arkesha would be lenient and offer her a second chance. More so, since Arkesha personally vouched for her staff, Caroline may have reasoned that Arkesha's reputation was at risk. As a courageous manager, Arkesha should brace herself up for the eventual worst-case scenario - getting fired. While trying to resolve the fraud she needs to come to terms with the possibility of losing her job and commence an immediate search process to find another position with a different organizaion.

2. **Assume Caroline's role. Now consider her mother's financial hardship, her conflicting personal interest to safeguard her family's savings versus ensuring the company earned sufficient federal revenue. What decisions or actions would you take? Will your decision be similar to or different from Caroline's?**

Student answer will vary. Adhering to the Deontological perspective, my decision will vary from Caroline's. Irrespective of how morally good or justified the consequences of saving her family from financial burden, Caroline should have refrained from falsifying a patient's medical and financial records, permiting Aaron, her father, to benefit from Access Management's high-quality services in applied gerontology, lie about her actions, and attempt to flee the premises when her actions were ultimately discovered. Reasonably, the organization deserves to receive reimbursement for services it rendered in good faith. Hence, I would have presented my family's medical and financial challenges to Arkesha, trusting that she would be willing to provide one of three options: 1) discount the cost of management care for employee family members; 2) institutes a monthly payment plan for either 10-years or till the balance is fully paid to cover the health care cost received; and 3) end re-processing of the paperwork but also ensuring an arrangement is put in place for Aaron's continued care.

3. **If you were in Arkesha's position, what critical factors would you will consider when making a decision to report and resolve the incident? Would you focus only on the utility and consequences of your actions or, would you do only what you think is right without any regard to the potential socio-economic consequences?**

When making a life changing decision to report and resolve the incident, being in Arkesha position, I will focus on the utility and consequences of my actions and potential socio-economic consequences. Based on Reardon's recommendations, I will consider several critical factors when attempting to resolve the incident. Initially, I will focus my attention on the primary and secondary goals in the high-risk situation, importance of those goals given the high stakes and emotions involved, various roles power dynamics and organizational influence structures play in leading to and resolving the ethical dilemma, existing and new contingency plans, and potential risks and benefits of alternative solutions of the ethical dilemma. Subsequently, I will assess the impact of my decision on Caroline, her family, and the organization. The case highlights three immediate socio-economic impact of Arkesha reporting the situation: 1) Caroline would have to immediately cover the existing cost of

Aaron’s management care benefits received using their inheritable funds. This act will end up depriving Caroline and her sister any future ability to use the funds; 2) Caroline’s nephew’s adult financial future is uncertain due to increasing healthcare cost; 3) AMC resigns itself to losses arising from Caroline's fraud. It may not be in Arkesha’s best interest to take such a consequential and life changing decision without properly consulting with either her lawyer or AMC’s medical director.

4. **What advise will you give Caroline to resolve her ethical dilemma caused by her conflicting personal and professional moral principles?**

Caroline should first accept responsibility for her negative actions taken and further hold herself accountability for AMC’s financial loss and potential loss of its reputation. Second, she needs to accept the ill-timed accusation that Arkesha behave unethically by hiding her relationship with Jusitone, the son of Access Management’s Managing Director, Robert Antston. Not only is this issue irrelevant to her crime or the financial damage created but also, by deflecting blame Caroline does not display adequate understanding of the seriousness of her actions and its rippling effects on the key organizational stakeholders. Finally, in the situation of incongruence between one’s moral principles, core goodness traits, and personal ideals of a virtuous character, Caroline needs to balance the relaxation of the commitment to her professional moral principles (as a good, virtuous person) with the risk of not adhering to stakeholders’ (e.g. Arkesha, AMC, and CMS) demands (Winstead, Novicevic, Humphreys, Popoola, 2016).

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Web Resources

Ethics Resources available at the Santa Clara University: *https://www.scu.edu/ethics/ethics-resources/*.

Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: The Furlough Cheesecake: Building a network of support for a new venture

Author(s): Minnette A. Bumpus, Ph.D.

Source of case data: __X___ Library research _____ Interviews ______ Consulting
_____ Personal experience _____Combination (check all that apply)

Expected level: __X___ Graduate __X___ Advanced Undergraduate __X___ Undergraduate

Industry setting: Food

Main character, job title: Owners

Relevant theory to be applied: opportunity recognition, financing, decision making, motivation, change

Envisioned case issues (for the Teaching Note): entrepreneurship, organizational behavior

Questions/issues I'd like help with:

1. What should be the focus of the case (e.g., entrepreneurship, organizational behavior)?

2. Making theoretical linkages to the chosen subject: entrepreneurship issues (e.g., opportunity recognition, financing, etc.), organizational behavior (e.g., decision making, motivation, organizational change, etc.)

3. Creating a title that reflects the focus of the case

4. Developing an effective hook (e.g., straight lead vs. feature lead)

5. Should the case be a descriptive case or an analysis case?

6. Developing an effective ending

7. Creating learning outcomes using higher order Bloom's Taxonomy verbs

Synopsis of the case as you currently envision it: (Attach no more than one page)

- See Attachment

The Furlough Cheesecake: Building a network of support for a new venture

Synopsis

Sisters Jaqi Wright and Nikki Howard were two of the approximately 388,000 federal employees furloughed during the 35-day U.S. government shutdown that began on December 22, 2018, and ended on January 25, 2019. The furlough, however, did not prevent Howard, an avid baker, from preparing one of her delectable cheesecakes to ring in the New Year. The idea to sell cheesecake was born on New Year's day of 2019, after their mother, who had just finished a piece of cheesecake "said that the cheesecake was so good it could be sold" (Radcliffe, 2019, para. 4). The Furlough Cheesecake name was created by Wright, who within days of acknowledging this opportunity, registered the name on GoDaddy.com.

The Furlough Cheesecake's business was promoted on social media via the Instagram account created by Howard's daughters. The company was featured on media outlets that included: the *Oprah Magazine, Black Enterprise*, *Money, HuffPost, CNN News*, local news outlets, and the *Ellen DeGeneres show*. The media coverage and exposure spurred the rapid growth of their business, and led to their introduction to a mentor. Their mentor was instrumental in connecting them with a "senior buying manager for cakes and pies at Walmart" (Lewis, 2019, para. 3). The Furlough Cheesecake is proof of the power of networks.

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Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: ***Local Luggage***: Can a Small Family Business Compete in an Amazon World?

Author(s): Danielle Ciliberto and Elizabeth McCrea

Source of case data: __X__ Library research __X__ Interviews ______ Consulting

__X__ Personal experience __X__Combination (check all that apply)

Expected level: _____ Graduate _____ Advanced Undergraduate __X___ Undergraduate

Industry setting: Luggage

Main character, job title: Co-owners (family members) of Local Luggage

Relevant theory to be applied:

This is where we could use some feedback. A SWOT analysis seems appropriate. What else?

Envisioned case issues (for the Teaching Note):

How can a 75-year-old, local, family-owned firm compete with Amazon & other online retailers?

Questions/issues I'd like help with:

What theory or theories would be best to apply?
What would be a good hook?

Synopsis of the case as you currently envision it: (Attach no more than one page)

Before you can pack your bags for your vacation or business trip, you need to buy luggage! ***Local Luggage*** (a pseudonym), located in an affluent suburb of New York City (population of about 20,000), is a specialty luggage retail and repair store that recently celebrated its 75th anniversary. Founded in 1944 as a shoe repair shop, it was sold in 1973 to Roberto Bocellari (also a pseudonym), who changed the name to ***Local Luggage*** to reflect its main focus (even though, to this day, they still repair shoes). After Bocellari's passing, three of his children took over the business: Susan, Martin and Peter.

The retailer's downtown location has always been a big plus. However, as more and more people do their shopping online, it seems a nearby location is no longer the competitive advantage it once was. Why drive to town and search for a place to park when online e-tailers will deliver luggage to your door? Why wait for the store to open (Monday to Friday from 9:00 am to 6:00 pm and Saturday from 9:00 am to 4:00 pm) when online shopping is always available? Some customers even come to the shop to see and touch the luggage, but then ultimately buy it online. Why pay more, when you can get the same thing at a cheaper price on Amazon?

The supply chain is also changing. Luggage manufacturers used to have sales representatives, who would bring samples of the latest and greatest products directly to the store. The owners were able to physically inspect the items before deciding whether they wanted to carry them. Now fewer companies have sales reps and, instead, the owners must rely on electronic catalogues to order inventory. Since inventory space is expensive, this inability to interact with the products beforehand is risky. They may end up with products that are not high quality or not a good fit for ***Local Luggage***'s clientele. Finally, some luggage suppliers have cut out the middlemen—such as specialty retail stores and department stores—altogether. They have begun opening their own online shops from which customers can order directly, sometimes for a sale or discounted price. A few manufacturers have even opened their own free-standing retail stores.

Local Luggage's repair department faces challenges as well. The firm is an authorized repair center for Samsonite, Delsey, Victorinox, and many more manufacturers, and is one of very few places in the area that handles airline damage repairs. However, even communicating with customers about their repairs is difficult, as people block incoming calls and send emails to spam folders. Some luggage is older, and companies no longer make replacement parts. The technicians can sometimes retrofit similar parts and make it work, but other times the bags simply can't be repaired. Instead of blaming the manufacturers, however, customers blame ***Local Luggage***. Finally, in order to keep repair costs as low as possible, the firm asks retail repair customers to pay in cash or with a check. Some people find this very inconvenient.

Lastly, ***Local Luggage***, like many retail establishments, faces social media challenges. Their approach is mostly reactive. In the past, the firm received some negative reviews, not due to ***Local Luggage***'s actions, but from customers having difficulty with the manufacturers, airlines or an inability to have their bags repaired due to the lack of available parts. As a result, the owners constantly monitor and respond to reviews on Yelp, Facebook and other social media platforms, but they don't have a proactive marketing or social media strategy.

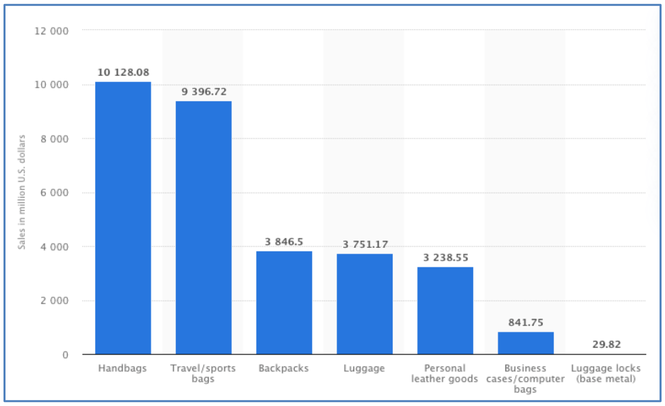
On the plus side, the luggage industry is growing. Hexa Research (2019) estimates the industry will reach about 23 billion dollars by 2025 (see appendix below for industry charts). Although newer generations--like the Millennials and Gen Xers--often prefer online shopping, some customers like the personal touch. They want an expert to recommend the perfect piece of luggage based on their personal needs and preferences as well as airline regulations. ***Local Luggage*** enjoys a strong community reputation, and many new customers find the shop because their friends recommend the store's quality merchandise and knowledgeable service.

Currently there are ten employees. Susan serves as president of the firm and runs the retail arm of the business, including merchandizing. Her brother Martin oversees the repair department. The siblings grew up in the business with their father, and they have a very tight relationship with one another. As much as they can disagree and argue, they have always been able to work it out and they don't let their personal problems impact the business. However, the owners have not developed a strategy for the business because they are uncertain about their long-term personal and business goals. In addition, they have not developed a succession plan for when the siblings want or need to withdraw from the business. Where should ***Local Luggage*** go from here?

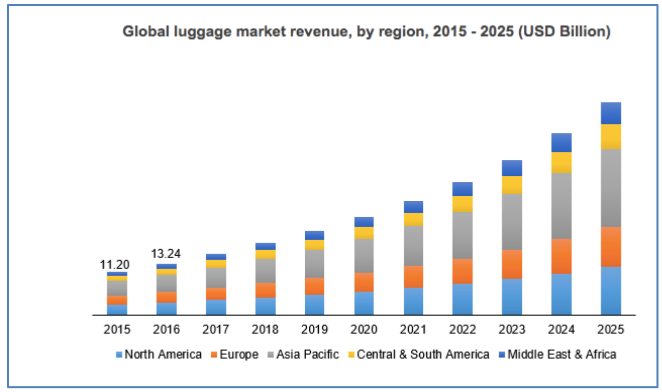
SWOT Analysis

Strengths: 1) Deep knowledge of luggage 2) Authorized repair shop (for both airlines & manufacturers) 3) Strong local reputation	Weaknesses: 1) Reactive to social media 2) No marketing strategy 3) Limited store hours 4) No long-term business strategy or succession plan
Opportunities: 1) Few competitive companies 2) Growing luggage industry 3) Social media	Threats: 1) Amazon & other online e-tailers 2) Price discounting 3) Evolving supply chain 4) Parking in a congested downtown

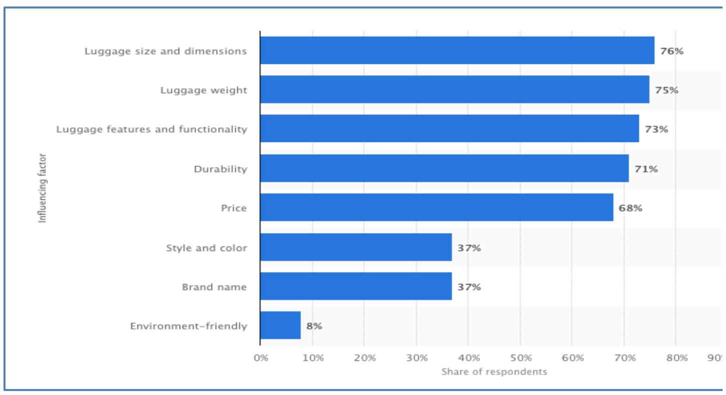
Appendix: Industry data



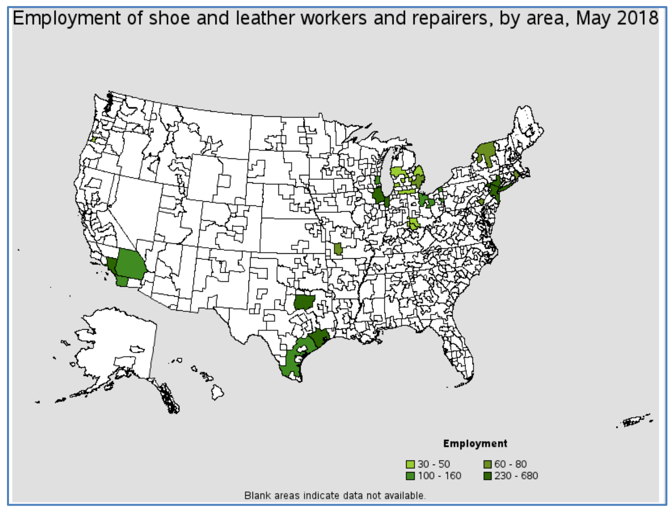
(Statistica, *Travel Goods Retail Sales in the US in 2018*, 2018)



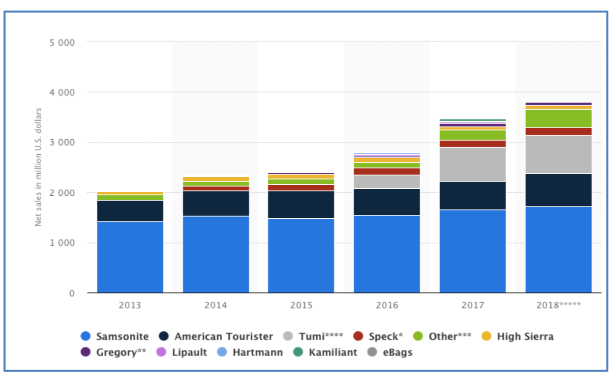
(Hexa Research, *Global Luggage Market Revenue*, 2019)



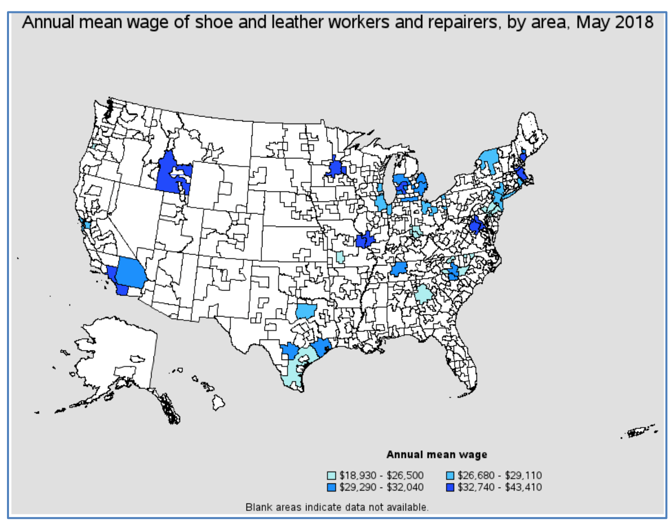
(Statistica, *Factors Influence To Purchase New Luggage*, 2018)



(Bureau of Labor Statistics, *employment of Repair Workers*, 2018)



(Statistica, *Net Sales Worldwide by Brand*, 2018)



(Bureau of Labor Statistics, *Average Wage*, 2018)

Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: The Many Arenas of Amazon

Author(s): Steven W. Congden

Source of case data: ___x__ Library research _____ Interviews ______ Consulting

_____ Personal experience _____Combination (check all that apply)

Expected level: __X__ Graduate __X__ Advanced Undergraduate __X__ Undergraduate

Industry setting: Multi-Industry

Main character, job title: No main character

Relevant theory to be applied:

Arenas vs. Industry analysis
Jobs-to-be-done theory

Envisioned case issues (for the Teaching Note):

I would like students to see the relevance of an "arena" approach to strategy analysis (Rita Gunther McGrath, 2013). The arena approach is part of an overall, more dynamic approach to strategy outlined in McGrath's highly regarded book "The End of Competitive Advantage."

Amazon is a difficult company to analyze with an industry approach as it competes in parts of countless industries. It is said to have followed a "jobs-to-be done" approach (similar to an arena approach) nearly from its inception (Ulwick, 2017).

Questions/issues I'd like help with:

This case needs to be compact case as the issue doesn't really merit a longer format case as part of a strategic management course. I think so many competitors from so many directions would be too much to bring into this case. I would like to do a historical illustrative case where students can see the pattern in the ventures that Amazon has taken over the years. However, Amazon has done so many ventures over the years that it is difficult to know which ventures to select to best make visible the pattern.

McGrath's book is a holistic look at how companies should be managed in order to ride from wave to wave of transient competitive advantage. Amazon seems to fit this overall profile but is fairly secretive, and not too much gets written about their inner processes. The whole McGrath approach would also be beyond the scope of even a long format case. I want to restrict the focus of the case to one of the initial McGrath principles of looking at strategy in a finer-grained way by competing in particular "arenas" rather than broader industries. I don't know if it will work.

Also, there is technically no limit to charts, tables, and figures in a compact case, but I would like to know how much this could be stretched with a table of Amazon's various ventures.

I have not figured out a hook as of yet for this potential case.

Synopsis of the case as you currently envision it: (Attach no more than one page)

Amazon is a difficult company to define by industry. It has expanded over time in a way that puts in so many industries as to be almost non-sensical from an industry analysis perspective. Tony Ulwick, a key advocate of a strategy as job-to-be-done perspective has stated (2017): "a company's short- and long-term strategy should never change: the strategy should always be to help customers get the entire job done better and more cheaply on a single product platform. **This is the long-term strategy that Amazon has pursued since its inception.**"

Arenas (McGrath, 2013) are "connections between market segment, offer, geographic location," "characterized by particular connections between customers and solutions." "The driver of categorization will likely be the outcomes that particular customers seek ("jobs to be done") and the alternative ways those outcomes might be met." Finer grained analysis is needed to be more relevant to the levels at which decisions need to be made. Ways of competing may be different, i.e., tailored to particular arenas.

I plan to show various moves Amazon has done over time that illustrate how it has grown by starting with customers and branching out in a way that helps customers do things they would like to do more cheaply on a single platform.

Amazon's mission statement: "Our mission is to be Earth's most customer-centric company. This is what unites Amazonians across teams and geographies as we are all striving to delight our customers and make their lives easier, one innovative product, service, and idea at a time." https://www.amazon.jobs/en/working/working-amazon

15 May 1997	Amazon goes public
18 Nov 1997	Opens second distribution center in Delaware to serve east coast → Quicker delivery times
11 June 1998	Expands into selling CDs and DVDs → More selection than physical stores
27 April 1998	Acquires IMDB.com (Internet Movie Database)
28 Sept 1999	Secures "1-Click" patent → Easier checkout process for customers
30 Sept 1999	Starts 3rd Party seller marketplace

7 Nov 2002	Starts selling clothing
10 June 2003	Launches web hosting business
2 Feb 2005	Launches Amazon Prime loyalty program for $79 per year
19 Sept 2006	Launches Fulfillment by Amazon (3rd-party sellers use Amazon.com's order fulfillment and customer service infrastructure)
18 Nov 2007	First Kindle electronic reading device is unveiled
31 Jan 2008	Amazon acquires audiobooks company Audible
22 July 2009	Acquires shoe shopping site Zappos
Feb 2011	Offers Amazon Instant video service to Prime members
2012	Introduces an affordable, high resolution table, the Fire HD
19 Mar 2012	Acquires robotics company Kiva Systems → More automation at fulfillment centers
11 Nov 2013	Starts delivering packages on Sundays through USPS
18 June 2014	Unveils its first smartphone
25 Aug 2014	Acquires the social video game streaming site Twitch
2 Nov 2015	Amazon opens its first physical bookstore
10 Nov 2015	Echo with Alexa personal assistant become widely available
16 June 2017	Acquires Whole Foods
Sept 2018	Launches its own "last mile" delivery service
https://www.cnn.com/interactive/2018/10/business/amazon-history-timeline/index.html	

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McGrath, R. G. (2013). *The End of Competitive Advantage*. Boston: HBR Press.

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ASTRACT

This teaching case examines the many ventures of Amazon over the last twenty-five years to illustrate an "arena" or "jobs-to-be-done" approach to strategy formulation in contrast to an industry positioning approach.

DELIVERING ‘WOW’ WITH COMPANY CULTURE: THE CASE OF ZAPPOS

ABSTRACT

The primary purpose of this case study is to facilitate class discussion on the unique culture and characteristics of Zappos. The company has gained a reputation for its strong culture and high-quality customer service. Zappos culture delivers on their mission statement which is “to provide the best customer service possible,” while at the same time embodying the company’s core values and standards. This case provides an up-to-date information about Zappos corporate culture as well as structure and serves as a useful learning tool for students studying Organizational Behavior.

Keywords: *Zappos, culture, structure, fit*

INTRODUCTION

In 1999, a quiet entrepreneur Nick Swinmurn, found himself aimlessly walking around a mall looking for a specific pair of shoes for hours. Nobody quite had what Nick was looking for- some the right color but the wrong size while others the right size but wrong style. Eventually Nick left the mall without a new pair of shoes, but with an untouchable idea. With that, Swinmurn quit his job and took the opportunity of a lifetime (Eng, 2012). This gave rise to an idea which lead Swinmurn to the startup of Zappos. This multi-billion-dollar company started its journey as a small footwear site, Shoesite.com. If Swinmurn had any hopes of this company taking off, he was going to need investors, which is where Tony Hsieh comes in. Footwear is a $79 billion industry in the United States, that is going to keep growing due to the constant demand of shoes (O'Connell, 2019). With that statistic, Hsieh made his decision to invest in Shoesite.com, which they later renamed Zappos. Zappos comes from the word *Zapatos*, which is Spanish for "shoes". Much of the company's success is attributed to its exceptional customer service and a unique culture. This case-study provides an opportunity for students of Organizational Behavior to study organizational culture and structure of Zappos and comprehend the implications of theories in personality, organizational structure and culture for management practice. The case also explores several interesting questions: How did Zappos become so successful? Why is Zappos interested in achieving such a high level of company culture? How did Zappos maintain such success while transitioning to their new structure?

THE EMERGENCE OF A COMPANY CULTURE POWERHOUSE

Zappos aims to inspire the world by showing it's possible to simultaneously deliver happiness to customers, employees, vendors, shareholders and the community in a long-term, sustainable way ("What We Live By: About Us", 2019). Above all, the number one priority at this organization is company culture. The CEO of Zappos, Tony, Hsieh, believes that if their culture is right, it's like an automatic recipe for success. The organization embodies ten key core values that are reflected in Zappos culture, branding and business strategies. These values are seen as the framework behind the company's success:

1. Deliver WOW Through Service
2. Embrace and Drive Change
3. Create Fun and A Little Weirdness
4. Be Adventurous, Creative, and Open-Minded
5. Pursue Growth and Learning
6. Build Open and Honest Relationships with Communication
7. Build a Positive Team and Family Spirit
8. Do More with Less
9. Be Passionate and Determined
10. Be Humble

To Zappos, these values are not just words, they're a way of life which is guided by Hsieh. He himself embodies these values- employees say he is passionate, positive, fun, humble and of course a little bit weird. At Zappos, they want to see the real personalities of their candidates, so they encourage them to be informal, goofy and their "real self" during the interview process as opposed to the formality expected. Culture is such a central aspect to the company’s belief system that they publish what they call the *Zappos Culture Book,* which is updated regularly with unscripted, raw comments made by both employees and vendors describing what the company’s culture means to them and how they reinforce and develop the ever-changing culture they have established every day. To give you an idea, here is what Zappos employee, Selena P. said:

“…being able to count on your coworkers as friends. Creating genuine bonds with people you would have never thought you could relate to and knowing that they will be there for you, support you, and want to see you succeed” (Frei & Morriss, 2012).

Everyone inside the Zappos community, from CEO to the front line, understands the importance of the relationship between its culture of happiness and the company’s daily performance. This company is Hsieh’s tribe so to say, his main focus always is to make the culture as positive, caring and fun as possible. For example, at Zappos there is a very casual dress code- you could wear a t-shirt to work every day if you wanted to, they also have upbeat music playing in the headquarters courtyard. Another thing that sets Zappos aside from any other organization is that employees are often referred to as “Zapponians”, assistants are “ninjas” and top executives are “monkeys” (Hodge, 2015). At Zappos, it’s more of a work-life integration instead of work-life balancing. They believe that by letting go and providing this type of environment you can see people be true to who they really are.

Finding the Right Fit

The work environment that Zappos offers will not attract everyone, and it’s not for everyone, but the employees who do fit in with the company’s culture thrive here. The recruitment process at Zappos is slow, and it could take months to bring a new member into their family, and that’s because this is an organization that needs to recruit employees who will provide wholesome customer service and “fit in”. All prospected candidates are given permission to visit the office and attend events if they wish to see what it might be like during a normal work day (Verasai, Mistry & Coker, 2018). Once a new employee is hired they must complete an intensive four-week training program. This is where they will learn the company’s culture, strategy and processes. The candidate will even spend at least a week in the call center, or Customer Loyalty Team (CLT). This is where the unusual part comes in: after just one week of training Zappos authorities will make what they call “the offer”. The offer consists of payment for the amount of time worked up until that point plus a $2,000 bonus to leave, no questions asked. Only about 2-3 percent will take the offer, but this is Zappos way of cashing out all new hires that clearly do not reflect the company’s culture (McFarland, 2008). This practice clearly indicates top management confidence in recruitment process of Zappos. It helps the human resources department quickly identify and filter out the misfits early on to create the best work environment possible for its employees. Whether your goals consist of achievement, affiliation, or to just simply find yourself a job with an enjoyable environment- Zappos will strive to meet those needs.

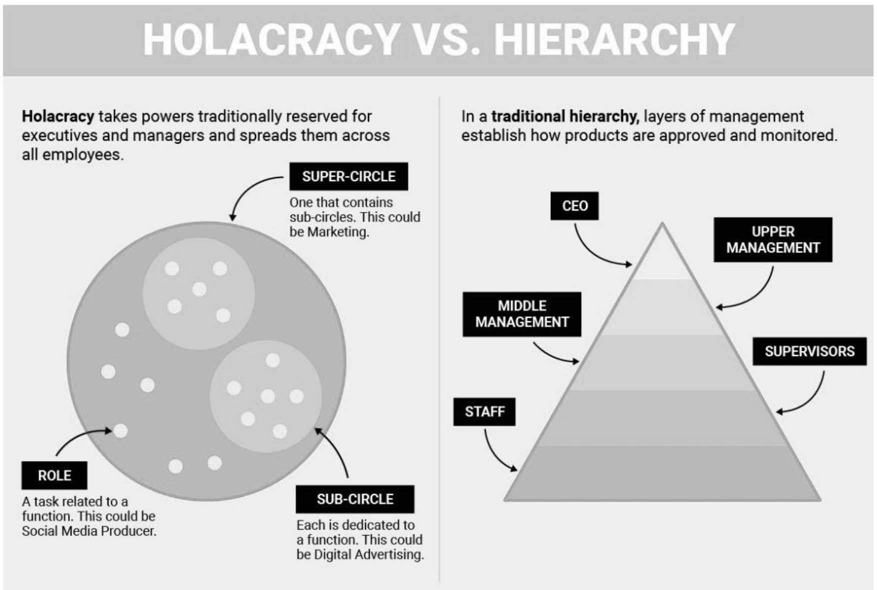
Uncommon Service

The service you will receive with Zappos is like no other. They have created an environment that encourages motivation and builds inclusiveness. They go above and beyond a typical workplace to deliver and address needs that most individuals desire from their work experience (Verasai, Mistry & Coker, 2018). Hsieh whole-heartedly believes that the secret to customer loyalty is to make a compassionate corporate culture a priority, which is reflected in their values and emphasis on building not just a successful team, but a family. Employees are encouraged to make personal connections with callers, sometimes they even go as far as sending you flowers. Zappos allows for a 24/7 customer service representative, both free shipping and returns along with a 365-day return policy and customers experience fast and accurate fulfillment every time. Zappos goes above and beyond to deliver that *WOW* factor, for example, customers are often given a surprise upgrade which allows them to receive overnight shipping.

Not only does Zappos provide fantastic services to its customers, but they even provide educational services for other companies. Zappos has designed customized training programs for other companies who want to learn along the same standards as them. Companies like Toyota and Southwest Airlines visit Zappos regularly to experience their culture (Verasai, Mistry & Coker, 2018). Today more than ever, customer service really matters which is why Zappos does their very best to help other companies achieve that customer-obsessed mindset they empower. Zappos truly is a great place to be involved with as they continue to flourish even after the company announced the departure of 210 of its 1,500 employees due to the company's transition to a Holacracy style of management (Guzman, 2016).

HOLACRACY

For nearly a decade Zappos has been making "The Offer" to new hires- the opportunity to take a $2,000 no questions asked bribe to leave instead of starting the job, as discussed in earlier sections. Zappos is a company that prides itself on the devotion to its customer service



efforts as well as its workers (Lam, 2016). But now, the company's new approach has led to the Zappos exodus.

Source: Business Insider

Hsieh frequently experiments with his company's culture and in 2015, adopted a new management approach called Holacracy. After deciding he wanted a more autonomous structure and increased efficiency within the Zappos community, he introduced his employees to this structure. "As of 4/30/15, in order to eliminate the legacy management hierarchy, there will be effectively no more people managers" (Hodge, 2015). Holacracy is a flat organizational structure that blows up the hierarchy of any group, ultimately replacing traditional reporting chains. This self-managing system is extremely unique in a way that allows businesses to get rid of the traditional manager roles. In simpler terms, this would mean that no single person is in charge as this theory is designed to empower every employee of the company with a voice. This system is best implemented on organizations that are very agile, because trying to impose Holacracy in an organization that is not ready for it is likely to result in failure (Van Gerven, 2019). Hsieh gave his employees the chance to decide for themselves: to either stay and learn this new way of work or leave with a severance package- hence the Zappos exodus. This is an offer that Hsieh certainly didn't have to do, but Zappos is an organization that takes priority in and cares for its employees. Ultimately by the end of the transition, 18% of the company decided to leave (Bernstein, Bunch, Canner & Lee, 2016).

In this structure, rather than relying on a traditional top-down management system, Holacracy aims to achieve control by distributing power and authority to self-organizing groups, or "circles" of employees (Morgan, 2018). These so-called circles are meant to self-organize and tackle a specific task at hand, such as confirming online orders or authorizing a customer's credit card (Feloni, 2016). Instead of jobs, each circle has a purpose or a role. This structure allows for flexible and adaptable rules, and people to be inherently creative.

Organizational Structure

The organizational structure of Zappos was changed when they decided to adopt the Holacracy structure. The six elements of organizational structure can be further used to explain these changes that occurred at Zappos. When Hsieh went to move towards this new structure there were six key elements he needed to consider. The first concept is work specialization, which is the degree to which tasks in an organization are subdivided into separate jobs (Robbins & Judge, 2013, p.480). In other words, at a company this is what allows a manager to take certain tasks and break them down into smaller, more precise tasks to be completed by the employees. This is where Zappos differs, since the employees do not have titles that detail their tasks, employees are in control of the task themselves.

The second element of organizational structure is departmentalization; the basis by which jobs in an organization are grouped together (Robbins & Judge, 2013, p.482). Zappos Holacracy experiment didn't have any effect on its departmentalization.

Third, chain of command; the unbroken line of authority that extends from the top of the organization to the lowest echelon and clarifies who reports to whom (Robbins & Judge, 2013, p.483). At Zappos, Hsieh eliminated all management titles, thus creating those circles as discussed previously. Instead of reporting to higher management upon decision making, each respective circle will make decisions as a team. Many organizations still find it very resourceful to enforce the chain of command, but Zappos has found success without it and has no plans on turning back. Holocracy is a system that intends to get rid of the chain of command to a great extent.

The fourth element of organizational structure is span of control which can be defined as the number of subordinates a manager can efficiently and effectively direct (Robbins & Judge, 2013, p.485). This number may vary depending on the type of work. For instance, in this scenario the Human Resources department still controls the relative functions among circles such as operations and marketing, but within those circles there is no span of control as the team has the independence to organize however, they feel necessary. This system has eliminated span of control because ‘people managers’ were removed.

The fifth element of organizational structure to be emphasized is centralization and decentralization. Centralization is the degree to which decision making is concentrated at the top in an organization (Robbins & Judge, 2013, p.485). This relates to span of control in terms of each circle having the independence to organize and decide how to accomplish the goals. With their unique structure, Zappos would be considered low in centralization, or a decentralized company. A more centralized organization may slow down decision making, whereas at Zappos they are able to make decisions at their own free will and pace.

Lastly, the final element in the discussion of organizational structure is formalization - the degree to which jobs within an organization are standardized (Robbins & Judge, 2017, p.486). If a company has a highly formalized environment, the employee might have very little say in what they do, when they do it and how it gets done. Zappos is low in formalization which allows them to have so much flexibility in getting their tasks completed. It is no secret that Tony Hsieh has his work cut out for him, reconstructing an entire company structure is not easy. Zappos did an excellent job transitioning into their Holacracy structure and should serve as a model to other businesses that are looking for innovative strategies to create a competitive advantage in the business landscape. Making the decision to experiment with this new structure and explore new possibilities was Hsieh’s attempt at making Zappos function more along the lines of a city, and less like a traditional top-down bureaucratic company (Groth, 2015).

TEACHING NOTE

This case study was written using secondary sources and aimed at emphasizing the practical relevance of organizational behavior concepts instead of focusing on the effectiveness or areas of improvement related to Zappos management. It can provide organizational behavior students a platform to learn and apply the theories of organizational behavior to study a real-world company. Some questions that can be discussed upon reading this case are suggested as follows:

- *What relationship does Zappos exemplify between perceived organizational support (POS) and organizational commitment?* In order for Zappos to create a successful Holacracy structure, they had to create an environment characterized by perceived organizational support. POS directly relates back to employee engagement and employees feeling as though the organization both values their contributions and cares about their well-being (Robbins & Judge, 2017, pg. 77). Zappos is an organization composed of employees who feel heard, who are recognized for their work, and who are passionate about their place of employment, which is exactly what POS embodies (Morgan, 2019). Zappos continues to excel in leveraging its company culture to build employee engagement.

- *How does Zappos utilize the Person-Organization (P-O) Fit Theory in the selection process?* Zappos is driven by their core values and beliefs, which have guided them to success. P-O Fit Theory essentially argues that candidates are attracted to and selected by organizations who embody the same values as they do, and that candidates will turn down potential employers that are not compatible with their personalities (Robbins & Judge, 2017, pg. 150). By placing such high value on the importance of their culture in the selection process, Zappos is able to select the candidates that demonstrate behaviors which align with Zappos core values. In simpler terms, the concept of P-O fit deals with the congruence between the employee's own sense of values for themselves as well as the organizations, according to the employee's perception (Farooqui & Nagendra, 2014).

- *Why did Zappos present a cash offer to new employees for leaving the company if they didn't find the work environment to be a good fit?* It was a part of company's long-term plan for promoting employee satisfaction and retention. According to Kristof (1996), person-organization fit is 'the compatibility between people and organizations that occurs when (a) at least one entity provides what the other needs, or (b) they share similar fundamental characteristics, or (c) both' (pg. 5). Multiples research studies have shown a stronger person-organization fit enhances employee job satisfaction and reduces stress and turnover among employees (Liu, Liu, & Hu, 2010; Chen, Sparrow, & Cooper, 2016). The decision to offer cash incentive can be related to a unique strategy of enhancing employer image.

- *What organizational design is used by Zappos?* Zappos is using an organic design model to a significant extent. The organic model is flat and uses lower levels of formalization; employees are empowered to make the decision thereby increasing the number of decision makers and increasing the flexibility (Robbins & Judge, 2017, pg. 505).

Research has shown that organic design is related to increased innovation and organizational performance (Camison & Villar-Lopez, 2012).

- *What structure did Zappos hope to achieve when it made drastic changes within its own structure?* The company was aiming for a team-based structure. The team structure seeks to eliminate the bureaucracy with empowered teams (Robbins & Judge, 2017, pg. 505). By minimizing the vertical boundaries and removing the chain of command, management flattens the hierarchy and minimizes the status and rank. For the effective functioning of such structure, cross-hierarchical teams, participative decision making, and 360-degree performance appraisal systems are used (Robbins & Judge, 2017). Team based structures are shown to contribute to employee satisfaction and lower work stress (So, West, & Dawson, 2011). In addition, firms utilize team structure to build cohesion, generate synergy and improve performance (Yang & Tang, 2004).

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Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: Building without a foundation: Pay inequities at a small utility provider

Author(s): Douglas, M. & Holtzen, S. M.

Source of case data: _____ Library research _____ Interviews X_____ Consulting

_____ Personal experience _____Combination (check all that apply)

Expected level: _____ Graduate X_____ Advanced Undergraduate _____ Undergraduate

Industry setting: Rural utility provider

Main character, job title: Jill, Office Manager

Relevant theory to be applied:

This case applies equity theory and organizational justice concerns to teach students the importance of developing an internally consistent compensation system to assign equitable pay rates to jobs of differential worth.

Envisioned case issues (for the Teaching Note):

This case exposes students to a variety of issues associated with designing a compensation and benefits system that is internally consistent, including the importance of conducting a thorough job analysis to produce accurate (1) job descriptions and (2) job specifications. Students will then use this information to develop a pay structure that is internally consistent by using job evaluation techniques to assign equitable pay rates to jobs of differential worth.

Questions/issues I'd like help with:

Seeing as this is my first venture into case writing, I would like feedback on how to move this case from its embryonic stage to a more developed format. In particular, I am seeking feedback on how to develop the instructor's manual and how to structure the different activities that students will complete (e.g., conducting job analyses and job evaluations, how to structure pay grades and ranges that are both internally consistent and externally competitive).

Synopsis of the case as you currently envision it: (Attach no more than one page)

Please see attached page.

Embryo Case Synopsis

Jill, a certified public accountant with decades of industry experience, was recently hired for the position of "Office Manager" at a rural water company in the southwest portion of the state. The Office Manager position is part-time, with the hours not to exceed 24 hours in a given week. Jill was primarily hired for her accounting expertise, with job duties to include investing excess cash, meeting debt covenants with government bonds, and communicating with insurance providers and financial auditors. However, Jill quickly realized that the role of "Office Manager" encompassed more than just accounting duties. The water company also expected Jill to act as the human resources department for the organization by preparing payroll and conducting employee performance appraisals.

Jill found herself in a predicament. While she had the accounting expertise to perform the financial duties of the Office Manager position, she felt as though she lacked the knowledge necessary to appropriately conduct performance appraisals of the small company's five employees. As a result, Jill decided to turn to outside consultants for assistance. During their first meeting, it was suggested to Jill that she rely on the company's employee handbook and job descriptions when conducting performance appraisals. It was at this time that Jill shared the disturbing news: the company had never developed an employee manual, let alone written job descriptions! The consultants immediately responded with an explanation about how and why job descriptions and employee handbooks are important and necessary.

Understanding there were many items that had to be addressed, Jill began supplying the consultants with a variety of existing relevant information. Among these items, Jill provided the following information about pay rates, employee classifications, and other pay-related information at the small organization:

Job Title	**Incumbents**	**FT/PT**	**Hourly/Salary**	**Pay Rate**
Maintenance Operator	• Steve • Carey • Mike	• FT • FT • PT	• Salary • Salary • Hourly	• $21.50/hour • $18.62/hour • $17.50/hour
Office Manager	• Jill	• 24 hours = PT	• Salary	• $29/hour
Office Worker	• Candace	• 16 hours = PT	• Hourly	• $15/hour
Floater (Billing)	• Beth	• PT (as needed)	• Hourly	• $15/hour

Upon discussion, it became apparent that the local water utility's pay structure needed further examination. For example, Mike, one of the part-time maintenance operators, also worked for the company as an independent contractor running a boring machine. Jill agreed to a 24 hour per week position as office manager, but she regularly found herself working closer to 40 hours a week and continuing to fall further behind each week. Furthermore, despite having one of the highest pay rates at the organization, Jill was also being asked to perform tasks such as cleaning the office toilet. Not only did the company lack an employee manual, but the lack of any concrete job descriptions created considerable overlap among the company's different jobs. Lacking the descriptive output of a job analysis, no job evaluation had been performed at the organization either. As a result, the organization's pay structure reflects several inequities that must be addressed before negative effects on motivation and turnover arise.

Amazon Go checkout-free convenience stores: "all that and a bag of chips"

In 2018, Amazon Go opened checkout-free convenience stores in several major cities across the United States where customers were able to select products off of store shelves and walk out without paying a cashier or waiting in line. In New York City, it entered a market filled with thousands of corner convenience stores and New York "Bodegas" that were already part of the urban identity of the city (Gray, 2012). The move into the offline space turned heads because Amazon was always associated with being a successful online e-tailer. In a 2018 letter to shareholders, Amazon CEO Jeff Bezos explained:

> We represent a low single-digit percentage of the retail market, and there are much larger retailers in every country where we operate. And that's largely because nearly 90% of retail remains offline, in brick and mortar stores. For many years, we considered how we might serve customers in physical stores, but felt we needed first to invent something that would really delight customers in that environment. With Amazon Go, we had a clear vision. Get rid of the worst thing about physical retail: checkout lines (Bezos, 2018).

Startup costs for some of the Amazon Go stores were estimated to be $1 million due to the massive amount of complex software and sensor technology required to operate the small-format stores without cashiers (Levy, 2019). The company hired employees to work on food preparation and customer service but remained focused on changing the core retail customer experience (CX) through technology.

Did patrons share the same vision as Bezos that the worst part of traditional retail was waiting in line?

Industry Growth

According to news reports, Amazon considered opening up to 3000 stores nationwide by 2021 (Soper, 2018). It was reported that airports, movie theaters, in-store licensing deals or Amazon's Whole Foods subsidiary were possible expansion options (Novet, 2019). Others speculated that retailers in any platform or format were vulnerable and Amazon's online dominance meant it was only a matter of time for the offline world. Other skeptics might have questioned why Amazon entered a competitive marketplace centered on quick convenience items. The debate was reminiscent of the 1990s when the firm initially sold books, survived an economic bubble and later expanded into thousands of new product areas to propel growth.

The Marketing Mix

Most Amazon Go stores closed after dinner and offered a product mix that included all or some of the following items "Breakfast, Lunch, Dinner, Snacks, and Grocery Essentials" that were sourced from Amazon, its partners, local bakeries, and specialty shops (Amazon Go Website, 2019). Products were also priced competitively, for example, a review of social media pictures on Yelp showed yogurt selling for $.99 (Yelp, 2019). Traditional retailers in this space tended to focus on simple concepts such as foot traffic, popular products, and promotional discounts. Through the use of its technology, Amazon Go was able to add new competitive advantages with efficient check out processes and better control over shrinkage since everything was being monitored. The hard part was getting customers used to the new concept and excited about its potential. An employee on one of the firm's YouTube channels summed it up saying, "we are teaching people a new way to shop and it's fun" (YouTube, 2018).

Over the past decade, consumers heard stories about empty American malls and iconic names that filed for bankruptcy. Did Amazon find a special marketing mix and technology strategy that other retailers were missing?

Apps, Loyalty, and Systems

An Amazon account and a free Amazon Go app allowed customers access to the new stores and consumers used stored credit cards to make fast friction-free purchases. Some state and local regulators pushed back on the idea that patrons needed an account with a credit card tied to it and claimed it was "unfair for the unbanked population" (Unglesbee, 2019). In response, Amazon changed policies and agreed to accept cash at some locations.

It has been estimated that the Amazon Prime program eclipsed 100 million, which translated to more than "80% of US households" (Berthene, 2019). Amazon's loyalty program success was a major retail milestone and it offered an unprecedented opportunity for the company to process massive amounts of purchasing data. The firm's systems already allowed it to recommend products to its customers. The combination of these factors, apps that had the potential for location-based services, a large loyalty program, and lots of data placed it far ahead of would-be fast followers.

Who's the Real Competition?

When the company first rolled out its concept, it appeared that small neighborhood shops would be the primary competition for Amazon Go stores. Some wondered how that would resonate with small business advocates who championed corner stores and neighborhood "Bodegas". However, over the past decade, the battle between Amazon and Walmart has heated up.

Historically, Walmart positioned brick-and-mortar stores across the United States and marketed to large segments of the US population with a low price strategy and stores "within 10 miles of 90 percent of the US population…" (Cheng, 2018). Online, Walmart challenged Amazon with an improved electronic commerce website, in-store pick up of online purchases and the acquisition of Jet.com. From the very beginning, Amazon used affiliate marketing and automation as a competitive advantage. They built a loyal customer base and fundamentally rewrote the retail CX selling everything to everyone online. Amazon also sent a major message to the industry a few years ago when it bought Whole Foods and directly challenged Walmart in the offline grocery business.

Was Amazon Go's technology and modern marketing aligned with the inefficiencies and frustrations that customers experienced in the offline retail arena? Did Amazon successfully apply the idea of automation to a tangible pain point for customers? In other words, was Amazon "all that and a bag of chips" in the rollout of their concept or will the idea fade away as a novel technology offering that had some initial appeal for city dwellers?

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Teaching notes

Amazon Go checkout-free convenience stores: “all that and a bag of chips”

Synopsis

In 2018, Amazon opened high tech convenience stores across a number of metropolitan cities in the United States offering a checkout free experience for customers. This case evaluates the marketing aspects of the move including industry structure, store format and customer loyalty. The underlying question is how will Amazon, the company that pioneered online shopping, perform in an offline retail marketplace that is highly competitive? Will Amazon be able to leverage its massive technology power and shakeup offline retail?

Research methodology

This case was developed from secondary sources readily available in the public domain. These included company websites, news articles and social media sites.

Target audience

This case should be used in marketing and management classes at the undergraduate level. Applicable concepts include competitive advantage, marketing mix, customer loyalty and retail in a digital world. This case could also be taught in a retail marketing special topics class that discusses or compares the differences between online and offline brand leadership.

Learning Objectives

After completing this case, students should be able to:

- describe how the marketing mix and customer loyalty influence marketing;
- explain the issues managers face when designing a new approach; and
- compare how companies leverage marketing strategy to achieve objectives and new growth opportunities.

Discussion Questions

1. What role has customer loyalty played at Amazon in the past, have they capitalized on that loyalty, if so how?

2. Did Amazon pick the right retail category, namely convenience stores, in order to address the corporate objective of increased market share in the offline bricks-and-mortar space, why or why not?

3. Is offline retail a thing of the past? What would Amazon Go look like in your town or on your campus? What products would they have to carry in order to appeal to the local community?

4. Did it matter where Amazon opened its first stores and why did it pick metropolitan locations?

5. Will Amazon leverage its technology in Whole Foods stores? Could you imagine walking out of a large-format grocery store that is outfitted with cameras and sensors, how much would that cost?

6. Will consumers boycott automation, are there some that think it goes too far in terms of privacy? Are there any other social issues that are similar to the "unbanked" issue?

7. How much does personal selling play a role in your offline shopping experience? How much do you rely on a sales associate to help you decide on products, evaluate features and ultimately decide on purchases?

8. Are there any cultural aspects to this study such as using American concepts of time and long waiting lines as a key differentiation point, would that work in other cultures where time is not viewed as a resource? In other words, can this be scaled globally?

Key Terms

1. Positioning
2. Differentiation
3. Shrinkage
4. Bricks-and-Mortar
5. Location-based
6. Affiliate
7. E-tailer
8. Convenience Stores
9. Fast follower
10. Customer Experience (CX)

Activities

This area has not been developed.

Epilogue

As of December 2019, Amazon Go was still operating in a number of major cities in the United States and news articles discussed plans of additional stores opening in 2020.

Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: Using the Legal System as a Management Strategy©

Author(s): **Karen Gantt, Daphne Berry**

Source of case data: __X___ Library research _____ Interviews ______ Consulting

_____ Personal experience _____Combination (check all that apply)

Expected level: _____ Graduate __X___ Advanced Undergraduate _____ Undergraduate

Industry setting: Food

Main character, job title:

Relevant theory to be applied: strategic management, ethics. The ethicality of using the law to squelch new startup competition.

Envisioned case issues (for the Teaching Note): We've started on the teaching note:

Learning Objectives

This case explores how corporations use the legal and regulatory system as a method to gain competitive advantage. This case addresses:

- A legal method for maintaining competitive advantage
- The ethicality of such a strategy
- The sustainability of such a strategy

On completion of this case, students will be able to articulate:

- competitive advantage and factors outside of the merits of a product or service itself
- legal recourse as part of a corporation's overall management strategy
- ethical positions on such legal strategies for competitive advantage
- how public perception might factor in to corporate strategic decision making

Discussion questions

1. Which type of competitive advantage was Unilever trying to maintain?
2. If Unilever's lawsuit had worked and Just Mayo had to relabel their product, do you think this would have solved Unilever's competitive advantage problem for the foreseeable future? Why or why not?
3. Discuss the ethical perspectives in this case for:
   a. the FDA
   b. Unilever
   c. Just Mayo
4. What is the charter of the FDA? Are they ethically fulfilling their duties when getting involved in a case such as this?

Questions/issues I'd like help with:

We like this to be a compact case. Is addressing the law as a management strategy *and* ethics in this too much for a short case?

How much, if any, of subsequent problems the startup Hampton Creek has had with internal conflict and mismanagement should be addressed or even mentioned?

Synopsis of the case as you currently envision it: (Attach no more than one page)

In 2011 Hampton Creek[1] began operations as a manufacturer of plant-based food products. One of its earliest products was Just Mayo. The product can best be described as a sandwich spread that has all the attributes of traditional mayonnaise except it is made without eggs or other dairy products. Shortly after Just Mayo was introduced, Unilever, a multinational conglomerate and food giant sued Hampton Creek,[2] claiming that use of the name "Just Mayo" amounted to false advertising and unfair competition. Moreover, the conglomerate argued that the Just Mayo name was causing irreparable harm to Unilever.

The false advertising claim stems from the fact that the Food and Drug Administration defines mayonnaise as a product containing egg yolk. Since Just Mayo does not include any egg at all, Unilever argues it cannot be called mayonnaise. As a multinational corporation with a net worth of over 95 billion dollars,[3] it is curious why they would even care about this start up operation. Several factors are involved. First, Unilever is the

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[1] Renamed Just, Inc. in 2018.

[2] Hampton Creek also produces Just Eggs and is working on a cultured meat product. The company which is located in San Francisco and has Silicon Valley backing, has made substantial investments in robotics and artificial intelligence.

[3] Unilever Net Worth 2006-2018. https://www.macrotrends.net/stocks/charts/UN/unilever/net-worth

producer of Hellman's Real Mayonnaise and was concerned with losing market share.[4] Vegan food products such as almond milk, vegan mayonnaise and the like continue to gain market share. As an example, in 2018 plant-based milk sales increased 9% (compared to 3% the previous year) to 1.6 billion dollars. During that same time period, sales of cow's milk were down 6%[5]

Second, Unilever received encouragement from the American Egg Board, a trade association and quasi-governmental agency under the supervision of the Department of Agriculture whose membership are egg producers nationwide. Through a formal Freedom of Information request, it was learned that the Egg Board instructed its members to consider Just Mayonnaise "a crisis and major threat to the future of the egg product business." Emails also revealed a push by the agency to use the FDA to have the agency declare the Just Mayo product label misleading.[6]

Would an entire industry come together to put a stop to Hampton Creek's Just Mayo product? It seems that some consumers may have seen it that way. A petition demanding that Unilever "stop bullying sustainable food companies" received over 110,000 signatures.[7] Shortly thereafter, Unilever withdrew its lawsuit. However, the FDA stepped in and issued an enforcement letter warning the company about using the name Just Mayo.[8] Similar to the petition against Unilever, a petition was delivered to the FDA. Eventually, the FDA allowed Hampton Creek to use the Just Mayo name despite not having egg yolks in its product. A year later, after losing market share, Unilever's Hellman's mayonnaise issued its own "eggless spread" to compete with Just Mayo.

[4] Known as Best Foods on the west coast.
[5] Deena Shanker, Plant Based Foods are Finding an Omnivorous Customer Base: Almond Milk and Veggie Burgers Aren't Just for Hippies Anymore, Bloomberg, July 30, 2018, https://www.bloomberg.com/news/articles/2018-07-30/plant-based-foods-are-finding-an-omnivorous-customer-base (last accessed February 21, 2019).
[6] Emails on file with author.
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[8] FDA enforcement letter to Hampton Creek, https://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm458824.html.

Naloxbox:

A Response to the Opioid Crisis

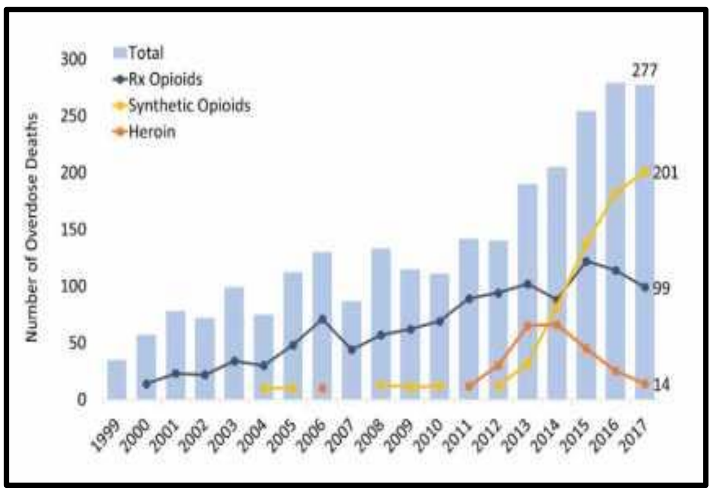
Abstract

The United States, for the past two decades, has experienced an opioid epidemic that has impacted millions of people across the country. In 2017, the United States Department of Health and Human Service declared a public health emergency and proceeded to establish a five point strategy to help eradicate the problem. The increase of deaths from opioid overdoses over the past several years forced government agencies to support states and local communities identify outbreaks, provide resources, and build processes to fight the epidemic. The United States government recognizes that it is necessary to work with various lines of business like medical personnel, first responders, and community-based organizations in order to be successful in resolving the crisis. This government support provides social ventures in the public health arena an opportunity to create solutions to the opioid epidemic. Geoff Capraro, MD and Dr. Claudia Rébola, the founders of Naloxbox, seized the opportunity presented by this crisis, leading to the creation of this non-profit organization developed to addressing the opioid epidemic in Rhode Island. The organization's founding, historical development, and business model are discussed. The case concludes with suggestions for Naloxbox's future growth.

Keywords: social innovation; social entrepreneurship; opioid crisis; Rhode Island

History

In the 1980s and 1990s, pharmaceutical manufacturers started to recognize that patients' pain needed to be treated as a more serious matter. Individual government health organizations began publishing standards for pain management, which placed physicians under strict regulations. Pain was soon incorporated as a vital sign that should be checked closely by medical professionals similarly to pulse, breathing, temperature, and blood pressure. This led to the increase in prescriptions of opioids. At the time, medical professionals did not fully understand the potential addictive side effects of these drugs. However, with strict regulations in place, physicians relied on opioids to relieve patients' pain and stay in line with the government health organizations' guidelines. The over-prescription of these drugs quickly caused negative consequences. In 2017, there were 277 overdose deaths involving opioids in Rhode Island alone. The age-adjusted rate was 26.9 deaths per 10,000 persons, which was about 12 more deaths than the national average. During this same year, Rhode Island prescription providers wrote 51 opioid prescriptions per 100 people.



Organization Description

a) Prior to Inception

In 2014, the Rhode Island Disaster Medical Assistance Team established the Naloxone and Overdose Prevention Education Program (NOPE- RI). The NOPE program works with volunteers to provide education and training about opioid overdoses to organizations that initiate Naloxone response programs. Initially, the organizations that received training were public schools, law enforcement agencies, and first responders. These organizations received training in overdose prevention, recognition, and response training. The leaders of NOPE- RI acknowledged that more opioid overdose cases could be prevented by bystanders and first responders if better training was available. The entire training is in-person, however, the Rhode Island Disaster Medical Assistance Team provides basic information about the opioid epidemic, the symptoms, and the drug Naloxone.

b) Early Years

The Rhode Island Department of Health provided two grants to Lifespan Hospital. The first grant was received in 2016 and the second grant was received the following year. The support from the state department allowed founders, Geoff Capraro, MD and Dr. Claudia Rébola, to create the Naloxbox. The purpose of the Naloxbox is to have Naloxone, the overdose reversal drug, available in public places to increase public access and effective responses. Originally, the Naloxone drug could only be accessed by prescription or provided by a local pharmacy. This did not allow for quick and effective responses by bystanders to an overdose incident. With the large number of overdose incidents and high demand for products or services that could alleviate the issue, NaloxBoxes were a huge success once they were spread throughout public spaces in Rhode Island.

Describe the market

There is, unfortunately, a large market for the Nalox boxes in present day due to the increased case of drug overdoses related to prescription opioids. According to the National Institute of Drug Abuse, prescription drug overdoses is at an all time high. In 2017 there were a total of 70,237 deaths reported that had been related to prescription drug abuse. This creates a market for NaloxBox as it creates station where people know where to gain access to Naloxone which counteracts the effects of the drugs if an incident were to ever occur. Due to the effectiveness of Naloxone, it has become a very popular drug. Pharmacies have begun distributing it in order to allow the public to have access so that they could help a family member or friend should an overdose occur in their presence. The NaloxBox is attempting to further the access that the public has to the drug by distributing packages similar to a first aid kit station to businesses and organizations. The market for the Nalox Box is significant as it ensures that people know where to get the drug if an overdose were to occur and how to administer the drug. The importance of the NaloxBox should be valued extremely high in today's society. Similar to the Epi-Pen, which delivers epinephrine to treat asthma attacks and allergic reactions, NaloxBoxes are something that truly can save the lives of people. In today's society, there are issues regarding epidemics such as these that aren't treated or being dealt with seriously enough, and that is why they remain as such critical epidemics. Continuing with the comparison of the NaloxBox to the Epi-Pen, Epi-Pens have been in the news recently because of the extremely high prices of them because of insurance companies refusing to cover them. This is a severe issue because for people with anaphylactic allergies or severe asthma, this can be the difference between life or death. If someone cannot afford the extreme costs of an Epi-Pen, the result is ultimately death if they were to have an allergic reaction since they cannot afford to have an Epi-Pen with them at all times in order to ensure safety. To relate this back to the NaloxBox, the NaloxBox should be a basic necessity for places where overdoses are prone to occur. These places include but certainly are not limited to businesses and organizations where there are many people or businesses and organizations where opioid overdoses happen a fair amount of times. This isn't something that only a few organizations should have, or something that only those who can afford it should have access to - this should be taken as seriously as the right for everyone with an allergy or asthma to carry an Epi-Pen with them at all times. Or as seriously as having oxygen masks available on a plane. The bottom line is that this product can and *does save lives.* So why aren't they used everywhere? This leads to the lack of education regarding opioid overdoses. Some people do not understand the severity of this epidemic, therefore they do not see the crucialness to have such a thing in their workplace. If the public is uneducated, how can they be expected to know that this is a necessity in some places? To summarize, NaloxBox does have a large target market in terms of people who, unfortunately, suffer from opioid overdoses, and therefore, businesses and organizations who interact/have employees who would benefit from NaloxBoxes. However, NaloxBox's need to initiate their interactions with such companies and businesses by educating their target market first about why their product is so important and crucial, therefore, creating what would theoretically be an even greater target market now that their target market is actually interested in and educated about the specific topic.

Business Model

The business model that NaloxBox follows is one that consists of two leaders - Geoff Capraro, who was a Brown medical school professor and emergency room doctor, and Claudia Rébola, who is a Rhode Island School of Design (RISD) professor. Claudia was in charge of designing the boxes while Geoff was in charge of researching Naloxone in order to find ways for it to be used by non-medics to save lives of those who experience opioid overdoses. These two are the leaders of the non-profit that was later taken over by RIDMAT, which is a 501-C3, non-profit organization. Their mission is to recruit, train, mobilize, manage, and equip a volunteer response corpse in Rhode Island. Under the leaders are the volunteers that the non-profit relies heavily on in order to keep the business up and running. The volunteers are essentially what hold the social venture together. Within the workers/volunteers, there are teams that collaborate and produce the work together. These volunteers are typically people in opioid recovery themselves, which helps NaloxBox stay true to their mission. Therefore, NaloxBox is a very team based non-profit. Additionally, they rely heavily on their third-party partners as well. An example of such a relationship is one that they hold with a local soup kitchen in Rhode Island. Without these partnerships, their organization would greatly suffer, as they wouldn’t be having the support for their product. Lastly, they are partnered with Miriam Hospital through the Preventing Overdose and Naloxone Intervention program, which is how they were able to produce the boxes and install them around Rhode Island. They rely on this partnership for grants as well.

Identify competition

NaloxBox does have some people who are attempting to compete in the same market as them but the services that they other companies are providing has not impacted NaloxBox. This could be because NaloxBox has more research and other information that puts them ahead of the rivaling companies who have similar ideas. In order to ensure that they are able to beat their competition, NaloxBox is working on increasing their promoting efforts and distribute their products to include a variety of different organizations. This includes creating pre packaged items for more efficient storage and use and educating the businesses that they sell to about the effects of opioid addiction, the signs of an overdose and how to use Naloxone.

Recommendations

In order to increase the reach of NaloxBox, we recommend that the company establish a relationship with pharmaceutical companies to help market to people who purchase Naloxone. This marketing has the potential to increase the number of people who know about the company and would hopefully prompt these customers to try and implement NaloxBox to in their own work spaces. Another suggestion would be to work with managers and leaders of the businesses and organizations to include Nalox Box in their work spaces and to have information sessions about the abuse of opioids. While there is a stigma around the use of a Naloxbox, if would be important for the promoters of NaloxBox to convey the message that opioid addiction is a legitimate issue and that having a safety measure in place is better than not having one at all. This marketing strategy should also extend to colleges as well as this is one of the places where a significant portion of opioid abuse occurs. By providing the college campuses with NaloxBoxes and information sessions the company can expand their reach and hopefully create bigger name for themselves. As mentioned before, the issue isn't necessarily not having a large enough target market. The issue is not having a large enough target market that is *informed* and *educated* on the epidemic enough to know the severity of it, therefore recognizing the true need for the product. The strategies mentioned above will all contribute to helping solve this issue. The most important overall recommendation that we can give to NaloxBox is to educate everyone and *anyone*. Whether it is a college, high school, business, workplace, or even a church, all that matters is that Nalox Box is educating their target market on *why* their product is not only crucial in saving the lives of those who experience opioid overdoses, but also *why* it is a basic necessity in the given location. By improving their relationships with pharmaceutical companies, they will be able to get a better idea of who they should reach out to and continue to educate. They will be able to get more information on where the high-risk areas are, who the people at risk are, and therefore, find out why such areas are at high risk. With this information, they will be able to better their understanding in terms of recognizing the businesses that should have NaloxBoxes but do not. This way, they will be able to hold information sessions and give samples of the product to get people to see the importance of these NaloxBoxes. After NaloxBox does this, they could consider ways to educate the overdosers themselves to create less overdoses. A combination of these two things would be ideal since overdoses are going to happen, unfortunately, no matter what. However, NaloxBox can use their resources and knowledge to educate those who are overdosing to help them get access to the resources that they need in order to avoid overdosing. NaloxBox is clearly very educated on this topic and has workers who have the ability to reach out to those struggling with opioid addiction. They can use this to their advantage in order to help society overcome this epidemic. Just because it is an epidemic right now does not mean that is has to stay this way. Social ventures like NaloxBox can do similar things, and if NaloxBox can take the lead on this movement, the possibilities are endless. If NaloxBox can create a combination of educating first responders and the opioid overdosers themselves, they can truly make a difference in helping to end this epidemic. These recommendations will ultimately help them in the short and long run because if they are able to get even a small amount of businesses and organizations committed to using their product, other organizations and businesses will see the true importance and cruciality of it, therefore causing them to follow in those other organizations' footsteps.

Conclusion

While NaloxBox is not a huge company, there is a market for businesses and organizations to have products on hand that would help them handle an opioid overdose efficiently. The potential for NaloxBox to succeed even more and expand is extremely great due to their dedication to their commitment. After all, every company that has ever made it “big” started somewhere, and this might just be the “somewhere” for NaloxBox. They have already done half of the work by recognizing something that is a severe issue in this world and creating a solution to the issue. NaloxBox has the potential to really expand since their mission and product is very unique. As mentioned before, the market for this product is huge, therefore, the possibility for many organizations and businesses to take advantage of NaloxBox is unlimited. The product that Nalox Box provides a quick response for bystanders so that in the time it takes for the first responders to get on the scene, there is a higher chance that the person will survive the overdose. Any business that is dedicated to protecting their employees or workers would act on getting a NaloxBox because it is a smart thing to do. NaloxBox would be an asset for organizations to have as they build a safer work environment and education sessions that the NaloxBox could provide would help inform the public of the epidemic that is currently occurring in our society which would hopefully decrease the number or overdoses that occur. An epidemic is no joke, especially one of this caliber.

Future Endeavors

The leaders of Nalox box plan to release a new version of the Nalox Box that has a smart system function which allows the owner of the box to monitor the temperature of the drug and will alert the linked email or phone number when the box is opened. The smart functions also notifies on the upcoming expiration date of the Naloxone. This new technology that the company is implementing will allow for the owners of these boxes to have a smoother experience as the will not have to think about the maintenance of the product until it alerts them. There is also a “Maintenance Mode” for openings of the box that occur without the alarm system. Nalox Box is creating an easier user experience in order to gain more customers who would be hesitant to buy the product if they were worried about the maintenance of the box.

Appendix:

- Name of the company
  - NaloxBox
- Date founded
  - January 2017
- Description of the produce/service
  - Looking way to provide opioid rescue to the public
  - Naloxone is an opioid overdose reversal drug
    - Made it open for public use
    - The box units include Naloxone and are transparent in order to be recognizable in high traffic locations or in high-risk locations
    - The box units are mechanically sealed and require a thumb lock to open
    - Box units ship with bilingual instruction kit and CPR rescue breathing device
  - Increase access to publicly available overdose response resources
  - Make treatment easily accessible for all
  - Mission → improve the ability of bystander rescuers to save the lives of victims of opioid overdoses
    - Increase Access
    - Reduce Stigma

            - Save Lives
- Key challenges the team has experienced/had to analyze
    - 2 small branches → once those were done they were done
    - Non profit → for profit
    - Opioid education
    - Getting our feet in the water to be ready for something bigger
- How did this opportunity come about?
    - Public health
    - State-wide efforts to prevent opioid crisis
    - Established public health collaboration
- Why did you think it would be successful?
    - A lot of work being done in opioid rescue, but no model for public access to it
    - Person to person distribution
    - Overdoses happening everywhere → needed a solution
- Who is your target market?
    - Those experiencing opioid overdoses and those who are around them when the overdoses occur
- Has it changed over time and why?
    - Started off with social enterprise greenhouse to turn into an actual organization
    - Pretty close to original intent
    - Nationally distributed now of prescription drug
    - Decided whether there will be modified trainings in the future
    - They will self identify and then changed
- Can you give an explanation of your business model and why you think it works?
    - Project within non profit
    - Trying to cover the costs of program
    - Supplement labor with volunteers
    - Is currently non-profit but is trying to become
    - Shelters, addiction centers that first installed Nalox Boxes
- Can you describe your team and how it was formed?
    - 1st teammate → helped build and implement

program
        - Wanted to find data driven solution to address the epidemic
    - Small
    - Reason behind organization → Opioid overdose = leading cause of death for people between the ages of 13 - 50 years old
    - Liability concerns
        - Different sections for employees to focus on
        - *Search for different departments*
- Do you have any third party partners
    - yes/no
    - Various times depending on need
    - Some corporate partnership or foundation partnership for grants
    - Made some applications for grants - unsuccessful
    - Corporate health
- Do you have any competitors?
    - Some people doing similar work
    - Nothing that seems to be impacting the business
    - They have a lot more momentum compared to other small organizations
    - Want to find ways to better promote to get more customers
    - Prepackaged, bilingual packages, education
    - Collaborative project

- Identify key bottlenecks for the growth of the firm and how they are being addressed
    - They want to expand through more grants and promoting the company to gain knowledge from the public about it

<u>History:</u>
- 2014
    - Rhode Island Disaster Medical Assistance Team’s Medical Reserve Corps established the “Naloxone and Overdose Prevention Education Program”
    - The NOPE Program provided resources to the state to

increase education and access to Naloxone

- 2016
    - First Rhode Island Department of Health mini-grant to Lifespan Hospital
- 2017
    - Second Rhode Island Department of Health mini-grant to Lifespan Hospital
        - BOTH grants allowed Geoff Capraro, MD and Dr. Claudia Rébola to construct NaloxBox
        - There are now 56 original NaloxBox units across Rhode Island
        - Designed to placed in semi-public and public spaces (Ex: state and municipal agencies, public libraries, homeless shelters, and treatment centers)
    - Demand quickly outweighed funding so RIDMAT (non profit organization) took over operations and scaled production

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Xiaomi: U.S. expansion?

"At the time I thought Jobs and Gates were successful right out of school, so why couldn't I be?"

Lei Jun, founder and CEO of Xiaomi

Abstract

Xiaomi Corporation (Stock Code: 01810) is a Chinese electronics company based in Beijing. It invests in and produces smartphones, software, mobile applications, and consumer electronics at lower price than its competitors. Founded in 2010, Xiaomi experienced enormous growth in China, India and Europe, competing with dominant brands like Samsung and Apple. In the fall of 2018 Xiaomi was struggling to decide how and if to enter the United States market; especially so given new policies and politics that were straining relations with China.

Introduction

Lei Jun (figure 1), was proud of Xiaomi, the company he founded. On July 9th 2018, Xiaomi raised $4.7 billion at a valuation of $54 billion following its listing on the Hong Kong stock exchange. After just eight years of operation, the company was the number one smartphone provider in India and the fourth largest in China. With an IPO initially estimated valuation of $100 billion, Xiaomi would make Lei one of China's richest technology entrepreneurs. However, the actual IPO valuation fell short of initial expectations.

Following the IPO, Xiaomi's intended entrance into the U.S. market was complicated by several factors. In 2016 U.S. President Donald Trump's tariff policies substantially crippled China's imports to the U.S. A chief rival of Xiaomi, Huawei also had large plans to enter the U.S. market until AT&T backed out of a deal because of U.S.

government political opposition to the agreement. Now public and needing to grow, Xiaomi needed to decide, or not, on a U.S. strategy.

Company Background

Xiaomi was founded in 2010 by six engineers and two designers. Their simple vision was to design and produce a high-quality, well-designed smartphone. The co-founders pursued innovative technology in the design of their smartphones, while offering them at a low price. By 2018, Xiaomi had become the world's fourth-largest smartphone company based on total unit shipments (see figure 3) with 8% of global market share during the first three quarters of 2018.

Xiaomi sells hardware and internet services to consumers. Xiaomi's annual sales grew quickly, exceeding $1 billion in two years and $10 billion in four years post its founding (see figure 2). A large portion of Xiaomi's revenue came from smartphone and internet of things (IoT)/ lifestyle hardware sales but Xiaomi also expanded its revenue through internet value-added services (e.g. payments, streaming, and gaming) and advertising.

While Xiaomi was known more for its low-price smartphones (figures 4 and 5), it positioned the company primarily as an innovation-driven internet company. It sold a wide range of product offerings from smartphones to home items and technical accessories. The low-price, high-specification smart devices were connected on an IoT platform. Xiaomi's hardware products ranged from smartphones, to drones, security cameras, kettles and air purifiers. Even appliances like the Xiaomi rice cooker could easily be controlled from its smartphone apps.

Xiaomi organized its business into three areas: hardware products, e-commerce and "new retail," and internet services. Among them, the most well-known were its hardware products, primarily Xiaomi smartphones and TV. The Xiaomi Mall made up its "new retail" segment, in which Xiaomi ran and operated its own online and brick-and-mortar stores. Xiaomi provided a wide range of internet services from MIUI, its proprietary operating system (OS), including cloud and finance services. In 2017, Xiaomi's revenue was almost $16 billion, with hardware sales contributing $14.4 billion and internet services $1.37 billion of the total.

Company Growth

Although its hardware business was essential to building its user base, Xiaomi did not view it as a main source of future profits. It adopted a "penetration pricing" strategy, offering low prices at low profit margins.

By 2018 Xiaomi had the world's largest IoT ecosystem with over 190 million monthly active users on MIUI and over 100 million connected devices. Xiaomi's aim for long-term profitability was via internet services within its ecosystem rather than hardware sales. Hardware was sold at a low gross profit margin of 8% to help build the foundation for future internet services sales. In an interview with the *South China Morning Post* in April 2018 Lei noted "We must curb the tendency for greed and win absolute trust from consumers." Shortly after this interview, Xiaomi announced ahead of its planned public offering a pledge to cap net profit margins for its entire hardware business to a maximum of 5%. In 2018 39% of gross profits came from the internet services offerings.

Xiaomi posted a $6.9 billion loss in 2017 and had been unprofitable in two of the prior three years (2015 and 2017). In contrast, other global smartphone makers and internet companies, including Apple Inc., Samsung Electronics, and Tencent had positive cash flow.

Xiaomi expressed interest in expanding to the Southeast Asian and European markets, so the company expected its expenses to continue increasing in the future. It planned to use the proceeds from the IPO in the following ways: 30% on global expansion, 30% on investments to strengthen and expand its IoT ecosystem, 30% on R&D, and 10% on working capital and general corporate purposes.

On July 9th 2018, Xiaomi struck the gong and commenced trading on the Hong Kong stock exchange (HKEX). Prior to its public offering, Xiaomi had been aiming to raise around $6.1 billion by offering 2.18 billion shares priced between HK$17 to HK$22 (US$1 to HK$7.8) at an IPO valuation of $100 billion. This would be the world's largest tech IPO since Alibaba's on the New York Stock Exchange in 2014. The IPO was led by CLSA, Goldman Sachs and Morgan Stanley. On the first morning of trading, Xiaomi's share price dropped 3.6% even though the HKEX rose 1.4%. Trading at HK$16 per share, Xiaomi only managed to raise $4.7 billion through the IPO.

The decline in the stock price was in part due to rising apprehension about trade wars between China and the United States. The China-U.S. trade tensions, coupled with signs of slowing economic growth in China, led to an overall negative sentiment amongst investors. Lei cited trade tensions as the main reason behind Xiaomi's poor opening performance, and said "At this critical moment in Sino-U.S. trade relations, the global capital markets are in constant flux. Although the macroeconomic conditions are far from ideal, we believe a great company can still rise to the challenge and distinguish itself."

In addition, investors and industry analysts had their doubts about Xiaomi's valuation. Bloomberg reported that Xiaomi shares were trading at a discount on the "grey-market" even before its listing. Some believed that the long-awaited IPO was merely buzz and hype. There was also a looming concern regarding Xiaomi's focus on international growth. While Xiaomi planned 30% of raised proceeds to support global expansion and market penetration, its home country, China, was becoming increasingly competitive. The public perception of Xiaomi was still largely that of a hardware company, although Xiaomi has been presenting itself, quite assertively, as an internet company. Most investors were skeptical of this narrative.

Global markets

In China Xiaomi focused on customers seeking affordable phones with high performance. With its innovative e-commerce tactics, Xiaomi had become a leader in the Chinese smartphone market. By 2014, Xiaomi had sold 61 million units. Domestic competitors such as Huawei, OPPO, and VIVO also expanded within the smartphone space and the market was becoming saturated. Xiaomi began to lose market share. For China's smartphone market in 2018, Xiaomi ranked fifth with a share of 13%. The four brands ranked higher than Xiaomi are Huawei (21%), OPPO (17%), VIVO (15%) and Apple (14%).

In 2017, Lei Jun introduced Xiaomi's new retail strategy. He believed Xiaomi should pay attention to both online and offline sales, and he announced ambitious plans to open a total of 1000 brick-and-mortar Mi Home stores within three years. Xiaomi also spent time building its online store, the Xiaomi Mall. It focused on offering great customer service and user experience with a full range of products and a fast response time. In fact, the sales of Xiaomi smartphones and other products on Xiaomi Mall was greater online than in its physical stores.

In the fall of 2018, Xiaomi reshaped its market strategy in China; the company planned to focus more on its premium smartphone models. "We believe that for this year, our strategic focus is to strengthen our position in the mid- and high-tier market," Chew Shouzi, Xiaomi's chief financial officer, said in a CNBC interview. Although this tactic contradicted Xiaomi's initial value proposition of selling budget smartphones, the company remained optimistic about a trend of increasing consumer spending and thus, a larger demand for more expensive goods in China.

In July 2014, Xiaomi entered the Indian smartphone market with a press release in all major newspapers and internet news sites, referring to the company as the "Apple of China." Using the e-retailer Flipkart, Xiaomi launched a flash sale (limited time, exclusive promotion) that was so popular that the site crashed just one week later. Inventory was sold out within seconds. Xiaomi continued to steadily roll out one model after another, earning $1 billion in the region in 2016.

In this period, the government of India started a national initiative called *Make in India* with aims of strengthening the manufacturing sector in India and attracting global investments. The government imposed a 10% import tax on smartphone components as it moved to increase local manufacturing. Fortunately, Xiaomi already has three Indian manufacturing plants that were established in a joint partnership with Foxconn. This localization strategy reflected Xiaomi's long-term commitment to the Indian market; approximately 95% of Xiaomi's smartphones sold in India were assembled locally. Xiaomi announced in August 2018 that its key component supplier, Holitech Technology, would invest around $200 million over three years in India and create up to 6000 jobs in Tirupati, a city in the southern state of Andhra Pradesh.

Xiaomi also found great success in European markets. By 2018 Xiaomi ranked fourth in European market share with 5.3%. Xiaomi sold 2.4 million phones in the second quarter of 2018, compared to Samsung's 15.2 million, Apple's 10.2 million, and Huawei's 7.4 million.

U.S. Opportunity

According to Senior Vice President Wang Xiang, Xiaomi hoped to enter the U.S. market as well; however, with a new, domestic-oriented political climate the U.S. was cracking down on international market entrants.

As of Q3 in 2018, the American smartphone market was dominated by four companies: Apple (39%), Samsung (25%), LG (17%), and Motorola (8%). Of the four, Xiaomi posed the most direct threat to Apple. Long accused of imitating Apple, Xiaomi sought to subtly differentiate its products, most notably in price. Apple's latest model, the iPhone X, costs $1000 dollars in the United States, while Xiaomi's latest high end competition, the Mi 8, costs 2,699 yuan (approx. $393); the specs of the two were virtually identical.

Intellectual property concerns

In early October 2014, Apple's head of design, Johny Ive, attended a conference where he discussed Apple's design process. It was there that Ive was asked about his thoughts on Xiaomi. "I'll stand a little bit harsh, I don't see it as flattery," Ive said. "When you're doing something for the first time, you don't know it's going to work. You spend seven or eight years working on something, and then it's copied. I have to be honest, the first thing I can think, all those weekends that I could have at home with my family but didn't. I think it's theft and it's lazy." Xiaomi had been accused by numerous online critics for it's perceived copying strategy of Apple.

Infringement litigation was common in the smartphone market. Apple had filed numerous lawsuits against Samsung claiming it stole intellectual property and infringed on Apple's patents, mimicking its iPhone and iPad designs. By July 2012, the two companies became entrenched in 50 lawsuits around the world in what came to be known as the "Patent Wars." In areas such as South Korea, the UK, and Japan, Samsung won rulings, while Apple won in the U.S. where it was awarded $1 billion.

"We're not copying Apple's products," noted Hugo Barra, Xiaomi's global vice president and past Google executive. "End of story." How Apple would respond to a Xiaomi U.S. market entry was unclear however.

ZTE, China Mobile, and Huawei: Three cautionary tales?

In April 2018, the U.S. Department of Commerce announced a ban on ZTE, a Chinese telecommunications giant that makes smartphones of similar scale to Xiaomi, after Reuters reported that ZTE was illegally shipping U.S. goods to Iran and North Korea. As American companies are estimated to provide 25 to 30 percent of materials used to assemble ZTE's smartphone and telecom technology, these sanctions posed dire setbacks for the Chinese company.

Following these sanctions in a mounting trade-war, in June of 2018 the Trump Administration ordered the Federal Communications Commission (FCC) to block China Mobile, another prominent telecom company, from conducting operations in America. China Mobile was the world's third largest carrier and was state-owned. In a time of anxiety over international hacking, the FCC cited concerns of possible "cyber intrusions and attacks" in its statement.

This followed a general trend of U.S. political scrutiny of Chinese smartphone companies, most notably Huawei. A direct rival of Xiaomi that occupied the largest market share in China, Huawei had massive plans for a U.S. market entrance in 2018. Just before, however, AT&T allegedly backed out of a deal with Huawei as the Trump administration loudly expressed its opposition to the U.S. market growth of Chinese tech companies. No longer able to find a deal with any other U.S. carrier and with politicians citing national security concerns, Huawei could not find an American partner to sell its phones.

In spite of this all, Xiaomi appeared ready to pursue a U.S. market entry. “We don’t see any reason for us to get into that political problem,” Wang told Reuters, mentioning their strong relationship with Qualcomm, where Wang had been an executive, and Google, where Hugo Barra, a former Android Vice President, went on to serve as Xiaomi’s Vice President of Global (he departed in 2017). Wang went on to point out that Xiaomi is fundamentally different than ZTE and Huawei because it solely produces for consumers, while the latter two companies additionally build network infrastructure.

Conclusion

The U.S. smartphone market was dominated by four big carriers. Alliances with these carriers are difficult to establish and companies must go through a long and arduous testing process before gaining carrier distribution and then adhere to the carrier’s market strategies—something Xiaomi had not had to deal with in its existing markets. Pursuing the open-market strategy taken in India and China simply would not work, not to mention that the U.S. market was already saturated with options, which is why other international phone companies were looking to Latin America and Southeast Asia for growth. Furthermore, Xiaomi was a relatively unknown brand in the U.S., so clever branding and marketing would be a must. American consumers, however, quickly respond to hype and perhaps they were ready for an alternative to Apple or Samsung. In addition, even if Xiaomi’s price was impacted by tariffs, models could still be sold at prices below these leading competitors.

In an open letter Lei Jun wrote just prior to their IPO he noted, “During the early years of Xiaomi’s founding, we had a grand dream: to improve the efficiency of the entire business world … We have changed how hundreds of millions of people live, and we will become a part of the lives of billions of people globally in the future … Good companies make profits, great companies also win over people’s hearts.” Lei Jun continued, “To gift honesty to business, to gift warmth to technology, to gift happiness to everyone, our mission has no boundaries, and we have only just begun.”

Exhibit 1 Biography of Lei Jun

Lei Jun was born in 1969. He studied computer science at Wuhan University. When Lei Jun graduated from Wuhan University in the summer of 1991, he met Qiu Bojun, the founder of Kingsoft. Kingsoft was already a famous technology company in China for its word processing software. Lei soon joined Kingsoft in 1992 as a software engineer and became the CEO of the company in 1998. He oversaw the IPO of Kingsoft in 2007 and left shortly after to do angel investing. In April 2010, Lei Jun founded Xiaomi.

https://www.britishherald.com/lei-jun-the-brain-behind-a-smart-move/

Exhibit 2 Xiaomi's Financial Statement

Our Business Segment Revenues

	For the year ended December 31,						For the three months ended March 31,			
	2015		2016		2017		2017		2018	
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	%
	(in thousands, except percentages)						(unaudited)			
Smartphones	53,715,410	80.4	48,764,139	71.3	80,563,594	70.3	12,193,852	65.8	23,239,490	67.5
IoT and lifestyle products	8,690,563	13.0	12,415,438	18.1	23,447,823	20.5	4,160,665	22.5	7,696,566	22.4
Internet services	3,239,454	4.9	6,537,769	9.6	9,896,389	8.6	2,029,637	10.9	3,231,350	9.4
Others	1,165,831	1.7	716,815	1.0	716,936	0.6	147,639	0.8	244,956	0.7
Total	66,811,258	100.0	68,434,161	100.0	114,624,742	100.0	18,531,793	100.0	34,412,362	100.0

CONSOLIDATED INCOME STATEMENTS

	For the year ended December 31,						For the three months ended March 31,			
	2015		2016		2017		2017		2018	
	RMB	%	RMB	%	RMB	%	RMB	%	RMB	%
	(in thousands, except percentages)						(unaudited)			
Revenue	66,811,258	100.0	68,434,161	100.0	114,624,742	100.0	18,531,793	100.0	34,412,362	100.0
Cost of sales	(64,111,325)	(96.0)	(61,184,806)	(89.4)	(99,470,537)	(86.8)	(16,067,675)	(86.7)	(30,110,935)	(87.5)
Gross profit	2,699,933	4.0	7,249,355	10.6	15,154,205	13.2	2,464,118	13.3	4,301,427	12.5
Selling and marketing expenses	(1,912,765)	(2.9)	(3,022,313)	(4.4)	(5,231,540)	(4.6)	(726,857)	(3.9)	(1,402,829)	(4.1)
Administrative expenses	(766,252)	(1.1)	(926,833)	(1.4)	(1,216,110)	(1.1)	(240,209)	(1.3)	(465,323)	(1.4)
Research and development expenses	(1,511,815)	(2.3)	(2,104,226)	(3.1)	(3,151,401)	(2.7)	(604,689)	(3.3)	(1,103,775)	(3.2)
Fair value changes on investments measured at fair value through profit or loss	2,813,353	4.2	2,727,283	4.0	6,371,098	5.6	1,179,700	6.4	1,762,868	5.1
Share of (losses)/gains of investments accounted for using the equity method	(92,781)	(0.1)	(150,445)	(0.2)	(231,496)	(0.2)	(66,404)	(0.4)	16,329	0.0
Other income	522,436	0.8	540,493	0.8	448,671	0.4	24,156	0.1	158,226	0.5
Other (losses)/gains, net	(379,439)	(0.6)	(528,250)	(0.8)	72,040	0.1	(75,319)	(0.4)	97,567	0.3
Operating profit	1,372,670	2.0	3,785,064	5.5	12,215,467	10.7	1,954,496	10.5	3,364,490	9.7
Finance (expense)/income, net	(85,867)	(0.1)	(86,246)	(0.1)	26,784	0.0	(12,121)	(0.1)	17,834	0.1
Fair value changes of convertible redeemable preferred shares	(8,759,314)	(13.1)	(2,523,309)	(3.7)	(54,071,603)	(47.2)	(9,464,478)	(51.1)	(10,071,376)	(29.3)
(Loss)/profit before income tax	(7,472,511)	(11.2)	1,175,509	1.7	(41,829,352)	(36.5)	(7,522,103)	(40.7)	(6,689,052)	(19.5)
Income tax expenses	(154,519)	(0.2)	(683,903)	(1.0)	(2,059,763)	(1.8)	(344,915)	(1.9)	(338,359)	(1.0)
(Loss)/profit for the year/ period	(7,627,030)	(11.4)	491,606	0.7	(43,889,115)	(38.3)	(7,867,018)	(42.6)	(7,027,411)	(20.5)
Non-IFRS Measure: Adjusted (loss)/profit (unaudited)[(1)]	(303,887)	(0.5)	1,895,657	2.8	5,361,876	4.7	660,530	3.6	1,699,301	4.9

Note:

(1) We define non-IFRS adjusted (loss)/profit as loss or profit for the period, as adjusted by adding back (i) fair value changes of convertible redeemable preferred shares, (ii) share-based compensation, (iii) net fair value gains on investments, and (iv) amortization of intangible assets resulting from acquisitions. Adjusted (loss)/profit is not a measure required by, or presented in accordance with, IFRS. The use of adjusted (loss)/profit has limitation as an analytical tool, and you should not consider it in isolation from, or as a substitute for analysis

https://i01.appmifile.com/webfile/globalweb/company/ir/announcement_us/RESULTS_MARCH_2019.pdf

Exhibit 3 Smartphone unit shipments by manufacturer (%)

Q3 2018	China	Global	India	Europe	USA
Apple	9%	12%		22%	39%
Huawei	23%	14%		16%	
LG					17%
Motorola		3%			8%
Nokia				4%	
Oppo	21%	9%	8%		
Samsung		19%	22%	33%	25%
Vivo	21%	8%			
Xiaomi	13%	9%	27%	5%	
Others	13%	26%	43%	20%	11%

Exhibit 4 Average annual selling price growth and wholesale pricing by brand

	Apple	Huawei	Samsung	Oppo	Vivo	Xiami
Wholesale price range	\$700-\$800	\$200-\$300	\$200-\$300	\$200-\$300	\$200-\$300	\$100-\$200
ASP growth %	20%	28%	5%	20%	16%	14%

Global Smartphone Market Share (Figure 3):
https://www.counterpointresearch.com/global- smartphone-share/
Europe Global Market Share for Smart Phone (Figure 3): https://pocketnow.com/q1-2018- europe-smartphone-shipments-apple-iphone-x
Annual Average Selling Price Growth by Major Smartphone Brands (Figure 4): https://www.counterpointresearch.com/huawei-surpasses-apple-become-second-largest-smartphone- brand

Exhibit 5 Product Comparison: Xiaomi vs. Apple

	Apple iPhone X 256GB	Xiaomi Mi6	Xiaomi Mi Mix 2
Display	5.8" (14.73 cm)	5.15" (13.08 cm)	5.99" (15.21 cm)
Storage	256 GB	64 GB	128 GB
Camera	12 MP + 12 MP	12 MP	12 MP
Battery	2716 mAh	3350 mAh	3400 mAh
Ram	3 GB	6 GB	6 GB

A Comparison of Xiaomi and Apple Phone Specifications | https://www.gadgetsnow.com/compare-mobile-phones/Xiaomi-Redmi-6-vs- Xiaomi-Redmi-6A

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Xiaomi sputters in Hong Kong debut as trade war snares test case of city's listing reform |South China Morning Post

Hong Kong retail investors give Xiaomi's IPO the cold shoulder, put off by high financing cost and valuation |South China Morning Post

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XIAOMI: U.S. EXPANSION

TEACHER'S NOTE

Teaching objectives

The "Xiaomi: U.S. Expansion?" case was written to support a government and the international economy module within a course on corporate strategy or globalization. This case can be executed in a 90 minute classroom case discussion complementing a corporate strategy text such as Contemporary Strategy Analysis by Robert Grant for discussions on industry analysis and international expansion. The case also works well in a managerial economics course complementing texts such as Managerial Economics & Business Strategy by Michael Baye, specifically the chapter on government in the marketplace.

The objective of the case is to introduce students to the issues involved in navigating government interventions in the economy and the impact such actions can have on a firm's global expansion. The impact, of tariffs on various stakeholders can be specifically addressed.

The frameworks presented below can be introduced in earlier class discussion for application in this case or should be introduced at the beginning of the class discussion to position the company and various stakeholders in the relevant frameworks. This positioning includes:

1. Porter 5 forces extension to take into consideration government action, specifically tariff interventions, in this case.
2. Industry analysis to position a multi-business firm
3. Stakeholder analysis of the impact of tariff interventions
4. Price-quantity curves reflecting tariff impacts

The Trump tariff actions are dynamic and references to relevant trade articles can help position the case within what is an ongoing situation as of the writing of this case in the fall of

Xiaomi: U.S. Expansion

2019. Some links to provide contextual background include:

The U.S. China trade war: A timeline:

https://www.china-briefing.com/news/the-us-china-trade-war-a-timeline/

Factbook: Next round of Trump's tariffs on Chinese goods to hit consumers:

https://www.reuters.com/article/us-usa-trade-tariffs-factbox/factbox-next-rounds-of-trumps-tariffs-on-chinese-goods-to-hit-consumers-idUSKCN1VL0EX

Explainer: What a rollback of Trump tariffs on Chinese goods may look like:

https://www.reuters.com/article/us-usa-trade-china-tariffs-explainer/explainer-what-a-roll-back-of-trump-tariffs-on-chinese-goods-may-look-like-idUSKBN1XM0JP

Trump's tariffs were supposed to ding China, but the U.S. economy is getting hit 2.5x harder:

https://fortune.com/2019/10/08/trump-china-tariffs-trade-war-us-economy-impact/

The following news article will help position the intellectual property considerations Xiaomi must also consider when deciding upon its U.S. market entry.

Jury awards Apple $539 million in Samsung patent case:

https://www.nytimes.com/2018/05/24/business/apple-samsung-patent-trial.html

Questions to consider in the context of the case include:

Industry considerations:

- What are the characteristics of the global smartphone industry?
- How should the government's actions be incorporated into Porter's 5 forces framework?
- How should the industry analysis be adjusted for local considerations (compare China, India, U.S.)?

Firm considerations:

- What is Xiaomi's business model?

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- What industry is Xiaomi in?
- What considerations may have impacted Xiaomi's IPO performance?

Patent/copyright infringement, tariff and government intervention considerations:

- Should Xiaomi be concerned about patent/copyright infringement if it enters the U.S. market?
- Why do governments impose tariffs?
- What type of tariff is being imposed (anti-dumping, other)?
- Who are the stakeholders impacted (positively and negatively) by these tariffs?
- How can firm's act to reduce the impact of potential government economic interventions?

The class can open with a poll: "Who believes Xiaomi should enter the U.S. market?" Following this, the class can move to the industry analysis questions. For these questions students should initially prepare an analysis framed by Porter's 5 forces. They should consider if the public sector (i.e. government) should be explicitly considered in the framework or be considered thru its impact on the other stakeholders considered in framework. Regional differences should next be raised (power of carriers in the U.S. versus India as a good example) and consider how this should impact local execution (and Xiaomi's globalization strategy).

The class can next transition to the firm level analysis. For these questions students should initially prepare an analysis using the Business Model Canvas. This activity should trigger a discussion about the different businesses Xiaomi both operates in and aspires to become a leader in. This discussion about Xiaomi's industry categorization leads to a discussion of who it should be compared to financially: other smartphone companies, others? Based on this discussion Xiaomi's financials from figure 2 can be compared to leaders in the smartphone industry or other industry players the students feel are appropriate. This discussion can then transition to how this positioning and comparative analysis might have played a role in Xiaomi's IPO performance.

Next the class can transition to consider patent/copyright infringement, tariff and government intervention considerations. Points to consider in this section include: anti-dumping tariff requirements in the U.S. – U.S. Department of Commerce and International Trade Commission approval requirements in the U.S. versus tariffs imposed at the discretion of the President; stakeholder analysis and winner and losers in tariff wars; and price-quantity curves reflecting tariff impacts. These patent litigation and IPO articles can provide excellent background to guide this discussion: Lanjouw, J.O.; Schankerman, M. 2001. Characteristics of patent litigation: a window on competition. *RAND Journal of Economics*. Spring 32:1:129-151.

The following articles can be assigned as additional reading or used to provide guidance for further class discussion:

- Eaton, J.; Kortun, S. 2002. Technology, geography, and trade. *Econometrica*. Sept 70:5:1741-1779.
- Zhou, L.; Sadeghi, M. 2019. The impact of innovation on IPO short-term performance – evidence from the Chinese markets. *Pacific-Basin Finance Journal*. Feb 53:208-235.

The class can close with a revisit of the initial poll.

PHIT WATER ENHANCER: ENHANCING YOUR FITTNESS

Christopher Moss, CEO of Basic Water was perplexed. After countless hours of efforts in research and development, he and his team had successfully created Phit. Phit, the US brand, was the first portable alkaline water enhancer that could successfully neutralize the acidity of common beverages. In July 2017, Phit was launched on the Kickstarter fundraising platform and was able to achieve its initial goal of US $25,000 within a month. 124 initial customers had decided to try out the new product. Moss was excited about the initial business orders via the Kickstarter campaign but he knew that his company, Basic Water would have to spread its wings to reach a wider audience to sustain in the long run.

As Moss walked to his office in New York City (NYC), pondering the next move for his company's flagship product, Phit, he realized that he had a crucial decision to make regarding the marketing of the product. Should Phit be positioned as a water enhancer that improved health and provided excellent taste for everybody? Or should Phit be introduced as a water additive that was conducive only for particular customer groups, like athletes or health conscious individuals? Both options seemed to be interesting. With the size of the market as a major argument to support the first option, and with a clearly defined audience to support another, Moss realized that his decision would affect every move that the company made from that point forward and define its priorities in resource allocation. At 22 years of age, Moss was both young and ambitious. He wanted his first major project to become a visible success that would put him on the map of trusted entrepreneurs in NYC. How could the initial capital raised be channeled successfully? What would Moss do to enhance the sales of Phit?

WANT HEALTHY WATER? JUST PH IT

A balanced pH level (7.35 – 7.45) was desired to maintain a healthy body. (Exhibit 1: pH Chart) Many diseases thrived in an acidic environment. Alkaline water increased the pH level of water. During physical activity the body would become more acidic and this would make the muscles weak. The lactic acid buildup makes one feel exhausted. Hence, alkaline water was very essential for people who exercised regularly. This water in ionized form helped in boosting immunity, reducing aging and losing weight by providing antioxidants and neutralizing the acidity in the body.

The brainchild behind Phit was serial entrepreneur, Adrian Cenni. Cenni, also a professional racecar driver and stuntman, was accustomed to drinking popular sports drinks like Gatorade by Pepsico, to stay hydrated. It boosted performance. The sports drinks were available in many flavors and Cenni enjoyed the taste in them. Gatorade was beneficial in replenishing the electrolytes and glucose drained from the body due to physical exertion. But, Gatorade caused intense acid reflux, which impacted Cenni's performance. Cenni discovered that like most other sports drinks and sodas, Gatorade too was acidic in nature. To avoid acid refluxes, Cenni started consuming alkaline water. But, due to the absence of any flavors in alkaline water, Cenni did not feel refreshed after consuming alkaline water. Cenni researched and found that at that time in 2010 there were very few companies that had introduced flavored alkaline water in the market in the US.

Cenni also searched for water enhancers that could increase the pH levels of water. He did not find anything. The existing water enhancers like MiO by Kraft Foods did add flavors to water but made water acidic. Cenni had identified a gap in the market. With this in view, Cenni envisioned the development of a scientific formula to increase the alkaline (pH) level of water and make water flavorful, both at the same time. Cenni knew that it was a massive challenge in and of itself, as the chemical components of additive flavors largely decreased the alkalinity of a beverage thus boosting acidity. It required working with manufacturers and beverage scientists to determine a perfect balance between alkalinity and flavor.

CREATING THE BASIC WATER TEAM

Cenni had co-founded Atrium Staffing in 1995 and by 2014 had grown the company to over USD $200 million in annual revenue. During his MBA at Northeastern University, Boston, Moss had interned with Cenni at Atrium Staffing in New York City in 2014. It was during this stint that Moss had earned Cenni's trust.

Moss had proven his proficiencies in project management, sales and e-commerce within the staffing business. Cenni felt Moss' skills were transferable and Moss was entrusted with the responsibility of overseeing Basic Water, Cenni's start up. By doing so, Cenni was able to devote time to other business ventures.

Moss was the CEO and he held equity in the company. He was in charge of overseeing the day to day operations at Basic Water. Dr. William C. Franke, Ph.D also joined the team as a partner. Franke was the Director of the Food Innovation Center and the Center for Advanced Food Technology at Rutgers University, New Jersey, USA. He was also a renowned beverage scientist. Franke provided technical expertise in the area of Phit's product development. He also had great knowledge about food regulations that were essential in the development of functional foods and nutraceuticals[1] in Basic Water. As a start-up in its earliest stage, Basic Water followed a simple organizational structure, which was most often used by small firms with low organizational complexity (Exhibit 2).

Under Franke's guidance, Moss also played a key role in the testing of the chemical additives to develop flavored alkaline water. The Basic Water team realized that alkaline water with added flavors deteriorated over time. Hence, they focused their energies in developing a water additive that would be available in the form of a liquid enhancer, and contain chemical additives to make the water flavorful. From 2014 to 2017, five Phit flavors were tested and created individually. The flavors were Phit+, Iced Lemongrass, Berry Splash, Superfruit, and Iced Tea (Exhibit 3). The recipes of these products were protected trade secrets. Phit products had a shelf life of one year but had to be used within 30 days after opening. Moss got the required licenses and approvals to make Phit sellable.

GETTING SUPPORT

After Moss joined Basic Water, he was determined to organize Phit operations in a way that would sustain a competitive advantage for the company. Moss networked with manufacturers and packagers to gain knowledge of the production process. The Basic Water team aimed to build an inimitable reputation for the first ever-alkaline water enhancer. Phit operated in Franke's area of expertise and the young organization hoped to leverage his impressive knowledge to create innovative solutions for the Phit brand.

On July 25, 2017, Basic Water launched a Kickstarter campaign for Phit's products with the goal of fundraising USD $25,000. In under a month, by August 24, 2017, 124 Kickstarter backers pledged $25,353 to help bring the Phit project to life. The team was excited with the initial success and used the funds to manufacture and process the Kickstarter orders with the intention to finish shipping Phit products by September 2017. Moss himself packed and shipped each order to ensure all requirements were met.

The Phit formula was available in small plastic bottles as shown in Exhibit 3. Each bottle contained 18.8 oz of liquid that could be used roughly 24 times. Phit could be used with tap water, bottled water, still and sparkling water to add flavor without acid. Depending on the flavor, each Phit bottle cost between USD $4.99 to USD $5.99.

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[1] *A nutraceutical is a food containing health-giving additive that provide medicinal benefits.*

Phit products were available on the company website and also on e-commerce platforms like Amazon. Basic Water made a profit of 15% by fulfilling wholesale orders but none of the partners were paid a salary.

THE NON-ALCOHOLIC BEVERAGE INDUSTRY IN THE USA

It was no secret to Moss that well-funded corporate giants like Kraft Foods, The Coca Cola Company and others already had water additives on the market. As per Mordor Intelligence, the North American market was a very significant and a pioneering market for water enhancing products. The market for water enhancers in North America was projected to grow at a CAGR of 13.5% between the years 2018 and 2023 and reach about USD 1.23 billion by 2023. Competition was high and rivalry for market share was intense, with some even experiencing negative revenue growth (Exhibit 4).

Moss knew that Phit could be substituted by a multitude of products like plain water, juices, soda and other beverages (Exhibit 5 shows the industry competition table). In 2016, the total revenue generated by the sale of non-alcoholic beverages (bottled water, soft drinks and juices) was USD 305.48 billion (Statista, 2019). Both large-scale corporations and small-scale businesses sold the products. Soft drinks generated revenue of USD 231.02 billion and captured the largest share of the market. Coca-Cola alone had over 500 different brands and annual revenue of USD 41.86 billion in 2016 (MarketWatch, 2017). With time, the sale of nonalcoholic beverages was projected to grow to USD 364.5 billion by 2023 (Statista, 2019). The average revenue generated by the sale of non-alcoholic beverages per person annually in USA amounted to USD 945.72 in 2016 and was projected to rise to USD 1067.75 by 2022. The key drivers that positively impacted the sale of sodas, juices and bottled water were an increase in population, consumer spending, consumer price index, household income and GDP (Statista, IMF, World Bank, UN and Eurostat 2019).[2]

Besides soda, large corporations also had alkaline water in their product line. Life Water and Essentia by Pepsico, Bai by Keurig Dr Pepper and Alkaline Water Company were popular brands. Other companies like Flow, Just Water, and Qure were selling flavored alkaline water packaged in different forms. These companies marketed the benefits of drinking pH infused water vigorously.

Moss had seen that in response to the shifting trends in consumer preferences among beverages, the corporate giants would often buy up new products created by start-ups, and introduce them within their national customer base. Moss thought that the larger corporations could even utilize their capital in replicating a product like Phit. Established companies used several strategies to increase market share and to remain in business.

Due to limited finances and other resources, start-ups like Basic Water were not able to launch a national campaign and make Phit products available to all people in America. Moss was also cautious that if he were to challenge large companies, they could easily use their power and resources to crush his strategy and company. Given the available funds, Moss felt it was viable to capture the market share in one city and then explore other destinations. Moss could think of no better place than New York City.

THE MARKET IN NEW YORK CITY

With a population of over 8.6 million people (World population Review, 2016) and hundreds of thousands of daily visitors and commuters, NYC offered many opportunities for the sales of non-alcoholic beverages. As the revenue generated by soft drinks was highest, Moss observed that the industry had been primarily dominated by major players like The Coca-Cola Company and PepsiCo followed by

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[2] *Statista, 2019, Non-alcoholic drinks, retrieved from: https://www.statista.com/outlook/20000000/109/non-alcoholic-drinks/united-states#market-marketDriver*

companies like Dr. Pepper Snapple Group, Nestle Waters North America, and Arizona Beverage Company (Exhibit 6 and 7).

New York City was built around two large rivers and the ocean; however, this water had not been utilizable due to pollution. But ironically, New York City's tap water had often been considered some of the best in the country.

Moss researched further. He noticed that in 2016, the average resident in New York City had an estimated yearly income of USD 70,547 (Payscale, 2019), which meant that consumer spending on non-alcoholic beverages would not fluctuate much within the economy. Moss also observed that in recent years, there had been a growing shift away from sugary drinks such as soda and ice tea and towards much healthier alternatives such as diet soda, flavored water, tea, and other low calorie alternatives (Exhibit 8). For the first time, in 2016, more bottled water was consumed than sugary beverages nationwide in USA (Exhibit 9). The government via a law that had banned the sale of sugary beverages larger than 16 ounces in 2013 had supported this trend[3].

EVALUATING OPTIONS

Moss took a sip of his alkaline water, enhanced with Basic Water's signature product, Phit. He wondered how he could successfully position Phit to appeal to more masses in NYC. Thinking back to his countless trips to stores like Walgreens, Duane Reade, or CVS[4], Moss remembered the clever methods that beverage companies used to position their products and differentiate themselves to catch the eye of time-crunched consumers walking through the stores. Moss envisioned Phit entering the brick-and-mortar retail space, specifically in the drug stores of New York City. Moss felt that he could also reach more people via ecommerce websites like Amazon. But, he was unsure of the best direction to position Phit products to gain consumer trust and market share.

On the other hand, Cenni thought Phit was more suited to the needs of sports persons and health conscious individuals. After all most other water enhancers only made the water more flavorful without enhancing its PH content! Cenni felt that the general population would not be wowed by the unique alkaline formula that Phit offered.

IS PHIT FIT FOR ALL?

Many health authorities routinely recommended that people should drink eight eight-ounce glasses of water every day[5]. Drinking water prevented dehydration. Drinking more water also aided in weight loss and improved the metabolism.

Most people felt that they were unable to keep up with that requirement and that they should intake more water in general. But, when people felt thirsty, they craved for a flavorful drink or a caffeine boost of soda. This tendency increased the sales of water enhancers and it was projected to become a billion dollar industry in future[6]. Water enhancers encouraged people to drink more water by giving it flavor. It was a much healthier option as compared to soda. But, most health officials argued that it was not the healthiest choice when compared to plain water. Most brands of water enhancers contained sugar. Though it was present in negligible amounts it still increased the calorie intake of the body and the acidity within the

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[3] Ryan Jaslow, 2012, Sugary drinks over 16-ounces banned in New York City, Board of Health votes, CBS News, Retrieved from https://www.cbsnews.com/news/sugary-drinks-over-16-ounces-banned-in-new-york-city-board-of-health-votes/
[4] Names of popular drug chains or pharmacies across USA.
[5] Healthline, 2018, How Much Water Should You Drink Per Day, Retrieved from https://www.healthline.com/nutrition/how-much-water-should-you-drink-per-day#section6
[6]Healthy Headlines, 2016, Are Liquid Water Enhancers a Healthy Option?, Retrieved from https://www.stelizabeth.com/healthyheadlines/liquid-water-enhancers/

body. Zero calorie water enhancers were also available in the market but they contained aspartame and sucrose, which were harmful in the long run. Some brands like Mio contained propylene glycol. It was a harmful additive that was found in airplane de-icing fluid, e-cigarette vaping fluid and car batteries. Caffeinated beverages contained diuretic properties, which caused the person to excrete water. This defeated the purposed of drinking more water to begin with.

By observing the above facts, Moss strongly felt that Phit's product line could be positioned as a new health trend within the market for water enhancers. The product was equipped with the unique alkaline formula that offered a multitude of health benefits for all. Various newspapers, social media and other channels were flooded with articles and tips for improving an average person's health. Moss felt that the market for health conscious individuals was growing in general and Phit did not need to be targeted towards sportspersons or the fitness conscious only. Any individual could benefit by drinking Phit alkaline water. The combination of adding appetizing flavors to water, while also reducing acidity, could potentially be a huge successful new product in the market. Phit could be branded as a flavorful and tasty water additive for all people who desired the benefits of drinking healthy water with more taste.

To drive this strategy, Moss felt that Phit could be priced in the same range as the existing water enhancers (As shown in Exhibit 5). The size of the population using water enhancers was huge and Moss felt his company could reap profits even if he grabbed a piece of the pie. By deploying this strategy, Phit would be sold in grocery shops and pharmacy stores. People of all genres frequented these places. Who wouldn't want to purchase a healthy water enhancer if it was sold at the same price?

IS PHIT FOR FITTESS CONSCIOUS ONLY?

Alkaline water had its own benefits. As a fitness conscious individual, Cenni always felt that Phit would appeal to the fitness conscious individuals more than the general population. More and more people were making healthy dietary choices and the market for health conscious individuals was growing. By targeting that specific population, Cenni felt that he would acquire a huge consumer base.

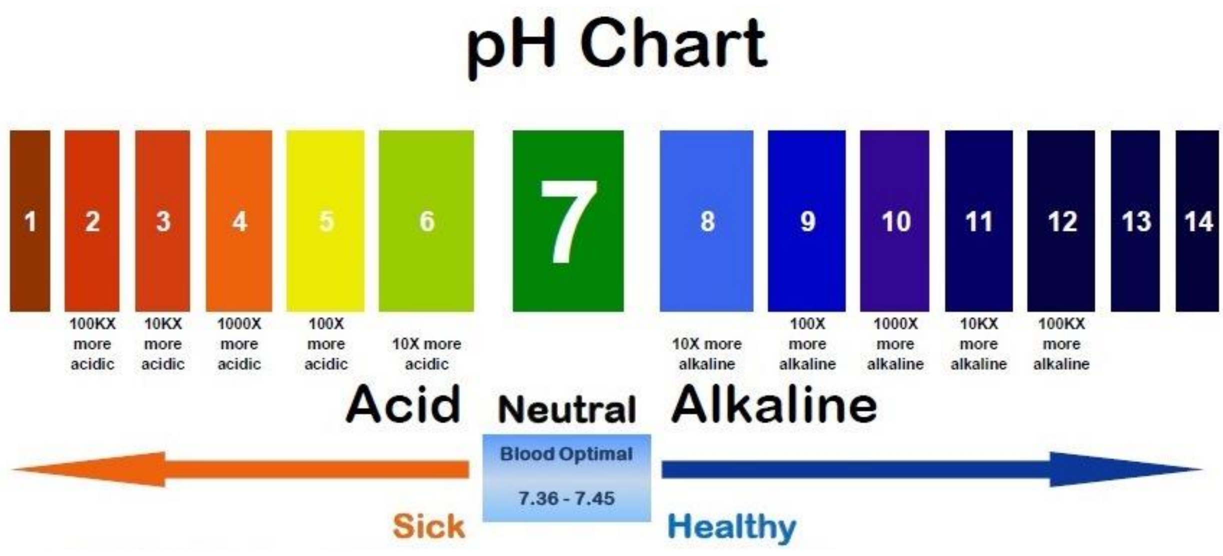
Cenni valued Moss' opinions and felt Moss was not wrong when Moss stated that Phit could be beneficial for all. But, Cenni was concerned with the difficulties associated with this approach, as it would frame Phit against other brand names like Kraft's MiO, and Dasani Drops. If Phit was not advertised properly, the humongous product range in the brick and mortar stores could overshadow Phit's strengths as a healthier alternative to other water enhancers. Franke too was of the opinion that Phit would not be successful only because of the taste. Basic Water had a limited advertising budget and reach. Cenni wondered if Moss would be able to portray the effectiveness of the product by using the existing resources.

Instead of selling Phit in grocery stores and on online platforms, Cenni thought it was wiser to establish relationships with gyms and other physical fitness organizations. He also thought of distributing samples during sporting events like the New York marathon, 5 k runs and others. Fitness conscious individuals and other professional athletes frequented such events. To remain competitive these individuals were known to follow diet plans and were very careful of the food and water they consumed. Cenni also felt that the highly fitness conscious people had the financial lucidity to be the early innovators to try Phit. If Phit were marketed as a healthy additive for a specific group of people it would have greater appeal. Phit could then be positioned as a premium product and sold at greater price.

HIGH STAKES

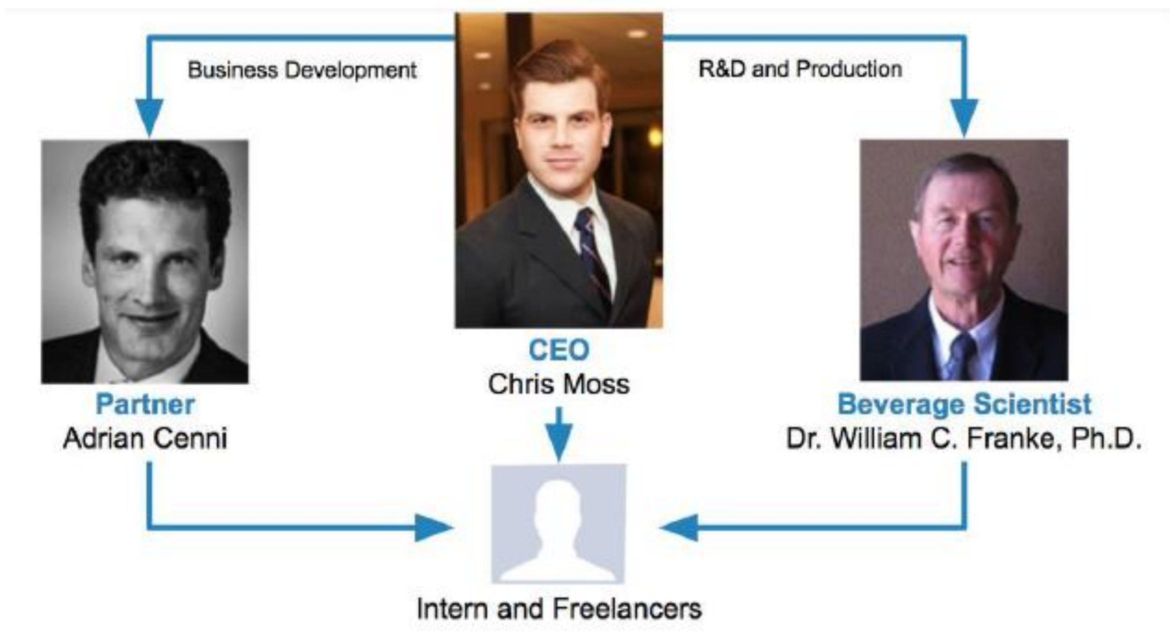
Both the options seemed lucrative. All the three stakeholders - Moss, Cenni and Franke had merit in their arguments. The Phit product was equipped with qualities that were comparable to both, water enhancers and sports drinks. As a first mover what strategy could the stakeholders undertake to pioneer a new space within the beverage industry?

EXHIBIT 1: PH Chart



**Source: Balanced Body PH

EXHIBIT 2: ORGANIZATIONAL STRUCTURE



**Source: Company documents

EXHIBIT 3: PHIT FLAVORS

**Source: Company documents

EXHIBIT 4: NONALCOHOLOC BEVERAGE COMPANIES REVENUE TREND

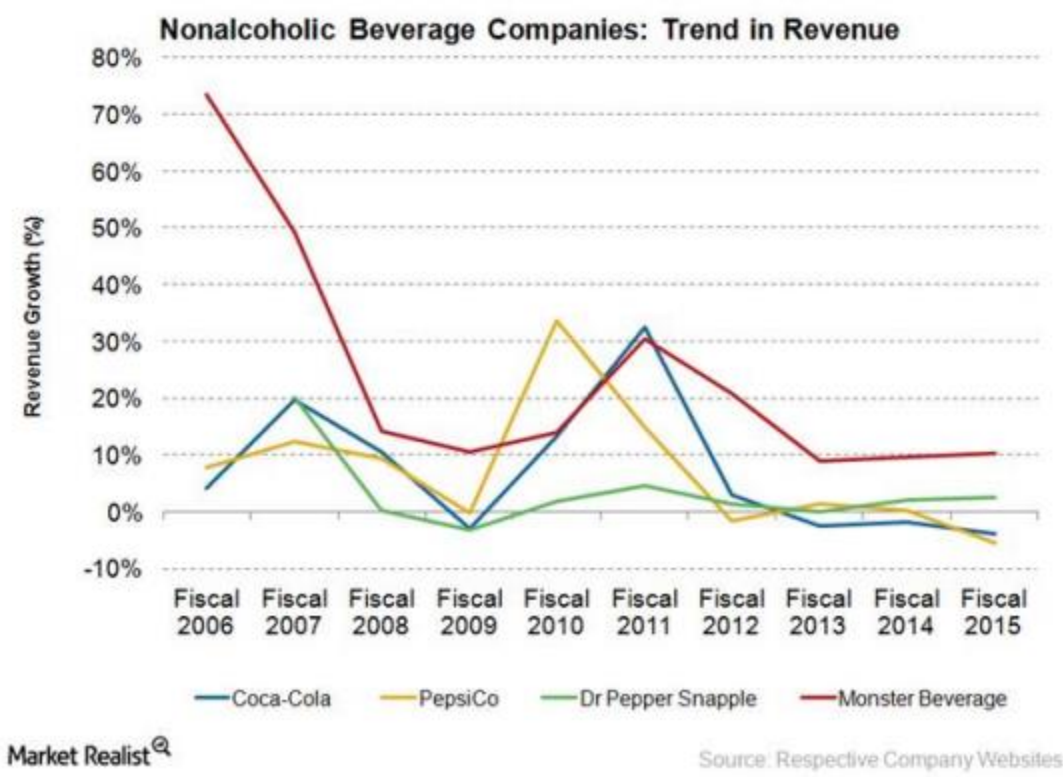


EXHIBIT 5: INDUSTRY COMPETITORS TABLE

Competitor	Water Enhancers	Plain Alkaline Water	Sports drinks	Flavored Alkaline Water	Soda	Mineral Water	Juices, Shakes and other nonalcoholic beverages
What is Offered?	- Add flavor to water.	- High in PH content.	- Replenishes the electrolytes and glucose drained from the body. - Makes body acidic.	- Flavored water high in PH content.	- Acidic thirst quencher available in many flavors. - Contains sugar and other compounds that are harmful.	- Plain water.	- Flavored thirst quenchers. - May or may not contain harmful ingredients.
Target Market	- Young and old adults both, men and women. - Middle to higher income. - Mainly targets anyone who wants to drink more water with flavor.	- Adults, both young and old. - High income - Fitness conscious.	- Adults, both young and old. - Fitness conscious.	- Adults - High income - Fitness conscious - Those who want to drink water with more flavor	- Adults and children - All income groups	- People of all age groups and all incomes.	- People of all age groups and all incomes.
Competitive Advantage	- Products sponsored by well-established parent companies - Huge advertising budget and well developed distribution channels. - Brand loyalty - Wide range of flavors	- Product appeals to fitness conscious individuals. - Growing awareness in the benefits of alkaline water.	- Products sponsored by well-established parent companies - Huge advertising budget and well developed distribution channels. - Brand loyalty - Wide range of flavors	- Product appeals to fitness conscious individuals. - Growing awareness in the benefits of alkaline water. - Flavored water.	- Products sponsored by well-established parent companies - Wide product range - Huge advertising budget and well developed distribution channels. - Brand loyalty - Product can be consumed routinely and also during special events.	- Products sponsored by well-established parent companies - Huge advertising budget and well developed distribution channels. - Brand loyalty - Product is useful during several occasions and as an ingredient in	- Unusual flavors. - Certain products were specialty items. - Coffee, tea and shakes formed a part of many individuals' daily routine. - Small companies are able to customize their products to appeal to more customers.

						other food/drink items.	
Average price Per 8 fl oz serving	USD 0.19 – 0.23 1 packet, 18 servings, USD 3.48 – 4.15	USD 0.43 – 0.52	USD 0.25 – 0.67	USD 1.19 – 1.8	USD 0.2 – 0.3	USD 0.2 – 0.3	USD 0.5 – 10

Exhibit 6: TOP TEN LIQUID REFRESHMENT BEVERAGE BRANDS IN US

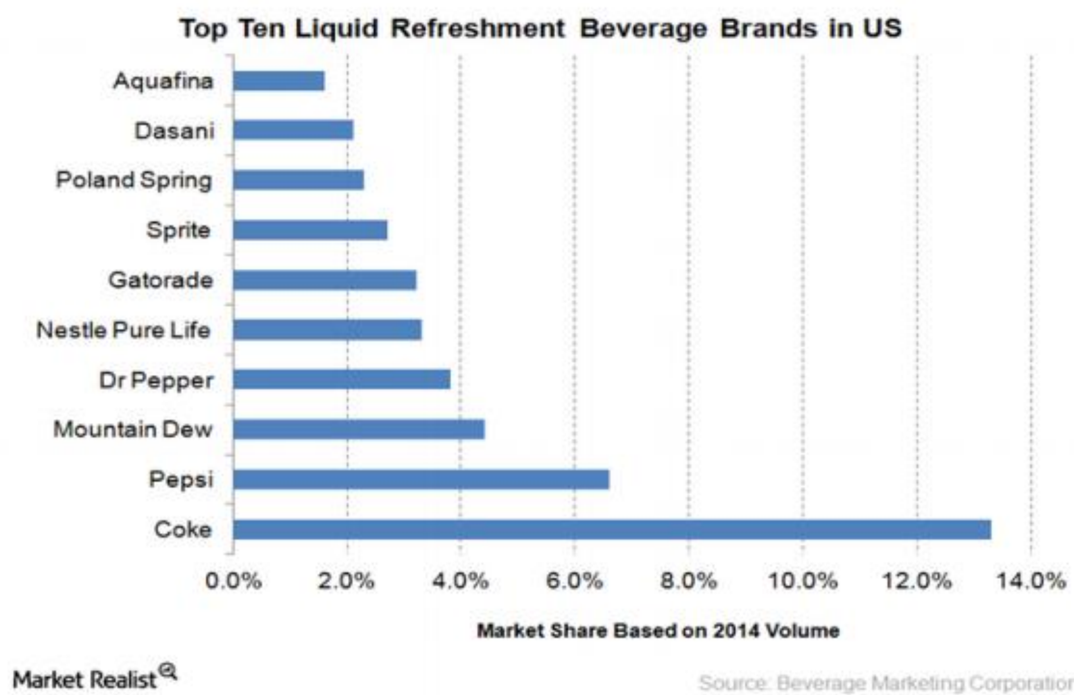


EXHIBIT 7: US CARBONATED SOFT DRINK MARKET SHARE (2013)

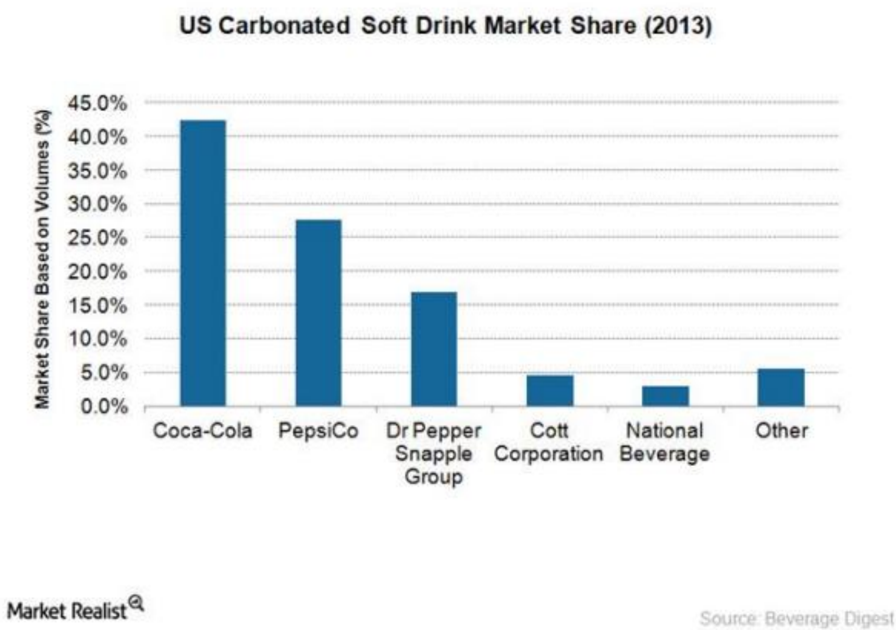
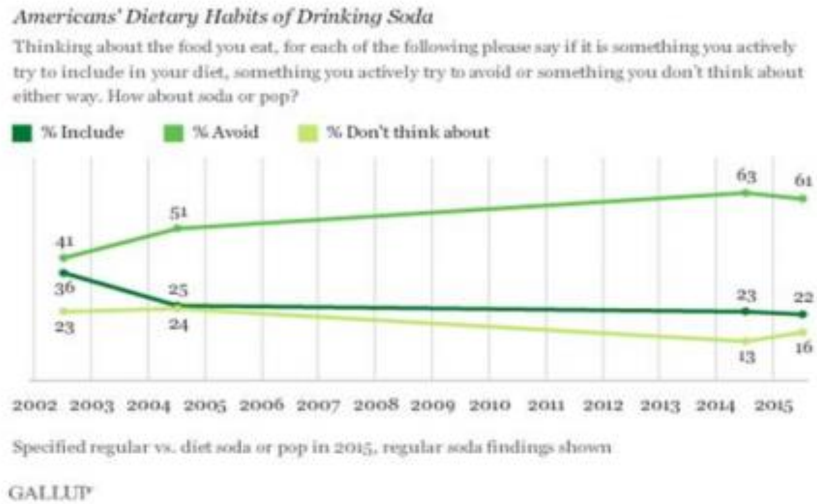


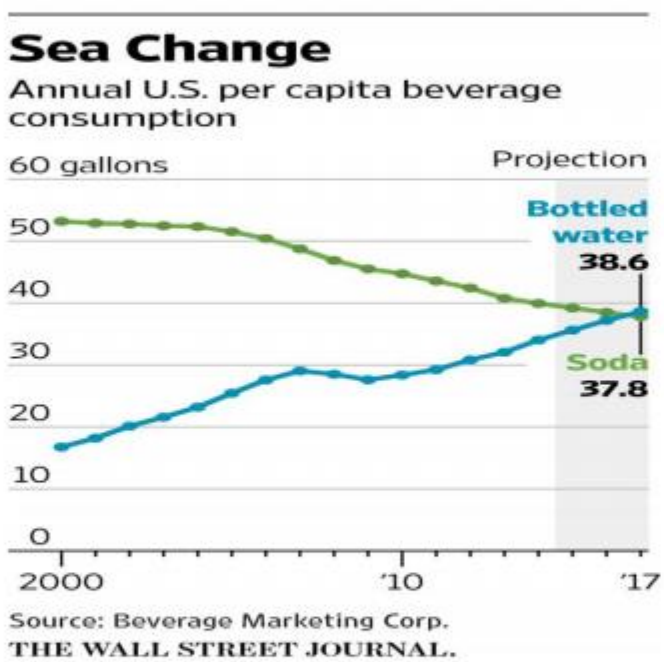
EXHIBIT 8: GROWING AVERSION FOR SODA IN THE US



Market Realist

Source: GALLUP

EXHIBIT 9: ANNUAL US PER CAPITA BEVERAGE CONSUMPTION



PHIT WATER ENHANCER: ENHANCING YOUR FITTNESS

Teaching Note

SYNOPSIS

Chris Moss is the CEO of Basic Water. He and his teammates need to take a major decision regarding the positioning of their signature product, Phit. Phit is a water enhancer. Many other water enhancers in the market add flavors to water but make it acidic in the process. This water causes acid reflux after consumption. Phit is an innovative product whereby it adds flavors to water but increases the alkalinity of water. This alkaline water improves muscle performance and improves longevity. Many other alkaline water brands available in the market do not contain any flavors; hence people do not feel refreshed after consuming plain alkaline water.

Phit is an innovative product as the first portable alkaline water enhancer that can successfully neutralize the acidity of common beverages. The company stakeholders have the first mover's advantage in the market. As a startup, Basic Water has limited resources and will be launching the product only in New York City (NYC). Hence, Phit should be positioned in a way that it appeals to the right audience. This step needs to be taken after careful consideration, as it would create a brand for Phit and determine the strategy and future of Basic Water.

When Phit was created, the inventors envisioned that the product was suitable for athletes. Sports people are very conscious of their diet and physical fitness. A water enhancer that increases the pH content of water and adds tasty appetizing flavors to it will definitely appeal to that audience. Phit can be marketed as a premium product to a group that has the financial fluidity to be its early innovators.

But, Moss reasons that Phit can benefit not only sports persons but also anyone. The market for water enhancers is growing and many people are making healthy choices. Anyone can benefit from drinking flavored alkaline water. By adopting this strategy, the Basic Water team can aim to capture a piece of the pie by selling Phit at a price comparable to existing water enhancers in the market.

What should the Basic Water team do? How should Phit be positioned?

LEARNING OBJECTIVES

This case focuses on the business rationale, risks and complexities associated with product positioning. Students will evaluate the following:

- Analyze the market for water enhancers in North America to identify threats and opportunities for a new product to thrive and grow.
- Evaluate the risks and challenges encountered by start-ups like Basic Water while competing with established giants like PepsiCo or The Cola Cola Company for market share.
- Analyze and apply the macro and microeconomic factors of the market in New York City to develop an appropriate market entry strategy.
- Evaluate the target audience for the product to determine its suitability.
- Develop drivers to successfully implement the strategy.

TARGET AUDIENCE

The case is most suitable for discussion in Marketing, International Business or Strategic Management courses at the advanced undergraduate level. To answer the questions presented in the case students should have an understanding of the following course concepts:

- PESTLE framework for macro analysis (PESTLE = Political, Economic, Social, Technological, Legal and Environmental).
- Porter Five Forces and Industry Lifecycle frameworks for industry analysis.
- Porter's Competitive Strategy framework of low-cost leadership, differentiation, focus differentiation, and focus cost leadership competitive strategies

RELEVANT READINGS

- M. Porter (2000). What Is Strategy? Harvard Business Review, Originally published in November–December 1996, Reprinted in 2000.
- Strategic Management. Frank T. Rothaermel (2016). 3rd edition. McGraw Hill Education: Chapters on Market and company analysis, and business strategy.

ASSIGNMENT QUESTIONS

1. Examine and evaluate Basic Water's strengths and weaknesses for entering the NYC market. Apply the Resource-Based View (VRIO framework) and Distinctive Competencies concept to conduct an internal analysis of Phit.
2. Analyze and evaluate the market in NYC. Apply the PESTLE framework for macro-analysis.
3. Evaluate the competitiveness of the non-alcoholic beverage industry in NYC. Apply Porter's Five Forces and Industry Lifecycle frameworks.
4. Based on your analysis in above questions describe the SWOT for the following product positioning strategies:
    a. Focused differentiation: Phit for fitness conscious only
    b. Overall cost leadership: Phit for all masses
5. Select an option and suggest drivers to implement the strategy.

TEACHING PLAN

The instructor can present the case to the participants in the class and divide the students into small groups. Each group will read the case and discuss assignment questions. Each group will also present their findings to the class. This 90-minute session can be planned as follows:

Figure 1. Teaching Plan

Stage	Time	Objectives
Prior to the class	NA	Students are expected to complete the assigned readings and be thorough with course concepts to be able to apply the learning and solve the questions. The case should be read prior to class.
Assignment question one	10 min	Use the VRIO framework to evaluate the strengths and weaknesses of the Basic Water team.
Assignment question two	10 min	Apply the PESTLE model to analyze the market in NYC.
Assignment question three	15 min	Apply the 5 forces framework to analyze the market in NYC.
Assignment question four	15 min	Based on the analysis in above questions, choose a market entry strategy for Phit after determining its positioning.
Assignment question five	10 min	Discuss drivers to implement the strategy.
Wrap - Up	30 min	Review final recommendations of each group and discuss closing statements.

ANALYSIS

1. **Examine and evaluate Basic Water's strengths and weaknesses for entering the NYC market. Apply the Resource-Based View (VRIO framework) and Distinctive Competencies concept to conduct an internal analysis of Phit.**

In order to understand Basic Water's competitive advantage, students must evaluate and understand the company's existing resources and capabilities. This will help students in determining the strengths and weaknesses of the company.

Basic Water's Resources

Tangible (physical) and intangible (non-physical) resources allow a company to create value for its customers. Tangible resources include visible and physical attributes, such as capital, labor, buildings, land, plant, equipment and supplies. Intangible resources include invisible, no physical attributes, such as cultures, knowledge, brand equity, reputation, and intellectual property in the form of patents, designs, copyrights, trademarks, and trade secrets.

VRIO framework allows us to identify firm resources as firm-specific (rare), difficult-to-imitate, valuable, and organized to capture value. The combination of these factors creates strong demand for a company's products lead to distinctive competencies.

After analyzing Basic Water's resources through the prism of VRIO framework, students can conclude that its strength is a highly intelligent and hard working team. The company has an office in NYC, which is serving as a base to drive Phit operations. Having a base in NYC is also a good advantage from the location standpoint as there are several stores and retail businesses in NYC, which can be used to sell Phit products. Alternatively, NYC is famous for sports events and is frequented by athletes, which can be useful if Phit was marketed as a premium product.

Basic Water also has USD 25,000, which can be useful in advertising the product and reaching more masses after a suitable strategy is determined. Phit's recipes are guarded as legal trade secrets that.

Basic Water's Capabilities:

Students can see from the case that a company must have skills to take advantage of the resources. Capabilities are competencies in utilizing resources and using them effectively, skills reside in the organization's rules, routines and procedures to create a unique product of its organization, processes & controls. Firm-specific capabilities to manage its resources lead to distinctive competencies. Distinctive capabilities of the Basic Water team are as follows:

- Adrian Cenni, a serial entrepreneur, who has the expertise in setting up and growing businesses. Cenni is also a sportsperson who knows the importance of maintaining diet plans and is selective about the food and water he consumes. While developing, Phit he speaks from his own experience by being unable to find a flavored alkaline water enhancer. Like him, there will be other athletes who face a similar problem.
- Dr. William C. Franke is a beverage scientist and has the knowledge of food regulations. Dr Franke's expertise was valuable in developing the Phit formula. His expertise will be valuable while marketing Phit as he can be a spokesperson promoting the product.
- Chris Moss is a hardworking entrepreneur with a degree in MBA, who wants his first project to be successful. He has proven his mettle in sales and project management in the past and has the competencies to be successful again. Chris has also studied the market for water enhancers in North America and recommends that Phit products can be appealing to all individuals. Chris also has the ability to network with suppliers and build partnerships with them.

2. **Analyze and evaluate the market in NYC. Apply the PESTLE framework for macro-analysis.**

An analysis of the non-alcoholic beverage market in North America demonstrated that the demand for water enhancers would increase substantially by 13.5% to USD 1.23 billion by 2023. This increase in sales was supported by the trend whereby people liked to drink flavored water. Water is an essential commodity; hence it will always be in demand. Athletes, tourists and other people offering a considerable customer base for the Phit product frequent the market in NYC. In general, people are becoming more health conscious and making healthy diet choices. An alkaline water enhancer with tasty flavors has the ability to thrive and grow if positioned appropriately. The macroeconomic factors of NYC can be presented as follows:

Political and Environmental

- Not applicable.

Economic

- There is growth in the population, consumer spending, consumer price index, household income, and GDP of New York City, which is the target market of Phit. These factors have a direct outcome on the sale of non-alcoholic beverages
- The average revenue generated by the sale of non-alcoholic beverages per person annually in USA amounted to USD 945.72 in 2016 and was projected to rise to USD 1067.75 by 2022.
- The market for non-alcoholic beverages was huge in USA. The total revenue generated by the sale of non-alcoholic beverages (bottled water, soft drinks and juices) was USD 305.48 billion in 2016 and was projected to reach USD 364.5 billion by 2023.
- The market for water enhancers in North America was projected to grow at a CAGR of 13.5% between the years 2018 and 2023 and reach about USD 1.23 billion by 2023.

Social

- People in North American used water enhancers frequently.
- Water with flavors was more favorable for consumption.
- Water enhancers made water acidic in nature, making it tasty but unhealthy for consumption.

  People were becoming more health conscious and making healthy choices about the food and water they consumer. There had been a growing shift away from sugary drinks such as soda and ice tea and towards much healthier alternatives such as diet soda, flavored water, tea, and other low calorie alternatives. Other water enhancers contained harmful chemical like propylene glycol.

- Sporting events, gyms other fitness centers could be used to market Phit.

Technological

- Basic Water had the technical background and capabilities to develop the scientific formula of Phit products.
- Online fundraising tools like Kickstarter were used to raise the initial capital investment.
- Tie ups with ecommerce websites like Amazon to reach masses.

Legal

- The USA government had banned the sale of sugary beverages larger than 16 ounces in 2013, hence more bottled water was consumed as compared to sugary beverages.
- The Phit product recipes were protected trade secrets.
- Basic Water had the appropriate licenses to sell and market the products.

3. **Evaluate the competitiveness of the non-alcoholic beverage industry in NYC. Apply Porter's Five Forces and Industry Lifecycle frameworks.**

Applying Industry Lifecycle framework for understanding industry dynamics, the demand for non-alcoholic beverages was high and growing in North America. The sale of water enhancers was also high. Most water enhancers made the water acidic in nature, making it unhealthy. Phit had the unique advantage of adding flavors to water and increasing its PH level. The Basic Water company had a first mover's advantage in this segment. While the market for water enhancers was in the Growth stage the company was still in the initial stages of growth where they were creating awareness of the new product. The competition from large corporations like The Coca Cola Company, Pepsico was fierce. With limited funds and resources, the Basic Water team needed to carefully determine a strategy to compete. The industry analysis of the company can be presented through Porters' Five Forces framework as follows:

Threat of New Entrants – Low

- The process to develop the scientific formula of Phit products needed scientific expertise, high capital investment and time to test the products.
- Basic Water had a unique combination of capabilities to recognize the gap in the market and develop an innovative product to serve the needs of people.

Threat of Substitute Products – Very High

- The non-alcoholic beverage industry was dominated by soda brands like Coke, Pepsi, Dr. Pepper and others. Though these products contained sugary substances, they were consumed in huge quantities in North America.
- Regular water was available in bottles.
- Flavored water enhancers like Mio and Dasani Drops that made water acidic were abundantly available and used widely.
- Juices, shakes and other non-alcoholic beverages.
- Plain alkaline water was popular amongst fitness conscious people.
- Flow, Just Water, and Qure were selling flavored alkaline water that was packaged.

Threat of Established Competitors – Very High

- Large corporations like The Coca Cola Company and Pepsico had well established marketing and distribution channels to reach a wide audience. They had high capital reserves to advertise and reach people widely. Their products, sodas, water enhancers, juices and others appealed to the audience and were available easily as a very low cost.
- Since big companies had a monopoly in the market, Basic Water had to be very careful in launching Phit in such a way that it did not challenge the big companies.

Supplier's Bargaining Power – Low

- Phit did not need any specialized raw materials for manufacture. Since, the chemical compounds were easily obtainable, the bargaining power of suppliers was low.

Buyer's Bargaining Power – Low

- Irrespective of the strategy chosen, the buyer's bargaining power will be low as Phit products will be available at a retail price.

4. **Based on your analysis in above questions describe the SWOT for the following product positioning strategies:**
    a. **Focused differentiation: Phit for fitness conscious only**
    b. **Overall cost leadership: Phit for all masses**

Just like the case, the instructor may observe differences in opinion in the class when this question is presented. Some groups of students may suggest a focused differentiation strategy while others may recommend an overall cost leadership approach. The SWOT for both the approaches is shown below.

Figure 2. SWOT for focused differentiation: Phit for fitness conscious only

Strengths	**Weaknesses**
• Well-educated, well connected and experience team. • Good knowledge of the needs of a sports person. • First mover in introducing Phit, *a product that made water flavorful and alkaline.* • Phit products had many health benefits as compared to other sports drinks.	• Phit products would be sold at a premium price.
Opportunities	**Threats**
• Location advantage of having proximity to NYC, which was popular for sporting events. • Easy access to gyms and fitness centers to reach customers. • Increase in the use of internet which promoted fundraising and marketing. • Growth of ecommerce due to internet savvy population. • Increased health awareness in masses, due to which a large number of people were fitness conscious. This provided a large target market for Phit. • High income population in NYC would	• Substitute products like plain alkaline water, sports drinks and other healthy shakes. • The Basic Water team would need to spend efforts in educating the masses about their product.

not mind paying the premium price for Phit.	

Figure 3. SWOT for overall cost leadership: Phit for all masses

Strengths	**Weaknesses**
• Well-educated, well connected and experience team. • Good knowledge of the needs of a sports person. • Location advantage of having proximity to NYC. • First mover in introducing Phit, <u>*a healthy water enhancer*</u>.	• Substitute products. • Established competitors could crust the startup company's strategy. • High competition makes it difficult to achieve sales targets. • The Basic Water team needs to spend efforts in educating the masses about their product.
Opportunities	**Threats**
• Increase in the use of internet which promotes fundraising and marketing. • Growth of ecommerce due to internet savvy population. • Growth in health consciousness. • Growth in the consumption of water enhancers.	• Substitute products. • Established competitors could crust the startup company's strategy. • High competition makes it difficult to achieve sales targets. • The Basic Water team needs to spend efforts in educating the masses about their product.

Figure 2. Summary of the internal analysis

Strengths	**Weaknesses**
• Well-educated, well connected and experience team. • Good knowledge of the water enhancer market. • Good knowledge of the needs of a sports person. • Networking skills. • Location advantage of having proximity to NYC. • First mover in introducing Phit, an innovative product as the first portable alkaline water enhancer.	• The Basic Water team was working with a new and untested product. • High costs associated with product marketing and branding. • Low product popularity, as Phit is an innovative product.
Opportunities	**Threats**
• Increase in the use of internet which promotes fundraising and marketing. • Growth of ecommerce due to internet savvy population. • Growth in health consciousness. • Growth in the consumption of water enhancers.	• Substitute products. • Established competitors could crust the startup company's strategy. • High competition makes it difficult to achieve sales targets. • The Basic Water team needs to spend efforts in educating the masses about their product.

5. **Select an option and suggest drivers to implement the strategy.**

Safe Crossings

Dale Moretz sat in his office in Jackson, Michigan just before Christmas 2019 and considered the next steps for his newest company, Safe Crossings, LLC. Dale looked at the view left outside his shop by an unusual late December warm spell that left everything looking dank and dismal. He pondered the future of his project. Regardless of the technical merit of the system he had developed, its prospects were just as dreary as the scene outside without successful marketing and business development.

He had just finished assembling the first fully functional prototype of his novel leak prevention system for pipelines, and he was pleased with progress on developing the technology. As an experienced entrepreneur who had founded nearly a dozen companies and had successful exits from three businesses, he understood the requirements for building a company. As a successful inventor with more than a dozen patents already issued, he was confident of his ability to develop valuable technologies. His resources for development and marketing were limited, but he was used to bootstrapping his ventures, having lived for several months upstairs from the shop floor at one prior business to keep expenses down. However, he was less confident about the best approach to marketing his newest invention, especially in a new market in which he had limited experience. Designing and patenting this new approach to pipeline leak prevention was one thing, but in order to build a viable business he would need to bring it to market successfully. That challenge would require an appropriate model for the business as well as an effective marketing and customer development approach.

Safe Crossings had been registered in late 2015 to hold the intellectual property he was then just beginning to develop as a solution to prevent oil pipeline leaks at sensitive water crossings. The core of his solution was a valve that would automatically close the pipeline in the event of a leak, even if power and communication were interrupted. Since then, Dale had continued developing the concept and initial design for the solution, and he had just returned from the first full meeting of the partners in the venture, where he had demonstrated the first physical model of the valve. His partners had looked over his initial presentations on the technology and had provided him with some potentially useful input regarding future development and, in particular, marketing approaches for the company. Dale knew from his prior entrepreneurial experience that there was still much to do to bring his latest innovation to market.

Sipping his coffee as he looked out over the dreary winter scene, Dale reflected on how the project began. His interest in the problem of oil pipeline leaks had been piqued by news coverage of a catastrophically damaging leak in western Michigan. In July 2010, Enbridge Line 6B burst, eventually dumping an EPA estimated 1 million gallons[1] of diluted bitumen (heavy crude oil) from the Canadian Athabasca oil sands into Talmadge Creek, a tributary of the Kalamazoo River. The spill began when a six-foot rupture occurred in a section of a 30-inch pipeline on 25 July 2010.[2] Four days later, the local health department asked dozens of homes to evacuate, and nearly 100 residents had been advised not to drink their water.

Figure 1 - EPA's response to the Enbridge oil spill[3]

[1] https://web.archive.org/web/20101004180612/http://cbs2chicago.com/national/michigan.oil.spill.2.1831124.html
[2] https://www.ntsb.gov/investigations/AccidentReports/Pages/PAR1201.aspx
[3] https://www.flickr.com/photos/usepagov/4855267114

The environmental and health implications of this event energized Dale to seek a solution to the problem. The solution's underlying conceptual development dominated his efforts as he iterated on his initial concept in order to develop a design for submission to the US Patent Office. Patenting the conceptual design was a critical step in his vision for the venture. His prior entrepreneurial experience had taught him that developing strong intellectual property (IP) was among the most effective ways to promote profitability in a business venture. Dale was a serial entrepreneur who had founded multiple product-focused businesses over the years, including multiple patented products for automotive components made of polymers. The most successful of these plastic components was a valve lifter guide made of fiber reinforced nylon that operated inside an engine,[4] which sold over 50 million units in its 9-year production run up to the point when he sold that company along with the associated patents. All of his biggest successes had relied on product designs that he had patented. He had seen the problems of insufficiently protected products first hand when the market for a super-strong, light weight bicycle pedal he had developed using injection molded plastics was destroyed by competitors selling knock-off products made of far less robust materials. He was determined to create as strong and broad a position as possible through patenting proprietary IP, and he wanted to ensure that patent protection was firmly in place before commercialization so that illegitimate competition could be challenged immediately.

Given his focus on developing and patenting the core technology, Dale's early marketing materials explained the physics and associated engineering behind his design in significant detail (see Appendix 1). He had completed the design and had filed for a patent covering the valve and the method in November of 2017. The valve was designed to operate based on pressure

[4] This valve lifter guide was the first ever functional component to be made of plastic for use inside an engine.

differentials within a pipeline, and it required no power other than the force of the oil flowing through the pipeline. The method involved a process for drawing the oil across the sensitive water crossing rather than pushing it across. By pumping from the downstream end of the crossing, this method created a lower pressure zone that both allowed the valve to function effectively and also prevented leaks from discharging oil. Instead, any leak in the pipeline over the sensitive section would draw material (water) into the pipeline, facilitating detection and preventing any significant leaking of oil into the environment. That this method facilitated detection was a substantial advantage given the fact that leak detection was difficult and uncertain, often occurring by accident.[5,6] Some pipeline engineers noted that up to 2% of the volume flowing through a pipeline could leak without triggering automated leak detection systems.[7]

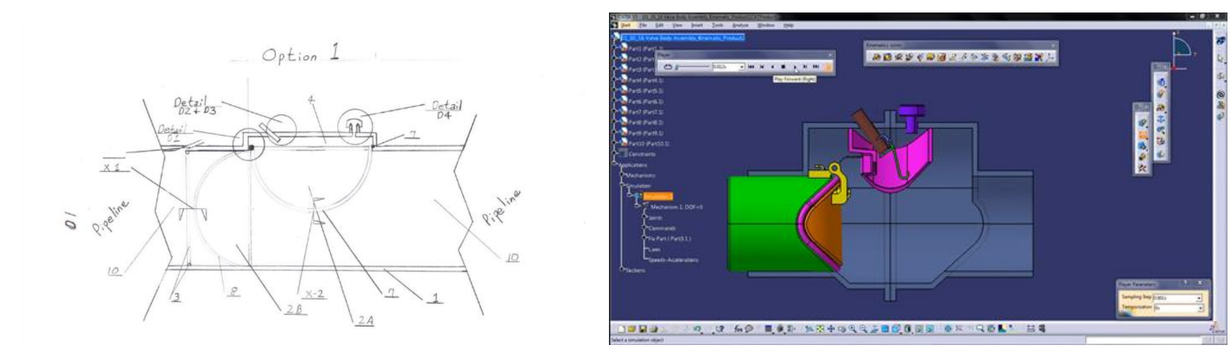


Figure 2 - Early hand sketch of valve design, CATIA CAD rendering of the Safe Crossings valve[8]

Dale had shared some initial presentation materials prior to the meeting, and one significant issue that his business partners identified was the exclusive focus in that presentation

[5] https://www.thomasnet.com/insights/fluid-gas-flow/2013/08/21/new-technology-could-reduce-oil-pipeline-leaks/
[6] https://www.nationalobserver.com/2016/04/04/news/transcanada-shuts-down-keystone-after-oil-seeps-surface
[7] https://www.nationalobserver.com/2017/04/11/analysis/oil-didnt-seep-surface-last-week-transcanadas-keystone-pipeline
[8] Safe Crossings, LLC

on the engineering behind the solution Dale had developed. His partners pointed out that, although for engineering staff the details regarding how the valve and method combination functioned were important, many decision-makers and influencers would come from backgrounds other than engineering. Effective presentation to these broader audiences would likely require different materials highlighting elements beyond the engineering behind his solution.

There were many potential considerations involved in effective development of the business and marketing of the solution that Safe Crossings had filed with the patent office. One potential driver of the value of such a solution was the growth in North American oil production.

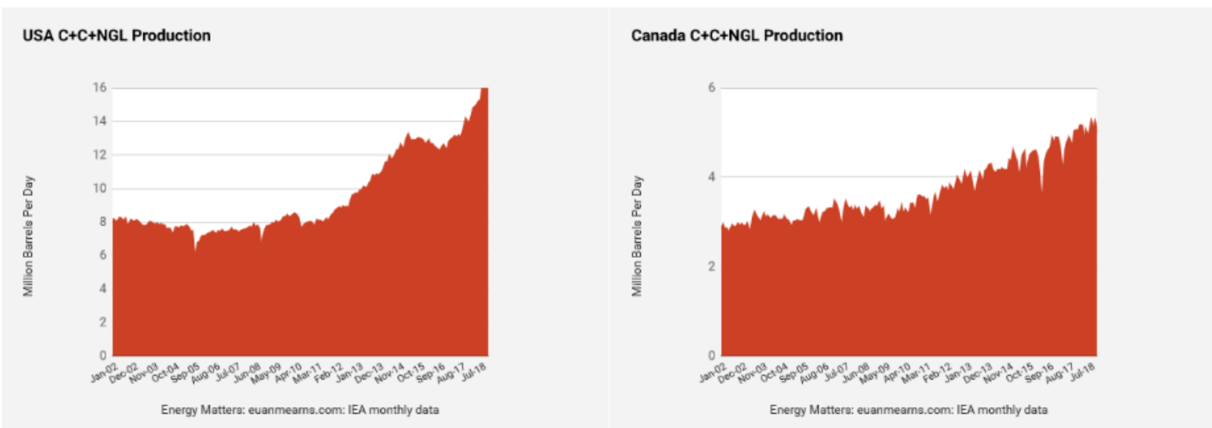


Figure 3 – US and Canada oil production, 2002-2018[9]

Although Mexican oil production had declined by almost a third, US production more than doubled between the start of 2011 and November 2018, while Canadian production was up over 40%.[10] Because of this dramatic increase in production, pipelines had reached capacity, pushing

[9] http://euanmearns.com/oil-and-gas-production-in-n-america/
[10] http://euanmearns.com/oil-and-gas-production-in-n-america/

some transportation to truck and rail, and pipeline construction was continuing[11] in order to meet rising demand for transporting oil to refineries along the US Gulf Coast.

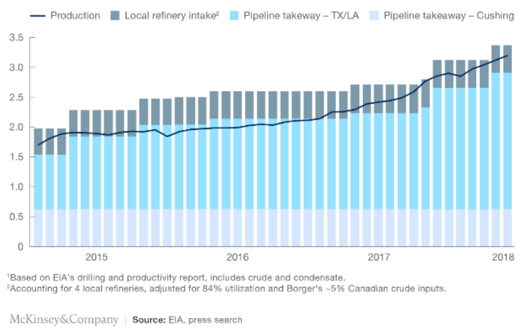


Figure 4 –Oil production, pipeline capacity, and refinery intake (2015-2018),[11] Map of US connected pipelines[12]

The United States had nearly 2 million miles of pipelines in total, and over two hundred thousand miles of oil pipelines,[13] nearly half of which were more than 50 years old.[14] Investment in pipelines had been increasing, as well, rising from $36 billion in 2007 to almost $70 billion by 2013.[15]

The cost of oil spills was a central concern, particularly given the recent growth in North American oil production. After the Kalamazoo River spill, the US government imposed a record $3.7 million penalty against Enbridge for failure to address corrosion issues in a timely manner.[16] Clean Water Act violations related to the Kalamazoo River spill and another spill in Illinois eventually led to a $177 million fine.[17] However, these fines paled to insignificance in

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[11] https://www.mckinsey.com/industries/oil-and-gas/our-insights/in-full-swing-north-americas-crude-prices-and-changing-takeaway-capacity
[12] https://theodora.com/pipelines/united_states_pipelines.html
[13] https://www.bts.gov/content/us-oil-and-gas-pipeline-mileage
[14] http://insideenergy.org/2014/08/01/half-century-old-pipelines-carry-oil-and-gas-load/
[15] https://www.ogj.com/pipelines-transportation/article/17210347/crude-oil-pipeline-growth-revenues-surge-construction-costs-mount
[16] https://insideclimatenews.org/news/20120702/phmsa-civil-penalty-enbridge-2010-michigan-oil-pipeline-spill-6b-dilbit-kalamazoo
[17] https://www.epa.gov/enbridge-spill-michigan

comparison to the massive cost of cleaning up the spill. The direct cost of cleanup for the Kalamazoo River spill was estimated at over $1.2 billion,[18] a significant amount even for a company with C$25 billion in revenues in 2012[19] and nearly double the coverage provided by the $650 million insurance policy the company carried in case of a pipeline rupture.[20]

These cleanup costs were related to the massive size of the spill, the second largest by volume in US history, and to the related environmental impact. The immense scale of the spill had led environmental groups to undertake studies of the impact of similar spills along different Enbridge pipelines, including the contentious Enbridge Line 5 pipeline running under the Straits of Mackinac that separate Michigan's Upper and Lower Peninsulas. One study predicted that a significant pipeline break at the Straits would cost the Michigan state economy more than $6 billion.[21] Environmental groups like the one that commissioned that study argued for the closure of the 60-year-old Line 5 due to such concerns regarding possibly catastrophic leaks and resulting extreme environmental damage.

Inspections had shown some insulation to be missing and some corrosion inside the pipeline, in addition to dents from probable anchor strikes.[22] Although Enbridge strongly denied the potential damage would be nearly so dramatic, their solution relied on powered automatic shutoff valves to close the pipeline in the event of a loss of pressure, which would indicate the likely presence of a leak. An event that precipitated a significant leak could also very easily lead

[18] https://wwmt.com/news/local/enbridge-releases-final-cost-for-kalamazoo-river-cleanup
[19] Enbridge 2012 Annual Report (retrieved from www.annualreports.com/HostedData/AnnualReportArchive/e/TSX_ENB_2012.pdf)
[20] https://www.mlive.com/news/kalamazoo/2011/09/enbridges_estimated_cost_to_cl.html
[21] https://www.michiganradio.org/post/study-predicts-major-mackinac-straits-oil-pipeline-leak-would-cost-state-economy-billions
[22] https://www.michiganradio.org/post/pipeline-safety-advisor-says-gov-snyder-s-line-5-tunnel-idea-just-kicks-can-down-road

to a loss of power to the shutoff valves. Some argued that such issues meant that the line should be shut down completely rather than refurbished with greater leak security measures.

Figure 5 – "A diver inspects Enbridge's Line 5 pipeline under the Straits of Mackinac for a possible dent."[23]

Other pipeline companies were facing similar issues. As Dale was working on the technology behind Safe Crossings, concerns similar to these regarding pipeline leaks and spills led to a series of very high profile protests over TransCanada's construction of the Keystone XL pipeline, including one protest in Washington D.C. that drew over 35,000 people in 2013.[24] Energy Transfer Partners, a pipeline operator headquartered in the US, had faced even more widespread press coverage of protests related to its Dakota Access Pipeline project. Protests sparked by youth from the Standing Rock and other Native American communities delayed construction for months, costing the company $22 million for construction security[25] and $1.3

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[23] https://www.michiganradio.org/post/pipeline-safety-advisor-says-gov-snyder-s-line-5-tunnel-idea-just-kicks-can-down-road

[24] https://www.theguardian.com/environment/2013/feb/17/keystone-xl-pipeline-protest-dc

[25] https://www.seattletimes.com/business/dakota-access-protest-policing-costs-exceed-22m/

million per day[26] and an estimated $100 million total related to construction delays.[27] The response of the company and local law enforcement also generated an enormous amount of bad publicity for the company and the pipeline project, including reports of dog attacks and use of pepper spray,[28] some of which were captured in videos posted online. As a result of such protests and other construction issues, pipeline operators such as TransCanada began exploring alternatives, including one for a shorter pipeline north to the Artic Sea from whence tanker ships would carry the oil to Asian and European markets.[29]

Figure 6 - Dakota Access Pipeline protests

Dale, an avid proponent of environmental preservation, recognized that these potential threats were real. However, he also recognized the risks associated with alternatives to pipeline transportation of oil. Shipping oil over the ocean was fraught with dangers that could lead to disastrous spills, particularly if they occurred in coastal waters. One such accident, the Exxon Valdez tragedy in 1989, resulted in 11 million gallons of crude oil spilling into Alaska's Prince William Sound.[30]

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[26] https://www.desmoinesregister.com/story/news/politics/2016/03/24/cost-pipeline-delays-13-million-daily/82211792/
[27] https://www.democracynow.org/2016/11/16/headlines/delays_from_protests_cost_dakota_access_pipeline_company_100_million
[28] https://www.cbsnews.com/news/dakota-access-pipeline-protest-turns-violent-in-north-dakota/
[29] https://www.cbc.ca/news/business/n-w-t-in-talks-about-arctic-gateway-oil-pipeline-1.3152977
[30] https://www.history.com/topics/1980s/exxon-valdez-oil-spill

Figure 8 - Images of the 1989 Exxon Valdez oil spill

Exxon spent over $3.8 billion on cleanup, and was initially assessed punitive damages of $5 billion.[31] Although that amount was reduced dramatically after 14 years of appeals, the lasting economic impact on Alaska was enormous, with oil persisting on or under most area beaches[32],[33] and economic losses totaling by some estimates over $5 billion.[34]

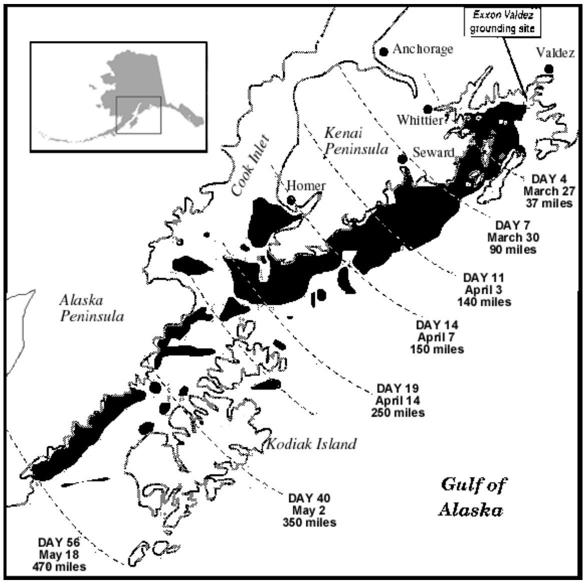

Figure 7 - Spread of oil after the Exxon Valdez ran aground[33]

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[31] https://www.thebalance.com/exxon-valdez-oil-spill-facts-effects-on-economy-3306206
[32] https://e360.yale.edu/features/twenty_years_later_impacts__of_the_exxon_valdez_linger
[33] http://www.evostc.state.ak.us/index.cfm?FA=status.lingering
[34] https://www.thebalance.com/exxon-valdez-oil-spill-facts-effects-on-economy-3306206

Rail transportation posed its own risks, as the Lac-Mégantic rail disaster in eastern Quebec clearly showed. On July 6, 2013, an unattended train of 74 tanker cars carrying crude oil rolled down an incline and derailed on a curve in downtown Lac-Mégantic, destroying most of the downtown and killing 47 people.[35]


Figure 9 - Lac-Mégantic day of and three days after the rail disaster

There was some controversy over which mode of transport was the safest,[36] but the economics of oil transport very strongly favored pipelines, at least over land, with rail costing 2 to 3 times as much,[37] and truck transport still more costly and less safe.[38] And the conservative/libertarian Fraser Institute had reported that "At present, resistance to pipeline transport is sending oil to market by modes of transport that pose higher risks of spills and personal injuries such as rail and road transport."[39]

[35] https://www.nytimes.com/2019/07/16/world/canada/lac-megantic-quebec-train-explosion.html
[36] https://www.forbes.com/sites/jamesconca/2018/10/11/which-is-safer-for-transporting-crude-oil-rail-truck-pipeline-or-boat/#201879a47b23
[37] https://www.forbes.com/sites/jamesconca/2018/10/11/which-is-safer-for-transporting-crude-oil-rail-truck-pipeline-or-boat/#201879a47b23
[38] https://oilprice.com/Energy/Energy-General/Trucks-Trains-or-Pipelines-The-Best-Way-to-Transport-Petroleum.html
[39] https://www.fraserinstitute.org/studies/intermodal-safety-in-the-transport-of-oil

Dale was confident that his system for preventing pipeline leaks would be more robust that current methods. It required no power beyond the force of the oil moving through the pipeline, and it would work automatically with sufficient change in pressure, which would occur if any significant leak were present. Communication with the patent office had been very positive, so he was very confident that both the valve and the method would receive strong patent protection in the near future. His available capital for continuing to develop the business was limited, but fortunately he had the skills to do much of the near term work himself. However, as 2019 drew to a close, he was not confident that the current materials for marketing were adequate for presenting his solution in the best light to the various interested constituencies. He had made an initial presentation to the Michigan Public Service Commission and had spoken with the U.S. Pipelines and Hazardous Materials Safety Administration to generally positive responses, but these contacts had taken place before he had a working prototype. His efforts since had focused almost exclusively on finalizing the full patent application[40] and responding to patent office questions along with finishing his working model prototype. Now that both of those efforts were coming close to fruition, he turned his attention to marketing the improved solution. As he thought about all of the issues that had led to his development of the Safe Crossings technology, he wondered, what should his next step be?

[40] Provisional patent applications on the valve and the method had been filed in late 2016, necessitating completion of the initial full patent applications by late 2017 (within one year). Continuations, extensions with additional claims, and responses to patent office questions meant that both applications were still pending in late 2019. For more on provisional vs utility patents, see: https://www.uspto.gov/patents-getting-started/general-information-concerning-patents; https://launch.wilmerhale.com/Explore/IP/Patents/provisional vs utility patents

Safe Crossings

INSTRUCTOR'S MANUAL

CASE SYNOPSIS

In late 2019, Dale Moretz was finalizing the first working prototype for his newest invention, a system (valve and method) for preventing oil pipeline leaks intended for use at sensitive water crossings. In 2015 he had registered a company, Safe Crossings, LLC, to hold the new intellectual property. He was hopeful regarding the issuance of two separate patents on his new invention. Dale had extensive entrepreneurial experience prior to launching this most recent venture, with nearly a dozen companies and three successful exits under his belt. He was also an experienced inventor with more than a dozen patents already issued. Although he had ample experience starting and running businesses and could apply those learnings to new ventures, he understood that each business also faced unique challenges that would require attention. His biggest concern for the new business was marketing the novel technology into a market in which he had limited experience. He was considering feedback from his partners regarding his earlier technology and engineering focused presentation to the Michigan Public Service Commission as he thought about how to approach marketing once his prototype was ready and his patents were issued.

The genesis of the technology behind Safe Crossings was a catastrophic oil pipeline leak into a tributary of the Kalamazoo River in western Michigan in 2010. That spill dumped an EPA estimated 1 million gallons of diluted bitumen (heavy crude oil) from Canada's Athabasca oil sands and prompted a local evacuation and water quality warning. Dale's solution involved a valve that operated using no external energy sources, relying instead on the flow of material in the pipeline itself, so that it would not be incapacitated should power or connectivity be lost. It also leveraged a method of pumping the oil that created local negative pressure by pumping from the downstream end of the pipeline after it crossed the sensitive waterway. This method allowed the valve to operate optimally and also ensured that any leak in the pipeline would draw water into the oil rather than leaking oil out into the environment.

There were several possible approaches to explaining the value of the Safe Crossings system. The issue of pipeline safety had become much more significant with the dramatic increase in US and Canadian oil production. US production more than doubled and Canadian production was up over 40% between 2011 and 2018, and pipeline construction was growing to meet that new demand for transportation of crude oil to Gulf Coast refineries. The cost of pipeline oil spills was often substantial, with the Kalamazoo leak alone prompting almost \$200 million in fines and over \$1.2 billion in cleanup costs. Protests against pipeline construction and operation were also on the rise, and construction delays related to court challenges and direct-action protests could cost \$100 million or more. However, without pipelines oil would be transported by other, less efficient means, including oil tanker ships and oil trains. The Exxon Valdez spill in Alaska and the Lac-Mégantic oil train disaster in Quebec showed that those alternatives were far from safe, and the economics of oil transportation very strongly favored pipelines.

Dale needed to determine how to convey the value of the Safe Crossings system to different constituencies in order to market it effectively, and he was not confident that his current materials with their strong focus on the engineering behind the solution would be the most effective approach. Yet once his patents were approved and his functional prototype was completed, he wanted to begin marketing aggressively. He expected the patents to be issued very soon (the first patent, for the valve, was issued during the writing of this case), and he was completing final alterations to the prototype, so he needed to determine what his next step should be.

COURSES AND TOPICS

This case is appropriate for undergraduate or early graduate entrepreneurship courses. The case provides a common foundation for discussing issues regarding approaches to determining the value proposition of a venture's offerings for different customer/influencer segments. In addition, this case can provide an opportunity to guide students through the application of the Lean Startup approach to customer discovery and validation. The challenge of transforming a new technology into an entrepreneurial venture is illustrated, with specific emphasis on decision making related to direct market participants and indirect market influencers.

LEARNING OBJECTIVES

After studying this case, students should be able to:

1. Examine and evaluate the issues involved in determining the value proposition(s) for a venture's market offering.
2. Apply lean startup methodology to a concrete entrepreneurial situation in order to evaluate the venture's potential and set the stage for further business development.
3. Apply the Value Proposition Canvas(es) and Business Model Canvas to make educated guesses about the various elements of a business model that can be used for further market testing.
4. Analyze and evaluate the benefits and risks of alternatives in order to make and support a decision.

RESEARCH METHODS

The data for the case were collected through personal interviews with the principal inventor and business founder involved in the new venture opportunity described in the case, review of publicly available content on the web, non-public documents related to the founding of the venture, and research reports available from various sources. The author is a partner in the venture discussed in the case and was involved in some of the activities described in the case.

To the best of our knowledge, no other case has been published about this organization to date.

SUGGESTED TEACHING PLAN

The teaching plan is designed for multiple sessions of a one hour and fifteen minute class, based on the questions listed below, followed by additional probing questions suggested in the discussion section. The case can be used in conjunction with most entrepreneurship textbooks. It may be particularly useful as a common foundation for discussing and applying the lean startup framework. Steve Blank's 2013 Harvard Business Review article "How the Lean Startup Changes Everything" provides a good overview of lean startup for students. *Business Model Generation* by Osterwalder and Pigneur details the Business Model Canvas used in lean startup to describe a venture and construct hypotheses for testing. Steve Blank's "How to Build a Startup" Udacity course – https://classroom.udacity.com/courses/ep245 – is a free option for potential use in a flipped classroom model.

The case can be used as material for ensuring student understanding of lean startup concepts and developing their ability to apply those principles to concrete business situations. As students progress through the course, activities can be moved toward analysis and evaluation using the lean startup framework. The Startup Owner's Manual by Blank and Dorf provides a very thorough step-by-step reference regarding the customer discovery process. *Value Proposition Design* by Osterwalder, et al. is also useful, and *The Lean Startup* by Eric Reis is another very useful text on lean startup.

CLASSROOM DISCUSSION QUESTIONS

1. **What factors created an opportunity for Dale to build a business around Safe Crossings?**
2. **What are some of the critical risks and obstacles that the founders will need to overcome in order to turn this nascent venture into a thriving business?**
3. **Construct an initial Value Proposition Canvas (VPC) based on the information in the case and your own examination of the opportunity and the broader industry. Are there multiple customer segments that may require exploration of different Value Propositions? How many VPCs might the venture want to consider? What are the critical customer/influencer segments? Construct an initial VPC for each distinct segment you identify.**
4. **Construct an initial Business Model Canvas (BMC) based on the information in the case**
5. **What do the BMC and VPC(s) tell you about the venture? About critical issues that must be dealt with? (There are nine sections of the BMC, but some related elements are collapsed into single questions.)**
    a. **What is the basic value proposition? For whom?**
    b. **Who are the customers? Are there multiple types? Are there both paying customers and non-paying customers/influencers that require attention?**
    c. **What channels are critical, and what types of relationships should Safe Crossings consider?**
    d. **Who might constitute potential critical partners for this kind of venture?**

e. **What activities should Safe Crossings undertake and what should it leave to partners?**

f. **What revenue model(s) might work? What are the likely cost drivers associated with each approach?**

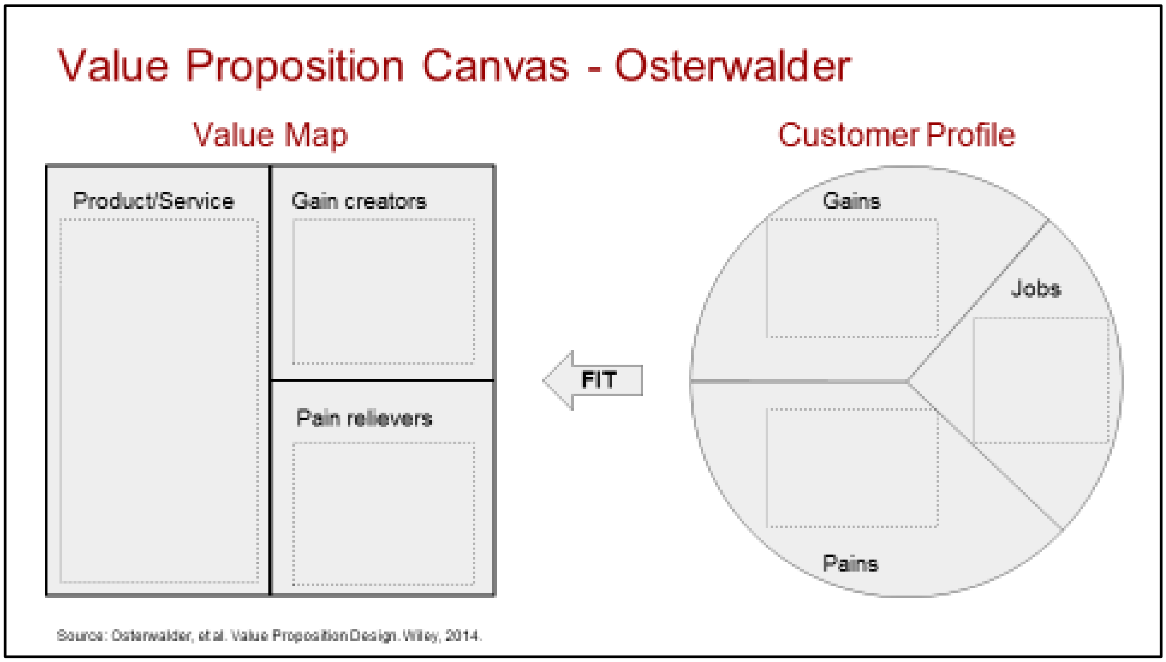
6. **What is the longer-term potential of the venture? What should Safe Crossings be doing in order to prepare for growth or an exit?**

ANALYSIS AND RESPONSE TO DISCUSSION QUESTIONS

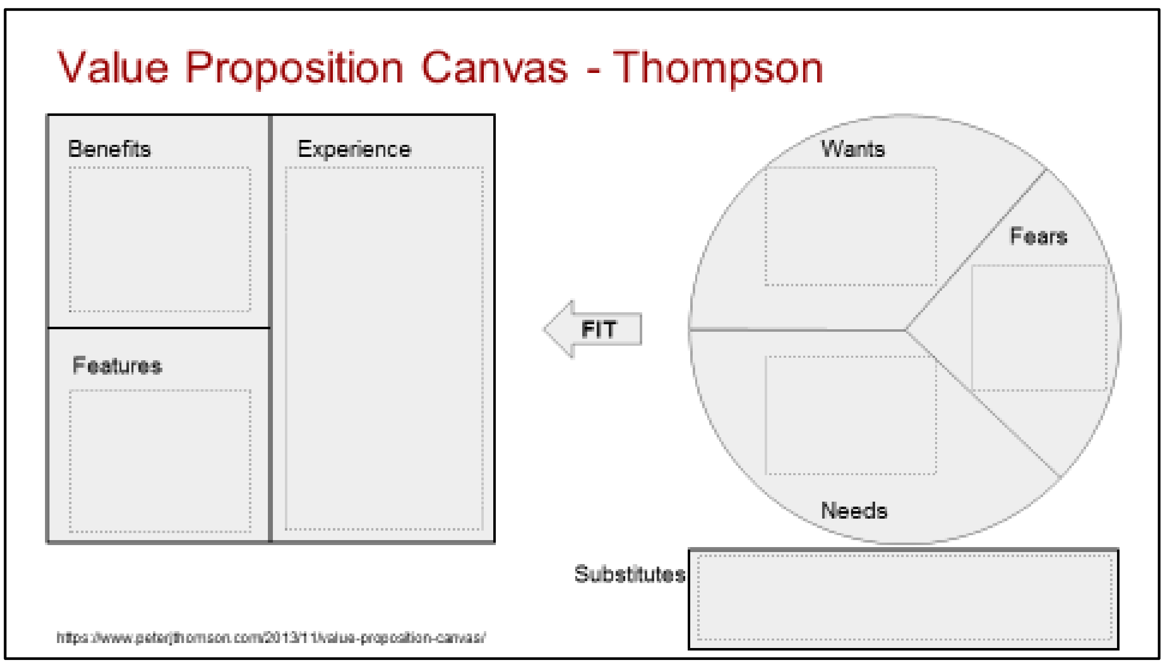
1. What factors created an opportunity for Dale to build a business around Safe Crossings?
   - Economic and environmental concerns over oil production and pipeline infrastructure
   - Increasing Canadian and US oil production
   - Substantial technological innovation, with high probability of strong patent protection
2. What are some of the critical risks and obstacles that the founders will need to overcome in order to turn this nascent venture into a thriving business?
   - New, unproven technology
   - Lack of prior business experience in the oil and gas sector
   - Limited capital for business expansion
3. Construct an initial Value Proposition Canvas (VPC) based on the information in the case and your own examination of the opportunity and the broader industry. Are there multiple customer segments that may require exploration of different Value Propositions? How many VPCs might the venture want to consider? What are the critical customer/ influencer segments? Construct an initial VPC for each distinct segment you identify.

We provide two value proposition canvas templates for students to consider in our entrepreneurship classes and activities (see below). The first canvas is the value proposition canvas presented in Osterwaler, et al. *Value Proposition Design*.[1] This canvas is perhaps most appropriate for business-to-business ventures, but it can be used for business-to-consumer enterprises, as well.

[1] Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). *Value proposition design: How to create products and services customers want*. John Wiley & Sons.



The second canvas is from Peter J Thompson[2] and focuses more explicitly on individual or end consumer value.



Given the different customer/influencer segments in the case, it may be useful to leverage both of these perspectives on the Value Proposition Canvas.

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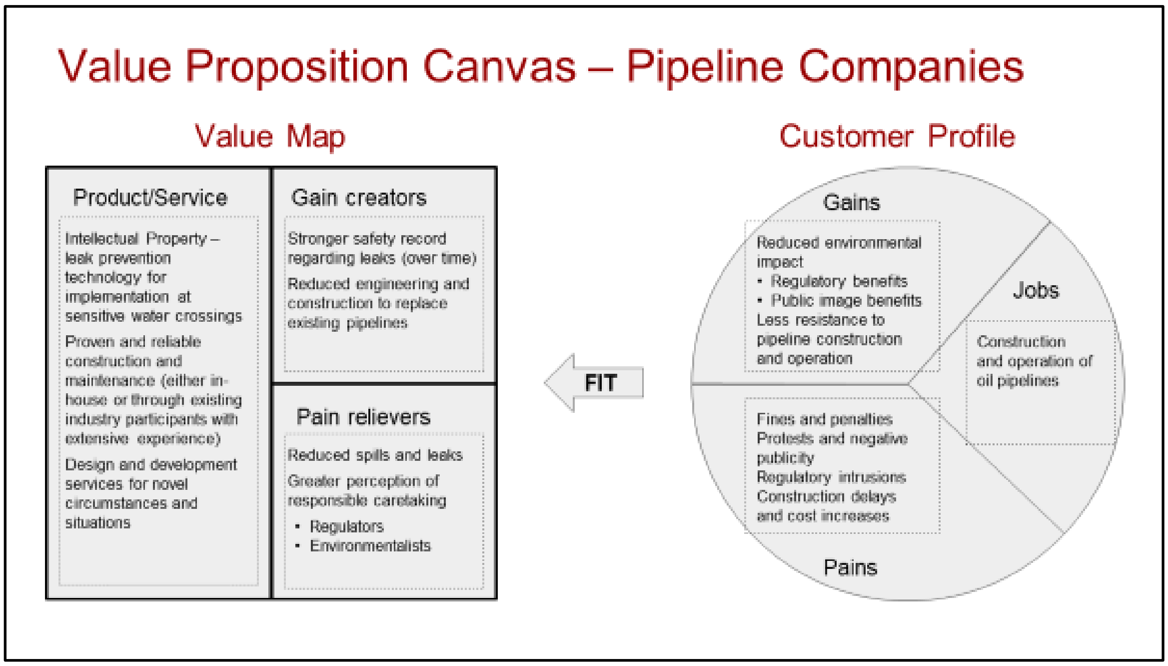
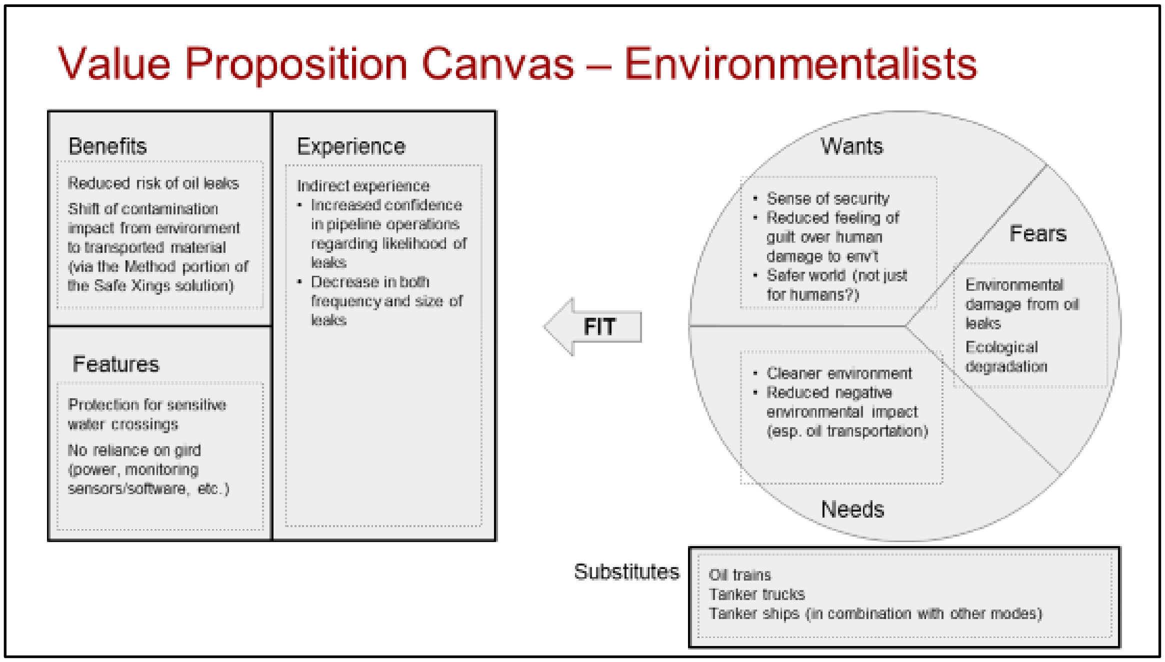
[2] https://www.peterjthomson.com/2013/11/value-proposition-canvas/

Even if students are familiar with Osterwalder, et al.'s *Value Proposition Design*, they may require some guidance on the application of that Value Proposition Canvas, particularly given the possibility of multiple customer/influencer segments with potentially widely differing demands. The author recommends constructing a separate canvas for each identified constituency (see example VPCs below).

Students may also need some assistance with application of Thompson's canvas, particularly the "fears" section. Wants, or emotional decision drivers, and Needs, or rational decision drivers, may be relatively intuitive for students, but the Fears portion of the canvas should be used to assess the customer's fears related to adopting a specific product or service. As Thompson puts it, these are things like "fear of making a mistake, fear of missing out, fear of loss" and so forth. Thompson also includes explicit mention of Substitutes, which may be useful in identifying alternatives, including whatever customers were doing or using prior to the launch of a new venture's offering(s).



Example Value Proposition Canvas – Pipeline Companies

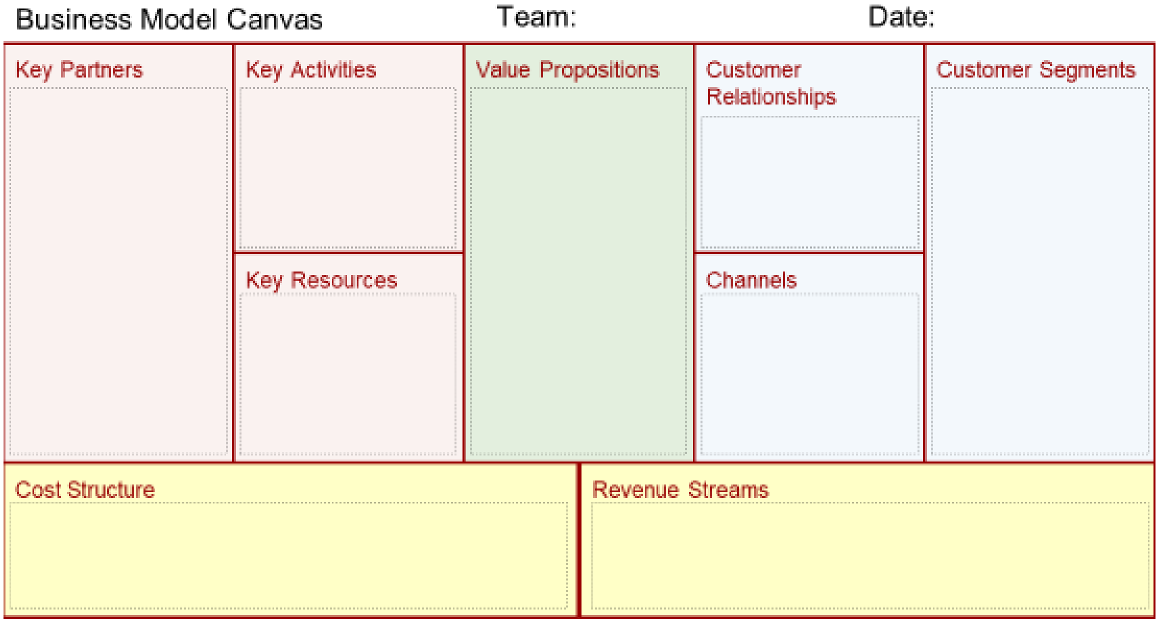


Example Value Proposition Canvas – Pipeline Companies

The example canvases included here use each of the templates noted above for different customer segments. The Osterwalder, et al. VPC is used for pipeline construction, maintenance, and operation customers, and the Thompson VPC is used for environmental activists. Although it is possible to use either version of the VPC effectively, the approach taken here allows the differences between the two canvases to be highlighted. The Osterwalder canvas focuses attention on business level concerns, whereas the Thompson canvas facilitates consideration of both rational and emotional decision-making drivers that may be more appropriate in some circumstances.

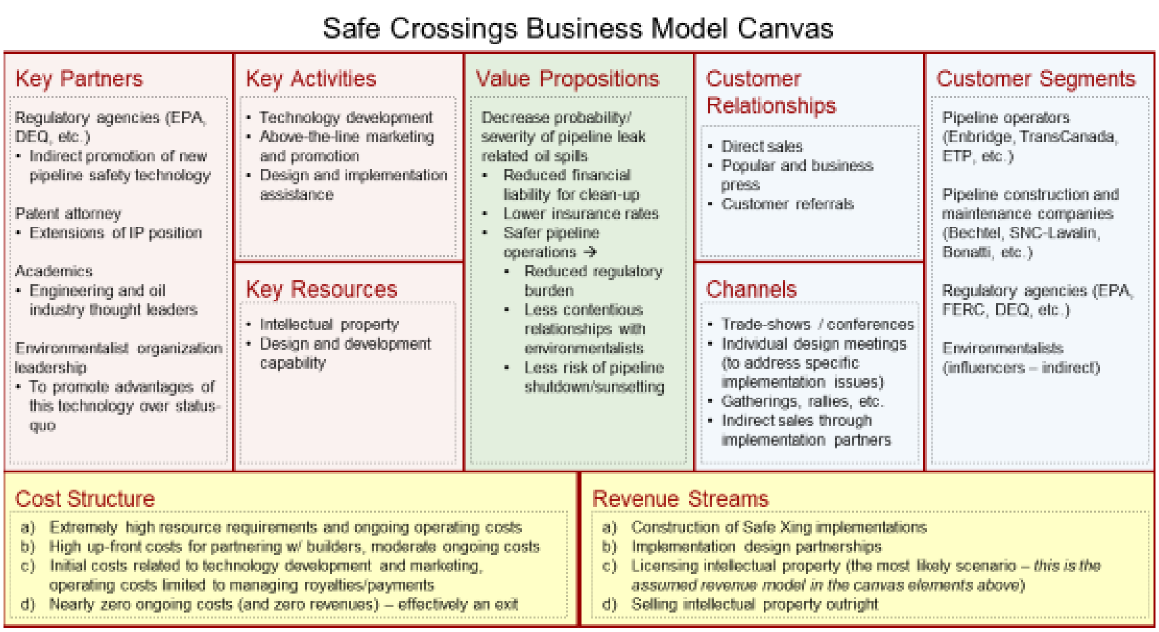
4. Construct an initial Business Model Canvas (BMC) based on the information in the case.

The core of the business model canvas included below was produced by the author based on discussions with the founder and with other partners. This canvas is provided as a mechanism for promoting discussion rather than as a "right" answer. The key element in the analysis is to foster consideration of additional hypotheses about the market or the business that can then be tested in the real world.



Business Model Canvas template

We use the template above for team-based projects in our Entrepreneurship course. The header text (Business Model Canvas, Team: , and Date:) are placed on the Slide Master in PowerPoint to make it less likely that teams will inadvertently alter those elements. For individual assignments, we use a slightly modified version with “Name” in place of “Team” in the header. The example BMC below was constructed in collaboration with the founder of Safe Crossings, and is illustrative of how the BMC can be used to identify important considerations rather than representing a final, “correct” version.



Example Business Model Canvas for Safe Crossings

5. What do the BMC and VPC(s) tell you about the venture? About critical issues that must be dealt with?

   - Use this question to open discussion of interplay between the canvases

   It can be very interesting to discuss differences between the different versions of the VPC and the BMC toward the end of the discussion of this case (whether in a single class session or after several sessions in which particular sections of the BMC/VPC are discussed). One aspect of the business that the Safe Crossings founder determined to be particularly useful as he prepared to market his invention was the consideration of different concerns for different audiences (customer segments). As noted in the case, he had already initiated conversation with the Michigan Public Service Commission, but he had used his engineering focused presentation. While the meeting was a qualified success (occurring relatively early, and before a functional prototype was available for demonstration), Dale recognized that his presentation proved to be far more interesting and thought-provoking for those in the audience who had engineering backgrounds. The Customer Segments portion of the BMC promoted consideration of other audiences and the Lean Startup approach of discussing Problem, Current Situation, and then Solution led to a very different approach to presenting to the different audiences (see Appendix 2 for an example presentation using this approach).

   - Compare student canvases with model provided and discuss differences (not right vs wrong, but focused on what useful insights can be discovered about the venture)

   The key point of class discussions should not be whether a particular hypothesis on the example Safe Crossings BMC or on those created by students is right or wrong, but rather on what insights may be discovered using a given hypothesis as a starting point for testing. Steve Blank's customer discovery process may be useful for approaching much of the right-hand side of the business model canvas, and the specifics of the value proposition and available (and interested) partners will drive much of the left-hand side.

   One potentially very productive approach to using the case in a course focusing on the Lean Startup methodology is to address each part of the canvas as it is introduced using the Safe Crossings case as a common foundation for those discussions. Students can be tasked with completing their best guesses for each section of the canvas. Class discussion, generally for only a portion of a given class period, would then be built around the similarities and differences in those canvases and what useful insights they might help uncover.

   The discussion of revenue models may warrant particular attention, although the case does not provide a great deal of detail about those options. Our students are generally not very familiar with the licensing of intellectual property as a revenue model, and they tend to gravitate toward building a business to sell a product or service. While it may be problematic to assign undergraduates without much experience in entrepreneurship the task of thinking through different revenue models before class, this case can provide a useful backdrop for initiating discussion about different approaches during the uptake session. We have found discussion of different options in light of the necessary Activities, Resources, Partners, and (perhaps most critically for a new venture) Cost Structures associated with each approach to be very productive.

6. What is the longer-term potential of the venture? What should Safe Crossings be doing in order to prepare for growth or an exit?

   The most likely exit would involve selling the intellectual property to an industry participant, either a major pipeline operator, or perhaps more likely a pipeline construction and maintenance company. However, there are two issues that mitigate against such an exit. First, it is unlikely that any substantial sale could be negotiated before the technology has been proven in the marketplace through a successful implementation. The major hurdle is likely to be the successful marketing and negotiation regarding that first installation. If Safe Crossings succeeds in negotiating a real-world proof of concept and the technology works as theorized, it is very likely that demand will be extremely strong for both new pipeline construction across sensitive waterways and retrofitting existing crossings. In such a situation, a technology licensing model would provide robust revenue with minimal ongoing resource requirements.

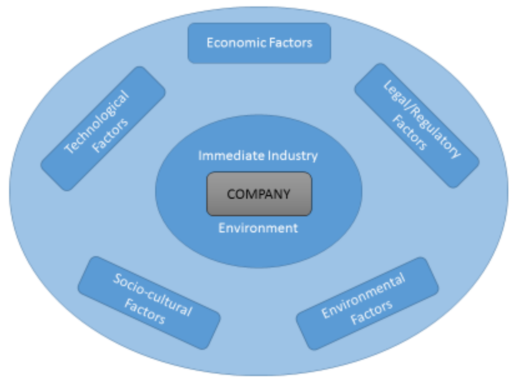
   Given the size and growth rate of North American oil production and the related pipeline industry, the medium- to long-term potential of the venture is substantial. An IP licensing revenue model would require limited ongoing resource commitments while keeping all of the benefits of expanding usage in the business. The only argument in favor of sale of the IP to another business would then be rapidity of expansion. If a well-established industry participant saw an opportunity to expand the market much more rapidly and made an attractive offer, it might still be possible to extract sufficient long-term value through an outright sale of the IP to make such a deal attractive, but Dale hoped to use a solid and durable intellectual property position to promote other outcomes, such as promoting smaller, local businesses or even employee owned ventures. These additional desires in terms of longer-term outcomes mitigated in favor of maintaining control of the IP.

EPILOGUE

Dale received notice of allowance of the valve patent at the very end of 2019, just a couple of days before the New Year. He had completed the first functional prototype of the Safe Crossings valve, which also allowed him to demonstrate the method of pulling oil across the sensitive crossing area. By using coloring agents in water, the model showed the benefits of the system in terms of preventing the escape of material into the environment. Even when a leak was simulated by opening a small port in the line, external water was drawn into the line rather than the colored water “oil” being pushed into the surrounding simulated environment.

Although this test was a resounding success in terms of proof of concept, Dale did discover a few issues with the prototype that needed to be addressed prior to demonstrations to potential customers. One involved the buoyancy of the valve material he had used causing the vale to be reluctant to close in the presence of small simulated leaks. Although this did not indicate any problem with the concept or the fundamental design, it was added to a list that he was compiling of tweaks that would make the demonstration much more effective.

BOARD PLAN



Firm Macro-environment

We recommend addressing the first two questions in order. Initial discussion regarding the changes in the macro-environment that increased concerns regarding pipeline operations led to enhanced opportunities for a technology such as that developed by Safe Crossings and, thus, provides an effective entrée into the case. In particular, the boom in domestic North American oil production, including tarsands[3] that resulted in the transportation of "dilbit" or diluted bitumen,[4] exacerbated environmental concerns regarding oil transportation. Very brief discussion of the technological changes (primarily fracing to release shale oil[5]) that created this boom in domestic US oil production might be appropriate in some classes.

Subsequent discussion of potential risks and obstacles to the success of such a venture followed by the advantages that Safe Crossings held that created an opportunity in this market provides a useful introduction to critical issues in this case. If the case is used as part of an in-class activity or as a two-part assignment, this discussion can provide students with thought starters for completing value proposition canvas and business model canvas tasks.

After broader introductory discussion, the case can be approached through the business model canvas. In class situations where students have more familiarity with and experience using the business model canvas, the case can be discussed in detail in a single class session in order to solidify understanding of and ability to apply the canvas. In introductory courses when the canvas in being introduced, it can be more effective to address each portion of the canvas, perhaps using the Steve Blank Udacity videos noted above, along with a student assignment to complete a portion of the canvas. Class discussion can then revolve around the use of the business model canvas to assist in identifying important elements of the proposed venture along with hypotheses that can then be tested. Both approached allow for in-depth discussion of some of the issues and difficulties involved in starting a business. The case includes information that will allow for initial validation of some hypotheses, while others require direct communication with potential customers, partners, etc. A class discussion around the requirements for testing each hypothesis can be a useful introduction to the process of validating or rejecting hypotheses

[3] https://www.ucsusa.org/resources/what-are-tar-sands
[4] https://www.oilsandsmagazine.com/technical/product-streams
[5] https://www.thebalance.com/what-is-shale-oil-and-how-is-it-produced-3306195

as a business model is developed before turning students loose to work on their own proposed venture projects.

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Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: A Tarnished Juul? E-cigarettes and the rising American Public Health Crisis

Author(s): Sinéad G. Ruane, Assistant Professor, Central Connecticut State University

Source of case data: ___X__ Library research _____ Interviews ______ Consulting

__X___ Personal experience _____Combination (check all that apply)

Expected level: _X__ Graduate _X_ Advanced Undergraduate ___ Undergraduate

Industry setting: E-cigarettes/Vaping Products

Main character, job title: Juul, the American e-cigarette manufacturer (Organizational level)

Relevant theory to be applied:

Due to the sensitive nature of the issue, such a case would be conducive to a general examination of ethical business practices, and the role/responsibility of business in addressing wider social issues. To perform such an analysis, I foresee a range of theories/models that could be applied to analyze the case, including: stakeholder theory, models of corporate social responsibility; ethical decision making models; Bolman & Deal's Four-frame model for organizational analysis (the Political frame would be particularly relevant here).

Envisioned case issues (for the Teaching Note):

See above.

Questions/issues I'd like help with:

My main concerns with regard to the case are very practical in nature, but stem from how to write a compelling case study. I think having the opportunity to discuss the case ideas in a workshop setting would be extremely helpful, and allow me to work out some of the following questions/issues:

1. **Structuring & Perspective of the case** – should it follow the decisions/actions of individuals within Juul (organizational case), or show it take a broader perspective of the various stakeholders in this public health issue?

2. **Length of the case** – how much detail there should it be? What should be included in the body of the text, and what should be reserved for appendices? Should there be multiple parts to the case, depending on the type of analysis to be performed?

3. **Teaching purpose** – I believe that written as a single case, it could have multiple teaching purposes. Thus, how should the teaching/instructional materials be designed to best guide instructors for their intended use of the case?

4. **Feasibility & Originality of the case** – this has been a developing news story, and my interest was piqued by a Times magazine cover story published in September 2019. I've asked myself: "Why not just distribute the news article to students, and give discussion questions?" As I'm quite new to the genre and process of case writing, I am wondering: first, how do I write a case which adds value to teaching, but is not just a reproduction/synopsis of the article? And second, is such an endeavor even worth it/where and how would I add value?

Synopsis of the case as you currently envision it: (Attach no more than one page)

There has been a great deal of media attention over the last few months regarding the recent surge in e-cigarette use or "vaping" among US teenagers. American company Juul, as the industry leader in e-cigarette manufacturing, is at the focus of this investigation. Vaping has been viewed a "healthier" alternative to traditional cigarettes, and thus a valuable innovation in the smoking cessation market, to help smokers in the process to "kick the habit". However, Juul has come under increased scrutiny for its marketing practices to target young adults, and what some would argue to recruit a new demographic of smokers—albeit in a different form (i.e. smoking 2.0). This argument has been bolstered by the "big tobacco" company Altria purchasing a 35% stock in the company in 2018. In response to increasing cases of vaping-related deaths and illnesses, the US government has declared a public health crisis, and some States, including New York and Massachusetts, have recently placed bans on the sale of flavored e-cigarette products.

In the case, I would like to look at the rise of Juul as a company, including its recent various stakeholder groups involved, their roles and interests in the current public health crisis, including Juul, Big Tobacco companies, government agencies (State and Federal levels), tobacco/nicotine lobbyists, anti-vaping activist groups, teenagers, parents, and health professionals.

I believe that this is a timely, relevant, and extremely sensitive issue that would interest students and engage them in critical debate regarding the role of business in social issues. Any help/guidance that can be offered to develop this case idea would be welcomed and greatly appreciated!

References

Ducharme, J., & Li, A. (2019, September 19). "How Juul Hooked Teens on Vaping and Ignited a Health Crisis," *Time Magazine.* Retrieved December 28, 2019, from https://time.com/5680988/juul-vaping-health-crisis/.

EMBRYO CASE SUMMARY SHEET

Working title of the case: Disney Princess Speaks Out

Author(s): Kimberly Sherman

Industry setting: Entertainment Industry

Main character, job title: Robert A. Iger, Chairman & CEO

Source of case data: ___X__ Library research _____ Interviews ______ Consulting _____ Personal experience _____Combination (check all that apply)

Expected level: _____ Graduate _____ Advanced Undergraduate ___X__ Undergraduate

Relevant theory to be applied:

This case can draw on theories from a number of different topics in human resources, including the primary topics of a) developing a strategic compensation plan, b) pay equity, and c) Executive pay packages. Secondary topics could include a) strategies for attracting & retaining talent, b) corporate social responsibility & ethics, and c) employee & shareholder relations.

Specific theories/concepts related to the primary topics could include:

- Linking compensation to organizational objectives
- Pay for performance (both at the employee and Executive levels)
- Motivating employees through compensation
- Pay Equity
- Factors that affect the pay mix (internal & external factors)
- Executive pay plan components
- Executive compensation ethics

Envisioned case issues (for the Teaching Note):

I envision the case issues to include many of the following learning objectives:

1. What does it mean for an organization to develop a "strategic compensation plan"? Why is this important? How does a strategic compensation plan impact the organization? The employees? (This sets a good foundation for the rest of the case discussion.)
2. What is pay for performance?
3. How do employees decide if they are being paid "fairly"? This can focus on both the data-driven decision which utilizes internal and external equity, and the perception of fairness which draws on equity theory, expectancy theory, and/or organizational justice theory.
4. How is executive compensation determined? What is the goal of an executive pay plan? How does internal and external equity relate to these decisions?
5. How might organizational culture, it's product & services, and/or its brand influence decisions about compensation?
6. What is a "living wage"? How does this relate to minimum wage?

7. Should organizations share their profits with ALL of their employees? Who is responsible for profits and losses?
8. Is it “fair” or “just” for executives to make 1,000 times the amount that their average worker’s make? Why or why not? OR When or when not? What is the potential impact of this differential? Why might this type of differential exist?
9. How do other stakeholders impact these compensation decisions? Are some stakeholders more influential than others? How and why? In this case, what is the impact of the critic being a Disney family member? Does her/should her personal situation and connection have a greater influence on the situation?

Questions/issues I’d like help with:

I would mostly like help with how to narrow down and focus the case. There are so many rich issues that can be explored – I’m not sure how to keep the case focused and short (since I am looking to make this a compact case).

Synopsis of the case as you currently envision it: (Attach no more than one page)

In March 2019, Abigail Disney, an heir to the Disney entertainment empire, publically criticized the Disney company for paying the CEO, Robert Iger, a $65.6 million in compensation in 2018. Abigail is the for granddaughter of Roy Disney, who co-founded the entertainment giant with his brother, Walt Disney.

In a series of tweets, Disney stated: “Let me be very clear. I like Bob Iger. I do NOT speak for my family but only for myself. Other than owning shares (not that many) I have no more say in what happens there than anyone else. But by any objective measure a pay ratio over a thousand is insane” – referring to the fact that Iger’s compensation was 1, 424 times that of a median Disney employee. She went on to tweet “that level of pay is insane” and has “had a corrosive effect on society.”

In a Wall Street Journal list of the CEOs with the biggest differential from their median employee wages, they state that Iger earns $46,127 — the median salary of a Disney employee — in an hour and a half. Iger’s compensation package is the second highest of any corporate leader on this list. Under Iger, Disney acquired 21st Century Fox in a $67 billion deal and became one of the largest media conglomerates in the world.

The Walt Disney Company was ranked #53 on the Fortune 500 list. The Walt Disney Company, together with its subsidiaries and affiliates, is a comprised of a diversified international family entertainment and media enterprise with business segments in media networks; parks, experiences and products; studio entertainment; and direct-to-consumer and international (company website).

Iger was named President and COO of Disney in 2000, and later succeeded Michael Eisner as the official CEO in 2005. Iger oversaw the acquisitions of Pixar in 2006 for $7.4 billion, Marvel Entertainment in 2009 for $4 billion, Lucasfilm in 2012 for $4.06 billion, and 21st Century Fox in 2019 for $71.3 billion. In 2018 Disney released a number of box office hits, including *Black Panther* and *Incredibles 2*. Disney has recently released a new streaming service, Disney +. However, even with the new streaming service, it could take Disney a long time to catch up to rivals like Netflix.

Abigail Disney went on to write a piece for the Washington post in which she further explained her comments and objections to what she sees as extreme executive compensation packages. "I have been quietly grumbling about this issue for some time now, uncertain how public to be," she wrote. "It is time to call out the men and women who lead us, and to draw a line in the sand about how low we are prepared to let hardworking people sink while top management takes home ever-more-outrageous sums of money." (The Telegraph, 2019)

The company responded in a statement to the New York Times, saying "Disney has made historic investments to expand the earning potential and upward mobility of our workers, implementing a starting hourly wage of $15 at Disneyland that's double the federal minimum wage." Disney characterized the company's statement as 'a dodge,' and tweeted “What on earth would be wrong with shifting some of the profits—the fruits of these employees' labor— to some folks other than those at the top? I'm not saying Iger doesn't deserve a bonus. He most certainly does. He is brilliant and has led the company brilliantly.” “There are just over 200K employees at Disney. If you took half that 65 M bonus, along with half the very generous bonuses everyone else up in the C suites got, I am quite certain you could move significant resources down the line to more evenly share in the great success.”

Is it unfair or irresponsible for the Disney company to provide Iger such a large compensation package? After all, Abigail is part of the Disney family – if she says it is irresponsible, does she have a valid point?

Embryo Case
Summary Sheet
(Not to exceed 3 pages total)

Working title of the case: Grow a Diversified Global Company: A Bumping Road to the Development of a Chinese Company

Author(s): Weichu Xu, Yao Ming

Source of case data: _____ Library research __X___ Interviews __X____ Consulting

_____ Personal experience _____Combination (check all that apply)

Expected level: _X____ Graduate _X____ Advanced Undergraduate ____ Undergraduate

Industry setting: Manufacturing

Main character, job title: Consultant, Founder

Relevant theory to be applied:

Diversification issues (Industry growth theory, Portfolio they and risk reducing theory)

Internationalization issues (Market power theory, Resource-based theory)

How does leader play an important role in diversify the business from one industry to other related industries? How to grow the business globally? How to design a right strategy and choose the right entry mode?

Envisioned case issues (for the Teaching Note):

1. How founder can help to make a right diversification strategy and internationalization strategy?
2. How to implement this strategy by using the right resource and taking the right actions and do it right?
3. How this diversification and internationalization can impact on the performance of company?

Questions/issues I'd like help with:

1. Help to interview founder and main employees to see how they design a right strategy to diversification and internationalization
2. Help to understand the design of implementation of steps with right time, right resource and right people
3. Help to study how this strategic moves have impact on performance with short term and long term perspective

Synopsis of the case as you currently envision it: (Attach no more than one page)

This case is about one medium size Chinese company to diversify and internationalize its business. Mr. Yao is a famous Chinese entrepreneur who want to grow his business into a global player which provides affordable and high-quality knitting product to the world.
Mr.Yao began his business as a small fabric manufacturing factory. When Mr. Yao grew his business into a national company, Mr. Yao began to think about diversify into several other industries like women and children products, Childcare business, etc. Mr. Yao has already begun the internationalization process of his company by building his branch company in India.
Mr.Yao's business seems in the right track and has grown smoothly, Mr.Yao and his business now face a very critical moment about how to make a right strategy for further diversification and internationalization process. How to make a right strategy is crucial for the success of the business in the future.