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An Examination of Middle Manager Innovation Behaviors and Institutional Factors Impact on Organizational Innovation in the USA and Mexico

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AN EXAMINATION OF MIDDLE MANAGER INNOVATION BEHAVIORS AND
INSTITUTIONAL FACTORS IMPACT ON ORGANIZATIONAL INNOVATION IN THE
USA AND MEXICO


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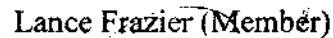
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ABSTRACT

EFFECTS OF MIDDLE MANAGEMENT INNOVATIVE BEHAVIOR: AN EXAMINATION OF INNOVATIVE BEHAVIORS AND INSTITUTIONAL FACTORS IMPACT ON ORGANIZATIONAL INNOVATION

J. Lee Brown III
Old Dominion University, 2012
Director: Dr. William Q. Judge

Several scholars have suggested mid-level management is an important factor that explains strategic outcomes (Wooldridge, Schmidt, & Floyd, 2008), but little research has investigated how this relationship actually works in multiple institutional environments. The resource-based view of the firm argues that competitive advantage is a function of resource heterogeneity and immobility (Barney, 1991) and the discretionary decisions made by managers about resource creation, development, and allocation (Amit & Shoemaker, 1993). These boundedly-rational managers (Simon, 1957) make these decisions facing an uncertain and complex internal and external environment. Thus, this dissertation extends the current research by developing and testing a new comprehensive model of middle management innovative behavior and organizational innovation that contemporaneously incorporates the isomorphic pressures of the institutional environment; and subsequent impact on organizational performance. The extant literature on middle managers is reviewed and research gaps in the literature are identified. The resource-based view and institutional theory are used to develop nine hypotheses, which are empirically tested.

Findings show that middle manager innovation behavior positively impacts organizational innovativeness. This study also shows a positive relationship between organizational innovativeness and organizational performance. The findings also breaks

new ground by finding that organizational context, in terms of participatory decision-making and organizational trust, is an important moderating factor that influences middle management's role in organizational innovation. This study also considers how the external environment influences innovation outcomes, and introduces the importance of subnational regions on organizational middle manager innovation behavior and organizational innovation. Results show that urbanized settings moderate the middle manager innovative behavior and organizational innovation relationship. However, the national context does not appear to systematically influence middle managers impact on organizational innovation. For practitioners, this study identifies specific mid-level managerial behavior that contributes to organizational innovation and the firm-, regional-, and national level variables that impact the mid-manager-organizational innovation relationship.

Co-Directors of Advisory Committee:

Dr. Lance Frazier
Dr. José Luis Rivas

This dissertation is dedicated to the memories of my mother, Sallie V. Bethea, my stepfather, Leonard Bethea, and my father, Jesse Lee Brown, Jr. Though they were taken from me too soon, their commitment to hard work, their unwavering support, and unconditional love continues to inspire me in my life journey.

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Five years ago, I ran into an old friend and typical with unforeseen reunions, we spent a long time discussing our family and career changes and progression. I mentioned to her my disappointing view of corporate America and my old aspiration of being a college professor. It was that seemingly inconsequential conversation in which I learned about the PhD project. Five years later thanks to God's grace and mercy coupled with the support of numerous people along the way, I have completed my doctoral studies and am beginning my new career as an academic.

First, I would like to say thank you to the PhD project staff and members. It was in that first meeting in 2007, where I learned I was not alone in my aspiration and not bound by my circumstances. Each step in this PhD process, my PhD project cohort has been there with a word of encouragement to correct the missteps and support the right ones. So, I say a special thank you to Jennifer Bailey, Oscar Holmes, Dr. Anthony Hood, Dr. Jason Lambert, Dr. Justice Tillman, Dr. Sharon Simmons, Alex Williams, Dr. Carla Jones, Tammi Redd, Tina Thomson, Katrina Graham, and Brandon Ofem.

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I. INTRODUCTION

Robert Bloom of *CEO Magazine* wrote a recent article based on his interview with CEO's regarding the issues facing businesses as the global recession loosens its grip in 2011. The CEO's identified five (5) major challenges in the new year. Of the five challenges, Challenge #5, focused on the creation of a competitive strategy with innovation as its foundation for achieving superior firm performance, such strategy formation strikes at the core of this investigation...

Finding growth opportunities will be tricky, but finding a way to fund growth in lean years, such as 2011, will be an even bigger challenge. One solution lies in changing one's approach to strategic planning. Determination, imagination, and courage trumps the time-tested sequence of planning which demands that financial planning is the first order of business. ***Funding for innovation will be difficult, but making innovation the first order of business will assure that ideation will produce potential sources of profitable new growth.*** When this occurs, management can evaluate the risk/reward ratio of the various growth opportunities as well as the funding required to test the reality for success. All that remains is to examine how to eliminate or reduce expenses in less urgent, less promising categories so as to fund high priority avenues of profitable growth. Adapting to this contemporary planning method offers the potential to leap ahead of competition in 2011, perhaps on a smaller scale, but in the same manner as Amazon, Apple, P&G, and Fiat who consistently "look around the corner" (Bloom, *CEO Magazine* p:xx).

The aforementioned strategy however will not be conceived and implemented in a vacuum. It will be shaped and molded by not only its planners and implementers, but the context in which it is formed. For multinational enterprises (MNEs) this context will involve facing foreign environments with differing levels of government intervention (e.g. private versus public healthcare, government-owned enterprises) and national cultural differences (e.g. use of public transportation versus personal automobiles). However some scholars suggest MNEs are exposed to many diverse institutional fields and because of this exposure can pick and choose which institutional elements to

incorporate (Dacin, Kostova, and Roth, 2008). Furthermore the authors offer due to this exposure to many diverse institutional fields the typical MNE does not necessarily exist in merely one field and is thus not as susceptible to institutional forces, because of the dilution created by the diversity. Also, many MNEs have financial resources larger than many of the countries in which they inhabit. Thus, they are able to withstand the coercive or negotiate the regulative pressures exerted by these lesser foes.

This macro-level view of context does not take into account the social actor within these MNEs. First unlike the organization, the actors are not enclosed within the boundaries of organizations, only certain activities and behaviors (Pfeffer & Salancik, 1978). These activities and behaviors, although structured by the organization's internal system, are influenced by the individual actors' interaction with various elements of the environment. The individual actors, despite the buffering offered by the organizational boundary, incorporate the cognitive frameworks of their external environment. This framework in turns molds their behaviors and drives their activities, even with the larger framework of rules and routines imposed by the organization.

Second, several scholars have begun to question the breadth of country diversity of today's multinational enterprise. Simply put, these firms are more regional than global. Rugman and Verbeke (2007) stated the following:

For 320 of the 380 firms for which geographic sales data are available, an average of 80.3% of total sales are in their home region of the triad. This means that many of the world's largest firms are not global but regionally based, in terms of breadth and depth of market coverage (Rugman & Verbeke, 2007:3).

This finding has tremendous application for the international strategy literature. In 2001, the 500 largest companies in the world accounted for over 90% of the world's stock of foreign direct investment and over half the world's trade (Rugman, 2000). These large

firms that account for the majority of the world's output is doing business regionally, not globally. Thus, the myriad of institutional environments which provide MNEs with a buffer of ambiguity might not exist. In fact, it could be suggested that these MNEs are only exposed to one or two environments different from their own home-country environment. This idea re-establishes the influence of institutional environments for MNEs, the competitive strategies they develop, and their subsequent impact on firm performance.

As we take environmental influences into account, it can be predicted that it is very unlikely that there will be long stable periods in which firms can achieve sustainable competitive advantages; instead, the hyper-competitive context (D'Aveni 1994) will allow only short periods of advantage making the re-thinking of strategy more or less continuous. These developments will require greater cross-fertilization of the field with more focus on the areas of overlap between the theories within the discipline. The innovation strategies of this hyper-competitive context cannot be explained in terms of top-down planning and control, but will be captured in the interaction of management layers in which action and cooperation occur among the different parts of the organization; this, often tacit, behavior that is difficult to conceptualize and operationalize will manifest itself in the strategic actions of middle managers. A new focus on the areas of overlap between process/behavioral research and the resource-based view of the firm offers an opportunity within the strategy domain to disentangle the origins and development of socially complex competitive resources such as trust, change and choice, capability and creativity.

Innovation is proving to be the key defining factor for the world's most successful corporations (Floyd and Wooldridge, 1996) and for all developed economies (Porter, 1990). We view innovation as a multi-dimensional construct, which denotes the implementation of a new or significantly improved product denoted as product innovation and; a new or significantly improved process of production /delivery method, new marketing method, or new organizational method in the firm's business practices, workplace organization or external relations as an administrative innovation (Oslo, 2005).

The innovation process typically requires cooperation and trust between multiple departments and multiple levels of management which already compete for strained resources, unlearning previously acceptable, better yet promoted behaviors, and uncovering and overcoming of potential problems created by out-of-the-box thinking (Elenkov, Judge, and Wright., 2005). Active intervention, which includes formulating a vision, stimulating and motivating subordinates, obtaining crucial resources, and encouraging and participating in strategic exchanges with peers and subordinates, by organizational leaders is required to overcome these barriers in the innovative process. Middle managers, in their boundary-spanning role, are uniquely positioned to provide insight and contributions in to the innovative process (Kuratko, Ireland, Covin, and Hornsby, 2005).

This dissertation empirically tests the resource-based view and institutional theory perspectives within the context of middle management's role in the innovation process. Several scholars have suggested mid-level management is an important factor that explains strategic outcomes (Wooldridge, Schmidt, and Floyd, 2008), but little research has investigated how this relationship actually works. This study develops a set of

hypotheses to empirically test resource-based view assertion of resource heterogeneity and immobility as the source of sustainable competitive advantage, while taking into account the institutional environment as a potential moderator. First, how does the innovative behavior of middle management impact overall organizational innovation? Second, how do macro-level factors, such as intellectual property protection, capital availability, or host country subsidies, which frame the institutional environment impact on the middle management/organizational innovation relationship.

STRATEGIC ROLE OF MIDDLE MANAGEMENT

The current business climate is characterized by high speed and an ever-changing competitive landscape. High levels of complexity, outcome uncertainty, and decision urgency are the new 'norms'. Executives must navigate this environment by making sound strategic decisions that will guide their organizations through these rough, turbulent waters. Furthermore, executives in developed economies increasingly rely on innovation and differentiation in order to be competitive, as opposed to low cost and standardization which are the options of choice in developing economies (Porter, 1990). In today's highly competitive, uncertain, and turbulent global business environments firms must focus on innovation to not only thrive, but survive (Ireland et al., 2009).

However, this pressure to innovate is in direct contradiction to the pressure to improve efficiency. Thus, managers must utilize an organization's limited resources to both explore new opportunities and exploit existing activities (Smith and Tushman, 2005). These conflicting agendas of short-term efficiency and long-term innovation must be pursued simultaneously for sustained performance (Smith and Tushman, 2005). Thus, superior firm performance rests on the imperfect and discretionary decisions of

boundedly rational managers to develop and deploy selected resources (Amit and Schoemaker, 1993).

Middle managers in their role as implementer, facilitator, champion, and synthesizer are a crucial factor in the firm's competitive strategy (Floyd and Wooldridge, 1996). Middle management is regularly involved in the strategy formation process in high performance firms (Floyd and Wooldridge, 1996). By the nature of their very position within the organization, they are an integral part of the organizational processes associated with creating, identifying, and/or building sustainable competitive advantages.

Middle managers serve as the communication conduit between top level management and operating-level management; effectively communicating the firm's overall strategy to lower-levels, while providing operational knowledge to upper-levels. Middle managers synthesize information received from internal managerial stakeholders and external sources, such as customers and competitors, to leverage opportunities for competitive exploitation. As an integral component of the implementation process middle managers facilitate information flows in ways that can support (or derail) project development and implementation efforts.

Due primarily to their position at the nexus of information transmittals between top-level managers, operating-level managers, strategic customers and competitors, middle manager strategic activity is critical to the firm's innovation performance (Dyer et al., 2009; Floyd and Lane, 2001; Floyd and Wooldridge, 1990, 1992, 1994; Kanter, 1985; Pearce, Kramer, and Robbins, 1997). In many instances, middle management is the catalyst of autonomous strategic initiatives by shepherding ideas generated by front-line managers becoming entrepreneurial opportunities (Bartlett and Ghoshal, 1993;

Burgelman, 1983; Dutton , Ashford, O'Neil, and Lawrence, 2001). Furthermore, middle management influence on the strategy process is captured through their function as horizontal integrators of knowledge-based resources (Bartlett and Ghoshal, 1993) and their actions as knowledge mediators for managerial stakeholders (Nonaka, 1994). In sum, the view of middle management's organizational role encompasses all phases of strategy development and its successful execution.

ORGANIZATIONAL INNOVATION AND CORPORATE ENTREPRENEURSHIP

Corporate entrepreneurship is the growth engine for today's multinational enterprise and innovative activity is foundation for which a strategy of corporate entrepreneurship is built upon. Corporate entrepreneurship does not exist without organizational innovation and these innovations can be the creation of new products or processes, entry into new markets, or internal corporate venturing (Burgelman, 1983; Lumpkin and Dess, 1996; Gartner, 1985). To be innovative, firms must identify and exploit opportunities in the external environment (Zahra and Dess, 2001). The hypercompetitive environment of today's multinational enterprise renders mundane competitive actions, such as price adjustments and marketing blitzes, ineffective in achieving sustainable competitive advantages (Yu and Cannella, 2007). In essence, competitors' ability to earn marginal advantages have been exhausted.

Multinational firms with innovation as a core competency should fare better in an environment of constant change and global competition (Mors, 2010). However innovative activity typically involves tremendous use of resources and combination of resources in ways that do not currently exist in the marketplace. In a manner similar to

first-mover advantages, the organizational outcomes of innovative activity greatly reduce competitors' ability to respond. Organizational innovation can cause a paradigm shift and create a barrier to entry due to the uncertainty regarding how firms will compete in the future. Corporate entrepreneurship is a function of a firm's ability to innovate. Several scholars have used product or process innovations as a measure of corporate entrepreneurship (Shane and Venkataraman, 2000; Zahra, 1995). These types of innovation or "*game changers*" restructure competition forcing competitors to develop new competitive heuristics in an effort to compete (Guth and Ginsberg, 1990). Consistent with Covin and Miles (1999), this paper focuses on organizational innovation as a construct. The commonality that underlies all entrepreneurial firms is the presence of innovation within the firm (Covin & Miles, 1999). In sum, we broadly define organizational innovation as the introduction of a new product or process, technology, or system that is new to the firm, and we treat it equivocally with corporate entrepreneurship throughout this study.

INSTITUTIONAL ENVIRONMENT AND ORGANIZATIONAL INNOVATION

Michael Porter's (1990) book, *The Competitive Advantage of Nations*, illustrated the importance of innovation for economies throughout the world. Porter's experience as a member on a national competitiveness task force commissioned by the Reagan administration allowed him to study the role of public policy in stimulating national competitiveness. Porter highlighted the importance of national institutional attributes dubbed advanced factors, such as strong domestic competitive rivalry, government investment in advance technologies, active university/industry collaboration, etc. and their significant influence on the innovativeness of local firms. In order to sustain

economic growth, Porter specifically suggested developed countries aspire to the *innovation-driven* stage. This stage is characterized by the creation of new technologies, sophisticated consumer demand, macroeconomic stability, well developed related and supporting industries, and strong domestic rivalry. However developing countries are typically in the *factor-driven* (initial) stage. These developing countries are reliant on basic factors of production (national resources, favorable growing conditions, semi-skilled labor pool) for economic growth. Also in this stage, technology is sourced from other nations, not created. Porter's book underscores the importance of innovation in the national context.

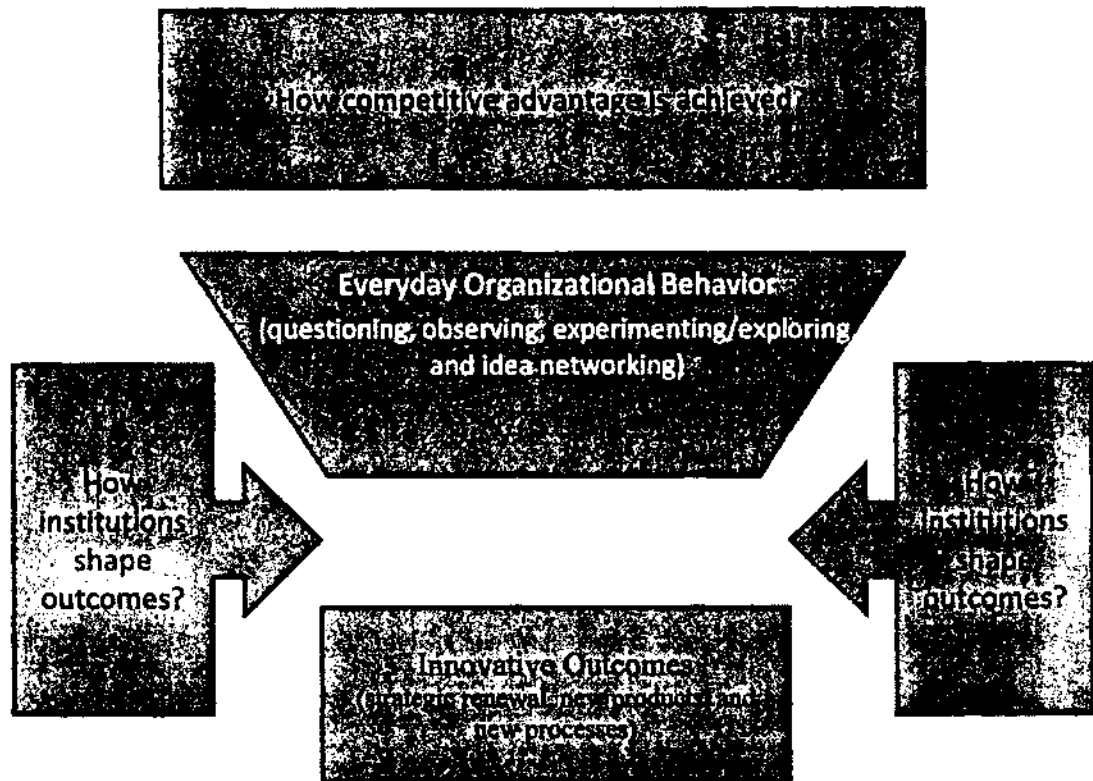
New institutional economics suggests actors develop institutions to shape their environment to bring clarity and reduce uncertainty (North, 2005). The institutional structure, which is a combination of formal rules, informal constraints, and their enforcement characteristics, frame the pattern of human and economic interaction for the society. As "rationalized institutions" and "rational organizations" expand their dominance over the environment within which they operate, organizational behavior is seen to increasingly reflect behavior institutionalized within the market (Scott, 1995).

Thus, organizational innovation predicated on the activity of managers within the organization should be shaped and constrained by the institutional framework of the market in which they operate. Furthermore, many of the opportunities for innovation exist in the firm's external environment (MacGrath and MacMillan, 2000). Dew, Velamuri, and Venkataraman (2004: 662-663) describe a "context-dependent, social and economic process (Thornton, 1999:20)" by which opportunities for the creation of *new markets* for new products and services are identified, enacted, and exploited. Zahra and

O'Neil (1998) argue factors internal to the organization together with factors in the external environment interact, challenging managers to respond creatively and act in innovative ways. For this reason national public policy often promotes industrial cluster space to achieve economies of scale to reduce infrastructure costs such as staff training, factory, and land in order to attract the foreign country high-tech enterprises' investments and technology transfer and the subsequent economic benefits in the dissemination of technological innovations.

A comprehensive review of the literature on middle management strategic behavior reveals numerous gaps. First, while we have some understanding of the strategic roles of middle managers from the published literature, but there has been little empirical work on the effects of middle manager behavior and even fewer studies that actually examine actual middle management strategic behaviors. Second, the majority of studies with middle management as the focal construct are typically single-company and singlecountry studies (e.g., Beatty & Lee, 1992; Carney, 2004, Floyd & Wooldridge, 1992; Guth & MacMillan, 1986; Westley, 1990). Since organizational innovation is increasingly a requirement for success in the global economy (Wooldridge, Schmidt, & Floyd, 2008), there is a need for a more global perspective. Consequently, additional research is needed on the strategic behavior of middle management and its effects on organizational outcomes in a multi-country setting.

Figure 1: Multi-level Model of the Strategic Innovation Process



SUMMARY

In summary, the importance of innovation in today's organization is unparalleled. Middle management's unique position within an organization places their activity at precipice of innovation processes in an organization. However, scholars have a very limited view of middle management's actual role in that process. Middle management behavior is a resource bundle owned by the firm could influence the firm's innovative

outcomes. Despite middle management's potential impact on this firm-level phenomenon, we must not ignore the contextual factors that could affect the relationship. Thus, organizational innovation predicated on the activity of managers within the organization should be shaped and constrained by the institutional framework of the market in which they operate. In the next chapter, the extant literature on middle management strategic roles and organizational innovation is reviewed and research gaps are identified. A conceptual model of the middle management/organizational innovation relationship and its institutional moderators is presented and salient features described. Next, research hypotheses are developed to empirically test the proposed middle management/organizational innovation relationship, the influence of the institutional environment on this relationship and an organizational innovation/firm performance relationship.

II. LITERATURE REVIEW AND THEORETICAL MODEL

STRATEGIC ROLE OF MIDDLE MANAGEMENT

Klaus Kleinfeld, the President and CEO of Siemens AG, stated in an interview to *Nikkei Weekly* the following at the beginning of the recent global recession “the only way to address these challenges is through innovation... To innovate, we must always have the best and brightest people on the planet at Siemens together with a global presence. Both are intertwined. *We need managers* who understand local markets and combine that knowledge with the global picture. We want people who are able to work in networks and virtual teams and have intercultural competencies that cut across different functions, businesses and countries (Nikkei Weekly, 2006, “Innovations,” para. 5).”

Relatedly, the seminal author of the resource-based view of the firm, economist Edith Penrose (1959) proposed that firms achieve competitive advantage on the basis of organization-specific resources. The greatest of these resources are the managerial resources, for it is not the resources themselves that yield results but the services that they may render. It is the development and application of resources by the firm’s managers that serves as the basis for superior firm performance.

Managerial resources play a key role in achieving and maintaining a competitive advantage. As they employ the firm’s resources, managers discover new resources and new ways of employing existing resources, in novel combinations, in response to entrepreneurial views of opportunities, and this activity represents a sustainable competitive advantage. From both a recent practitioner perspective and a time-tested academic perspective managerial resources are one of the most important elements (if not

the most important) of firm success in good times and bad. In this study of organizational innovation, I focus on the role of middle level management within the firm. The middle manager plays an important role in both strategy formulation and implementation, while simultaneously serving as the new idea generator for the firm (Burgelman, 1983).

Whether it's the boom of the post-World War II era or the bust of the current global recession, managerial capabilities is still the engine that drives organizational performance. Some have argued their strategic contribution was erroneously eradicated by the delayering of the late 1980's (Wooldridge and Floyd, 1990). The misunderstanding of the middle manager began with the explosive growth of American firms in the post-World War II era.

The historian Alfred Chandler (1962) chronicled the evolution of American giants based on four case studies of American conglomerates that dominated their industry from the 1920s onward. Chandler described how the chemical company Du Pont, the automobile manufacturer General Motors, the energy company Standard Oil of New Jersey and the retailer Sears Roebuck managed a growth and diversification strategy by adopting the revolutionary multi-division form. In his thesis, he discusses the evolution of chief executive from the entrepreneurial, single business controller to the bureaucratic, diversified conglomerate. In developing his structure follows strategy argument, he described corporate strategy as the determination of long-term goals and objectives, the adoption of courses of action and associated allocation of resources required to achieve goals; he defined structure as the design of the organization through which strategy is

administered. He observed the growth in use of the multi-divisional form as an organizational structure for large corporations.

With the advances in transportation and communication technologies, the multiple divisional structure provided firms the ability to manage across time and space. Successful firms grew to become a corporate federation of semi-independent product or geographic groups with a headquarters that oversaw the corporate strategy and coordinated interdependencies. With this exponential growth in size, bureaucratic systems of control grew as an extension of Taylor's scientific management ideology. Mid-level management's primary function was a control mechanism for top management.

The multi-divisional form created a hierarchical structure to provide the control and monitoring measures necessary to accommodate the explosive growth, while controlling operational costs and increasing operational efficiency. However this new organizational structure required a large middle level of management. Unlike the top level of management, this level of management was assigned the enforcement role of Taylor's scientific management thesis. Their expected contribution to the strategy formation process was limited to implementation. According to Taylor, operation-level managers needed to be closely monitored in order to maintain maximum production efficiency and quality. In essence enforcement by middle managers was the key to profitability:

It is only through *enforced* standardization of methods, *enforced* adoption of the best implements and working conditions, and *enforced* cooperation that this faster work can be assured. And the duty of *enforcing* the adoption of standards and *enforcing* this cooperation rests with *management* alone (Montgomery, 1989:229).

Middle management's primary focus was operational, heavily involved in the planning, monitoring, and controlling functions of the organization. In the planning function, middle managers developed budgets and outlined tactics to achieve the top-down strategy. In the monitoring function, middle managers observed and reported performance of organizational members and subunits. In the controlling function, middle managers took corrective action to re-align behavior with the top-down strategy goals and objectives. The continuation of the period of post-World War II recovery and the evolution of the form of the modern business enterprise launched the explosive growth of the middle level of management. This new view of the firm as a mini-capital market, where the firm is a nexus of contracts handling internalizing transactions that previously took place external of the firm swelled the middle manager ranks in the 1950's and 60's.

However, trouble for mid-level management loomed ahead. The 1970s were characterized by a combination of stagnation and inflation. And the 1980s, witnessed increased foreign competition and globalization of markets. During the 1990s, rapid and discontinuous economic and political changes in the international environment suggested that academic research should deal with multinational alliances, corporate ventures, technology changes, and continuing restructuring (Bowman et al. 2002). The decades of the 70's, 80's, and 90's were very difficult for middle managers. During this period, large firms that viewed middle managers as merely implementers of strategy developed by top-level executives reduced their mid-level management in large numbers through restructuring efforts, typically called "right-sizing".

Between 1987 and 1991 more than five million white-collar jobs were eliminated in Fortune 1000 firms. Further, although it makes up less than 5 percent of the work force, middle management accounts for roughly 20 percent of all jobs loss between 1988 and 1995 (Floyd and Wooldridge, 1996:28)

This period of increased competition, outsourcing, and slow growth especially in manufacturing forced firms to restructure in order to reduce costs and improve efficiency. However, many executives realized they were ‘throwing out the baby with the bath water’; lost in this course of restructuring to reduce costs were capabilities that are the source of competitive advantage and improve long-term competitiveness. In many cases the reduction and realignment of organizational resources eliminated the managerial talent needed to build new capabilities – capabilities aimed at innovation and responsiveness to customers (Wooldridge and Floyd, 1997).

Middle managers’ strategic role had been overlooked by many large firms (Wooldridge et al, 2008). By the nature of their very position within the organization, they are an integral part of the organizational processes associated with creating, identifying, and/or building sustainable competitive advantages. First, as internal intermediaries, King, Fowler, and Zeithaml (2001) assert middle managers are the linchpin that connects top-level perspective with lower-level operational issues. In their field study of firm competencies and firm performance, they found middle manager perception and awareness of firm competencies was positively related to firm performance. Specifically in the case of competencies that are considered tacit because of ambiguity and embeddedness, middle manager agreement with senior level management on the identification is critical to superior firm performance as a result of these competencies.

Second, as internal complements, Balogun and Johnson (2004) suggested middle managers fill a special-type of leadership role required within multinational firms. These firms are highly networked and geographically dispersed and middle managers facilitate

distributed leadership to manage these structurally complex organizations. Third, as external intermediaries, middle managers serve as the interface with otherwise disconnected actors (Floyd & Wooldridge, 1999), referring to senior management and customers. Fourth, as external complements, middle managers tap into knowledge networks outside of the firm to augment the firm's internal resource bundles. They gather knowledge and innovative ideas from beyond the firm's boundaries and incorporate those external ideas into innovative activity (Sleptsov and Anand, 2008; Wooldridge, Schmid, and Floyd, 2008).

Floyd and Wooldridge's (1996) landmark study defined the often unrecognized, but critical strategic role, of middle management. These authors suggested in order for firms to leverage their knowledge and skills to not only compete but lead in the race for capabilities, middle managers must be active in four functions within the firm: (1) championing, (2) synthesizing, (3) facilitating, and (4) implementing. As champions, "... middle managers promote strategic initiatives to their superiors and in the process diversify the organization's repertoire of capabilities (Floyd and Wooldridge, 1996:54)." For example, Dutton, Ashford, O'Neill, and Lawrence (2001) suggested middle management affect strategic change from the bottom-up through issue selling.

Middle managers reservoir of strategic knowledge of organizational capabilities, competitive strategy, and market demands and relational knowledge of top management group dynamics, informal workgroups, and emotional aperture place middle managers at the center of the innovation process within organizations and quite often the catalyst of innovation. In the synthesizing role, middle manager internal and external boundary-spanning position really comes to focus. In this idiosyncratic process, middle managers

use their operational knowledge, access to organizational resources, knowledge of strategic intent, and access to external knowledge (e.g. customer and competitor information) to influence the strategic mindset of the organization. Sitting at the intersection of all of these strategic knowledge inputs, middle managers have a unique understanding of the organization's strategic circumstances.

As facilitators, middle managers promote an environment that fosters organizational learning and flexibility, to enable strategic change and renewal within the organization. In their role as implementer, middle managers introduce and administrate the strategy of the firm. In the brokerage role in the network of the firm (Shi, Markoczy, and Dess, 2009), middle managers must both lead and follow in their role as implementer. In leading, they must provide clear guidance to subordinates while promoting both consensus and conflict to successful discourse during the implementation phase. In following, middle managers must have a coherent understanding of the deliberate strategy of senior management and the wherewithal to promote the recognition of emergent strategy.

Of course, this strategic role for middle management requires certain organizational factors to facilitate success in this role. Hornsby, Kuratko, and Zahra (2002) researched organizational determinants of middle managers as innovators. These authors suggested five (5) key factors that promoted middle manager innovative activity: (1) use of rewards, (2) management support, (3) resources, (4) supportive organizational structure, (5) risk taking. Dutton et al (2001) suggested, top management can facilitate strategic change by middle managers by enhancing managers' opportunities to acquire and update their relational, normative, and strategic knowledge.

The strategic role of middle management in the innovation process of large corporations is too large to go unnoticed. Large corporations are bureaucratic structures with multiple levels of management, varied profit centers, and geographically diverse subsidiaries. Middle management creates the inter-divisional link connecting both geographically and product diverse business units. Thus, middle managers sit at the apex of munificent, diverse information transfer. As mentioned earlier, middle managers also have access to firm's resources via top level management and operational knowledge via operational managers. Galunic and Rodan (1998) suggested the recombining of existing resources in new and radical ways could establish a new bundle of resources to achieve superior economic rents. Middle management function as an interdivisional linchpin can direct and promote this recombination of resource bundles between diverse business units. These strategic actions involving the recombination of existing resources can help to create new products and services that prove invaluable to the firm's competitive advantage.

Of course, firms can and do lose their advantages because resources, capabilities, and positions grow stale and decay over time without continuous efforts to generate new advantages when confronted with changing demand or the competitive attacks of rivals. Multinational enterprises, in particular, face difficult challenges of bundling resources and leveraging capabilities across a diverse set of markets. Multinational enterprises must be adept at developing positions that satisfy demands for efficiency, adaptation, and competency simultaneously across multiple markets (Tallman & Yip, 2001). It may therefore be more realistic for firms to seek a series of temporary competitive advantages rather than a single sustainable advantage (Eisenhardt, 1999) suggesting management

must constantly innovate to compete. As such, middle managers ability to continuously improve, innovate, and otherwise bundle resources, coordinate and leverage the resultant capabilities may be the ultimate source through which firms create, maintain, and extend desirable competitive positions.

In sum, middle managers traditional role as implementers is important, but only one aspect of middle management's contribution to the firm's success. Floyd and Wooldridge's (1996) typology provides a foundation to begin to ascertain the pivotal role of middle management. Subsequent scholars have begun to illuminate the path of middle manager's strategic importance. Accordingly, we explore one aspect of middle manager's strategic importance by focusing on their role in the innovation process of organizations.

ANTECEDENTS OF ORGANIZATIONAL INNOVATION

The extant literature on determinants of organizational innovation has focused on both external and internal factors. Successful organizational innovation can be viewed as a meeting place of organizational preparedness and external opportunity. Zahra and O'Neil (1998) argue factors internal to the organization together with factors in the external environment interact, challenging managers to respond creatively and act in innovative ways. Hornsby et al. (2002) identified managerial support as a key internal dimension for facilitating autonomous behavior which could sustain a culture of entrepreneurial activity. When confronted with strategic decisions to innovate, the three challenges that typically face decision-makers are: (1) relatively high information requirements; (2) considerable constraints on information collection time; and (3) lack of reliability of the information (Khatra & Ng, 2000).

Lumpken and Dess (1996) describe innovativeness as "... a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative process that result in new products, services, or processes." The extant literature has suggested many determinants of organizational innovation. Some of these determinants are internal to the organization, pertaining to organizational structure, managerial behavior, and knowledge resource capacity. Still others are external to the organization, such as industry velocity and technology intensity. Innovation as a precursor to corporate entrepreneurship can be viewed as a function of the organizational structure, firm strategy, leadership, and environment (Miller, 1983). In regards to the environment, Drucker (1985) suggested search is a key determinant of innovation. A firm's search of the internal and external environment is positively related to a firm's innovativeness. The proposed environmental scan will highlight opportunities in the external environment caused by demographic changes, changes in perception, and introduction of new knowledge; and opportunities in the internal environment found in unexpected occurrences, inconsistencies, and organizational process needs.

Managerial diversity has also been found to have a context dependent relationship with innovation. Mors (2010) found in homogeneous contexts managerial diversity, characterized by network density, hindered innovation performance, but in heterogeneous contexts, dense network interactions increased innovation performance. Though many scholars, suggest that network structure is the critical key to innovation performance, access to knowledge in particularly heterogeneous knowledge is of equal importance (Rodan & Galunic, 2004).

A firm's innovativeness has been linked to the incentive and control systems of a firm (Hornsby et al, 2002; Sathe, 1985; Thompson, 1965). Early in the study of innovation, scholars were able to link locus of control with innovation. Thompson (1965) found centralized decision-making authority to be counterproductive to the realization of innovative solutions. Bureaucracy generated by centralization not only did not promote innovation, but it actually stifles innovative activity. Organizational members, who do not participate in the decision-making, lack the commitment and awareness needed to act innovatively. In order to see beyond the status quo of organizational processes or products, a manager must take risks inherent with looking outside the proverbial box for market opportunities or to address unexpected process needs.

Sathe (1989) found contradictory evidence to the financial literature suggesting a positive link between incentives and risk-taking propensity. He found strong inducements in large firms did not foster entrepreneurial behavior. Control systems, personified by a firm's hierarchical structure, have been negatively linked to innovation. Hull and Hage (1982) suggested the increase in linkage of communication channels caused by multiple hierarchical levels inhibits the flow of communication, subsequently constraining the flow of innovative ideas.

Recent literature has begun to investigate the reasoning behind the mixed results in the relationship between control systems and innovation. Akroyd, Narayan, and Sridharan (2009) focused on product innovations and suggested the impact of control systems on new product development depended on the type of product development. For instance, radical product development with high uncertainty requires a different control

system than incremental product development; establishing type of product development as a moderator for the relationship. Lega (2009) recent study on process innovation in the health care industry suggested stronger managerial control systems were needed to clearly identify and define roles of responsibility for innovation development. Utilizing patent counts and R&D spending as a proxy for organizational innovation, Balkin, Markman, Gomez-Meijia (2000) suggested short-term CEO compensation was positively related to organizational innovation. Grounding their argument in the resource-based view of the firm and agency theory, first, these authors suggest in high technology firms, innovation will be seen as a focal resource needed to provide competitive advantage. Second, CEO's with the ability to be a catalyst for firm-level innovation would also be seen as a resource. Third, the risk propensity required to pursue innovative activity despite the high outcome uncertainty requires incentive alignment for the CEO to pursue such risky endeavors.

In this age of ubiquitous information, firms have been classified by their knowledge resources as much as their ability to manufacture products or produce services. Thus, the organizational learning literature has not been silent on the predictors of organizational innovation using dynamic capabilities as theoretical foundation. Dynamic capabilities are set of stable, organizational routines used systematically to generate and modify operational routines in the pursuit of improved organizational effectiveness (Zollo & Winter, 2002). They also proposed the existence of two types of dynamic capabilities: (1) operational routines and (2) search routines. Operational routines are the stable pattern of organizational activity that is in place to maximize resource productivity. Search routines are utilized to modify operating routines based on

a chosen course of action or direction. Salomon and Jin (2010) investigated the impact of exposure to technological knowledge in foreign markets by exporting firms. Their results showed that these exporting firms benefit from the organizational learning and its effects are exhibited in increases in innovative productivity, ex post. Danneels (2002) goes one step further and suggests a synergistic relationship between innovation and organizational learning. This idea of a cyclical relationship hints at the vital role organizational learning plays in organizational innovation.

Since Miles and Snow (1978) seminal work, scholars have linked the strategic orientation of the firm to many organizational outcomes, such as firm performance, strategic renewal, and firm rejuvenation. Atuahene-Gima and Ko (2001) studied a firm's strategic orientation and its impact on organizational innovation as measured by new product performance using an interdisciplinary approach. Specifically, they found firms with either an entrepreneurial orientation, as in the management literature, and or a market-orientation as in the marketing literature, had significantly better new product performance than firms classified as conservative.

The roles of organizational members play, along with their administrative functions is related to the innovative activity of a firm (Baldrige & Burnham, 1975). Managers, in their role as leaders, supporters, and coordinators, facilitate the successful adoption of innovations (Damanpour, 1987). Also, the knowledge base needed to create an innovative environment is more prominent in organizations with a variety of specialists (Kimberly & Evanisko, 1981). Similar to Burt's (1992) network benefits, advantages can be gained from the cross-fertilization of ideas. Possibly even more

impactful, the variety of specialists increases the technology reservoir; subsequently new ideas are easily understood, developed, and implemented in such a fruitful environment.

Corporate diversification strategy is another dimension of the strategic orientation of a firm. Baysinger and Hoskisson (1989) found research and development intensity of firms with a dominant-business structure to be higher than those firms with more diversified business structures, such as related- and unrelated business structures. Again signaling another possible determinant for organizational innovation since, R&D intensity has been commonly used as a proxy for organizational innovation (Camison-Zornoza, Lapiedra-Alcami, Segarra-Cipres, & Boronat-Navarro, 2004; Damanpour, 1991). This counter-intuitive result could possibly be explained by another determinant of innovation, organizational slack (Hitt, Ireland, Camp, and Sexton, 2001). For instance, as a firm becomes more diversified, managerial and financial resources become constrained limiting the firm's ability to participate in risky, resource-laden innovative activity.

In Miller and Friesen's (1983) land-mark study of strategy-making and the environment, two dimensions of the environment were highlighted as determinants for firm-level innovation. Separating their sample by successful and unsuccessful firms, the authors found successful firms had two key relationships in common: First, the more heterogeneous a firm's task environment the more innovative the firm. Second, the more dynamic a firm's task environment the more innovative the firm. These findings suggest the importance of change and diversity in the external environment as antecedents of organizational innovation. Innovative activity is required for firms to be successful in environments characterized by continuous change and diversity.

However, also significant is a non-finding reported in this study. Environmental hostility was not a significant predictor of organizational innovation suggesting internal factors such as financial and managerial resources, which are typically constrained in hostile environments, counteract the external pressures for innovation in hostile environments.

Environmental characteristics have been linked to organizational innovation, but a firm's degree of connection with the environment has been linked as well (Gulati, 1999). The social networks literature investigates the beneficial nature of network structure on organizational performance to the extent the term "network" resources has been added to the literature (Gulatti, 1999).

Ahuja (2000) took up the challenge of finding the optimal network structure for organizational innovation. In this longitudinal study, both direct and indirect ties were found to have a positive impact on organizational innovation as measured by patent activity. This is one of the few studies to utilize network analytics to investigate firm innovative activity. Considering the collaboration required for innovative activity, it stands to reason the inter-firm network structure would prove impactful on a firm's innovative activity. Sharing of knowledge, scale economies, combining of skills and rare resources, are only a few of the benefits available in an efficient, information-rich network (Burt, 1992; Ahuja, 2000; Ahuja & Katila, 2001). In a global context, Kim and Park (2010) examined a global research-and development network; finding a firm's position within the network, not just the network structure determined the success of innovation gain. Coupling organizational learning research with network theory research, they focused on the moderating role of a firm's network position in the relationship

between the firm's science intensity and the impact of its innovation. The network structure of an organization impact on organizational performance, however unclear, cannot be ignored.

In viewing this organizational phenomenon through a resource-based view lens, we focus on the internal sources of organizational innovation in this study. Damanpour's (1991) article provided a brief review of relationships between internal organizational determinants and innovation. Using this table as a foundation, I have added to the breadth and depth of the typology. These internal factors can also be classified into three categories: (1) structure and controls, (2) managerial behavior, and (3) resource availability.

The central focus of this study is middle managers and their impact on firms, specifically exploring the aspects of managerial behavior that influence organizational innovation. Large corporations because of their size face inherent barriers to innovative activity. First, the centralization of authority, which is common among large organizations, concentrates decision-making authority hindering participatory work environments that facilitate innovation by increasing organizational members' awareness, commitment, and involvement. Second, vertical disintegration created by hierarchical levels increase links in communication channels, making communication between levels more difficult and inhibiting the flow of innovative ideas.

Mintzberg's (1979) adhocracy structure was suggested to minimize the heavy burden created by bureaucracy in large organizations. An adhocracy structure is a fluid, organic framework of members, in which interactions are largely informal, and coordination is achieved through the creation of work teams representing different sectors

(functional or product groups) of the organization. The professionalism allowed by this flexible structure increases boundary-spanning activity, autonomous action, and collaboration of cross-functional teams necessary to facilitate innovative activity (Bailey & Neilsen, 1992). It is this professionalism, obtained by managers having similar education and experience levels, which is needed to pursue the maximization of existing capabilities, while forging new ones.

Diversity, particularly cognitive diversity, has long been studied as an antecedent to better decision making (Olson, Parayitam & Bao, 2007). Information processing theorists have suggested cognitive diversity leads to development of more alternatives when faced with a problem and a better solution due to the differences of opinion (Forbes, 2007). However, other scholars have suggested the contradictory team dynamics that arise from diverse teams can also hinder decision-making ability, unless other dynamics such intra-group trust mediate the relationship (Carpenter, Geletkanycz, and Sanders, 2004; Chowdry, 2005). In a recent study of 28 innovation teams increases in functional diversity positively impacted the team's ability to engage in connective thinking. More importantly, the cognitive diversity increased the amount of divergent opinions, which reduced the occurrence of a single, shared mindset and led to more breakthrough innovations (Post, De Lia, Di Tomaso, Tirpak, & Borwankar, 2009).

Other organizational factors appear to impact the innovative performance of firms. Hitt, Ireland, Camp, and Sexton (2001) found organizational slack to be a key component in the creation of breakthrough innovations. Dess, Ireland, Zahra, Floyd, Janney and Lane (2003) suggested the corporate entrepreneurship process which leads to innovation within an organization cannot be executed without organizational learning.

Drucker (1985) suggested organizational search routines were positively related to innovation performance, concluding the most successful innovation results from a conscious, purposeful search for innovation opportunities. The top management team's collective information can impact the groups' ability to recognize threats and opportunities (Eisenhardt, 1999) and through the use of strategic decision heuristics, such as intuition, may play a role in innovation (Finucane et al., 2000; Leonard and Sensiper, 1998).

In summary, the majority of previous studies have focused on internal determinants of organizational innovation, such as resource availability, organizational structure, and managerial support, but few studies have focused on actual managerial behavior. Due to the fascination with strategy formulation, not implementation few studies have examined the influence of managers below the top-level executives (Raes, Heijltjes, Glunk, & Roe, 2011). Several scholars have suggested mid-level management is an important factor that explains strategic outcomes, such as organizational innovation (Wooldridge, Schmid, and Floyd, 2008), but little research has investigated how this relationship actually works. Limited studies have also explored external factors impact on organizational innovation, such as environmental hostility and munificence. But no study has empirically investigated internal processes below top management and national context of an organization, accounting for the interplay of the two forces and their joint impact on organizational innovation. In the next section, the effects of organizational innovation are examined.

Table 1: Internal Organizational Factors and Organizational innovation

Factors	Independent Variables	Expected Relationships	Reasons for Expectations
Structure	Functional Differentiation	Positive	Coalitions of professionals form in differentiated units that both elaborate on and introduce changes in the units' technical systems and influence changes in their administrative systems.
	Centralization	Negative	The concentration of decision-making authority prevents innovative solutions, while the dispersion of power is necessary for innovation. Participatory work environments facilitate innovation by increasing organizational members' awareness, commitment, and involvement.
	Vertical Differentiation	Negative	Hierarchical levels increase links in communication channels, making communication between levels more difficult and inhibiting the flow of innovative ideas.
Managerial Behavior	Professionalism	Positive	Flourishes in Mintzberg's (1979) adhocracy, increases boundary-spanning activity, autonomous action, and collaboration of cross-functional teams (Bailey & Neilsen, 1992).
	Cognitive Heterogeneity	Positive	A greater variety of specialists would provide a broader knowledge base and increase the cross-fertilization of ideas.
	Change Aversion	Positive	Managers' favorable attitude toward change leads to an internal climate conducive to innovation. Managerial support for innovation is especially required in the implementation stage, when coordination and conflict resolution among individuals and units are essential.
	Managerial Tenure	Positive	The longevity of managers in their jobs provides legitimacy and knowledge of how to accomplish tasks, manage political processes, and obtain desired outcomes.
	Administrative	Positive	A higher proportion of managers

	Intensity		facilitates innovation because the successful adoption of innovation depends largely on the leadership, support, and coordination managers provide.
	External Communication	Positive	Environmental scanning and extraorganizational professional activities of members can bring innovative ideas. Innovative organizations exchange information with their environments effectively.
	Internal Communication	Positive	Facilitates dispersion of ideas within an organization and increases their amount and diversity, which results in cross-fertilization of ideas. Also creates an internal environment favorable to the survival of new ideas.
	Trust	Positive	Intragroup trust facilitates information exchange, acceptance of diverse views, and reduces uncertainty (Olson, Parayitam, & Bao, 2007) creating an atmosphere for innovation to flourish.
Resources	Technical Knowledge Resources	Positive	The greater the technical knowledge resources, the more easily can new technical ideas be understood and procedures for their development and implementation be attained.
	Financial & Managerial Slack	Positive	Slack resources allow an organization to afford to purchase innovations, absorb failure, bear the costs of instituting innovations, and explore new ideas in advance of an actual need.

EFFECTS OF ORGANIZATIONAL INNOVATION

Organizational innovation is the growth engine of the firm, as well as the foundation for sustainable performance. Scholars have suggested entrepreneurial risk-taking is rewarded financially in the global marketplace of the 21st century (Zahra, 1999). Firm performance is positively associated with the level of innovation (Kuratko et al., 2001). Using the resource-based view as a lens, Deeds et al. (1998) found a relationship with wealth creation and entrepreneurial firms. Innovation facilitates organizational renewal that is essential for high performing firms in this global economic climate of constant change and uncertainty that altered the very way business is conducted and limited the usefulness of the typical linear business models (Hitt et al., 2001; Phan et al., 2009). Hitt et al. (2007) found innovation a key factor in organizational recovery when faced with declining firm performance. Specifically, corporate entrepreneurial activities combined with difficult-to-imitate and valuable strategies were rewarded by investors and acquisition of new resources through joint ventures and alliances combined with difficult-to-imitate and valuable strategies was not rewarded.

Firm innovative activity has been identified as a key factor in organizational outcomes (Koellinger, 2008). Innovative activity can have a synergistic relationship with capability creation. Santos, Doz, and Williamson (2006) suggested, specifically in the case of information technology, organizational innovation forces competitors to build new specialized knowledge capabilities, but these capabilities foster more innovation which continues a relentless cycle for firm survival and growth. Organizational innovation has played a crucial role in successful firm performance (Zangwill, 1992;

Garcia-Morales et al., 2007; Koellinger, 2008). Considering the importance of firm market value to CEO success, Ceccagnoli's (2009) study of innovation rents on firm performance echoes the innovation/firm performance relationship. His study found positive stock market reaction, when a firm strongly appropriated innovations typically through high patent protection. Christensen (1997) suggested innovative activity could disrupt industry norms and dislodge industry leaders. Thus, the extant literature suggests innovative activity is a driver of superior firm performance, whether by capability creation, increased market value, or industry change agent.

In summary, several studies suggest organizational innovation is a source of sustainable competitive advantage. However, few studies examine this relationship empirically and most utilize patent data and R&D expenditures as a measure of organizational innovation. Also, few studies focus on the context of organizational innovation. A study on organizational innovation focusing on the strategic process using multiple theoretical perspectives is needed to synthesize the prior literature and provide guidance for future research. In the next section, a new research model of organizational innovation is introduced utilizing a resource-based view approach and institutional theory.

RESOURCE-BASED COMPETITIVE ADVANTAGE VIA INNOVATION

Penrose's (1959) assertion of firm resource heterogeneity is the launching point for the resource-based view (RBV) of the firm. She suggested a firm should be viewed as: first, an administrative framework that links and coordinates activity among a group and second, as the productive opportunities that exist based on the bundle of productive resources managed or controlled by the firm. And the bundle of productive resources

managed or controlled by the firm differed from firm to firm. Wernerfelt (1984) built on Penrose's assertion of firm heterogeneity and Porter's (1980) theory of competitive advantage to propose that a firm's ability to secure above-normal profits was not purely based on product-market position. Porter's (1980) utilized the neo-classical economics assumption of entry barriers to make the case for competitive advantage gained by product market position. Wernerfelt (1984) suggested the existence of resource position barriers, implying the firms were able to achieve favorable product-market positions based on, in part, their resource positions held by the firm.

Barney (1986, 1991) built on Wernerfelt's (1984) previous work and declared strategic factor markets are also imperfect and strategic factor endowments will differ. He framed two additional assumptions: (1) resource heterogeneity – strategic factor endowments differ among firms; and (2) resource immobility – resource differences will persist over time. Barney (1991) proposed that resources will be inelastic in supply if they are path-dependent, causally-ambiguous, or socially complex. Dierickx and Cool (1989) proposed resources that suffer from time compression diseconomies could be characterized as path-dependent and causally-ambiguous. Barney (1991) also suggested resources, which are valuable, rare, inimitable, and non-substitutable have the potential to convey sustainable competitive advantage.

Not only can the origins of the resource based view be traced back to Penrosian economics, they also built upon the traditional study of resources (Learned et al., 1965/1969). Attributes or characteristics of a firm that enable the firm to pursue a strategy more efficiently and effectively than other firms are known as distinctive competencies (Hitt, 1985; Hitt, 1986; Learned et al., 1965/1969). General management

capability has been identified as a distinctive competency which could provide a performance advantage. Penrose's suggests that firm growth is triggered by organizational slack, not external stimuli. She finds that there are few constraints on the growth of the firm other than the scope of managerial resources. Top management's main role in order to ensure firm growth is to hire and develop new managers to maintain organization integration and avoid bureaucracy, while pursuing a growth and diversification strategy. She contends there will always be new markets and new products for diversification, but the real constraint is managerial resources.

Learned and his colleagues (1965) separated strategy into two interrelated components: formulation and implementation. Their view on the motivation for firm expansion can be found in their assessment of strategy formulation. These authors propose that strategy formulation is needed to identify and reconcile four issues: (1) market opportunity; (2) firms competences and resources; (3) managers' personal values and aspirations; and (4) obligations to segments of society other than stockholders. The ability of a firm to create competitive advantages is harnessed from the reconciliation of these four components. For example, the existence of a market opportunity coupled with manager's entrepreneurial behavior should motivate new market or product introduction to capture additional market share.

Amit and Shoemaker's (1993) behavioral view of the resource-based arguments brings the actions of the firm's managers into clear focus. They argue that competitive advantage is not only a function of resource heterogeneity and immobility as suggested by Barney (1991) but also the discretionary decisions made by managers about resource creation, development, and allocation that leads to differences in the resources and

capabilities that firms control. These boundedly rational managers (Simon, 1957) facing an uncertain and complex internal and external environment make decisions regarding resource allocation that leads to the realization of sustainable economic rents.

Furthermore sustainable economic rents are a derivative of a firm's search routines captured by managers' ability to identify opportunities that are not otherwise visible to its competitors (Denrell, Fang, & Winter, 2003). Managers must be aware of the political and social consequences of their decisions on their peers as well as their subordinates. Internally, managers navigate a maze of intra-organizational conflicts and externally a labyrinth of uncertainty about the economic, industrial, institutional, competitive, and market environment. These aspects of the firm matter and can be made an integral part of the analysis of the growth process, because the 'expectations' of a firm – the way in which it interprets its 'environment' – are as much a function of the internal resources and operations of a firm as of the personal qualities of the entrepreneur (Penrose, 1959:41).

IMPACT OF INSTITUTIONS ON ORGANIZATIONAL INNOVATION

In the battle for competitive advantage in an international business context, there exist two types of strategies: efficiency-based and shelter-based (or non-efficiency based) strategies (Rugman & Verbeke, 1993). Strategies that build upon, enhance, or create firm specific advantages are classified as efficiency-based. Strategies that do not seek to improve economic performance through the advancement or creation of firm specific advantages, but by other means are known as shelter-based strategies. The institutional environment provides fertile ground for shelter-based behavior to flourish, such as the creation of road-blocks to innovation for foreign rivals through host country regulations

(i.e. poor intellectual property protection, high trade tariffs, or the denial of host country subsidies).

This study investigates strategic behavior of firms in the international context, but views this behavior from a different vantage point. The deviation occurs with the locus of actualization for the strategic behavior of firms. At a macro-level, consistent innovation depends on how well forces of competitive advantage interact (Porter, 1990). I propose the institutional environment is the architect of the framework for economic performance within economies (North, 2005) and shelter-based and efficiency-based strategies exist, prevail, and fail within the structure of the framework. In fact, the home country institutional environment can be a source of competitive advantage for some firms as they go abroad or a hindrance. In the case of Japan in the 1970's, government support in the form of incentives was used by shipbuilding companies to enhance and build capabilities that created long-term cost competitiveness. As in recent years the explosive growth of Chinese firms, has been propelled by an institutional environment that provides cost advantages and most recently technological advantages.

Institutional theory focuses on the importance of social context, when analyzing organizational fields and behavior. Neo-Institutional theory traces its roots back to the seminal work of Selznik (1957), which studied the Tennessee Valley Authority (TVA). Selznik observed that the organization used a strategy of cooptation to secure agreement from the external community. Through this strategy of cooptation, TVA's presence was legitimated however its goals and aims were modified. Based on the environmental context, it incorporated external ideas and modified its structure to achieve survival.

Neo-institutional theory purports that the organization will import items from the environment as part of organizational adaptation.

From a new institutional economics perspective, institutions are the incentive structure of economies (North, 2005). National competitive environments reflect the systemic character of modern innovation and interactive innovation processes; innovation increasingly depends on market- and non-market-induced interactions among interdependent actors. Interactions between actors in these national environments are based on trade linkages, innovation linkages, knowledge flows in various forms or the sharing of a common knowledge base or factor conditions. Although firm interaction is in principle market-based, non-market-based relationships created by institutional influences do play a role. These interactions and interdependencies, by definition, transcend the borders of individual sectors and industries. The institutional economics perspective offers useful insights on how policy actions affect innovation and subsequent firm performance within context. For instance, Zhao (2006) suggested innovation by multinational enterprises located in countries with weak intellectual property rights will produce low returns and the innovation talents of research and development units located in these regions will be underutilized.

Recent work has begun to investigate this issue utilizing multiple levels of analysis (Koellinger, 2008). For instance, Koellinger (2008) study of entrepreneurial innovativeness using the Global Entrepreneurship Monitor surveys results show that innovativeness depends both on individual factors and on the environment in which an entrepreneur is situated. Specifically, high educational attainment, unemployment, degree of self-confidence for the nascent entrepreneur, national level of economic

development, and national level of educational attainment were factors investigated to see their impact on individual innovativeness. Koellinger (2008) findings suggested both individual factors and macro-level factors; in particular, level of economic development impacted the innovativeness of entrepreneurs. Furthermore, macro-level factors such as changes in technology, politics, regulation, demographics or other trends in society, such as changes in culture, fashion, or urbanization differ across countries varying the opportunities for innovation (Shane and Venkataraman 2000; Eckhardt and Shane 2003; Shane 2003).

Building on this foundation of macro-factor influence in the innovation process, we employ North (1990, 1991) institutional framework, to understand the regional and country-level affect in our study. North's institutional framework specifically suggests institutions such as labor market and financial market institutions shape the economic activity in an environment. For instance, Nickell and Layard (1999) found unions in some instances slowed down technology adoption when it undermined their bargaining strength and embraced new technology when they believed it enhanced their production performance. Also, recent comparative strategy studies have insightfully utilized North's (1990, 1991) institutional framework to investigate the effect of country-level differences on organizational outcomes (Li & Zahra, 2011; Crossland & Hambrick, 2010).

HYPOTHESES DEVELOPMENT

In this section, we first examine how mid-manager's collective innovation behavior might relate to organizational innovation using the resource-based perspective. Next, we examine the moderating influence of the internal organizational environment on

this relationship. Then, we examine the moderating influence of the external environment on this relationship. We conclude with a theory and research on the expected relationship between organizational innovation and firm performance.

Mid-Management Collective Innovation Behavior & Organizational Innovation

The majority of strategy literature has focused on strategy formulation, not implementation and the top managers, not mid-level managers, contribution to organizational outcomes (Raes et al., 2011; Wooldridge et al., 2008). Modern strategic management literature finds its origin from Hambrick and Mason's (1984) upper echelon theory. The upper echelon theory asserts that organizational outcomes are a reflection of the values, experiences, and cognitions of top managers, e.g. the dominant coalition, rather than a result of industry influences and competitive forces at work. Executives in the upper reaches of the organization direct the attention of others (typically lower in the hierarchy) toward the appropriate path to success, and also strongly influence (or perhaps even control) subsequent interpretations of it. Recent literature has acknowledged the role of middle managers in the strategy formulation process, through actions such as issue selling (Dutton, Ashford, O'Neill, & Lawrence, 2001). However, the strategy literature has been somewhat silent on the strategy implementation process and mid-level managers' role in it (Raes et al., 2011).

The strategic role of middle management in the innovation process of corporations is too large to go unnoticed. These bureaucratic structures are composed of multiple levels of management, varied profit centers, and geographically diverse subsidiaries. Middle management creates the inter-divisional link connecting both

geographically and product diverse business units. Thus, middle managers sit at the apex of munificent, diverse information transfer. Unlike top managers, middle managers have operational knowledge via their networks with operational managers, which could aid in the allocation of the firm's resources. Middle management function as an interdivisional linchpin can direct and promote the recombination of resource bundles between diverse business units. These strategic actions involving the recombination of existing resources can help to create new products and services that prove invaluable to the firm's competitive advantage.

Amit and Shoemaker's (1993) behavioral view of the resource-based arguments brings the actions of the firm's managers into clear focus. They argue that competitive advantage is not only a function of resource heterogeneity and immobility as suggested by Barney (1991), but also the discretionary decisions made by managers about resource creation, development, and allocation that can lead to differences in the resources and capabilities that firms control. These boundedly-rational managers (Simon, 1957) facing an uncertain and complex internal and external environment make decisions regarding resource allocation that leads to the realization of sustainable economic rents. It is this contribution to organizational innovation by all middle managers within the firm, which is the focal construct of this study.

Middle management collective innovative behavior in this study is a potentially valuable and rare resource bundle. This resource bundle is composed of four sets of behaviors: (1) questioning, (2) observing, (3) experimenting/ exploring, and (4) idea networking on the part of middle managers in pursuit of organizational innovation. Of course, many managers participate in questioning to some degree. The typical

questioning behavior involves gaining understanding about existing processes and how to make them work better. However, in this case we define questioning behavior to identify questions “that challenged the status quo” (Dyer et al, 2008: p.323). Similarly observing behaviors are common in managers and these managers will have typical moments when they uncover a new process or novel solution. Conversely, the truly innovative managers use observing as a skill. “They are observing the world around them and asking questions all the time (Dyer et al., 2008: p324).” Consequently, observing behavior constitutes the consistent and persistent use of intense and frequent observation in novel and ordinary situations. This study defines experimenting behavior as consistent and frequent engagement in some form of active experimentation to generate novel information (Dyer et al., 2008). Consistent with the other innovative behaviors, idea networking behaviors of innovative managers showed stark contrasts to the networking of the typical manager. Most managers build and maintain diverse social networks, (Wooldridge et al., 2009), primarily to further their careers and promote their firms’ wares. However, innovative managers create “networks of people with diverse ideas and perspectives” that they can tap into for new ideas and insights (Dyer et al., 2008; p.327).

Each behavioral activity is theorized to be a critical activity of middle management as a result of their placement at the nexus of information transmittals between top-level managers, line managers, strategic customers and competitors (Dyer et al, 2008; Floyd & Lane, 2001). In Dyer et al.’s (2008) study, the authors suggested that innovative entrepreneurs and the typical executive differed on these four behavioral patterns. Furthermore, the behavior induced cognitive processes that led to novel ideas and ventures. Overall, we define middle management innovative behavior as the

collective activity of novel idea generation by mid-level managers through their active questioning, observing, experimenting/exploring, and idea networking (Burgelman, 1985; Dyer et al., 2008).

Organizational innovation is a direct result of the interaction of factors internal to the organization and factors in the environment, which challenge managers to respond and act in creative ways (Zahra & O'Neil, 1998). Hornsby et al. (2002) identified managerial support as a key internal dimension for facilitating autonomous behavior which could promote and sustain an organizational culture of innovative activity. More recently, Post, De Lia, Di Tomaso, Tirpak, and Borwankar (2009) suggested managerial cognitive diversity increased the amount of divergent opinions, which reduced the occurrence of a single, shared mindset and led to more breakthrough innovations.

Managerial behavior can boost or detract from the firm's innovative activity. One argument for this assertion is that misalignment of managers' and owners' interests will adversely affect firm performance due to sub-optimization (Williamson, 1964). Managers may seek strategies to secure their employment as opposed to pursuing risk-laden administrative and product innovations. Self-interested managerial behavior may lead to safe, incremental innovations or risky, radical innovations. Managers actively bundle, coordinate and leverage firm's resources to create new products and services and maintain desirable competitive positions (Sirmon, et al. 2005). Middle managers are the critical linkage between top managers and frontline workers (Wooldridge & Floyd, 1990; Wooldridge, Schmid, & Floyd, 2008).

Makadok (2003) integrates agency theory and resource-based view to suggest sustainable competitive advantage is a function of (1) the accuracy of the manager's

expectations about the future value of the firm's resources and (2) the severity of agency problems that cause managers' interests to diverge from that of its shareholders.

Managers of firms experiencing agency problems will on average under-invest in resources of uncertain value. Investments in innovation by a firm are typically seen as uncertain and disruptive to the core business (Hitt et al, 2001). The under-investment is likely to be most severe in situations where the managers' information indicates a low expected value for the resource. Uncertainty affects attitudes about risk, decisiveness, confidence, and perceptions about opportunities and thus limits action.

Managers respond to, and create, change through their actions. It is this collective action which can overcome the hesitancy and indecision produced by uncertainty (Dyer, et al 2009). This collective action, which facilitates championing (Dutton, Ashford, O'Neill, & Lawrence, 2001) required for novel solutions or new products, and strategic exchanges (Floyd & Wooldridge, 1997, 1999) with peers, top management, and subordinates inherent in the innovation process, formulates the tacit, intangible bundle of resources needed for a sustainable creative advantage. This literature and logic suggests the following hypothesis:

Hypothesis 1: Middle management's collective innovative behavior will be positively related to organizational innovation.

The Embedded Nature of Organizational Innovation

Institutional theory suggests managerial behavior is constrained by the context it inhabits (DiMaggio & Powell, 1991). A firm's distinctive character is created and shaped in reaction to the characteristics and choices of individual actors within an organization as well as the influences from the external environment (Selznick, 1957).

Furthermore, Meyer and Rowan's (1977) suggest managerial activity is constrained by normative rules and dependent on externally fixed institutions. Managerial choices are made in pursuit of legitimacy to reduce environmental uncertainty and associated risk (Meyer & Rowan, 1977).

Porter (1991) criticized RBV for its lack of consideration of the organizational and environmental context. He asserts that resources are only valuable in certain contexts (Porter, 1991). Resources, managerial or otherwise, by themselves do not provide a sustainable competitive advantage, as the RBV suggests. In essence, Porter is suggesting that the institutional environment in which the firm operates must be considered to fully understand how competitive advantages are generated. This embeddedness perspective suggests that institutional theory might be a useful complement to RBV thinking.

The embeddedness view argues firm behavior and institutions are so constrained by ongoing social relations, that to construe them as independent is incomplete (Granovetter, 1985). Efficiency-based strategies, built on the creation, development, and utilization of competitive advantages may not be isolated from the impact of their institutional environment. Organizational innovation driven by middle manager innovative behavior cannot exist within a vacuum. As middle managers receive and process threats and opportunities outside the firm's boundaries, they also incorporate the cognitive frameworks of their external environment. Institutions can be carried by culture, social structure, and routines that exist at multiple levels within the organization. Thus we suggest "communal sense making" will shape managerial behavior as they pursue superior firm performance through product and administrative innovations. In

other words, to obtain a complete perspective of how middle managers contribute to organizational innovation, we need to consider the context in which they operate. In the following sections, we consider three such contexts.

Potential Moderating Influence of the Organizational Environment

To achieve superior firm performance, organizations use economizing actions, such as business reengineering and total quality management, which are generally available to all firms (Porter, 1996). However, an organization's resource bundle that drives value creation and achieves a sustainable competitive advantage is often inimitable (Ireland, Hitt, & Simon, 2003). Thus, heterogeneous, firm-level differences allow some firms to achieve a competitive advantage and generate above-normal profits (Barney, 1991; Porter, 1996). Organizational innovation is a direct result of the interaction of factors internal to the organization and factors in the environment, which challenge managers to respond and act in creative ways (Zahra & O'Neil, 1998).

Top managers make strategic decisions that create the organizational context of the firm's inhabitants, which serves as a boundary for the firm. This context has an impact on virtually every aspect and function of the organization: in fundamental ways, it influences the structure, strategy, vision, identity, administration, and performance (Burgelman, 1983, 1991). Whereas middle managers are influenced by the organizational setting, they also have more of a boundary spanning role within the organization. This significant contact with the exogenous environment might put them at odds with their endogenous environment, creating a complex relationship.

Leadership style has been a key tool in navigating the top manager-middle manager relationship, and hence it may be an important contextual factor which

influences their contribution. Recent studies provide evidence that leadership behaviors can be linked to leadership performance (House, Spangler, & Woycke, 1991) and to objective (profit, stock performance) and subjective (qualitative ratings) organizational outcomes (Agle & Sonnenfeld, 1994). Subsequent, studies have focused specifically on organizational innovation. For example, Elenkov, Judge and Wright (2005) found leadership behaviors impact top manager's ability to influence organizational innovation across six different national environments. Barney (1991) suggests that socially-complex resources, such as leader-member exchange are inelastic in supply. Itami (1987) suggests this social exchange or pattern of interaction is an invisible asset that is hard to copy and leads to firm heterogeneity.

The concept of participatory leadership has recently been introduced as a significant factor in leadership, especially in contexts which require cognitive flexibility and ingenuity (Arnold, Arad, Rhoades, & Drasgow, 2000). Participative decision-making facilitates innovative activity in two ways: (1) increase manager's feelings of self-efficacy and (2) create a sense of empowerment (Arad & Drasgow, 1994). In this empowered environment, middle managers have the autonomy and managerial discretion required in the innovative process. Furthermore for managerial teams to be effective, the boundary between leader and follower should be blurred; simultaneously the leader must convey energy and clear paths for implementation (Nutt, 2001). Thus we suggest the following moderator relationship:

Hypothesis 2a: Ceteris paribus, the more participatory leadership operating within an organization the more positive the relationship of collective MM innovative behavior and organizational innovation.

Multiple factors within an organization, in addition to leadership style, create the atmosphere for new idea creation and development. Lumpkin and Dess (1996) argue an “entrepreneurial orientation” is key to a firm’s ability to create and sustain the processes, practices and decision-making activities that lead to new idea creation. The context of entrepreneurially-oriented firms aligns the entrepreneurial activity with a strategic vision (Burgelman, 1983).

Entrepreneurially-oriented firms are perceived as organizations with policies and procedures that support innovative behavior. These policies are enacted to promote managerial autonomy and competitive aggressiveness (Dess & Lumpkin, 2001). These firms cultivate an aggressive posture aimed at anticipating future needs relative to marketplace opportunities and a willingness to challenge its competitors in the marketplace (Dess, Ireland, Zahra, Floyd, Janney & Lane, 2003). An organizational context, which purports managerial discretion and forward-thinking posture, is fertile ground for the innovation process. Middle managers in a risk-tolerant environment can then leverage opportunities for competitive exploitation and better facilitate information flows in ways that support new project development and implementation efforts (Dyer et al., 2009; Floyd and Lane, 2001; Floyd and Wooldridge, 1990, 1992, 1994; Kanter, 1985; Pearce, Kramer, and Robbins, 1997). Thus, we suggest the second following contextual moderator that may operate within the firm:

Hypothesis 2b: Ceteris paribus, the more entrepreneurial orientation within an organization, the more positive the relationship of collective MM innovative behavior and organizational innovation.

The innovation process typically requires cooperation and trust between multiple departments and multiple levels of management to promote and attain break-through innovations above and beyond the leadership style, and strategic orientation within the firm (Elenkov et al., 2005). The autonomous behavior which could promote and sustain an organizational culture of innovative activity requires an atmosphere of support, characterized by pervasive organizational trust (Hornsby et al, 2002).

The social capital literature provides some insight on contributions of organizational trust. Dyer and Singh (1998) argue that absorptive capacity in knowledge sharing between the firm and its partners is enhanced as individuals within each organization become more familiar with each other, and as the cultural distance is narrowed during the socialization process. Because of a closer proximity, trust is reinforced, relational linkages and bonds are strengthened, and organizations are more likely to cooperate with each other to achieve common goals (Luo, 2002).

Ahuja (2000) suggested structural holes have a negative effect of innovation. He implied that the benefits of a strong network, such as trust, collaborative routines, and the reduction of opportunism, outweigh the disadvantages of not having the information diversity created by structural holes. Furthermore the social exchange literature suggests mutual trust increases the success-rate of complex, uncertain relationships (Granovetter, 1985). Innovative activity is characterized by uncertain and risky situations and the existence of trust facilitates resource combinations and knowledge exchanges required for innovation (Clercq, Dimov, & Thongpapanl, 2010; Ireland et al, 2003). In addition, Tsai and Ghoshal (1998) found that social interaction and organizational trust facilitated inter-

unit resource exchange and innovation. Thus, we suggest the following moderator relationship:

Hypothesis 2c: Ceteris paribus, the more trust within an organization, the more positive the relationship of collective MM innovative behavior and organizational innovation.

Moderating Influence of the Regional Institutional Environment

Institutional theory (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Zucker, 1987) suggests that changes in features of the formal structure of organizations reflect the effects of the external social environment on organizations; that is, reality is nothing more than a social construction that is created through individuals interacting with the environment (Berger & Luckman, 1967). We understand interaction with the environment as essential for open system functioning (Buckley, 1967); noting mid-level managers inhabit the space between the firms and its environment. Pfeffer and Salancik (1978) remind us that the actors are not enclosed within the boundaries of organizations, only certain activities and behaviors. It is this resource bundle behaviors, although structured by the organization's internal system, which is influenced by the individual actors' interaction with various elements of the environment.

The exogenous environment is also multi-leveled. A growing body of literature has emphasized the socio-economic characteristics of regions within a country to be an important factor in organizational innovation (Broekel & Brenner, 2011; Cooke, 1992). There exists differing endowments of specific factors at the region or meso-level (Jaffe 1989; Anselin et al. 1997). At the meso-level there exists a more concentrated spatial proximity of certain actors and an embeddedness not seen at the national or macro-level.

Recent studies have suggested *subnational regions* are important factor in organizational outcomes (Chan, Makino, & Isobe, 2010). A region may develop a specific social-economic environment supportive of certain types of processes or services. In fact, the concept of *regional innovation systems* claims that firms located within the region benefit from a specific social-economic environment to support organizational innovativeness (Broekel & Brenner, 2011). For example, regions around the world such as the US's highly regarded Research Triangle Park and China's Tsinghua Science Park boasts of their propensity for technological innovation. Porter (1998) suggested a positive relationship between regional systems and organization innovation. Specifically, he found managers in regional clusters benefit from ongoing relationships with other in-cluster managers and benefit from within-cluster competitive pressures of performance. Feldman and Florida (1994) found that knowledge spill-overs and information transfer reduce the costs and risks associated with organizational innovation.

Formal institutions provide the administrative framework for interaction within a society. The societal members' interaction generates income and wealth in the economy. North (1990) suggests formal institutions provide a structure that reduces transaction costs prevalent in economic exchanges. These underlying institutions not only prevent corruption and protect property rights, but they enhance public sector effectiveness and efficiency (Rodrik, 2003). While a variety of factors influence economic growth, a commonly held view is that economic growth results from productivity gains due to technological innovations and investments in human development. Cooke (1992) suggested the region's specific collection of economic factors, such as access to

productive resources,, the activity of local authorities, as well as the interaction between actors in networks provide the framework for innovative activity.

Human development within a region may serve as regional proxies for a set of formal institutions that influence the innovation by organizations within a particular geographic space. The index of human development was created by the United Nations as a composite measure of health, education, and income within a specific subnational region. It has become a widely accepted alternative to GDP for assessing a countries' progress in developing the formal infrastructure to support economic growth and overall well-being (UNDP, 2011). Recent studies have shown strong formal institutional settings are characterized by a healthy workforce (poor health is a significant cost to businesses) and high quality secondary education (Kostova & Zaheer, 1999). High quality secondary education produces managers with the necessary training required to be innovative and customer-focused. Furthermore, strong formal institutions are associated with high levels of real *per capita* income since they shape overall conditions for investment and growth (IMF 2003). In sum, an environment composed of factors that promote societal effectiveness and efficiency, such as high levels of education, income, and overall health, should encourage and support manager's innovative behavior and associated outcomes. Thus, we suggest the following moderator relationship:

Hypothesis 3a: Ceteris paribus, the higher the level of human development within a region, the more positive the relationship of collective MM innovative behavior and organizational innovation.

The embeddedness literature suggests beneath these formal ties lies a sea of informal ties (Burt, 1992; Granovetter, 1985), which reinforce or complement the formal policies and procedures. Informal institutions develop in the socially complex

relationships of a community's members. For instance, urban communities are characterized by dense populations and high levels of industrialization; specifically, there exists a concentration of resources and an imposed social integration, caused by more frequent interaction of diverse groups (OECD, 2010). Alternatively, rural communities are typically agricultural-based economies, which require large amounts of undeveloped land for farming. Thus, urbanization may create a different informal social context for cultural norms to develop within a specific region.

Chabowski, Hult, Kiyak, and Mena (2010) also suggested the existence of significant intra-country variation in cultural effects in international business research. Specifically, these scholars found the urban-rural dimension reflects subcultural differences that persist even amid significant macroeconomic trends. In fact, the regional literature suggests that population density in cities generates a subculture or "a set of interconnected social networks... and the ...norms and habits common [to it] (Fischer, 1995: p544)." Furthermore, North (1991) asserts that the social environment will influence the informal rewards and sanctions associated with different behaviors. Subsequently, the cultural norms or "ways of doing business" of managers in cities are likely differ from their rural counterpart.

We define informal institutions, in turn, as rules based on implicit understandings, being in most part socially derived and therefore not accessible through written documents or authorized through formal position (North, 1990). Thus, informal institutions reside in the social norms, routines, and political processes. Densely populated regions may be an inherently more conducive social context for organizational innovation for several reasons. First, scholars have suggested that the accumulation of

knowledge is the key determinant of economic growth and that knowledge spillovers, e.g., in the form of information exchange among firms, create positive externalities that generate growth among all firms (Kogut & Zander, 1992). These agglomeration effects are a function of spatial proximity, the geographic distribution of firms influences knowledge transfer and creation. Urban regions are heavily populated with very low spatial proximity for members. Thus, their interactions are more frequent. Rural communities on the other hand, are less populous regions and have high spatial proximity for its members.

Second, cities provide easy access to a diverse knowledge base. Huallachain and Lee (2011) suggest cities possess a large, more diverse population of skilled professionals, which facilitates inventiveness. A culture of professionalism impinges members' understandings, judgments, and decisions (Parboteah et al., 2005). Third, common-place in cities is the cross-fertilization of ideas and interaction of specialists from different technologies which increases both invention rates and the variety of inventions (Huallachain & Lee, 2011). These informal interactions are shared experiences of idea networking and creation that lead to common mode of actions for societal members.

Fourth, scholars have demonstrated that densely populated regions tend to emphasize educational attainment and economic growth which is more conducive to organizational innovation (Acs, Audretsch, & Feldman, 1994). Fifth, the variety of industries present and the density of college graduates in cities creates a culture of rapid technology adaptation, adoption, and innovation (Lin, 2009). In sum, interactions in a regional cluster may strengthen professional and social linkages among firms and

members leading to the creation of new ideas, new products and services and new businesses. Thus, we suggest the following moderator relationship:

Hypothesis 3b: Ceteris paribus, the higher the population density within a region, the less positive the relationship of collective MM innovative behavior and organizational innovation.

Moderating Influence of the National Institutional Environment

North (1990) asserts differences in economic performance can be attributed to the actions of organizations and behavior of social actors constrained by formal and informal constraints. Institutions that protect private property rights and the operation of the rule of law, lead to low levels of corruption and facilitate economic transactions for all citizens within a society. For example, uncertainty about an organizations' expected return from an exchange with another party gives rise to transaction costs. However, these costs are reduced by rules around property rights and contract enforcement that increase the likelihood of expected outcomes. Also, these formal institutions provide assurance to owners that they will maintain ownership of their assets and will receive their due in these transactions. While informal institutions, such as norms and values, can influence social relationships and subsequently firm behavior. Organizations facilitate economic activity in markets where information is exchanged through the price mechanism. Some information costs are associated with incomplete contracts. Informal institutions, such as business practices and customs, carried in social networks of a society help reduce these transaction costs by increasing the general level of trust. Quite frankly, economic actors within organizations avoid malfeasance most effectively by dealing with those they trust. In essence, institutions enforce a shared meaning found through a common interpretation and common response logic, especially in the face of uncertainty.

Organizational innovation driven by middle manager innovative behavior is shaped by both the written and unwritten rules in a society. As middle managers receive and process threats and opportunities outside the firm's boundaries, they also incorporate the cognitive frameworks of their external environment. Institutions can be carried by culture, social structure, and routines that exist at multiple levels within the organization.

Communal sense making develops a pattern of interactions which structures individual behaviors. For instance, the historian Chandler (1963) and later Rumelt chronicled the diversification of the American corporate giants of the early and mid-1900's. Even though in many instances, diversification was not the most effective or efficient means for firm survival or growth, it was relied upon as a standard response to complexity and uncertainty. This culturally supported response made sense and gave order and structure to the complexity faced by the firm's top managers. Thus, in our particular case this same "communal sense making" will shape managerial behavior as they pursue superior firm performance through product and administrative innovations.

Nelson and Gopalan (2003) found a complex relationship between organizational culture and the national institutional environment. Specifically, these scholars found both "rejective and "conformative" responses to national institutional forces. These findings suggest that organizational factors, such as structure, managerial activity, and policies and procedures, are in a tug-of-war with the idiosyncrasies of the national-level institutional environment.

Individual autonomy and discretion is the cornerstone of innovative activity (Hornsby et al., 2002) and the macro-social environment lends both cognitive and sociopolitical legitimacy to this innovative activity. Michael Porter's (1990) book, *The*

Competitive Advantage of Nations, illustrated the importance of innovation for economies throughout the world. Porter's experience as a member on a national competitiveness task force commissioned by the Reagan administration allowed him to study the role of public policy in stimulating national competitiveness. While this book did not end that debate, Porter highlighted the importance of national institutional attributes dubbed advanced factors, such as strong domestic competitive rivalry, government investment in advance technologies, active university/industry collaboration, etc. and their significant influence on the innovativeness of local firms.

Previous literature suggests the institutional context in the US provides support for innovative activity. Chandler (1962) chronicled the development of the multidivisional organization in the US, which is a process innovation in the design of sales and distribution. The US government has a long tradition of policies in Science and Technology to stimulate learning and innovation activities of firms. Policy instruments include the facilitation of R&D investments in strategic industries, the management of government-funded research institutes, the establishment of patent regulations and law, the importation of advanced technology from foreign countries, and launch of national strategic projects.

In developed countries, high priority is given to innovation and its expected outputs. For instance in a recent meeting, U.S. President Barack Obama met with some technical elites, including Facebook CEO Mark Zuckerberg, Oracle CEO Larry Ellison, and Apple CEO Steve Jobs. They discussed pressing national innovation issues including spurring science and math education, research and development, and Startup America, a White House program aimed at increasing innovation and entrepreneurship in

the U.S. According to White House Press Secretary Jay Carney, “The President believes that American companies like these have been leading by investing in the creativity and ingenuity of the American people, creating cutting-edge new technologies and promoting new ways to communicate” (Kang, 2011: Feb. 19, 2011).

Contrary to the extreme importance placed on innovation in advanced economies, developing countries do not typically have the infrastructure to place such a high priority on innovation. Developing countries, who have not yet reached the innovation-driven stage (Porter, 1990) must focus on improving institutions, building infrastructure, reduction macroeconomic instability, and improving human capital. These less-advanced countries can still improve their productivity by adopting existing technologies.

In environments characterized by relatively strong formal institutions at the national level, behavior is regulated and economic activity is structured and information asymmetry is reduced (North, 1991). Firms headquartered in home countries characterized by strong institutional environment and efficient and effective market mechanisms are often placed at an advantage, when compared to their developing country headquartered competitors (Ghemawat & Khanna, 1998; Khanna & Palepu, 1997, 2000). The national formal institutions act as a bridge to reduce transaction costs to not only regulate, but promote economic behavior (North, 1990). Property rights represent externally enforced rules and regulations in the regulatory pillar force compliance to avoid sanction or illicit compliance to garner rewards (e.g. subsidies). The nation-state is the primary architect of formal institutions, as well as its governing body (North, 2008). In the role of governor, the nation-state is main enforcement mechanism.

Organizational innovation in developing countries is often hampered by corruption, lack of transparency and trustworthiness. Weak property rights protection raises the level of uncertainty and risk in investment in typical areas that lead to innovation, such research and development. Specifically, the OECD cited improvements in the rule of law, especially the area of competition law could drastically improve innovative output and close the productivity gap. In contrast, economies with strong regulatory environment can have excessive bureaucracy and overregulation, which could constrain organizational innovation. A government with a public policy that promotes innovation (e.g. technology subsidies, grants, or macroeconomic stability) and a rule of law that provides transparency (e.g. property rights or minimal corruption) shape an environment conducive to organizational innovation.

Formal institutions reduce market imperfections by lowering information, monitoring and enforcement costs. Financial market sophistication refers to the efficiency in which a nation's financial sector allocates resources for productive uses. A high level of financial market development as an institution will reduce the uncertainty found in economic transactions, such as entrepreneurial or investment projects with high rates of returns (Li & Zahra, 2011). In sum, a stronger formal institutional environment characterized by strong property rights and a high-level of financial market sophistication, should promote the relationship between mid-level managers' innovative behavior and organizational innovation. Thus, suggesting the following moderator relationship:

Hypothesis 4a: Ceteris paribus, the stronger the formal institutions within a nation, the more positive the relationship of collective mid-manager innovative behavior and organizational innovation.

Formal institutions facilitate economic activity through the codified policies and regulations of a nation. However, informal institutions exist in the unwritten rules, customs and patterns of interaction that exist in a nation (North, 1990). Informal institutions often act as a complementary factor to a nation's formal institutional structure. These informal forces exist in the values and norms of a society and they help shape acceptable competitive behavior. Whereas House, Hanges, Javidan, Dorfman, and Gupta (2004) suggest the values and beliefs held by a culture serve as the foundation for the institutions in the society.

National culture acts as the frame of reference, which social actors use to understand their environment, their organizations, and their interactions with one another (House, Javidan, Hanges, & Dorfman, 2002). Hofstede (1980) suggested national culture is a personification of the cultural values held by a nation. Informal institutions represent the values and norms of the national culture. These informal institutions exist in the patterns of interaction within a society (North, 1990).

Uncertainty avoidance can be defined as the degree of comfort members of a particular society experience with uncertainty and ambiguity. Societies characterized with low levels of uncertainty avoidance have high tolerance for ambiguity, disruption, and change (Hofstede, 1980, 2001). Managers in high uncertainty avoidance cultures look for structure in their organizations, institutions and relationships, which makes events clearly interpretable and predictable (Hofstede, 1980, 2001). In sum, Hofstede (1980, 2001) suggests managers in uncertainty-avoiding cultures seek formal structures as a way of coping with uncertainty and have little tolerance for ambiguity.

Organizational innovation involves the creation of a new or significantly approved process or product, or a new organizational method in practices or external relations. These processes are wrought with ambiguity and uncertainty, and require novel, creative, many times risk-laden solutions. Research suggests managers in uncertainty-accepting societies are better prepared for high levels of complexity, outcome uncertainty, and decision urgency. For instance, Mueller and Thomas (2001) found managers in uncertainty-accepting cultures perceive more opportunities in the external environment. Kreiser, Marino, Dickson and Weaver (2010) found uncertainty avoidance negatively impacted the risk-taking propensity of executives and negatively influence proactive firm behaviors.

Organizational innovation often occurs in the risky, complex, unclear settings middle managers face in their boundary-spanning conditions. Also, Dyer et al. (2009) suggest the proactive behaviors of middle managers, such as questioning the status quo and experimenting with new processes, drive innovation in the firm. Furthermore, Li and Zahra (2011) found firms in high uncertainty avoidance countries significantly weakened the positive effect of formal institutional supports on the highly volatile venture capital investment market.

In sum, novel ideas, creative solutions, and radical new processes are needed to enter or create new markets and address difficult, never-seen-before challenges. These actions are associated with high-levels of uncertainty and managers who can tolerate and be effective in this context, will make better decisions. Subsequently, their actions will translate into positive organizational outcomes. Thus, we suggest the following moderator relationship:

Hypothesis 4b: Ceteris paribus, the higher the tolerance for uncertainty within a nation, the more positive the relationship of collective mid-manager innovative behavior and organizational innovation.

Organizational Innovation and Firm Performance

A resource-based approach focuses on costly-to-copy attributes of the firm as a source of competitive advantage and performance. The resource-based view asserts that variance in competitive outcomes stems from differences in the characteristics of rivals' resources (Barney, 1991) and capabilities (Miller, 2003). Amit and Schoemaker (1993) continue that capabilities are the capacity of the firm to deploy resources usually in combination with organizational processes. Capabilities allow firms to change by combining or recombining resources.

Organizational innovative capability enables a firm to offer the market new products or services or to enter new markets (Sirmon, Hitt, & Ireland, 2005). Ellen Kullman, the CEO of E.I. Dupont de Nemours & Co., identified innovation as "the backbone of our topline growth" (Q4 2010 Earnings Call January 25, 2011 9:00 am ET). Key executives have long championed the link between corporate innovation and firm performance (Adler and Shenbar, 1990; Ceccagnoli, 2009; Koellinger, 2008).

Organizational innovation has several outcomes that should effect firm performance positively: (1) development of new products to meet market needs; (2) implementation of new process technologies to produce new products; (3) development and implementation of new process technologies to maximize operational efficiency; (4) development and adoption of new products and processes to satisfy future needs; and (5) ability to respond to unexpected changes in technology and competitor actions (Adler & Shenbar, 1990; Christensen, 1997).

Although the extant literature suggests a positive relationship between organizational innovation and firm performance, the extent to which firms conduct innovative activity differs. The level of innovative activity differences can be attributed to some of the antecedents of organizational innovation, such as organizational slack, information availability, and cognitive diversity. The innovation process typically requires cooperation and trust between multiple departments and multiple levels of management which already compete for strained resources, unlearning previously acceptable, better yet promoted behaviors, and uncovering and overcoming of potential problems created by out-of-the-box thinking (Elenkov et al., 2005). For instance, as a firm grows and becomes more complex, managerial and financial resources become constrained and communication becomes more bureaucratic, limiting the firm's ability to participate in risky, resource-laden innovative activity. Khatra and Ng (2000) found organizational innovation to require high levels of information and constrained information processing time.

These characteristics of the innovation process create high levels of uncertainty and risk. McMullen and Shepherd (2005) argue that uncertainty in the context of action acts as a sense of doubt that produces hesitancy, promotes indecision, and encourages procrastination. These factors highlight these firm's attitude towards risk and willingness to bear uncertainty, which suggests there will be varying levels of firm participation in innovative activity; such that, uncertainty constrains action by obfuscating the need or possibility of action, knowledge of what to do, and whether the reward is worth the cost (McMullen & Shepherd, 2005).

Some firms choose not to compete on the basis of innovative activity instead relying on second mover advantages and/or cost control using existing process technology and economies of scale (Javorcik, Keller, & Tybout, 2008). Competitive pressures within a developing country increase when subsidiaries of firms from developed nations enter their market. Porter (1980) suggests this entry of foreign firms would create incentives for indigenous firms to cut waste and be innovative to remain competitive. However, many firms in developing countries choose to lag in introducing new product and processes and allow the multinational to invest heavily in R&D to create new products and costly marketing initiatives to generate consumer demand (Javorcik, et al, 2008). This imitation strategy allows the indigenous firm to follow the multinational market entry with similar products and/or services with less risk post-market creation.

Innovative activity exposes firms to unknown demand, heterogeneous returns, and unstable technology. Barney (1997) discussed how technology leaders introduce new products and achieve immediate boost in profits, but competitor duplication quickly results in a dissipation of profits associated with the new product. Others would also argue that for an economy to be in equilibrium, innovation must decrease and competitors duplicate strategies known to generate above-normal performance, rents obtained from innovative activity is only temporary (Jacobson, 1992). Through a phenomenon termed self-displacement, Pacheco de Almeida (2010) found industry leaders will sometime reduce investment in R&D in hypercompetitive environments. Rapid duplication creates temporary advantages reducing incentives to accelerate investments by industry leaders. This reluctance to innovate increases the probability of being displaced by competitors.

Despite the risk and uncertainty involved with organizational innovation, firms that are innovative are rewarded with creative processes that result in new products, services, or processes. Schumpeter stated, "Any 'doing things differently' in the realm of economic life should be considered an innovation and thus capable of providing a temporary advantage, and profits, to a firm (Schumpeter, 1939:84)". A recent meta-analysis of innovation/firm performance relationship showed the performance outcome, new product performance, is a direct consequence of organizational innovation (Calantone, Harmancioglu, Droge, 2010).

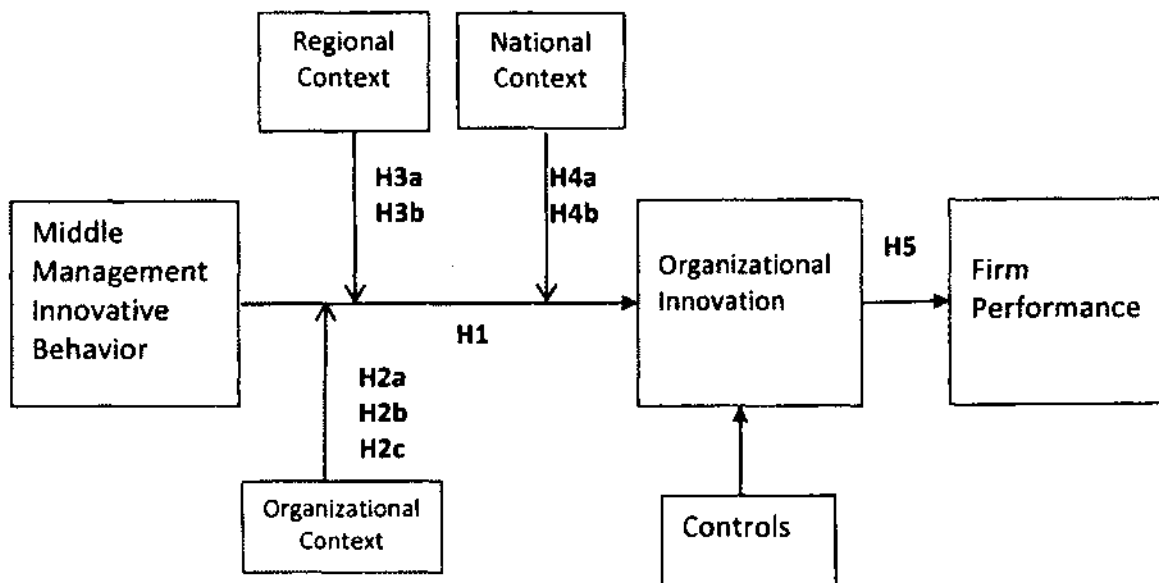
Considering the importance of firm market value to CEO success, Ceccagnoli's (2009) study of innovation rents on firm performance echoes the innovation/firm performance relationship. His study found positive stock market reaction, when a firm strongly appropriated innovations typically through high patent protection. Moreover, several scholars have suggested empirically a positive relationship between innovation and performance in businesses (Zangwill, 1992; Garcia-Morales et al., 2007; Koellinger, 2008). For example, Garcia-Moralis et al. (2007) in a study of European and American technology firms found a direct relationship between organizational innovation and organizational performance. Their work specifically focused on the internal communication of managers and how the integration of knowledge between managers, caused by increases in managerial communication, increased organizational learning and innovative output, which led to superior firm performance. Although the improvements in internal communication were accompanied with costs, such as ICT upgrades and interdivisional travel, those costs were offset by the gains in organizational innovation. Despite the costs of innovation, such as the disruption of core businesses, converting

existing customers, redesigning of plant operations, and high failure rate, most academics and executives alike realize the importance of innovation to compete in today's hypercompetitive, globally-connected environment (Meyer and Heppard, 2000). Thus, we propose:

Hypothesis 5: Ceteris paribus, organizational innovation is positively related to firm performance.

With the aforementioned hypothesis, this study utilizes the RBV to explore mid-level management's impact on organizational innovation, while addressing some of the RBV criticisms. First, RBV has been criticized for ignoring the internal firm processes that are necessary to deploy the firm's resources (Priem & Butler, 2001). Second, scholars have suggested research from the RBV perspective marginalizes the activities, managerial or otherwise, that go in organizations (Johnson, Melin, & Whittington, 2003). This study addresses these criticisms by employing an activity-based approach to remove the focus from just the existence of resources to include the utilization of resources.

Figure 2: Hypothesized Model of Firm-Level Effects of Middle Management Innovative Behavior



SUMMARY

In summary, a cross-country comparative model of the effects of middle management innovative behavior on organizational innovation was developed using the resource-based and institutional perspectives. The model (see Figure 2) postulates middle management behavior as a firm resource that can provide a sustainable competitive advantage. The application of behavioral decision theory to resource base view, the model acknowledges the issue of problem-framing and decision making that marks decisions involving organizational innovation, which leads to corporate entrepreneurship in many instances. Concluding that superior firm performance is related

to the discretionary behavior (questioning, observing, experimenting, and idea networking) of boundedly rational middle managers.

As a multi-country study the model (see Figure 2) examines how the institutional environments impact the middle management innovative behavior relationship with organizational innovation. In any institutional environment, both formal and informal elements are present and interact to promote and maintain orderly behavior. The stage of development of the particular institutional system may determine or shape the interaction of these forces. Organizations import the form, if not the substance, of institutionalized views about what organizations should look like and how they should operate and incorporate them into their structure, rules, and inter-firm language of communication. In the next chapter, the methodology will be introduced with a description of the research design, country selection, sample, operationalization of variables and the plan for data collection and analysis.

III. METHODOLOGY

The central purpose of this study is to attain a better understanding of middle manager innovative behavior and its impact on organizational innovation and firm performance in multiple national contexts. In this chapter, the methodology used to carry out empirical testing of the research model described in the previous chapter is described. The methodologies of previous studies on middle manager behavior are examined and discussed. In the following text, the research design is introduced along with descriptions of the sample, operationalization of all variables included in the study, and the statistical analyses used to test the hypotheses that were introduced in the preceding chapter.

In order to develop the research design for this study, a comprehensive examination of the extant literature was conducted. The focus of this study is on strategy research where the strategic business unit is the unit of analysis. Middle management refers to managers located below top managers and above first-level supervisors (e.g., Dutton & Ashford, 1993; Hornsby et al, 2002; Mantere, 2008; Wooldridge & Floyd, 2008). Though placement in the organizational hierarchy is not focal to the study, it does designate a boundary condition that guides the study. However, the placement of middle management in the unique position of boundary spanner is central to this study. Vertically, the middle manager has relationships with both top management and front-line management, the former providing access to resources and the latter providing knowledge of operations. Horizontally, the middle manager has intimate knowledge of the firm's capabilities and extensive market knowledge created by frequent exposure to consumers' demands and expectations.

POPULATION OF FIRMS

In the battle for competitive advantage in an international business context, there exist two types of strategies: efficiency-based and shelter-based (or non-efficiency based) strategies (Rugman & Verbeke, 1993). Strategies that build upon, enhance, or create firm specific advantages are classified as efficiency-based. Efficiency-based strategies cultivate innovative activity by creating environments that are able to foster competition and cooperation (Porter, 1990). Strategies that do not seek to improve economic performance through the advancement or creation of firm specific advantages, but by other means are known as shelter-based strategies. In a regional trading bloc, such as NAFTA, both of these strategies exist and both can be successful.

In many ways, the story of the North American Free Trade Agreement (NAFTA) is the story of the multinational enterprise in pursuit of efficiency-based strategies as trade barriers fall. The success of the NAFTA negotiations in the early 1990's was predicated on the motivation of all parties to create a continental common market. NAFTA is the first and only trade agreement between industrialized countries and developing countries. Through the creation of a common market, each country hoped to gain unprecedented access to foreign markets and their resources. However, this historical agreement would provide the foundation for home-country firms to grow beyond their borders, but also face foreign competition at unprecedented levels. Industries that were once protected, such as Canada's cultural industries and the US's textile and apparel industries, would now have face competition from beyond their borders.

Trade liberalization was an antidote to the disease of retaliatory trade policies that occurred with each country's attempt to protect domestic industries from foreign competition. Most industrialized nations in the West, diagnosed this disease as one of the contributors to the Great Depression of the 1930's. NAFTA's enactment required a perfect storm of breakthroughs and occurrences. Canada and the U.S. had recently completed a bi-lateral free trade agreement. Mexico had emerged from a debt crisis and was searching for economic growth through export markets and foreign investment (Robert, 2000). Then U.S. President George Bush included a North American common market as part of his political platform. Also, significant advances in technology had occurred to remove many remaining impediments for managing and conducting business with associated time and geographical distances. Advancements in telecommunications and transportation industries, made possible by innovations in microprocessors, provided opportunities for Toronto firms to conduct business in Atlanta, as if, they were conducting Business in nearby Montreal.

NAFTA has six major component areas: market access, trade rules, services, investments, intellectual property, and dispute settlement. Major progress was made in every component area leading to one of the most liberal trade regions in the world. Anti-dumping policies were enacted or strengthened. Government subsidies were reduced or eliminated.

One of the major hurdles was to address issues that arose with the differences between common law and civil law. The US is a common law nation and Mexico is a civil law nation. However, Canada has a hybrid legal system. The majority of Canada

follows a common law system, with the exception of the province of Quebec which follows a civil law tradition (Robert, 2000).

In civil law legal systems, there exist moral rights and economic rights of ownership. Typically moral rights are not transferrable and are treated on equal footing with economic rights (Robert, 2000). Moral rights are inalienable rights that remain with the author and can often time impede the economic rights associated with that piece of work. The economic rights, more often than not, have typically been transferred for remuneration, so there could exist two different owners. One of the major successes of NAFTA was to recognize the legality of the transfer of economic rights for remuneration and eliminate moral rights as an impediment to the transfer of economic rights. With dramatic increase in trade liberalization, came a concurrent increase in competition for firms.

For the consumers of regional trading bloc nations, the creation of such an arrangement should provide a bigger, better selection of goods and services at cheaper prices. Efficiencies gained in economies of scale and scope coupled with reductions in raw material and labor inputs should drive down operating costs, which trickle down to the consumer. For the companies of trading bloc nations, the creation of such an arrangement also means increased competition from firms with established home market dominance looking for avenues to grow their sales in virgin host markets without the usual barriers to inter-country trade, such as trade tariffs and legal roadblocks. Thus, competitive advantages that might prevail in a home country market protected from global competition might not prove so fruitful once trade barriers are reduced. However competent managers will rely on process and product innovations to compete in a home

market now more open to foreign competition and under-explored host markets with reduced trade barriers.

Organizational innovation as a function of managerial behavior may differ based on the differences in national context. For instance, the above-average collaboration between universities and industries in the US should increase the level of innovative output by local firms. Or the competitive strategy of imitation commonly practiced in Mexico should reduce introduction of breakthrough innovations. Despite being in the top 10 of the most competitive countries (Global World Competitiveness Report 2009-2010), compared to other advanced economies, the Canadian business sector has a low propensity to innovate and a relatively poor record at the commercialization of technical advances (OECD, 2010). Therefore, the national institutional environment could actually mitigate or enhance the firm's innovative output.

The population of firms is derived from the two country environments within NAFTA: Mexico, and the U.S. Mexico, unlike the US, is a developing country. The lack of institutional development (e.g. corruption, lack of transparency, macroeconomic volatility, etc.) in Mexico has constrained economic growth, which limits the number of firms available for study. Also, divisional units in these large multinational enterprises function as distinct divisions with separate profit centers, different resource inputs, and little interconnectedness (Kleinbaum & Tushman, 2007). For these reasons, our population of firms lists the corporate entity (see table 3), but each individual strategic business unit (SBU) within the corporation that participated in the study is treated as our unit of analysis.

SAMPLING DESIGN

Delaying an organizational structure and identifying middle manager behavior is difficult and complex, but has been attempted in previous literature with blemished success. Several scholars have noted issues with the empirical testing of resource-based view research (Armstrong & Shimizu, 2007; Johnson, Melin, & Whittington, 2003; Priem & Butler, 2001). In direct contradiction to neoclassical economic theory that argues persistent firm differences can be explained by anticompetitive collusion or monopolistic behavior (Nelson & Winter, 1982), RBV holds that variance in competitive outcomes stems from differences in the characteristics of rivals' resources (Barney, 1991) and capabilities (Miller, 2003).

This particular focus creates several obstacles that must be addressed in empirical research. First, most of the empirical research testing RBV has ignored the internal firm processes that are necessary to deploy the firm's resources (Johnson et al., 2003; Priem and Butler, 2001). Second, it is difficult to objectively observe a resource's characteristic. Establishing the rareness and inimitability of tacit resources could appear to be ex-post rationalization, not operationalization (Williamson, 1999). To address these issues, I employ a perceptual approach. My research takes a micro-perspective capable of capturing both details and activity (Johnson et al., 2003) and utilizes qualitative analysis that mitigates construct measurement problems (Armstrong & Shimizu, 2007) and quantitative analysis.

The activity-based view of strategy provides a foundation for exploration of the proverbial 'black box of process' in strategy formation. This behavioral approach removes the focus from just the existence of resource heterogeneity and the immobility of resources to the utilization of these resources and how this utilization affects firm

performance. Specifically, I attempt to link the process issue of strategy formation with the content issue of innovation.

In the strategy literature, several researchers have attempted to capture middle manager behavior (Wooldridge and Floyd, 2008). However, Burgelman (1983, 1985) constructed the model for which most successful researchers follow. In his work, he created a model of the strategic process concerning entrepreneurial activity in large, complex organizations. In one of the first attempts to understand the organizational phenomenon, internal corporate venturing, Burgelman (1983, 1985) adopted a longitudinal process approach, in which he performed numerous unstructured interviews. With the domain of internal corporate venturing process situated below the level of corporate management, the majority of the interview data gathered was obtained at the middle management level and included only one person from corporate management. This qualitative longitudinal approach exposed the strategic management problems of organizational innovation that occur at the project level, which are typically shaded from the guiding light of top management.

Since Burgelman's landmark study, qualitative methods have become the *sine qua non* for mid-level management research. The vast majority of this research has used surveys (Burt, 1997; Floyd and Wooldridge, 1997; Ketokivi and Castaner, 2004; Moran, 2005; Pappas and Wooldridge, 2002, 2007; Rodan and Galunic, 2004), structured and unstructured interviews (Burgelman, 1983; Currie and Procter, 2005; MacMillan and Guth, 1985; Lam et al., 2010; Meyer, 2006), non-participant observers (Huy, 2001), and diaries/written reports (Balogun, 2003; Balogun and Johnson, 2004). I follow in the well-developed path of these scholars and capture the intricacies of middle management

behavior through a series of semi-structured interviews and survey. The employment of a qualitative approach breaks the hold of surrogate measures on resource-based view research (Armstrong & Shimizu, 2007).

Developing countries provide different and unique hurdles to data collection, as compared with their developed country counterparts. In the Mexico sub-sample, we had to address several issues in the data collection effort. First, the survey instrument was developed and tested in the US. Second, the Mexico population of firms was limited as compared to the US. Third, some of the data required for the statistical analysis was not publicly available.

We took several steps to address these issues, commonly found in cross-national, cross-cultural, cross-economic prosperity studies. First, we partnered with a local university in Mexico to facilitate initial local firm contact and survey participation. Second, we compare the relevant firm-level control variables of the firms in our study to ensure adequate homogeneity existed in our multi-country sample to allow for cross-national comparison (Steenkamp & Baumgartner, 1998). Third, our survey includes a section that collects the firm-level data not publicly available (e.g. size, industry, and performance).

The design of a survey involves many interrelated decisions on such questions as the mode of data collection, the framing of the questions to be asked, and the method of processing the data. The sample design is an integral part of the survey methodology. The first step in the sample design is to define the population under investigation. The target population of this study is large corporations headquartered in Mexico and the US.

In 2010, our two countries rank in the top 15 in the world for exports (CIA World Factbook, 2011). For instance, the US is the most important trading partners for Mexico and Mexico's share of US imports has risen to 12% since the NAFTA's enactment (CIA World Factbook, 2011). Due to practical constraints caused by including a developing country in the target population, our survey population is considerably smaller than the target population. Due to these constraints we are forced to collect data from only a part of the target population in the US. Sampling only a part of the target population, however does not necessarily mean more inaccurate results. First, a sample inquiry can be conducted and processed more expeditiously, leading to timelier reporting. Second by concentrating resources on only a part of the target population, the quality of the data collection may be superior to that of a complete enumeration. For these reasons, unless the target population is small, sampling is almost always used in this type of research.

We employ a method of probability sampling known as stratification. Through the technique of stratification, we are able to use supplementary information, such as industry and size, to improve the sample design (Kalton, 1983). The essence of stratification is the classification of the population into subpopulations, or strata based on the supplementary information, and then the selection of separate samples from each of the strata. In our case, the strata are delineated by country. Using disproportionate stratification provides us with two significant benefits. First, we are able to allocate a sufficient sample size to certain strata in order that separate estimates of adequate precision are available for analysis. Second, disproportionate allocation allows us to make comparisons between the stratum estimates rather than to aggregate them into an overall estimate.

DATA COLLECTION

When using a survey, a challenge in any multi-country study is the validity and reliability of the survey instrument in the various countries. In order for comparisons of middle manager behavior in one country to other countries to be meaningful, the instruments used to measure the theoretical constructs of interest have to exhibit adequate cross-national equivalence (Steenkamp & Baumgartner, 1998). There are several forms of measurement invariance in cross-national research. First, configural invariance suggests the pattern of salient and non-salient loadings defines the structure of the measurement instrument and the items comprising the measurement instrument should exhibit the same configuration of salient and non-salient factor loadings across different countries. Second, metric invariance indicates that people in different countries respond to the items in the same way, in the sense that obtained ratings can be meaningfully compared across countries. If an item satisfies the requirement of metric invariance, difference scores on the item can be meaningfully compared across countries.

Third, scalar invariance implies that cross-national differences in the means of the observed items are due to differences in the means of the underlying construct(s). It addresses the question of whether there is consistency between cross-national differences in latent means and cross-national differences in observed means. Using the procedure for testing measurement invariance proposed by Steenkamp and Baumgartner (1998) I am able to: (1) explore the basic structure of middle management behavior cross-nationally; (2) make quantitative comparisons of means across countries; and (3) examine structural relationship with other constructs cross-nationally.

The data collection process began with the creation of a database of executives throughout the United States and Mexico. In the next step an email of introduction along with a solicitation letter for participation (see Letter to SBU contact) is to multiple titular heads within each firm, where the purpose of the study is described and the request for participation is made. Then, we follow up with emails and telephone calls to determine whether the organization is willing to participate. These executives nominated mid-level managers within their organization for participation in the study. Both the mid-level managers and top managers completed the online survey. The number of respondents from each business unit varied from a minimum of 3 mid-level managers to a maximum of 5 mainly due to the variation in size, number of hierarchical levels, and number of functions within each business unit. To ensure accuracy a minimum of three respondents from each business unit was required for inclusion in the study (Ketokivi & Castaner, 2004).

Ultimately, we expected a response rate of emailed requests to key executives for participation in the study to be 10 – 12% (Heavy et al., 2009), or 65 to 79 strategic business units. For the US sample we utilized a marketing firm's executive database. For the Mexican sample, we utilized our partnership with a local university and a database provided by the N.C Department of Commerce. Through the use of these resources, we arrived at a response rate of 9.56% (46 SBU's) and 34.72% (50 SBU's). Several SBU's were removed from our sample due to one of more of the following reasons: (1) did not complete the survey within the allotted time; (2) did not have the minimum amount of managers complete the survey; (3) did not meet the minimum size

requirement; and/or (4) were a not-for-profit organization. These reductions led to a final sample of 64 firms (34 US and 30 Mexican).

MEASURES

Dependent Variables

Review of the prior literature indicates the popular way of measuring organizational innovation is by gauging the resource allocations that support these activities (Burgelman 1983). However, in this study we utilize a perceptual measure of organizational innovation. First, firm-level measures of innovation have been plagued with empirical inconsistencies in the strategy literature (Kwaku & Ko, 2001). Second, organizational innovation is a multidimensional construct; in which focusing on one proxy may only capture one dimension of innovation leading to incomplete or ambiguous conclusions (Camison-Zornoza, et al., 2004). Third, few secondary sources provide adequate detail to accurately measure constructs pertaining to innovation of the firm (Zahra &Covin, 1993). Fourth, several studies indicate that perceptual measures have high correlation with objective measures of product innovation and have the added advantage of facilitating comparisons among firms in different industries (Zahra 1993, Zahra & Covin 1993). Moreover, Ginsberg and Venkataraman (1992) suggested management perceptions contribute to new product innovation investment decisions. Thus in order to capture an innovation-based measure of performance for our sample of firms, we utilize a perceptual measure.

This study utilizes the perceptual measure of organization innovation developed by Goodale, Kuratko, Hornsby, and Covin (2011). The dependent variable was measured

by asking the respondent (middle manager and SBU manager) to indicate on a 7-point, Likert-type scale (ranging from [1 =] “not at all important” to [7 =] “extremely important”) the degree of importance attached by his/her business unit’s top managers to the following innovation performance criteria: (1) number of new products or services developed, (2) number of new products or services brought to market, (3) speed with which new products or services are developed, (4) speed with which new products or services are brought to market, (5) ability to respond quickly to market or technological developments, (6) ability to pre-empt competitors in responding to market or technological developments, (7) incorporation of technological innovations into product/service offerings, and (8) incorporation of technological innovations into internal operations. The respondents were then asked to indicate on a seven-point, Likert-type scale (ranging from [1 =] “not at all satisfied” to [7 =] “extremely satisfied”) the degree to which his/her business unit’s top managers are satisfied with how their business unit has performed in reference to these same eight criteria over the last three years. The individual satisfaction scores were multiplied by the importance scores and the products of this step were summed to create a weighted average innovation performance index for each firm, as shown in equation (1).

$$\frac{\sum(\text{Criterion satisfaction score} \times \text{Criterion importance score})}{\sum(\text{All criteria importance scores})} \quad (1)$$

This weighted measure incorporates the strategic importance of innovation with a measure of satisfaction of innovation performance; providing an innovation index for each firm.

An organizational innovation score was developed for each strategic business unit. The score was created by aggregating the middle managers and top manager individual scores. Principal component analysis, a linear dimensionality reduction, technique, was used for the aggregation.

The other dependent variable used in this study is organizational performance. This study utilizes the perceptual measure of organization performance developed by Miller and Friesen (1984). This dependent variable was measured by asking the respondent, SBU Manager, to indicate on a 7-point, Likert-type scale (ranging from [1 =] “worst” to [7 =] “best”) the degree of their business unit performance compared to other firms in their industry in four specific areas: growth in profits, growth in sales, stability of profitability, and return on assets.

Since this also is a perceptual measure of firm performance, we felt it necessary to determine its construct validity. To do so, we collected other proxies used previously for firm performance. Since some of our organizations were strategic business units and others were private firms, we were unable to obtain archival measures of firm performance for the entire sample. However, we were able to collect return on assets (ROA) and return on invested capital (ROIC) information which is commonly used as a proxy for organizational performance for a significant subsample of our firms (Clercq et al, 2010).

Our data came from the Thomson One database and were for the year 2011. Then, we conducted a correlation analysis between the perceptual measure of firm performance and the archival measures of firm performance on our subsample. We found statistically significant positive correlations with our perceptual measure and ROA

($\rho=.59$, $p < .10$) and ROIC ($\rho=.64$, $p < .10$). These statistically significant correlations help to validate our measure of firm performance with our sample of firms.

Independent Variables

The focal variable of this study, *collective middle management innovative behavior* (MMIB), is the proposed antecedent to organizational innovation suggested by the resource-based view of the firm. This process-oriented variable is captured through the survey instrument, Innovative Behavior scale, first developed by Dyer, Gregersen, and Christensen (2008). The survey uses 19 items to measure four latent constructs: (1) questioning, (2) observing, (3) experimenting/exploring, and (4) idea networking. This survey operationalizes the constructs that differentiate innovative entrepreneurs from general managers in large organizations (Dyer et al, 2008). The response options were measured on 7-point Likert scale and ranged from 1 or “strongly disagree” to 7 or “strongly agree”.

Due to the multi-nationality of our sample, coupled with the inclusion of a developing economy, we encountered additional hurdles to the utilization of our survey instrument. First, the survey instrument was developed and tested in the US. There are several areas of commonality that exist between the US and Mexico, which bode well for the application of this survey instrument in all three countries. Mexico shares their northern border with the US and is both a large exporter and importer with the US. Many US multinational enterprises have subsidiaries in Mexico and vice versa.

Strong familial ties exist between residents of these countries. Although the Mexican border is partially fortified and a current US political issue, this has not

hampered the legal cross-border transfer of goods, services, and labor. English is a common language for business transactions in Mexico and the majority of educated Mexicans have some fluency in English. Also, many border-states within the US issue government documents and announcements in both English and Spanish. Despite these commonalities, suggesting the favorable applicability of the instrument. We translate the instrument (separately) into Spanish, we then back-translate the instrument to identify any language or terminology problems that may exist. To further ensure construct validity, we applied statistical tests for measurement invariance to ensure the theoretical constructs of interest exhibit adequate cross-national equivalence (Steenkamp and Baumgartner, 1998).

Organizational Moderators

The organizational environment has been identified as an important factor in this study. This study captures three dimensions of the organizational context: participatory leadership, entrepreneurial orientation, and organizational trust. First, participatory leadership was measured using a refinement of the survey instrument developed by Arnold, Arad, Rhoades and Drasgow (2000). The survey consisted of five (5) items, which are listed in the appendix. Second, organizational trust was measured using an adaptation of the survey instrument developed by De Clercq, Dimov, and Thongpapanl (2010). For each construct, the responses provided by the middle managers were mean averaged to yield a variable score. Because this study aggregates individual responses up to the organizational level, we calculated the intraclass correlations statistics ICC (2) and the interrater agreement statistic ($rwg_{(j)}$) (James, Demaree, & Wolf, 1984). The ICC (2) value and $rwg_{(j)}$ is .74 and .97 for participatory leadership and .81 and .96 for

organizational trust, respectively. A list of the items used for both scales is included in the appendix.

Third, entrepreneurial orientation was measured using an adaptation of the survey instrument developed by Miller (1983). For this construct, only top managers were surveyed. Top managers are responsible for setting the direction of the organization and creating the organization's goals and objectives, while identifying the means needed to achieve those goals (Makri, Lane, & Gomez-Mejia, 2010). This construct was captured using a five-item scale. It is included in the appendix.

Regional Moderators

The regional-level formal institutional variable is the *human development index*. The index of human development (HDI) was created by the United Nations as a composite measure of health, education, and income within a specific subnational region. It has become a widely accepted alternative to GDP for assessing a countries' progress in developing the formal infrastructure to support economic growth and overall well-being (UNDP, 2011). The score was collected from the United Nations Development Programme for the year 2011 (UNDP, 2011).

The regional-level informal institutional variable is *population density* (POPDEN). In urban communities, there exists a concentration of resources and an imposed social integration, caused by more frequent interaction of diverse groups (OECD, 2010). Population density is measured as the population per square kilometer. The data was collected from the database of the Organisation for Economic Co-operation and Development for the year 2011.

National Moderators

The formal institutional moderators were obtained from the *Global Competitiveness Report* (World Economic Forum, 2010). This influential report examines multiple factors that enable national economies to achieve sustained economic growth and long-term prosperity. The survey questions are measured on a seven-point scale, each with their individual scale anchors.

The formal institution moderator (FORMAL) uses the following four items of the report: (1) For *Property Rights*, executives were asked how would you rate the protection of property rights, including financial assets, in your country, with “very weak” and “very strong” on opposite ends of the scale. (2) For *Intellectual Property Protection*, executives were asked how would you rate intellectual property protection, including anti-counterfeiting measures, in your country, with “very weak” and “very strong” on opposite ends of the scale. (3) For *Financial Market Sophistication*, executives were asked how would you assess the level of sophistication of financial markets in your country with “poor by international standards” and “excellent by international standards” on opposite ends of the scale. (4) For *Venture Capital Availability*, executives were asked how easy it is for entrepreneurs with innovative but risky projects to find venture capital, with “very difficult” and “very easy” on opposite ends of the scale.

The Informal institutional moderator (UAI) was collected from Geert Hofstede’s Cultural Dimensions database. The scores were last updated in 2010 (Hofstede, Hofstede & Minkov, 2010). The scores on the dimensions are listed for 76 countries, partly based on replications and extensions of the IBM study on different international populations.

The original study was an analysis of a large database of employee value scores collected by IBM between 1967 and 1973 covering more than 70 countries. Subsequent studies validating the earlier results have included commercial airline pilots and students in 23 countries, civil service managers in 14 countries, 'up-market' consumers in 15 countries and 'elites' in 19 countries.

The cultural dimension used to create this moderator variable is uncertainty avoidance. Hofstede defines uncertainty avoidance as the degree of comfort members of a particular society experience with uncertainty and ambiguity. Societies characterized with low levels of uncertainty avoidance have high tolerance for ambiguity, disruption, and change (Hofstede, 1980, 2001). Managers in high uncertainty avoidance cultures look for structure in their organizations, institutions and relationships, which makes events clearly interpretable and predictable (Hofstede, 1980, 2001).

Control Variables

A few studies have identified with some consistency certain firm-level variables that impact organizational innovation. Camison-Zornoza, Lapiedra-Alcami, Segarra-Cipres, and Boronat-Navarro (2004) meta-analysis identified organizational size as a significant determinant of organizational innovation. Thus, organizational size was operationalized as the natural logarithm of the number of employees, which is a standard measure within the strategy literature. We also employ natural logarithm of annual sales as a proxy for organizational slack, as this construct has been shown to impact innovation performance in previous studies (Hitt, Ireland, Camp, and Sexton, 2001). Both of these

values, number of employees and annual sales, are collected as part of the survey instrument.

Despite the resource-based view's assertion of the source of competitive advantage being completely internal to the firm, other scholars propose the value of a resource can only be measured within a specific context (Priem & Butler, 2001). Industry structure, conduct, and performance must be evaluated before entry (Caves, 1964). Mobility barriers and market position must be analyzed, if existing, and created, if necessary (Caves & Porter, 1977; Porter, 1980). Industry structure represents a crucial factor, in accounting for inter- and intra-industry differences in firm performance (Caves & Porter, 1977; Porter, 1980).

A key industry factor that shown promise as an explanatory factor in strategic management literature is 'industry velocity' (Bourgeois & Eisenhardt, 1988; Eisenhardt, 1999; Eisenhardt and Martin, 2000; Judge and Miller, 1991), also referred to as 'industry clockspeed' (Fine, 1998). Speed and unpredictability of change are the key components of industry velocity (Eisenhardt & Martin, 2000). Such that, high velocity industries are characterized by rapid and unpredictable changes in product and process technologies and competitors' strategic actions and low velocity industries are stable with predictable patterns of behavior which allow firms more time for the strategic decision making process to occur. In these low velocity environments, change is relatively slow and deliberate, thus incumbent firms gradually improve their understanding of the environment and make rational, well-developed decisions; whereas high velocity industries pose different requirements due to their unpredictability and high rate of

More recent research has considered the impact of industry velocity on organizational performance and organizational action. For example, Nadkarni and Barr (2008) investigated the antecedents of strategic action utilizing the contrasting causes, industry structure and managerial cognition. Utilizing industry velocity as a key construct, the authors suggest industry velocity affects managerial cognition which in turn impacts strategic action. Zahra (1993) suggested hospitable environments tend to discourage innovation and in dynamic or high growth environments, companies emphasize new business creation and innovation. Thus, industry for each business unit is controlled for in the analysis. Each top manager was required to select one of the following choices for industry for their business unit: Mining/Minerals, Construction/Engineering, Food Products/Processing, Textile/Paper Products, Chemicals/Metals, Transportation, Telecommunications, Retail, Financial/Insurance, and Other. If a respondent selected "Other" as an industry choice there was a space provided to enter their industry label.

DATA ANALYSIS

For this study we used ordinary least squares (OLS) regression for data analysis. Multiple regression analysis is a versatile dependence technique commonly used in social science research (Hair et al, 2006). OLS regression assumes a linear relationship between several independent (predictor) variables and a single dependent variable. From the analysis, a set of weighted independent variables form the regression variate, which is a linear combination of the independent variables that best predict the dependent variable (Hair et al, 2006). For this study, three multiple regression models were built. Models 1 and 2 were built and tested in a hierarchical manner. The hierarchical structure of the

process allowed us to test for main effects and moderator effects in a step-by-step progression. Model 3 was built as a stand-alone model to test for a main effect relationship.

SUMMARY

The research design, sample, variables and their operationalization were introduced in this chapter. This chapter also outlined the procedures for data collection and described the data analysis. The data collection process spanned two (2) countries and required techniques to ensure cross-national equivalence. Due to the multi-variate nature of our model, we employed OLS regression for the statistical analysis. In the next chapter, the results of the analysis will be presented.

IV. EMPIRICAL RESULTS

The results of the statistical analyses are presented in this chapter. First, descriptive statistics of the sample are introduced. Second, validity analysis of latent constructs are reported, followed by correlation analysis of study variables. Third, OLS regression analyses are presented. This chapter concludes with a summary of the hypotheses test results.

Descriptive Statistics

Descriptive statistics for the full sample are reported in Table 2. The total sample includes 34 US firms and 30 Mexico firms. Each firm is one complete record. There is no missing data to report. Each firm unit consists of one top manager and three middle manager respondents.

TABLE 2 – DESCRIPTIVE STATISTICS FOR TOTAL SAMPLE**(N = 64)**

	Min	Max	Mean	Std. Dev.
MM Organizational Innovation	3.00	6.51	4.71	.77
TM Organizational Innovation	1.00	6.35	4.22	1.11
MM Firm Performance	2.69	6.83	5.08	.93
TM Firm Performance	2.75	7.00	5.19	1.00
MM Innovative Behavior	9.67	21.44	17.25	2.24
Firm Age	8	118	37.25	26.72
Industry	0	1	.36	.48
log Firm Size	4.49	12.90	7.95	2.58
Participatory Leadership	3.50	6.17	4.96	.64
Entrepreneurial Orientation	2.00	6.17	4.11	.93
Organizational Trust	3.40	7.00	5.15	.75
Human Development Index	.79	.96	.91	.04
Population Density	12	6000	2377.06	2191.68
Property Rights	4.00	5.50	4.80	.75
Intellectual Property Rights	3.20	5.40	4.37	1.11
Financial Market Sophistication	4.60	6.20	5.45	.80
Venture Capital Availability	2.40	4.20	3.36	.91
Uncertainty Avoidance	46.00	82.00	62.88	18.11

TABLE 3 – DESCRIPTIVE STATISTICS FOR US FIRMS**(N = 34)**

	Min	Max	Mean	Std. Dev.
MM Organizational Innovation	3.00	6.51	4.58	.71
TM Organizational Innovation	1.95	6.35	4.15	1.03
MM Firm Performance	2.69	6.83	5.15	1.04
TM Firm Performance	3.25	7.00	5.08	1.01
MM Innovative Behavior	12.22	21.44	17.18	1.96
Firm Age	10	118	38.35	32.90
Industry	0	1	.38	.49
log Firm Size	4.79	12.90	8.46	2.46
Participatory Leadership	3.50	6.00	4.91	.613
Entrepreneurial Orientation	2.00	5.33	3.82	.80
Organizational Trust	3.40	7.00	5.22	.871
Human Development Index	.92	.96	.94	.01
Population Density	100	4405	1613.50	1212.16
Property Rights	5.50	5.50	5.50	
Intellectual Property Rights	5.40	5.40	5.40	
Financial Market Sophistication	6.20	6.20	6.20	
Venture Capital Availability	4.20	4.20	4.20	
Uncertainty Avoidance	46.00	46.00	46.00	

TABLE 4 – DESCRIPTIVE STATISTICS FOR MEXICO FIRMS**(N = 30)**

	Min	Max	Mean	Std. Dev.
MM Organizational Innovation	3.00	6.37	4.85	.82
TM Organizational Innovation	1.00	6.00	4.30	1.21
MM Firm Performance	3.25	6.33	4.99	.80
TM Firm Performance	2.75	7.00	5.31	.99
MM Innovative Behavior	9.67	21.02	17.33	2.55
Firm Age	8	72	36.00	17.78
Industry	0	1	.33	.48
log Firm Size	4.49	12.38	7.38	2.63
Participatory Leadership	3.50	6.17	5.01	.67
Entrepreneurial Orientation	2.50	6.17	4.44	.97
Organizational Trust	4.17	6.42	5.08	.59
Human Development Index	.79	.96	.91	.04
Population Density	12	6000	3242.43	2702.75
Property Rights	4.00	4.00	4.00	
Intellectual Property Rights	3.20	3.20	3.20	
Financial Market Sophistication	4.60	4.60	4.60	
Venture Capital Availability	2.40	2.40	2.40	
Uncertainty Avoidance	82.00	82.00	82.00	

TABLE 5 – ANOVA COMPARISON OF MEANS OF KEY VARIABLES

	US Firm Mean	MX Firm Mean	F-Statistic	
MM Organizational Innovation	4.58	4.85	1.967	
TM Organizational Innovation	4.15	4.30	.293	
MM Firm Performance	5.15	4.99	.510	
TM Firm Performance	5.08	5.31	.852	
MM Innovative Behavior	17.18	17.33	.067	
Firm Age	38.35	36.00	.122	
Log (Firm Size)	8.46	7.38	2.877	**
Participatory Leadership	4.91	5.01	.432	
Entrepreneurial Orientation	3.82	4.44	7.842	**
Organizational Trust	5.22	5.08	.577	
Human Development Index	.94	.87	136.717	**
Population Density	1613.50	3242.43	10.072	**

^{a**} Indicates $p < .01$

In Tables 3 and 4, descriptive statistics are presented for US and MX firms separately and some interesting differences are noted via ANOVA results in Table 5. In general, firms in the US subsample are significantly larger than firms in the Mexican subsample. In fact, on average the US firms are 15% larger than the MX firms. Although the US context is a more developed economy, the MX firms in our sample are located in more heavily populated areas than their US counterparts. This difference is statistically significant ($f=2.87$, $p<.01$).

The managerial views of the organizational context differ across samples as well. The entrepreneurial orientation scores are on average higher in MX firms and the difference of 16% is statistically significant ($p<.01$). Despite the differences displayed in organizational environment, neither the key independent variable of collective middle management innovative behavior nor the key dependent variables of organization innovation and firm performance, have statistically significant differences between

groups. Though not statistically significant, the MX firms display organizational innovations scores higher than the US firms. The MX firms' middle manager score for organizational innovation is 6% higher than their counterparts in the US. The MX firms' top manager score for organizational innovation is 4% higher than their counterparts in the US. Similarly, the MX top manager score for firm performance is also 5% higher than their counterparts in the US.

The descriptive statistics support Khanin, Ogilvie and Leibsohn (2012) that to compete in developing economies, firms require an entrepreneurial orientation and managers engaged in entrepreneurial behavior. In countries characterized by a lack of institutional development that would support economic growth, organizational behavior becomes more entrepreneurial to bridge the gap created by the lack of institutional development (Serviere, 2010).

In addition, all variables were tested for normality using Skewness-Kurtosis test and all variables are found to be normally distributed except for variable, firm size. Thus, the variable firm size is transformed by calculating the natural log of the number of employees, to bring it within the normality constraints.

Correlation Analysis

Next, correlations for all the variables included in the study are presented in Table 8. Dummy variables have not been included. There appears to be no problems with multi-collinearity, as all correlations are well under .90. Also, all independent and control variables have variance inflation factors (VIF) well under the suggested value of 4.0 with the highest value equal to 1.2.

Reliability Analysis

Next, reliability test results for the scale variables included in the study are presented in Table 6. The latent constructs are collective middle manager innovative behavior, participatory leadership, entrepreneurial orientation, and organizational trust. First, the Cronbach alpha's (α) are all above 0.70, suggesting high reliability for all of the latent constructs.

TABLE 6
Reliability Analysis
(N = 64)

Variable	α	Mean	S.D	1	2	3	4
Questioning Behaviors	.74	4.40	.55	1.00			
Observing Behaviors	.84	4.63	.74	.20	1.00		
Experimenting Behaviors	.88	4.30	.80	.37**	.68**	1.00	
Idea Networking Behaviors	.79	3.92	.78	.27*	.62**	.53**	1.00
Participatory Leadership	.72	4.96	.64				
Entrepreneurial Orientation	.77	4.11	.93				
Organizational Trust	.91	5.15	.75				

^a * indicates $p < 0.05$, ** indicates $p < 0.01$

Second, the four indicators for the collective middle manager innovative behavior construct was aggregated to provide an index for data analysis. Principle components factor analysis was used for this data reduction. The factor loadings and communalities (h^2) are presented in Table 7. Although the initial correlation matrix values were relatively high and it passed the Kaiser-Meyer-Olkin Measure of Sampling Adequacy test, there appeared to be an issue with a 4-factor solution. All of the item loadings were above .80, except for *Questioning Behaviors*. The factor loading for questioning at .51 was marginally acceptable for convergent validity (Hair et al, 2006). Thus, the principle

components analysis was rerun as a 3-factor solution (without questioning). The subsequent results provided factor loadings all above .80, which indicated high construct reliability. The results of the 3-factor principle component analysis with varimax rotation captured 74.07% of the total variation, compared to only 59.72% captured by the 4-factor analysis.

Third, both measurement models were evaluated using confirmatory factor analysis (CFA). Global measures of fit were used to evaluate overall agreement between the theoretical models and the sample data. Although it is difficult to determine absolutely when a measurement model is good or bad using fit indices, it is appropriate and much easier to compare the fit of two models using fit indices (Hair et al, 2006). In this case, the 3-factor model shows tremendous improvement in several appropriate fit indices, when compared to the 4-factor model. A $CFI_{3\text{-factor}}$ of .90 compared to $CFI_{4\text{-factor}}$ of .77, a $RMR_{3\text{-factor}}$ of .08 compared to an $RMR_{4\text{-factor}}$ of .11, and a $RMSEA_{3\text{-factor}}$ of .11 compared to an $RMSEA_{4\text{-factor}}$ of .13, all suggest the 3-factor solution is the appropriate measurement model for this analysis.

TABLE 7
Construct Validity
(N = 64)

Item	F1	h^2	F1'	$h^{2'}$
Questioning Behaviors	.51	.26		
Observing Behaviors	.86	.73	.9	.81
Experimenting Behaviors	.86	.74	.86	.73
Idea Networking Behaviors	.81	.65	.83	.68
% of Variance	59.72		74.07	

TABLE 8
BIVARIATE CORRELATIONS
(N = 64)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Organizational Innovation	1.00												
2. Firm Performance	.14	1.00											
3. Firm Age	-.19	.05	1.00										
4. Industry	-.24	.11	.22	1.00									
5. Ln(Employees)	-.29*	.25*	.16	.28*	1.00								
6. Middle Manager Innovative Behavior	.33**	.18	-.01	-.07	-.12	1.00							
7. Participatory Leadership	.14	.37**	.02	.03	.014	.52**	1.00						
8. Entrepreneurial Orientation	.30*	.21	-.03	.09	-.14	.02	.07	1.00					
9. Organizational Trust	.13	.22	-.09	-.07	-.22	.36**	.52**	-.06	1.00				
10. Human Development Index	-.31*	.02	.08	.13	.32*	-.09	-.09	-.38**	.04	1.00			
11. Population Density	-.15	.18	.15	.22	.19	-.05	-.14	.14	-.34**	.08	1.00		
12. Formal Institutions	-.15	-.02	.04	.05	.21	-.10	-.08	-.34**	.10	.83**	-.37**	1.00	
13. Uncertainty Avoidance	.15	.02	-.04	-.05	-.21	.10	.08	.34**	-.10	-.83**	.37**	-1.00**	1.00

^a * indicates $p < 0.05$, ** indicates $p < 0.01$

Antecedent of Organizational Innovation

The results of the ordinary least squares regressions with organizational innovation (AG_INVP) as the dependent variable is reported in Table 9. Two models are built and tested in a hierarchical manner. In Model 1, only control variables including the dummy variable for industry are used. In Model 2, primary main effect variable is added. Both overall models are statistically significant.

H1 suggested that there would be a positive relationship between collective middle manager innovative behavior (MMIB) and AG_INVP. In Model 2, the coefficient for *Collective Middle Manager Innovative Behavior* is statistically significant; therefore ($\beta = .30, p < .05$), H1 is supported. Also, the variance explained as represented by an adjusted R-square increased to 20.9 %, a 70% increase over the base model. This large increase in variance explained further supports the relationships suggested by H1.

Table 9
Results of OLS Regression for Group-Level Predictors
(N = 64)

Variable	Model 1		Model 2	
	Coef.	t	Coef.	t
Constant	.98*	2.40	.88*	2.23
Controls:				
Firm Age ^b	-.12	-.94	-.12	-1.02
Industry ^b	-.15	-1.15	-.14	-1.10
Ln(Employees)	-.23†	-1.82	-.20	-1.63
Main effect:				
Middle Manager Innovative Behavior ^a			.30*	2.53
<i>F-value</i>	2.81*		3.89**	
<i>Adjusted R-Square</i>	.12		.21	
<i>ΔR-Square</i>			.09*	

^a Collected at middle manager level

^b Collected at top manager level

^c † indicates $p < 0.1$, * indicates $p < 0.05$, ** indicates $p < 0.01$

Moderating Effects of the Organizational Context

The next step of regression analysis involves the addition of the organizational context variables to the base relationship of collective middle management innovative behavior and organizational innovation. The results are reported in Table 10. Five models are built and tested in a hierarchical manner. In Model 1 represents the relationship suggested previously by H1. It will be the base model for the next steps of regression analysis. In Model 2, the organizational context variables, participatory leadership (PALS), entrepreneurial orientation (ENOR), and organizational trust (TRUS) are added to the base model. In Model 3, the interaction of MMIB and PALS is added to Model 2 equation. In Model 4, the interaction of MMIB and ENOR is added to Model 2 equation. In Model 5, the interaction of MMIB and TRUS is added to Model 2 equation. These interaction terms were created using mean-centered variables. Mean-centering reduces non-essential colinearity, while increasing the interpretability of the moderated results (Dalal & Zickar, 2012).

H2a, H2b, and H2c suggest the organizational context will impact the relationship between collective middle manager innovative behavior and organizational innovation. In Model 2, the coefficient for entrepreneurial orientation is statistically significant; illustrating an impact of organizational context on organizational innovation. This result also suggests ENOR could act as a predictor of organizational innovation. Models 3, 4 and 5 specifically address the impact of organizational context on the base relationship. In Model 3, the coefficient for *Participatory Leadership* interaction with MMIB is marginally related to *Organizational Innovativeness* ($\beta = 1.45, p < .10$); thus providing

support for H2a. Figure 3 graphically depicts this moderating effect of participatory leadership. This coefficient is also positive suggesting a positive or complementary effect on the base relationship. In Model 4, the coefficient for *Entrepreneurial Orientation* interaction with MMIB is not statistically significant; thus H2b is not supported. In Model 5, the coefficient for *Organizational Trust* interacts positively with MMIB to influence overall Organizational Innovativeness ($\beta = 1.93, p < .05$), thus providing support for H2c. This coefficient is also positive suggesting a positive or complementary effect on the base relationship. Figure 4 graphically depicts this moderating effect of organizational trust. Overall, two of our three organizational context moderators were supported by our data.

The addition of the organizational context variables increased the variance explained. In Model 2, the variance explained as represented by an adjusted R-square increased to 29% - a 39% increase over the base relationship. The addition of the interaction terms further increase the amount of variance explained. The adjusted R-square for Model 3 increased to 33.4%. The adjusted R-square for Model 4 increased to 30%; thus, the large increase in variance explained found in Model 4 suggest partial support exists for H2b. The adjusted R-square for Model 5 increased to 34.2% a 64% increase in adjusted R-square over the base relationship.

Table 10
OLS Regression of Firm-Level Moderators of Innovation Behaviors and Organizational Innovativeness Relationship
(N = 64)

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
Constant	5.13*	17.86	5.02	16.42	4.77	16.13	5.02	16.36	4.81	16.41
Controls:										
Firm Age ^b	-.04	-.36	-.03	-.24	-.05	-.50	-.03	-.29	-.08	-.73
Industry ^b	-.23	-1.96	-.23	-1.95	-.16	-1.37	-.24	-1.99	-.17	-1.53
Ln(Employees)	-.11	-.90	-.06	-.50	-.01	-.12	-.06	-.48	-.01	-.08
Primary Explanatory:										
Middle Manager Innovative Behavior ^a (MMIB)	.42**	3.81	.42**	3.14	.49**	3.91	.42**	3.16	.45**	3.61
Organizational Context:										
Participatory Leadership ^b (PALS)			-.10	-.67	-.06	-.41	-.10	-.66	-.10	-.72
Entrepreneurial Orientation ^b (ENOR)			.05	.41	.04	.38	.06	.49	.06	.57
Organizational Trust ^a (TRUS)			.17	1.26	.15	1.19	.17	1.22	.18	1.42
MMIB x PALS					.34**	3.05				
MMIB x ENOR							-.08	-.71		
MMIB x TRUS									.33**	3.07
	<i>F</i>	5.90**		3.53**		4.71**		3.13**		4.73**
	<i>Adjusted R-Square</i>	.24		.22		.32		.21		.32
	<i>ΔR-Square</i>			-.02		.08**		-.03		.08**

^a *Collected at middle manager level*

^b *Collected at top manager level*

^c † indicates $p < 0.1$, * indicates $p < 0.05$, ** indicates $p < 0.01$

^d *Standardized coefficients reported for all variables, except constants*

Figure 3

Graphical Depiction of Participatory Leadership Interaction with Mid-Manager Innovation Behavior on Organizational Innovation

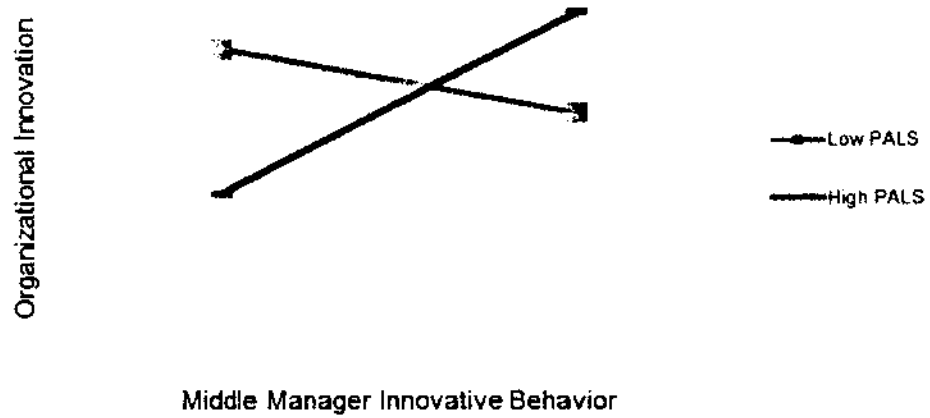
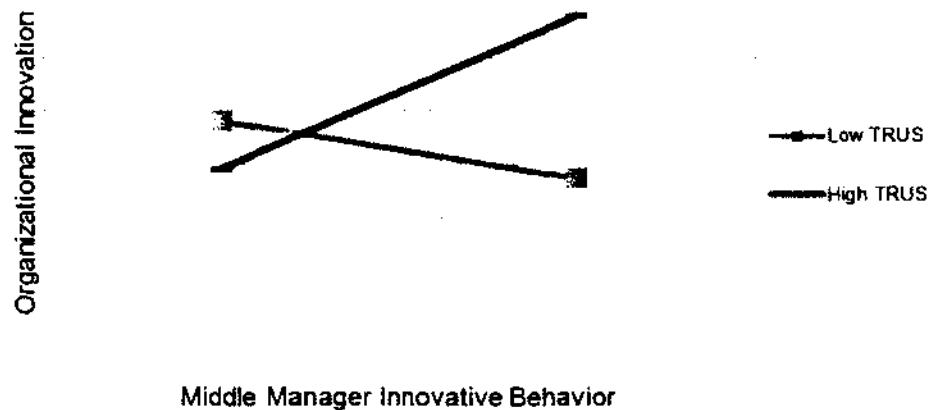


Figure 4

Graphical Depiction of Organizational Trust Interaction with Mid-Manager Innovation Behavior on Organizational Innovation



Moderating Effects of the Regional Context

The next step of regression analysis involves the addition of the regional context variables to the base relationship of collective middle management innovative behavior (MMIB) and organizational innovation (AG_INVP). The results are reported in Table 11. Five models are built and tested in a hierarchical manner. In Model 1 represents the relationship suggested previously by H1. It will be the base model for the next steps of regression analysis. In Model 2, the regional context variables, human development index (HDI) is added to the base model. In Model 3, the regional context variables, population density (POPDEN) is added to the base model. In Model 4, the interaction of MMIB and HDI is added to Model 2 equation. In Model 4, the interaction of MMIB and POPDEN is added to Model 2 equation.

H3a and H3b suggest the regional context will impact the relationship between collective middle manager innovative behavior and organizational innovation. In Model 2, the coefficient ($\beta = -.22, p < .10$) for HDI is marginally and positively significant; illustrating an impact of regional context on organizational innovation, but in the opposite direction hypothesized by H3a. In Model 3, the coefficient for POPDEN is not significant.

Models 4 and 5 specifically address the impact of regional context on the base relationship. In Model 4 the interaction of MMIB and HDI is added to Model 3. The coefficient for HDI remains significant. However the interaction term is not significant, thus providing only marginal support for H3a.

In Model 5 the interaction of MMIB and POPDEN is added to Model 3. The coefficient ($\beta = -.32, p < .05$) for the interaction is statistically significant; thus providing support for H3b. This coefficient is also negative suggesting a substitutive effect on the base relationship. With the addition of the interaction term, the coefficient for MMIB ($\beta = .53, p < .01$) increases, suggesting the interaction term also mediates the relationship between MMIB and INVP, as hypothesized by H3b. This substitution effect is graphically displayed in figure 5. In areas of low urbanization, the graphic shows a positive relationship between middle management innovative behavior and organizational innovation. However, the converse is displayed in the highly urbanized areas.

The addition of the regional context variables increased the variance explained. In Model 2, the variance explained as represented by adjusted R-square is 25% a 20% increase over the base relationship. The addition of the interaction terms further increase

the amount of variance explained. The variance explained in Model 5 is 25.8% a 23% increase in adjusted R-square over the base relationship.

Table 11
Results of OLS Regression for Regional-Level Predictors of Organizational Innovativeness
(N = 64)

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
Constant	.88*	2.24	5.14*	2.13	.91*	2.27	5.13*	2.10	.99*	2.51
Controls:										
Firm Age ^b	-.12	-1.02	-.12	-.99	-.12	-.96	-.12	-.97	-.12	-1.02
Industry ^b	-.14	-1.10	-.13	-1.05	-.13	-1.00	-.13	-1.00	-.08	-.66
Employees (LN)	-.20	-1.63	-.14	-1.08	-.20	-1.54	-.13	-1.06	-.24	-1.91
Primary Explanatory:										
Middle Manager Innovative Behavior ^a (MMIB)	.30*	2.53	.28*	2.46	.29*	2.50	.44	.20	.53**	3.12
Regional Context										
Human Development Index			-.22†	-1.79			-.22†	-1.77		
Population Density					-.06	-.47			-.05	-.39
MMIBxHDI							-.16	-.07		
MMIBxPOPDEN									-.32†	-1.88
<i>F</i>	2.81*		3.86**		3.11**		3.17**		3.30**	
<i>Adjusted R-Square</i>	.21		.25		.21		.25		.26	
<i>ΔR-Square</i>			.04†		.00		.00		.05*	

^a Collected at middle manager level

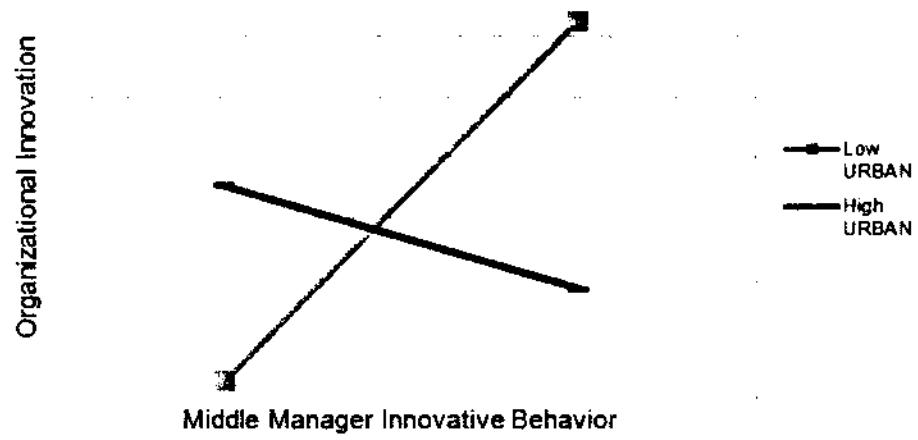
^b Collected at top manager level

^c † indicates $p < 0.1$, * indicates $p < 0.05$, ** indicates $p < 0.01$

^d Standardized coefficients reported for all variables, except constants

Figure 5

Graphical Depiction of Urbanization Interaction with Mid-Manager Innovative Behavior on Organizational Innovation



Moderating Effects of the National Environment

The next step of regression analysis involves the addition of the national context variables to the base relationship of collective Middle Management Innovative Behavior and organizational innovation. The results are reported in Table 12. Five models are built and tested in a hierarchical manner. In Model 1 represents the relationship suggested previously by H1. It will be the base model for the next steps of regression analysis. In Model 2, the national context variables, Formal Institutions is added to the base model. In Model 3, the national context variables, Uncertainty Avoidance is added to the base model. In Model 4, the interaction of MMIB and FORMAL is added to Model 2 equation. In Model 4, the interaction of MMIB and UAI is added to Model 2 equation.

H4a and H4b suggest the national context will impact the relationship between collective middle manager innovative behavior and organizational innovation. In Model 2, the coefficient for FORMAL is not significant, suggesting that there is no direct effect of this measure on organizational innovativeness. In Model 3, the coefficient for UAI is not significant, as well, suggesting no direct effect here. Models 4 and 5 specifically address the impact of national context on the base relationship. In Model 4 the interaction of MMIB and FORMAL is added to the Model 3. In Model 4, the coefficient for the interaction term is not significant; thus no support for H4a. In Model 5 the interaction of MMIB and POPDEN is added to the Model 3. In Model 5, the coefficient for the interaction term is not significant; thus no support for H4b. The addition of the national context variables only marginally increased the variance explained.

Table 12
Results of OLS Regression for National-Level Predictors of Organizational Innovativeness
(N = 64)

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>	Coef.	<i>t</i>
Constant	.88*	2.24	.84*	2.10	.60	1.01	.84*	2.00	.73	1.07
Controls:										
Firm Age ^b	-.01	-1.02	-.12	-1.00	-.01	-1.00	-.12	-.99	-.12	-1.02
Industry ^b	-.28	-1.10	-.14	-1.10	-.28	-1.10	-.14	-1.08	-.14	-1.12
LN(Employees)	-.08	-1.63	-.18	-1.47	-.07	-1.47	-.18	-1.45	-.18	-1.44
Primary Explanatory:										
Middle Manager Innovative Behavior ^a (MMIB)	.30*	2.53	.29*	2.45	.29*	2.45	.29*	2.33	.43	1.14
National Context:										
Formal Institutions (FORMAL) ^c			-.07	-.61			-.07	-.60		
Uncertainty Avoidance (UAI)					.07	.61			.36	.50
MMIB x FORMAL							.00	.03		
MMIB x UAI									-.34	-.40
<i>F</i>	2.81*		3.15*		3.15*		2.58*		2.61*	
<i>Adjusted R-Square</i>	.21		.21		.21		.21		.22	
<i>ΔR-Square</i>			.00		.00		.00		.00	

^a Collected at middle manager level

^b Collected at top manager level

^c † indicates $p < 0.1$, * indicates $p < 0.05$, ** indicates $p < 0.01$

^d *Standardized coefficients reported for all variables, except constants*

^e *Composite Score of Formal Institutions taken from World Economic Forum - Global Competitiveness Report 2009-2010*

Organization Innovation and Firm Performance

The results of the ordinary least squares regressions with firm performance as the dependent variable is reported in Table 13. Two models are built and tested in a hierarchical manner. In Model 1, only control variables including the dummy variable for industry are used. In Model 2, primary main effect variable is added. Neither overall model is statistically significant.

H5 suggested that there would be a positive relationship between organizational innovation (AG_INVP) and firm performance (AG_FIPF). In Model 2, the coefficient ($\beta = .25, p < .10$) for AG_INVP is statistically significant; thus, H5 is partially supported. Also, the variance explained as represented by an adjusted R-square displayed an 84% increase. This large increase in variance explained further supports the relationships suggested by H5.

Table 13
Results of OLS Regression for Organizational Innovation and Firm Performance
(N = 64)

Variable	Model 1		Model 2	
	Coef.	<i>t</i>	Coef.	<i>t</i>
Constant	-.76	-1.81†	-1.00	-2.32*
Controls:				
Firm Age^b	.00	.03	.03	.26
Industry^b	.04	.332	.08	.61
LN(Employees)	.235	1.80†	.29	2.21*
Primary Explanatory:				
Organizational Innovation^a			.25	1.88†
	F	1.35	1.935	
	R-Square	.06	.12	
	ΔR-Square		.05†	

^a Composite of middle manager & top manager indices

^b Collected at top manager level

^c † indicates $p < 0.1$, * indicates $p < 0.05$, ** indicates $p < 0.01$

^d Standardized coefficients reported for all variables, except constants

Conclusion

Statistical support was found for H1, H2a, H2c, and H3b. H2b and H3a were partially supported and H5 was marginally supported. However, no support was found for H4a and H4b. Table 14 summarizes the hypotheses, predicted relationships and statistical findings.

TABLE 14 – SUMMARY OF HYPOTHESIZED RELATIONSHIPS

H#	Variable(s)	Predicted Relationship	Findings
H1	Middle Manager Innovative Behavior	Positive	Supported
H2a	Participatory Leadership x MMIB	Stronger pos. rel.	Supported
H2b	Entrepreneurial Orientation x MMIB	Stronger pos. rel.	Marginally Supported
H2c	Organizational Trust x MMIB	Stronger pos. rel.	Supported
H3a	Human Development Index x MMIB	Stronger pos. rel.	Not Supported
H3b	Population Density x MMIB	Weaker pos. rel.	Supported
H4a	Formal Institutions x MMIB	Stronger pos. rel.	Not Supported
H4b	Uncertainty Avoidance x MMIB	Stronger pos. rel.	Not Supported
H5	Organizational Innovation	Positive	Marginally Supported

SUMMARY

The descriptive statistics, validity and correlation analysis, OLS regression analysis were introduced in this chapter. This chapter also outlined the results of the data analysis; followed by a reporting of the hypothesis testing and a summary of the results.

In the next chapter, results of the study will be discussed in greater detail. Overall, six of our nine hypotheses were supported by our data.

V. CONCLUSION

The study objectives are examined and the results of the empirical analyses presented in Chapter IV are discussed in this chapter. Theoretical and methodological contributions are outlined along with a discussion of managerial implications. Finally, a discussion of the study limitations and opportunities for future research are presented.

Study Objectives

The purpose of this study is two-fold. The first objective was to develop and test a comprehensive process model of middle management behavior and organizational innovation that contemporaneously considers contextual influences at the organizational, regional, and national levels of analysis. The second objective is to contribute to the understanding of organizational innovation by investigating the impact of organizational innovativeness on firm performance.

Two research questions were introduced in Chapter I. First, how does the innovative behavior of middle management impact overall organizational innovation? Second, how do macro-level factors, such as urbanization, local economic development, intellectual property protection, or capital availability, which frame the institutional environment, impact the middle management/ organizational innovation relationship? In doing so, this study also tested two contrasting perspectives in the context of organizational innovation: resource-based view and institutionalism. The literature was reviewed in Chapter II and nine hypotheses were developed and tested.

Using the resource-based view of the firm as a theoretical foundation, the effect of middle management innovative behavior within the firm on organizational innovativeness is explored. Building on this relationship, subsequent firm performance is influenced by organizational innovation. Using the institutional theory perspective, middle manager's role in the innovation process is augmented by the regional and national contexts. Five of the hypotheses in this study tested the resource-based view and the remaining four tested the moderating effect of the institutional theory perspective. A total of nine hypotheses were tested using a multi-country sample of 64 business units with 261 managers.

Summary of Findings

A significant amount of noteworthy results were yielded from this study. First, hypothesis 1 tested the resource based view by identifying a specific bundle of resources and measuring its impact on organizational outcomes. This hypothesis empirically tested the resource-based view's assertion of resource heterogeneity and immobility as a source of sustainable competitive advantage. The specific resource bundle was mid-manager's innovative activity as captured by a survey instrument. Empirical results showed relatively robust empirical support for this hypothesis. The hypothesis was statistically significant and in the hypothesized direction. This finding supports previous research that suggests mid-managerial activity plays an important role in overall organization performance (Mollick, 2012; Wooldridge et al., 2008). More specifically, this finding supports previous research assertion of the importance of multiple levels of management in the innovation process. Overcoming barriers to innovation requires multiple levels of

management to unlearn previously acceptable behaviors, and participate in activity that creates the out-of-box thinking needed for organizational innovation.

These findings specifically address long-standing criticisms of the RBV. RBV has been criticized for ignoring the internal firm processes that are necessary to deploy the firm's resources (Priem & Butler, 2001). And scholars have suggested research from the RBV perspective marginalizes the activities, managerial or otherwise, that go in organizations (Johnson, Melin, & Whittington, 2003). By testing RBV assertions, using an activity-based approach we removed the focus from just the existence of resources to include the utilization of resources.

Second, the findings of hypotheses 2a, 2b, and 2c introduce moderating role of organizational context into the model. Prior studies have suggested that organizational context will moderate firm-level relationships (Hornsby et al., 2002; Lumpkin & Dess, 1996). Two of the three hypotheses proposing a moderating influence for organizational contact were supported in our sample of firms. Specifically, Hypotheses 2a suggested that high levels of participatory leadership would strengthen the relationship between middle manager innovative behavior and organizational innovation. Empirical results show the level of participatory leadership had a significant positive impact on the relationship of middle manager innovative behavior and organizational innovation.

Early theorists viewed top managers as the principal guides for firm policy, growth, and strategic direction (Barnard, 1938; Selznick, 1957; Penrose, 1959). However, in the early 1970's, the view of managers as principal drivers diminished in favor of exogenous and endogenous factors like industry and competitive forces, market diversification and share growth, and product-market portfolios. The question of

management's role in the growth and performance of the firm remained a hotly debated topic set in a context of the view that management exerted little direct influence over the eventual performance of the firm (Pfeffer, 1977, 1981).

In contrast, Child (1972) brought the debate full circle arguing that strategic choices exercised by the dominant coalition of top managers within an organization were, in fact, integral to the firm's overall performance and success (Hitt & Tyler, 1991). Still others have suggested the relationship between top managers and the environment is much more complex, in which both leadership and contextual factors impact firm performance (Crossland & Hambrick, 2011; Judge & Zeithaml, 1992; Krieser et al., 2010). The results of hypothesis 2a support this complex interaction of top managers and context influencing firm performance.

Leadership style (H2a) (Vera & Crossan, 2004) and leadership behaviors (Elenkov et al., 2005) have been found to impact organizational outcomes, such as organizational innovation. Our findings outline a specific leadership behavior, participatory leadership, and details how that behavior impact organizational innovation. In doing so, we add more clarity to the complex relationship suggested by previous literature. Specifically, our findings suggest participative decision-making facilitates innovative activity.

Entrepreneurial orientation (H2b) was not supported by our data. Though this hypothesis was not supported by our data, the inclusion of entrepreneurial orientation may not provide enough added dimensionality to the middle manager innovative behavior and organizational innovation relationship. Entrepreneurial orientation as a moderator was not statistically significant. This study's findings of participatory

leadership and trust being supported, while entrepreneurial orientation was not supported, can be explained by theory. Both participatory leadership and organizational trust describe social relationships; while entrepreneurial orientation describes a strategic posture. Using social exchange theory, we view participatory leadership and organizational trust as exchange relationships with expected norms of reciprocity and mutual attraction (Emerson, 1981; Mayer et al., 1995); whereas entrepreneurial orientation is a singular construct that assesses a firm's strategic posture (Lumpkin & Dess, 1996). As such, this suggests that strategy content may not be central to understanding the valuable and rare resource bundles within the firm, but the nature of social exchange context may be.

Similarly, hypothesis 2c suggested that high levels of organizational trust would strengthen the relationship between middle manager innovative behavior and organizational innovation. Empirical results show the level of organizational trust had a significant positive impact on the relationship of middle manager innovative behavior and organizational innovation. These results in particular are noteworthy for two reasons. First, they suggest the complimentary role played by organizational context exists in both developed and developing countries. Mayer, Davis, and Schoorman (1995) posited the amount of risk taking in a relationship is a function of the trust in the relationship. Our context of organizational innovation is an inherent risky setting. Thus, it is appropriate that organizational trust would play a complimentary role in this context.

In addition, the strategy literature has been virtually silent on how top managers and middle managers interact to achieve organizational outcomes (Raes et al., 2011). The embeddedness view argues that firm behavior and institutions to be analyzed are so

constrained by ongoing social relations that to construe them as independent is wrong (Granovetter, 1985). This study suggests trust is an important dimension in the top manager/ middle manager relationship and must be accounted for when examining this relationship and organizational outcomes. The advantage of an organization is its ability to economize communication and the transfer of knowledge; trust is an important lubricant in this social system (Arrow, 1974). Our results provide clarity to this complex economization through the interaction of managerial activity and organizational trust, as well as provide measurable insight into to the top manager/ middle manager relationship in the context of strategy implementation.

Overall, these empirical results suggest that organizational context influences the innovation process. As such, this study breaks new ground by exploring the internal interaction between organizational context and innovation processes. To our knowledge, no previous study has highlighted this particular theoretical insight. If validated in subsequent studies, this suggests that future RBV research should focus on organizational configurations to best understand how processes and context interact.

Third, hypotheses 3a, 3b, 4a, and 4b empirically test the influence of multiple levels of the external environment on firm-level relationships. These hypotheses empirically test the impact of the institutional environment on the relationship suggested by hypothesis 1. Hypothesis 3a was not supported. Hypothesis 3b was empirically supported, which posited that the greater the population density within a region, the weaker the relationship of middle manager innovative behavior and organizational innovation.

The results actually depict a substitutive effect rather than a complementary effect of institutions, suggested previously in the literature (Zahra & Covin, 1995). The substitutive relationship suggests the informal networks, created in urban areas, replaces the missing formal institutional supports needed for innovation to occur in an organization. Formal institutions provide a context that rewards calculated risk-taking, regulatory policies and procedures to encourage innovation. However, devoid of those formal supports urbanization creates an embeddedness that can serve as an informal framework of support.

For instance, scholars found densely populated public sectors which emphasize educational attainment and economic growth is more conducive to organizational innovation (Acs, Audretsch, & Feldman, 1994). In sum, our data supports and refutes Priem and Butler's (2001) assertion that a resourced bundle value is indeterminable without assessing context. Clearly, additional research will need to be conducted to clarify the role of regional context on innovation processes. For example, it would be interesting to seek to understand if competitive intensity within a region systematically influences the innovation resourced bundles.

Hypothesis 4a and 4b were also not supported by the empirical findings. The lack of support for these hypotheses is particularly noteworthy. Empirical results display support for the influence of the institutional environment at the meso-level, but not at the macro-level. This suggests a spatial component exists in the relationship. Scholars have suggested a complex relationship between national variables and organizational cultures (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Nelson and Gopalan, 2003). In this

study, we attempted to see if national context influenced innovation resource bundles within the firm and failed to determine any systematic relationship.

Considerable differences exist between the two focal countries. For example, the United States has a highly educated workforce. Over 40 percent of Americans age 24 to 60 have completed a level of education beyond high school, considerably more than the Organization for Economic Co-operation and Development average of 27 percent and the second highest among all developed countries (OECD, 2010). Countries, such as Mexico, who have not yet reached the innovation-driven stage (Porter, 1990) must focus on improving institutions, building infrastructure, reduction macroeconomic instability, and improving human capital. For instance Mexican President Calderon stated reducing his nation's enormous poverty levels is his first priority, followed by the war against drug cartels (EndTime Publishing, 2011).

Despite these differences, theoretical justifications exist to explain the non-findings. First, human agency can be used to explain variation in institutions and degrees of institutionalization across settings (DiMaggio, 1988; Powell, 1991). This assertion adds confounding "rationality" to a theory that insists social actors merely conform to institutional pressures without giving clear thought to the inherent benefits and/or costs of such conformity.

Second, Meyer and Rowan (1977) suggested there existed both social and technical forces that influence the behavior of firms, however the proxies we used in this study were primarily social. Technical measures of institutional forces, such as professions, associations, or work groups may prove more beneficial. Third, social actors maybe selective in their institutional conformity. Nelson and Gopalan (2003) specifically

suggest social actors within organizations simultaneously reject and replicate different components of the host-country context. Accordingly, our findings suggest certain national context variables may be displaced when confronted with strong regional variables. Fourth, multiple levels of inquiry can suffer from theoretical incommensurabilities (Wooldridge et al., 2008). Micro and macro phenomena are typically not linked in a simple linear or causal fashion.

Finally, hypothesis 5 addressed organizational innovation's impact on overall firm performance. This hypothesis was marginally supported in the predicted positive direction. Empirical results suggested although innovation is important to firms, other factors such as operating efficiency, cost reductions, and market opportunities, compound the relationship. Though recent studies suggest middle managers impact firm performance (Mollick, 2012), the majority of literature suggests the impact of middle managers on firm performance is a lot less clear and heavily dependent on organizational context (Katz & Allen, 2004; King & Ziethaml, 2001; Wooldridge & Floyd, 1990).

Theoretical and Methodological Contributions

From an academic perspective, this dissertation makes several theoretical and methodological contributions to the literature on middle managers. First, while we have some understanding of the strategic roles of middle managers from the published literature, there has been little empirical work on the effects of middle manager behavior and few studies actually capture middle management strategic activity. Managers employ the firm's resources, managers discover new resources and new ways of employing existing resources, in novel combinations, in response to entrepreneurial views of opportunities, and this activity represents a sustainable competitive advantage.

According to King, Fowler, and Zeithaml (2001), middle managers strategic role had been overlooked historically by large firms. By the nature of their very position within the organization, they are an integral part of the organizational processes associated with creating, identifying, and/or building sustainable competitive advantages. However, as internal intermediaries, middle managers are the linchpin that connects top-level perspective with lower-level operational issues (King, Fowler, & Zeithaml, 2001). As external complementaries, middle managers gather knowledge and innovative ideas from beyond the firm's boundaries and incorporate those external ideas into innovative activity (Sleptsov and Anand, 2008; Wooldridge, Schmidt, and Floyd, 2008).

Results of this study add fine-grain detail to the strategic role of middle managers in several ways. We introduce a construct of managerial activity, which elucidates an actual process of managerial actions and patterns of behavior. Our results suggest this process contributes directly to an organizational outcome. Second, this dissertation investigates middle manager impact on a specific firm-level outcome, organizational innovativeness.

Second, the majority of studies with middle management as the focal construct are single company and single country studies (Wooldridge, Schmid, & Floyd, 2008). In this study middle management is evaluated across 64 different organizational units. These organizational units are located across two countries, with dissimilar cultures, languages, legal systems, and macroeconomic conditions.

Third, few middle management studies address top manager/ middle manager relationship and the subsequent impact on organizational outcomes (Raes et al., 2011; Wooldridge, Schmid, & Floyd, 2008). Due to the field's fascination with strategy

formulation to the exclusion of strategy implementation, few studies have examined the influence of managers below the top-level executives (Raes et al., 2011). This study specifically focuses on the middle manager's role in the organizational innovation process. This study also contributes to the domain of top manager/ middle manager interaction by examining the relationship in the context of organizational innovativeness.

We identify key organizational context factors, such as participative leadership and trust, that influence organizational innovation. Furthermore, Wooldridge, Schmid, and Floyd (2008) suggest the middle manager literature would benefit from research that examined the top manager/ middle manager relationship in reference to strategy formulation, implementation and organizational performance. This study attempts to substantiate these scholars assertion by employing a sample design that obtains both perspectives. The subsequent findings reinforce their charge; suggesting understanding this relationship is paramount to understanding organizational performance.

Third, in the international strategy literature, this study adds to the integration/responsiveness framework initially developed by Prahalad (1975) and extended by Bartlett and Goshal (1989) through a resource-based interpretation of firm specific advantages. The benefits of integration in the integration/responsiveness framework require non-location bound firm specific advantages, to be realized. Our middle manager innovative behavior construct represents a non-location bound resource that can be exploited by multinational firms to improve economic performance.

Fourth, this study captures internal and external influences on organizational innovation contemporaneously. Lumpken and Dess (1996) describe innovativeness as "... a firm's tendency to engage in and support new ideas, novelty, experimentation, and

creative process that result in new products, services, or processes.” The extant literature has suggested many determinants of organizational innovation (Damanpour, 1987, 1991). Some of these determinants are internal to the organization, pertaining to organizational structure, managerial behavior, and knowledge resource capacity (Akroyd et al, 2009; Atuahene-Gima & Ko, 2001; Balkin et al, 2000). Still others are external to the organization, such as industry velocity and technology intensity (Drucker, 1985).

However, only a few studies have investigated the impact of both external and internal factors on organizational innovativeness (Damanpour, 1991). This study utilizes multiple hypotheses developed using both the resource-based view (internal) and institutional theory (external) to test firm-, regional-, and national-level factors impact organizational innovativeness. Tangentially, the empirical results suggest organizational culture acts as a robust buffer to national or host-country environments.

Fifth, several studies suggest organizational innovation is a source of sustainable competitive advantage (Hitt et al., 2001; Kuratko et al., 2001; Zahra, 1999) However, few studies examine the relationship empirically and most utilize patent data and R&D expenditures as a measure of organizational innovation (Kuratko et al., 2001). Also, few studies focus on the context of organizational innovation (Lega, 2009). In this study, we utilize multiple theoretical perspectives to synthesize the literature and investigate organizational innovation from a process perspective. This study empirically tests the organizational innovativeness and firm performance relationship. Though recent studies suggest middle managers impact firm performance (Mollick, 2012), the majority of literature suggests the impact of middle managers on firm performance is a lot less clear and heavily dependent on organizational context (Katz and Allen, 2004; King and

Ziethaml, 2001; Wooldrige and Floyd, 1990). Our findings provide additional support for this assertion.

Sixth, this study addresses some of the criticism in the resource-based view (RBV) within the strategy literature. Barney (1991) framed two important assumptions in an attempt to distinguish RBV from other strategic management theories: (1) competing firms are likely to possess different bundles of resources (resource heterogeneity) and (2) resource differences may persist as a result of resource immobility. He also extended RBV arguments by suggesting that resources owned or controlled by firms that are valuable, rare, inimitable, and non-substitutable provide the opportunity for them to earn superior rents. In response to Barney's (1991) assertions, several scholars have proposed criticisms of the resource-based view tenants: (1) The resource-based view as proposed ignores the internal firm processes that are necessary to deploy the firm's resources (Priem & Butler, 2001); (2) Barney's characterization of RBV disregards the discretionary decisions made by managers about resource creation, development, and deployment (Amit & Shoemaker, 1993); and (3) Resources can only be valuable in the context of some activity (Priem & Butler, 2001).

Our findings address these criticisms in several noteworthy ways. First, we add boundary conditions to RBV by identifying a specific bundle of resources, middle manager innovative behavior. Second, we test the RBV assertions in context, which adds validity and specificity to the theory. Third, our study does not marginalize managerial activity; we emphasize it by focusing on the internal process of organizational innovation. Results of this study show in a true Penrosian fashion that it is not the mere resources, but the development and application of resources by the firm's managers that

serves as the basis for superior firm performance. When the firm's capabilities can be leveraged to take advantage of market opportunities, firms can achieve a desirable competitive position and are better able to derive superior performance.

Furthermore, our findings address concerns raised by Sirmon, Hitt, and Ireland (2005) in which they posit the resource-based view fails to consider external environmental contingencies. Our hypothesized relationships include external environmental moderators at both the micro- and macro-level, in an effort to investigate the impact of exogenous factors on firm-specific resource-bundles.

A recent analysis by Armstrong & Shimizu (2007) argued the resource based view is still a relevant theory with contributions yet to be made to the field, but scholars need to address the empirical issues, such as operationalization, and the sharpening of the boundary conditions to help address the potential tautology. In fact, they suggest researchers employ survey instruments to mitigate the construct measurement problems created when attempting to objectively observe such dimensions as value and inimitability of resources. This study employs a validated innovative behavior scale to operationalize the focal construct. Armstrong and Shimizu (2007) also suggested better control of confounding factors to delineate clear relationship and multiple-industry design to illuminate industry idiosyncrasies. The sample of firms investigated in this study cross multiple industries and we utilize an industry control to remove the ambiguity created by multiple industry designs.

Finally, the study made an important methodological contribution. The study was the first study to employ Dyer, et al. (2009) innovative behavior scale in a multi-country sample. . We explored the basic structure of the construct across both countries, the US

and Mexico. The majority of the salient loadings, which define the structure of the measurement instrument and the items comprising the measurement instrument, should exhibit the same configuration across countries (Steenkamp & Baumgartner, 1998). Our results suggested the three of the four indicators for the innovative behavior construct were highly correlated and supported cross-national equivalence. This is an important contribution to the literature suggesting the robustness of the construct. Also, suggesting future research may employ this construct to make quantitative comparisons of means across countries and examining structural relationships with other constructs cross-nationally.

Managerial Implications

Competing in the global economic environment will require executives to question the processes and procedures that were successful in the past. In other words, what worked yesterday might not work today or tomorrow? Schumpeter's (1942) creative destruction suggests the key to continued success lies in the firm's ability to reinvent itself. In an effort to find a solution, this study makes several contributions from a practitioner perspective. This study identifies the managerial behaviors (below top management) that contribute to organizational innovation. First, the activities (observing, experimenting, and idea networking) represented in our middle manager innovative behavior construct adds fine-grain detail to role managers play in organizational innovation. Top managers should nurture this behavior and reward managers that partake in these activities.

Second, our results illuminate the importance of the top manager/ middle manager relationship in strategy implementation. When organizations view innovation

performance as a key determinant of the overall performance, top managers should focus on the social exchanges that permeate the relationships of the multiple levels of management and encourage the combination of knowledge among them. This study suggests top managers must create an organizational context of participatory decision-making and trust in order to promote innovative activity within their firm. Participatory decision making disperses decision-making power, which promotes innovative ideas and solutions. In this type of environment, mid-level managers are more committed and involved in the organization's goals, because they actually help to create them. This involvement in the decision-making process is important in two significant ways: (1) Middle managers contribute organizational knowledge gained by middle managers through the interaction with line managers; and (2) Middle managers interaction with other managers external to the firm at professional meetings (i.e., trade associations and conferences) contribute ideas and experiences from a diverse group of entities in the organization's task environment, such as supplier, competitors, and distributors. Furthermore when trust is prevalent within an organization, open knowledge exchanges will occur between levels of management. Top managers should create an environment of transparency by sharing information and upholding both formal and informal agreements, because the cultivation and collaboration of knowledge is essential for the creation of novel ideas and solutions. Thus, allowing key middle managers to make decisions, sharing information across managerial silos, trusting managerial input at multiple levels, and being consistent in terms of keeping agreements are all activities top managers should engage in to promote organizational innovation.

Third, this study addresses the external influences to organizational innovation created by national differences. Top managers must realize there is a spatial quantity to the impact of national differences on their organizations. The regions their organizations are located in are important, but a strong organizational culture can buffer national-level influences.

Study Limitations and Future Research

This study does suffer from some methodological limitations that can be improved upon in future studies. First, although my hypotheses suggest causality, the relationships tested are not separated in time and hence, causality is theoretically inferred. For example, it is difficult to suggest causal links between managerial activity and organizational outcomes, such as organizational innovation and firm performance as there are many variables that influence these outcomes as well.

Second, this research focuses on managerial activities in relatively large organizations. Decision outcomes, such as new products and services, are affected by many variables within a large firm and this relationship is only one of several that exist in this organizational innovation process. In other words, although this relationship exists and we now understand more about middle managers' role in the process, it is not the only, nor the most important component of the process. Future research could examine other important variables, such as organizational structure, resource allotment, and managerial diversity.

Third, this study utilizes a minimum of three managers to represent innovative behavior in large firms. It is evident that only surveying a subset of managers within an organization limits the generalizability of responses to the entire firm. Future research

could increase the number of managers surveyed within a firm in order to gain a more complete view of managerial activity.

Finally, this study utilizes perceptual measures of dependent variables. While we employed several controls for mono-method bias, future research could utilize both perceptual and archival measures in order to add validity and reliability to the organizational outcome measures.

SUMMARY

It is very unlikely that there will be long stable periods in which firms can achieve sustainable competitive advantages. Instead, the hyper-competitive nature of competition today (D'Aveni 1994) will allow only short periods of advantage making the re-thinking of strategy more or less continuous. These developments will require greater cross-fertilization of the field with more focus on the areas of overlap between the theories within the discipline. The innovation strategies of this hyper-competitive context cannot be explained in terms of top-down planning and control, but will be captured in the interaction of management layers in which action and cooperation occur among the different parts of the organization; this, often tacit, behavior that is difficult to conceptualize and operationalize will manifests itself in the strategic actions of middle managers. The findings of this study suggested we can identify those strategic actions required of managers for firm survival.

As Kuratko, Ireland, Covin, and Hornsby (2005) suggest, middle managers, in their boundary-spanning role, are uniquely positioned to provide insight and contributions in to the innovative process. In regards to the effect middle manager innovative behavior, there was a significant impact on organizational innovativeness.

This finding suggests middle manager's role in organizational innovation cannot be overlooked.

Wooldridge, Schmid, and Floyd (2008) remind us that we cannot have a complete understanding of middle managers' impact without examining the context in which that takes place. Prior studies have suggested that organizational context will moderate firm-level relationships (Hornsby et al., 2002; Lumpkin & Dess, 1996). However, the majority of this research has been empirically tested in developed countries and similarly most of this research has not employed a multi-national sample of firms (Wooldridge et al., 2008). Our findings suggest organizational context may be an important factor in middle management's role in organizational innovation. However, the external environmental context does not appear to systematically influence middle managers influence on organizational innovation. In sum, this study contributes to the areas of overlap between process/behavioral research, resource-based view of the firm, and institutional theory, which offers an opportunity within the strategy domain to disentangle the origins and development of socially complex competitive resources such as managerial activity, trust, and leadership.

REFERENCES

- Abdi, M. & Aulakh, P.S. 2012. Do country-level institutional frameworks and interfirm governance arrangements substitute or complement in international business relationships? *Journal of International Business Studies*, 43(5): 477-497
- Abhishek, S. & Hun, L. 2005. Predicting order and timing of new product moves: The role of top management in corporate entrepreneurship. *Journal of Business Venturing*, 20(4): 459.
- Adler, P. S. & Shenhar, A. 1990. Adapting your technological base: The organizational challenge. *Sloan Management Review*, 32(1): 25.
- Ahuja, G. 2000. Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative Science Quarterly*, 45(3): 425-455.
- Ahuja, G. & Katila, R. 2001. Technological acquisitions and the innovation performance of acquiring firms: A longitudinal study. *Strategic Management Journal*, 22(3): 197-220.
- Akroyd, C., Narayan, S., & Sridharan, V. G. 2009. The use of control systems in new product development innovation: Advancing the 'help or hinder' debate. *IUP Journal of Knowledge Management*, 7(5/6): 70-90.
- Amit, R. & Schoemaker, P. J. H. 1993. Strategic assets and organizational rent. *Strategic Management Journal*, 14(1): 33.
- Armstrong, C. & Shimizu, K. 2007. A review of approaches to empirical research on the resource-based view of the firm[dagger]. *Journal of Management*, 33(6): 959.
- Bailey, D. & Neilsen, E. H. 1992. Creating a bureau-adhocracy: Integrating standardized and innovative services in a professional work group. *Human Relations*, 45(7): 687-710.
- Baldrige, J. V. & Burnham, R. A. 1975. Organizational innovation: Individual, organizational, and environmental impacts. *Administrative Science Quarterly*, 20(2): 165-176.
- Balkin, D. B., Markman, G. D., & Gomez-Mejia, L. R. 2000. Is ceo pay in high-technology firms related to innovation? *The Academy of Management Journal*, 43(6): 1118-1129.
- Balogun, J. & Johnson, G. 2004. Organizational restructuring and middle manager sensemaking. *Academy of Management Journal*, 47(4): 523.
- Barney, J. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17(1): 99.

- Baysinger, B. & Hoskisson, R. E. 1989. Diversification strategy and r&d intensity in multiproduct firms. *The Academy of Management Journal*, 32(2): 310-332.
- Bhardwaj, B. R. & Momaya, S. K. 2011. Drivers and enablers of corporate entrepreneurship. *The Journal of Management Development*, 30(2): 187.
- Bosch Mossi, M., Lederman, D., & Maloney, W. 2005. Patenting and research and development: A global view. *SSRN Working Paper Series*.
- Bourgeois, L. J. 1980. Performance and consensus. *Strategic Management Journal*, 1(3): 227-248.
- Bourgeois, L. J., III & Eisenhardt, K. M. 1988. Strategic decision processes in high velocity environments. *Management Science*, 34(7): 816.
- Boyd, B. K., Dess, G. G., & Rasheed, A. M. A. 1993. Divergence between archival and perceptual measures of the environment: Causes and consequences. *Academy of Management Review*, 18(2): 204-226.
- Burgelman, R. A. 1983. A model of the interaction of strategic behavior, corporate context, and the concept of strategy. *Academy of Management. The Academy of Management Review*, 8(1): 61.
- Burgelman, R. A. 1983. Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science*, 29(12): 1349.
- Burgelman, R. A. 1984. Designs for corporate entrepreneurship in established firms. *California Management Review*, 26(3): 154.
- Burgelman, R. A. 1985. Managing the new venture division: Research findings and implications for strategic management. *Strategic Management Journal*, 6(1): 39.
- Burgelman, R. A. & Hitt, M. A. 2007. Entrepreneurial actions, innovation, and appropriability. *Strategic Entrepreneurship Journal*, 1(3-4): 349-352.
- Butler, J. E. 1988. Theories of technological innovation as useful tools for corporate strategy. *Strategic Management Journal*, 9(1): 15-29.
- Caves, R. E. & Porter, M. E. 1978. Market structure, oligopoly, and stability of market shares. *The Journal of Industrial Economics*, 26(4): 289.
- Chabowski, B.R., Hult, G.T., Kiyak, T., & Mena, J.A. 2010. The structure of JIBS's social network and the relevance of intra-country variation: A typology for future research. *Journal of International Business Studies*, 41(5): 925-934.
- Chan, C.M., Makino, S., & Isobe, T. 2010. Does subnational region matter? Foreign affiliate performance in the United States and China. *Strategic Management Journal*, 31(10): 1226-1243.

- Christensen, C. M. 1997. *The innovator's dilemma: When new technologies cause great firms to fail*. Cambridge, MA: Harvard Business School Press.
- Dacin, T. M., Kostova, T., & Roth, K. 2008. Institutional theory in the study of multinational corporations: A critique and new directions. *Academy of Management. The Academy of Management Review*, 33(4): 994.
- Dalal, D.K. & Zickar, M.J. 2012. Some common myths about centering predictor variables in moderated multiple regression and polynomial regression. *Organizational Research Methods*, 15: 339-362.
- Danneels, E. 2002. The dynamics of product innovation and firm competences. *Strategic Management Journal*, 23(12): 1095.
- D'Aveni, R. A. 1994. *Hypercompetition*. New York: The Free Press.
- Deeds, D. L., DeCarolis, D., & Coombs, J. E. 1998. Firm-specific resources and wealth creation in high-technology ventures: Evidence from newly public biotechnology firms. *Entrepreneurship Theory and Practice*, 22(3): 55.
- Denrell, J., Fang, C., & Winter, S. G. 2003. The economics of strategic opportunity. *Strategic Management Journal*, 24(10): 977.
- Detelin, S. E., William, J., & Peter, W. 2005. Strategic leadership and executive innovation influence: An international multi-cluster comparative study. *Strategic Management Journal*, 26(7): 665.
- DiMaggio, P. J. & Powell, W. W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*(48): 147-160.
- Dutton, J. E., Ashford, S. J., O'Neill, R. M., & Lawrence, K. A. 2001. Moves that matter: Issue selling and organizational change. *Academy of Management Journal*, 44(4): 716.
- Dyer, J. H., Gregersen, H. B., & Christensen, C. M. 2009. The innovator's DNA. *Harvard Business Review*, 87(12).
- Eisenhardt, K. M. 1989. Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, 32(3): 543-576.
- Eisenhardt, K. M. 1999. Strategy as strategic decision making. *Sloan Management Review*, 40(3): 65-72.
- Eisenhardt, K. M. & Martin, J. A. 2000. Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10/11): 1105.
- Elenkov, D. S., Judge, W. Q., & Wright, P. 2005. Strategic leadership and executive

- innovation influence: An international multi-cluster comparative study. *Strategic Management Journal*, 26(7): 665.
- Fine, C. H. 1998. *Clockspeed: Winning industry control in the age of temporary advantage*. New York, NY: Basic Books.
- Florida, R. 1999. The associational economy: Firms, regions and innovation. *Research Policy*, 28(8): 907.
- Floyd, S. W. & Wooldridge, B. 1992. Middle management involvement in strategy and its association with strategic type: A research note. *Strategic Management Journal*, 13: 153.
- Floyd, S. W. & Wooldridge, B. 1994. Dinosaurs or dynamos? Recognizing middle management's strategic role. *The Academy of Management Executive*, 8(4): 47.
- Floyd, S. W. & Wooldridge, B. 1996. The strategic middle manager: How to create and sustain competitive advantage. San Francisco: Jossey-Bass.
- Floyd, S. W. & Wooldridge, B. 1997. Middle management's strategic influence and organizational performance. *The Journal of Management Studies*, 34(3): 465.
- Forbes, D. P. 2007. Reconsidering the strategic implications of decision comprehensiveness. *Academy of Management Review*, 32(2): 361-376.
- Frost, T. S. 2001. The geographic sources of foreign subsidiaries' innovations. *Strategic Management Journal*, 22(2): 101.
- Garcia-Morales, V., J., Llorens-Montes, F. J., & Verdu-Jover, A. J. 2007. Influence of personal mastery on organizational performance through organizational learning and innovation in large firms and smes. *Technovation*, 27(9): 547.
- Garcia-Morales, V., Matías-Reche, F., & Verdú-Jover, A. 2011. Influence of internal communication on technological proactivity, organizational learning, and organizational innovation in the pharmaceutical sector. *Journal of Communication*, 61(1): 150.
- Gartner, W. B. 1985. A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management. The Academy of Management Review*, 10(4): 696.
- Ginsberg, A. & Venkatraman, N. 1992. Investing in new information technology: The role of competitive posture and issue diagnosis. *Strategic Management Journal*, 13: 37.
- Gonzalez-Moreno, A. & Saez-Martinez, F. 2009. Performance impact of corporate entrepreneurship in the service sector: A contingency approach. *International Journal of Services Technology and Management*, 12(3): 297.

- Goodale, J., Kuratko, D., Hornsby, J., & Covin, J. 2011. Operations management and corporate entrepreneurship: The moderating effect of operations control on the antecedents of corporate entrepreneurial activity in relation to innovation performance. *Journal of Operations Management*, 29(1/2): 116.
- Grant, R. M. 1996. Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17: 109-122.
- Haim, M. & Ravindran, R. P. 1999. Industry clockspeed: Measurement and operational implications. *Manufacturing & Service Operations Management*, 1(1): 1.
- Hambrick, D. C., & Mason, P. A. 1984. Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9: 193-206.
- Huallachain, B.O. & Lee, D.S. 2011. Technological specialization and variety in urban invention. *Regional Studies*, 45(1): 67-88.
- Hitt, M. A. & Ireland, R. D. 1985. Corporate distinctive competence, strategy, industry and performance. *Strategic Management Journal*, 6(3): 273.
- Hitt, M. A. & Tyler, B. B. 1991. Strategic decision models: Integrating different perspectives. *Strategic Management Journal*, 12(5): 327-351.
- Hitt, M. A., Dacin, T. M., Levitas, E., Arregle, J.-L., & Borza, A. 2000. Partner selection in emerging and developed market contexts: Resource-based and organizational learning perspectives. *Academy of Management Journal*, 43(3): 449.
- Hitt, M. A., Ireland, D. R., Camp, M. S., & Sexton, D. L. 2001. Guest editors' introduction to the special issue: Strategic entrepreneurship: Entrepreneurial strategies for wealth creation. *Strategic Management Journal*, 22(6/7): 479.
- Hitt, M. A., Beamish, P. W., Jackson, S. E., & Mathieu, J. E. 2007. Building theoretical and empirical bridges across levels: Multilevel research in management. *Academy of Management Journal*, 50(6): 1385.
- Hornsby, J. S., Kuratko, D. F., & Zahra, S. A. 2002. Middle managers' perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale. *Journal of Business Venturing*, 17(3): 253.
- Hull, F. & Hage, J. 1982. Organizing for innovation: Beyond burns and stalker's organic type. *Sociology*, 16(4): 564-577.
- Ireland, R. D., Michael, A. H., Camp, S. M., & Donald, L. S. 2001. Integrating entrepreneurship and strategic management actions to create firm wealth. *The Academy of Management Executive*, 15(1): 49.
- Ireland, R., Covin, J., & Kuratko, D. 2009. Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice*, 33(1): 19.

- Jeffrey, G. C. & Morgan, P. M. 1999. Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship Theory and Practice*, 23(3): 47.
- Johnson, G., Melin, L., & Whittington, R. 2003. Guest editor's introduction: Micro strategy and strategizing: Towards an activity-based view. *The Journal of Management Studies*, 40(1): 3.
- Judge, W., Douglas, T., & Kutan, A. 2008. Institutional antecedents of corporate governance legitimacy. *Journal of Management*, 34(4): 765.
- Kalton, G. 1983. *Introduction to survey sampling*. Beverly Hills, CA: SAGE Publishing.
- Kelley, D., Peters, L., & O'Connor, G. 2009. Intra-organizational networking for innovation-based corporate entrepreneurship. *Journal of Business Venturing*, 24(3): 221.
- Ketokivi, M. & Castaner, X. 2004. Strategic planning as an integrative device. *Administrative Science Quarterly*, 49(3): 337.
- King, A. W., Fowler, S. W., & Zeithaml, C. P. 2001. Managing organizational competencies for competitive advantage: The middle-management edge. *The Academy of Management Executive*, 15(2): 95.
- Kochhar, R. & David, P. 1996. Institutional investors and organizational innovation: A test of competing hypotheses. *Strategic Management Journal*, 17(1): 73-84.
- Koellinger, P. 2008. Why are some entrepreneurs more innovative than others? *Small Business Economics*, 31(1): 21.
- Kreiser, P.M., Marino, L.D., Dickson, P., & Weaver, K.M. 2010. Cultural influences on entrepreneurial orientation: The impact of national culture on risk taking and proactiveness in SMEs. *Entrepreneurship: Theory & Practice*, 34(5) 959-983.
- Kuratko, D. F. 2005. The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship: Theory & Practice*, 29(5): 577-597.
- Kuratko, D. F., Ireland, R. D., Covin, J. G., & Hornsby, J. S. 2005. A model of middle-level manager's entrepreneurial behavior. *Entrepreneurship: Theory & Practice*, 29(6): 699-716.
- Kwaku, A.-G. & Ko, A. 2001. An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science*, 12(1): 54-74.
- Lederman, D. & Maloney, W. 2003. R&d and development. *SSRN Working Paper Series*.
- Lega, F. 2009. Strategic, organisational and managerial issues related to innovation,

- entrepreneurship and intrapreneurship in the hospital context: Remarks from the Italian experience. *Journal of Management & Marketing in Healthcare*, 2(1): 77-93.
- Levesque, M. & Minniti, M. 2006. The effect of aging on entrepreneurial behavior. *Journal of Business Venturing*, 21(2): 177.
- Li, Y. & Zahra, S.A. 2012. Formal institutions, culture, and venture capital activity: A cross-country analysis. *Journal of Business Venturing*, 27 (2012) 95-111.
- Lin, J. 2009. Technological Adaptation, Cities, and New Work. *Federal Reserve Bank of Philadelphia Working Paper* 09-17.
- Lumpkin, G. T. & Dess, G. G. 1996. Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1): 135-172.
- Makri, M., Lane, P. J., & Gomez-Mejia, L. R. 2006. Ceo incentives, innovation, and performance in technology-intensive firms: A reconciliation of outcome and behavior-based incentive schemes. *Strategic Management Journal*, 27(11): 1057-1080.
- Mantere, S. 2008. Role expectations and middle manager strategic agency. *The Journal of Management Studies*, 45(2): 294.
- Maurizio, Z. & Sidney, G. W. 2002. Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13(3): 339.
- McGrath, R. & MacMillan, I. C. 2000. Entrepreneurial mindset: Strategies for continuously creating opportunity in an age of uncertainty (hardcover), Harvard business school press books: 1.
- McGrath, R., MacMillan, I.C., Yang, E.A. 1992 Does culture endure, or is it malleable? Issues for entrepreneurial economic development. *Journal of Business Venturing*, 7(6): 441-458.
- Meyer, J. W. & Rowan, B. 1977. Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*(83): 340-363.
- Miller, D. & Friesen, P. H. 1982. Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3(1): 1-25.
- Miller, D. & Friesen, P. H. 1983. Strategy-making and environment: The third link. *Strategic Management Journal*, 4(3): 221-235.
- Miller, C. C., Burke, L. M., & Glick, W. H. 1998. Cognitive diversity among upper-echelon executives: Implications for strategic decision processes. *Strategic Management Journal*, 19(1): 39.

- Ming-Tien, T. & Chung-Lin, T. 2010. Innovation capability and performance in taiwanese science parks: Exploring the moderating effects of industrial clusters fabric. *International Journal of Organizational Innovation*, 2(4): 80-103.
- Minyuan, Z. 2006. Conducting r&d in countries with weak intellectual property rights protection. *Management Science*, 52(8): 1185.
- Mistri, M. 2008. Innovative processes and procedural rationality. Innovations as outcomes of a sequence of strategic actions. *Human Systems Management*, 27(4): 295-304.
- Molina-Morales, F. X. & MartÃ-nez-FernÃ-ndez, M. T. 2009. Too much love in the neighborhood can hurt: How an excess of intensity and trust in relationships may produce negative effects on firms. *Strategic Management Journal*, 30(9): 1013-1023.
- Mollick, E. 2012. People and process, suits and innovators: The role of individuals in firm performance. *Strategic Management Journal*, 33(9): 1001-1015.
- Mowery, D. R., Nelson, R., Sampat, B., & Ziedonis, A. 2002. The growth of patenting and licensing by u.S. Universities: An assessment of the effects of the bayh-dole act of 1980. *Research Policy*(30): 99 - 119.
- Mors, M. L. 2010. Innovation in a global consulting firm: When the problem is too much diversity. *Strategic Management Journal*, 31(8): 841-872.
- Nadkarni, S. & Barr, P. 2008. Environmental context, managerial cognition, and strategic action: An integrated view. *Strategic Management Journal*, 29(13): 1395.
- Nelson, R.E. & Gopalan, S. 2003. Do organizational cultures replicate national cultures? Isomorphism, rejection and reciprocal opposition in the corporate values of three countries. *Organization Studies*, 24(7): 1115-1151.
- Nicholas, D., Velamuri, S. R., & Sankaran, V. 2004. Dispersed knowledge and an entrepreneurial theory of the firm. *Journal of Business Venturing*, 19(5): 659.
- Nickell, Stephen and Richard Layard (1999) "Labor market institutions and economic performance." in Orley Ashenfelter and David Card eds *Handbook of laboreconomics* (Amsterdam: Elsevier Science): 3029-3084.
- North, D.C. 1990. *Institutions, Institutional Change and Economic Performance* , New York, NY: Cambridge University Press.
- North, D.C. 1991. Institutions. *Journal of Economic Perspectives*, 5(1): 97-112.
- North, D. C. 2005. *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.

- OECD, 2005, 2011. Oslo manual-guidelines for collecting and interpreting innovation data. *Luxembourg: Eurostat*.
- Pappas, J.M. & Wooldridge, B. 2007. Middle managers' divergent strategic activity: An investigation of multiple measures of network centrality. *The Journal of Management Studies*, 44(3): 323.
- Patricia, H. T. 1999. The sociology of entrepreneurship. *Annual Review of Sociology*, 25: 19.
- Pennings, J. M. & Harianto, F. 1992. The diffusion of technological innovation in the commercial banking industry. *Strategic Management Journal*, 13(1): 29-46.
- Phan, P., Wright, M., Ucbasaran, D., & Tan, W. 2009. Corporate entrepreneurship: Current research and future directions. *Journal of Business Venturing*, 24(3): 197.
- Porter, M. E. 1990. *The competitive advantage of nations*. New York: The Free Press.
- Porter, M. E. 1998. Clusters and the new economics of competition. *Harvard Business Review*, May 2009.
- Priem, R.L. & Butler, J.E. 2001. Is the resource-based "view" a useful perspective for strategic management research? *Academy of Management Review*, 26(1): 22-40.
- Post, C., De Lia, E., DiTomaso, N., Tirpak, T. M., & Borwankar, R. 2009. Capitalizing on thought diversity for innovation. *Research Technology Management*, 52(6): 14-25.
- Quy Nguyen, H. 2001. In praise of middle managers. *Harvard Business Review*, 79(8): 73.
- Raes, A. M. L., Heijltjes, M. G., Glunk, U. & Roe, R. 2011, The interface of the top management team and middle managers: A process model. *Academy of Management Review*, 36(1): 102-126.
- Richard, L. P. & John, E. B. 2001. Tautology in the resource-based view and the implications of externally determined resource value: Further comments. *Academy of Management. The Academy of Management Review*, 26(1): 57.
- Robert, M. 2000. *Negotiating NAFTA : Explaining the outcome in culture, textiles, autos, and pharmaceuticals*. Toronto: University of Toronto Press.
- Rodan, S. & Galunic, C. 2004. More than network structure: How knowledge heterogeneity influences managerial performance and innovativeness. *Strategic Management Journal*, 25(6): 541-562.
- Rugman, A. M. & Verbeke, A. 1993. Foreign subsidiaries and multinational strategic management: An extension and correction of porter's single diamond framework. *Management International Review*, 33(2): 71.

- Rugman, A. M. & Verbeke, A. 2004. Regional transnationals and triad strategy. *Transnational Corporations*, 13(3): 1.
- Rugman, A. & Verbeke, A. 2005. Towards a theory of regional multinationals: A transaction cost economics approach. *Management International Review*, 45(1): 5.
- Rugman, A. & Verbeke, A. 2008. A regional solution to the strategy and structure of multinationals. *European Management Journal*, 26(5): 305.
- Salomon, R. & Jin, B. 2008. Does knowledge spill to leaders or laggards? Exploring industry heterogeneity in learning by exporting. *Journal of International Business Studies*, 39(1): 132.
- Salomon, R. & Jin, B. 2010. Do leading or lagging firms learn more from exporting? *Strategic Management Journal*, 31(10): 1088-1113.
- Sathe, V. 1989. Fostering entrepreneurship in the large, diversified firm. *Organizational Dynamics*, 18(1): 20.
- Scott, W. R. 1995. *Organizations: Rational, natural, and open systems* (5th ed.). Upper Saddle River, NJ: Prentice Hall.
- Sebora, T. C., Theerapatvong, T., & Lee, S. M. 2010. Corporate entrepreneurship in the face of changing competition. *Journal of Organizational Change Management*, 23(4): 453.
- Selznick, P. 1957. *Leadership in administration: A sociological interpretation*. Berkeley and Los Angeles, CA: University of California Press.
- Shane, S. & Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1): 217-226.
- Sharfman, M. P. & Dean Jr, J. W. 1991. Conceptualizing and measuring the organizational environment: A multidimensional approach. *Journal of Management*, 17(4): 681.
- Shi, W., Markoczy, L., & Dess, G. 2009. The role of middle management in the strategy process: Group affiliation, structural holes, and tertius lungens. *Journal of Management*, 35(6): 1453.
- Sohn, C. & Lee, H. 2010. Trade structure, ftas, and economic growth. *Review of Development Economics*, 14(3): 683.
- Steenkamp, J.-B. & Baumgartner, H. 1998. Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research*, 25(1): 78.
- Stieglitz, N. & Heine, K. 2007. Innovations and the role of complementarities in a

- strategic theory of the firm. *Strategic Management Journal*, 28(1): 1-15.
- Terziowski, M. 2010. Innovation practice and its performance implications in small and medium enterprises (smes) in the manufacturing sector: A resource-based view. *Strategic Management Journal*, 31(8): 892-902.
- Tierney, P., Farmer, S. M., & Graen, G. B. 1999. An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology*, 52(3): 591-620.
- Wernerfelt, B. 1984. A resource-based view of the firm. *Strategic Management Journal*, 5(2): 171.
- Wooldridge, B. & Floyd, S. W. 1990. The strategy process, middle management involvement, and organizational performance. *Strategic Management Journal (1986-1998)*, 11(3): 231.
- Wooldridge, B., Schmid, T., & Floyd, S. W. 2008. The middle management perspective on strategy process: Contributions, synthesis, and future research. *Journal of Management*, 34(6): 1190-1221.
- Zahra, S. A. 1995. Corporate entrepreneurship and financial performance: The case of management leveraged buyouts. *Journal of Business Venturing*, 10(3): 225.
- Zahra, S. A. & Covin, J. G. 1995. Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(1): 43.
- Zahra, S. A. 1996. Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39(6): 1713.
- Zahra, S. A. & O'Neill, H. M. 1998. Charting the landscape of global competition: Reflections on emerging organizational challenges and their implications for senior executives. *The Academy of Management Executive*, 12(4): 13.
- Zahra, S. A. 1999. The changing rules of global competitiveness in the 21st century. *The Academy of Management Executive*, 13(1): 36.
- Zahra, S. A., Nielsen, A. P., & Bogner, W. C. 1999. Corporate entrepreneurship, knowledge, and competence development. *Entrepreneurship Theory and Practice*, 23(3): 169.
- Zahra, S. A. & Garvis, D. M. 2000. International corporate entrepreneurship and firm performance: The moderating effect of international environmental hostility. *Journal of Business Venturing*, 15(5,6): 469.
- Zahra, S. & Dess, G. G. 2001. Entrepreneurship as a field of research: Encouraging

dialogue and debate. *Academy of Management Review*, 26(1): 8-10.

Zahra, S. A., Neubaum, D. O., & El-Hagrassey, G. M. 2002. Competitive analysis and new venture performance: Understanding the impact of strategic uncertainty and venture origin*. *Entrepreneurship Theory and Practice*, 27(1): 1-28.

APPENDIXES

SURVEY INSTRUMENTS

Organizational Innovation - Middle Manager

Page 1

Section I: Below are a number of statements that may describe middle managers in your business unit. Using a response scale ranging from (1) "never" to (7) "always", please indicate how accurate each statement is about the middle managers in your business unit.

Middle managers in my business unit...

1. are always asking questions.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

2. are constantly asking questions to get at the root of the problem.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

3. frustrate others by the frequency of their questions.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

4. often ask questions that challenge the status quo.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

5. regularly ask questions that challenge others' fundamental assumptions.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

6. are constantly asking questions to understand why products and projects underperform.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

7. often come up with new business ideas when directly observing how people interact with products and services.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

8. have a continuous flow of new business ideas that comes through observing the world.*{Choose one}*

- (1) Never
- (2) Almost Never

- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

9. regularly observe customers' use of our company's products and services to get new ideas.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

10. often get new business ideas, by paying attention to everyday experiences.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

11. love to experiment to understand how things work and to create new ways of doing things.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

12. frequently experiment to create new ways of doing things.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

13. are adventurous, always looking for new experiences.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

14. actively search for new ideas through experimenting.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

15. have a history of taking things apart.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

16. have a network of individuals whom they trust to bring a new perspective and refine new ideas.*{Choose one}*

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

17. attend many diverse professional and/or academic conferences outside of their industry/profession.*{Choose one}*

- (1) Never
- (2) Almost Never

- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

18. initiate meetings with people outside of their industry to spark ideas for a new product, service, or customer base.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

19. have a large network of contacts with whom they frequently interact to get ideas for new products, services, and customers.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

Page 2

Section II: Below are a number of statements that may describe middle managers in your business unit. Using a response scale ranging from (1) "very strongly disagree" to (7) "very strongly agree", please indicate how accurate each statement is about the middle managers in your business unit.

Middle managers in my business unit...

1. can communicate an idea in many different ways.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

2. avoid new and unusual situations.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

3. feel like they never get to make decisions.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

4. can find workable solutions to seemingly unsolvable problems.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree

(7) Very Strongly Agree

5. seldom have choices when deciding how to behave.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

6. are willing to work at creative solutions to problems.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

7. are able to act appropriately in any given situation.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

8. behavior is a result of conscious decisions they make.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

9. have many possible ways of behaving in any given situation.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree

- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

10. have difficulty using their knowledge on a given topic in real life situations.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

11. are willing to listen and consider alternatives for handling a problem.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

12. have the self-confidence necessary to try different ways of behaving.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

Page 3

Section III: Below are a number of statements that may describe top management in your business unit. Using a response scale ranging from (1) "never" to (7) "always", please indicate how accurate each statement is about top management in your business unit.

Top management...

1. encourages middle management to express ideas/suggestions.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

2. listens to middle managers ideas and suggestions.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

3. uses middle managers suggestions to make decisions that affect us.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

4. gives all middle managers a chance to voice their opinions.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always

(7) Always

5. considers middle managements ideas when he/she disagrees with them.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

6. makes decisions that are based only on his/her own ideas.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

7. can always be trusted to do what is right for us.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

8. always keep the promises they make to us.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

9. is perfectly honest and truthful with us.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom

- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

10. is truly sincere in their promises.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

11. would not take advantage of us, even if the opportunity arose.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

Page 4

Section IV: In question one below, there are a number of statements that describe your business unit performance. Using a response scale ranging from (1) "extremely poor" to (7) "extremely good", please indicate how accurate each statement is about your business unit performance.

1. How does your business unit's current performance compare to other firms in your industry?

a) Growth in Profits

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good
- (6) Very Good
- (7) Extremely Good

b) Growth in Sales Revenue

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good
- (6) Very Good
- (7) Extremely Good

c) Stability of Profitability

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good
- (6) Very Good
- (7) Extremely Good

d) Return on Assets

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good

- (6) Very Good
- (7) Extremely Good

Section V: In questions two and three below, there are a number of statements that describe top management's view of your business unit innovation performance. Using a response scale ranging from (1) "not at all important" to (7) "extremely important" for question two and a response scale ranging from (1) "not at all satisfied" to (7) "extremely satisfied" for question three, please indicate how accurate each statement is about top management's view of your business unit innovation performance.

2. Over the past 3 years, what has been the degree of importance attached to the following criteria by your business unit's top managers?

a) number of new products or services developed

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

b) number of new products or services brought to market

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

c) speed with which new products or services are developed

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

d) speed with which new products or services are brought to market

{Choose one}

- (1) Extremely Unimportant

- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

e) ability to respond quickly to market or technological developments

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

f) ability to pre-empt competitors in responding to market or technological developments

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

g) incorporation of technological innovations into product/service offerings

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

h) incorporation of technological innovations into internal operations

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

3. How satisfied is your firm/business unit's top managers with how their business unit has performed in reference to these same eight criteria over the last three years?

a) number of new products or services developed

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

b) number of new products or services brought to market

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

c) speed with which new products or services are developed

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

d) speed with which new products or services are brought to market

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

e) ability to respond quickly to market or technological developments

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

f) ability to pre-empt competitors in responding to market or technological developments

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

g) incorporation of technological innovations into product/service offerings

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

h) incorporation of technological innovations into internal operations

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

Please enter the 7-digit number given to you by the survey administrator in the space below.

{Enter text answer}

[_____]

This is the end of the questionnaire. Thank you very much for participating in the survey. Please click the "Finish" button below to submit your answers.

Organizational Innovation - Top Manager

Page 1: EO & Participative Leadership

Section I: Below are a number of statements that may describe your business unit. Using a response scale ranging from (1) "never" to (7) "always", please indicate how accurate each statement is about your business unit.

My business unit...

1. spends more time on long-term R&D (3+ years) than on short-term R&D.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

2. is usually among the first in the industry to introduce new products.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

3. rewards risk taking.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

4. shows a great deal of tolerance for high-risk projects.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes

- (5) Usually
- (6) Almost Always
- (7) Always

5. uses only "tried-and-true" procedures, systems, and methods.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

6. challenges, rather than responds to, its major competitors.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

7. takes bold, wide-ranging strategic actions rather than minor changes in tactics.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

Section II: Below are a number of statements that may describe how you interact with middle managers in your business unit. Using a response scale ranging from (1) "never" to (7) "always", please indicate how accurate each statement is about your interaction in your business unit.

1. I encourage middle management to express ideas/suggestions.

{Choose one}

- (1) Never
- (2) Almost Never
- (3) Seldom
- (4) Sometimes
- (5) Usually

(6) Almost Always

(7) Always

2. I listen to middle managers ideas and suggestions.

{Choose one}

(1) Never

(2) Almost Never

(3) Seldom

(4) Sometimes

(5) Usually

(6) Almost Always

(7) Always

3. I use middle managers suggestions to make decisions that affect us.

{Choose one}

(1) Never

(2) Almost Never

(3) Seldom

(4) Sometimes

(5) Usually

(6) Almost Always

(7) Always

4. I give all middle managers a chance to voice their opinions.

{Choose one}

(1) Never

(2) Almost Never

(3) Seldom

(4) Sometimes

(5) Usually

(6) Almost Always

(7) Always

5. I consider middle managements ideas when I disagree with them.

{Choose one}

(1) Never

(2) Almost Never

(3) Seldom

(4) Sometimes

(5) Usually

(6) Almost Always

(7) Always

6. I make decisions that are based only on my own ideas.

{Choose one}

(1) Never

(2) Almost Never

- (3) Seldom
- (4) Sometimes
- (5) Usually
- (6) Almost Always
- (7) Always

Section III: Below are a number of statements that may describe people in your business unit. Using a response scale ranging from (1) "very strongly disagree" to (7) "very strongly agree", please indicate how accurate each statement is about people in your business unit.

People...

1. feel like "part of the family" in the company.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

2. feel a strong sense of belonging to the company.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

3. in general, would be happy to spend the rest of their career with the company.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree
- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

4. feel as if this company's problems are their own.

{Choose one}

- (1) Very Strongly Disagree
- (2) Strongly Disagree

- (3) Disagree
- (4) Neutral
- (5) Agree
- (6) Strongly Agree
- (7) Very Strongly Agree

Page 2: Firm & Innovation Performance

Section IV: In question one below, there are a number of statements that may describe your business unit performance. Using a response scale ranging from (1) "worst" to (7) "best", please indicate how accurate each statement is about your business unit performance.

1. How does your business unit's current performance compare to other firms in your industry?

a) Growth in Profits

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good
- (6) Very Good
- (7) Extremely Good

b) Growth in Sales Revenue

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good
- (6) Very Good
- (7) Extremely Good

c) Stability of Profitability

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good
- (6) Very Good
- (7) Extremely Good

d) Return on assets

{Choose one}

- (1) Extremely Poor
- (2) Very Poor
- (3) Poor
- (4) Average
- (5) Good

- (6) Very Good
- (7) Extremely Good

Section V: In questions two and three below, there are a number of statements that describe your business unit's innovation performance. Using a response scale ranging from (1) "extremely unimportant" to (7) "extremely important" for question two and a response scale ranging from (1) "extremely dissatisfied" to (7) "extremely satisfied" for question three, please indicate how accurate each statement is about your business unit's innovation performance.

2. Over the past 3 years, what has been the degree of importance attached to the following criteria by your business unit's top managers?

a) number of new products or services developed

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

b) number of new products or services brought to market

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

c) speed with which new products or services are developed

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

d) speed with which new products or services are brought to market

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant

- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

e) ability to respond quickly to market or technological developments

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

f) ability to pre-empt competitors in responding to market or technological developments

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

g) incorporation of technological innovations into product/service offerings

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

h) incorporation of technological innovations into internal operations

{Choose one}

- (1) Extremely Unimportant
- (2) Very Unimportant
- (3) Unimportant
- (4) Neutral
- (5) Important
- (6) Very Important
- (7) Extremely Important

3. How satisfied are you with how your business unit has performed in reference to these same eight criteria over the last three years?

a) number of new products or services developed

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

b) number of new products or services brought to market

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

c) speed with which new products or services are developed

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

d) speed with which new products or services are brought to market

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

e) ability to respond quickly to market or technological developments

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied

- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

f) ability to pre-empt competitors in responding to market or technological developments

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

g) incorporation of technological innovations into product/service offerings

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

h) incorporation of technological innovations into internal operations

{Choose one}

- (1) Extremely Dissatisfied
- (2) Very Dissatisfied
- (3) Dissatisfied
- (4) Undecided
- (5) Satisfied
- (6) Very Satisfied
- (7) Extremely Satisfied

Page 3: Demographics

1. How many permanent employees does your business unit employ?

{Choose one}

- 0 to 500
- 501 to 2,000
- 2,001 to 5,000
- 5,001 to 10,000
- 10,000+

2. Of the industries listed below, where would you classify your business unit?

{Choose one}

- Mining/Minerals
- Construction/Engineering
- Food Products/Processing
- Textile/Paper Products
- Chemicals/Metals
- Transportation
- Telecommunications
- Retail
- Financial/Insurance
- Other

3. How many years has your business unit been in business?

{Enter text answer}

[_____]

4. On average, what percentage of sales for your business unit would be considered non-domestic or foreign?

{Choose one}

- 0 to 20%
- 21 to 40%
- 41 to 60%
- 61 to 80%
- 81%+

5. Please enter the 7-digit number given to you by the survey administrator in the space below.

{Enter text answer}

[_____]

This is the end of the questionnaire. Thank you very much for participating in the survey. Please click the "Finish" button below to submit your answers.

Innovación Corporativa – Mandos Medios**Página 1**

Sección I. A continuación se presentan una serie de puntos que pueden describir los mandos medios en su empresa. Utilizando una escala de respuesta de (1) “nunca” a (7) “siempre”, por favor indicar como cada punto aplica a los mandos medios en su empresa.

Mandos medios en su empresa...

1. Están siempre haciendo preguntas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

2. Están constantemente haciendo preguntas para llegar a la raíz del problema.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

3. Frustran a los demás por la frecuencia de sus preguntas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

4. Frecuentemente hacen preguntas que desafían al statu quo.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

5. Regularmente hacen preguntas que desafían los supuestos básicos de otros.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

6. Están constantemente haciendo preguntas para entender las razones del bajo desempeño en proyectos y productos.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

7. Frecuentemente vienen con nuevas ideas de negocio, cuando observan directamente como la gente común interactúa con productos y servicios.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

8. Tienen continuamente nuevas ideas de negocios que surgen a través de la observación del mundo.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

9. Observan regularmente a los clientes en el uso de los productos y servicios de nuestra compañía para obtener nuevas ideas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

10. A menudo obtienen ideas de nuevos negocios, prestando atención a las experiencias cotidianas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

11. Les encanta experimentar, el entender cómo funcionan las cosas y creando formas diferentes de hacerlas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

12. Frecuentemente experimentan para crear nuevos modos de hacer las cosas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

13. Son aventureros, siempre buscando nuevas experiencias.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

14. Actualmente buscan nuevas ideas a través de la experimentación.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

15. Tienen una tradición de desarmar cosas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

16. Tienen una red de personas en quienes confían para traer una nueva perspectiva y mejorar nuevas ideas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

17. Asisten a diversas conferencias profesionales y/o académicas fuera de su industria/profesión.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

18. Inician reuniones con personas ajenas a su industria, para generar ideas para un nuevo producto, servicio o clientes.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

19. Tienen una gran red de contactos con quienes frecuentemente interactúan para obtener nuevos productos, servicios y clientes.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) A veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

Página 2

Sección II. A continuación se presentan una serie de casos que pueden describir los mandos medios en su compañía. Utilizando una escala de respuestas que van de (1) “muy en desacuerdo” a (7) “totalmente de acuerdo”, favor de indicar cómo cada punto corresponde a los mandos medios en su organización.

Mandos medios en mi organización...

1. Puede comunicar una idea de muy diferentes modos.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

2. Evita nuevas e inusuales situaciones.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo

- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

3. Sienten que nunca llegan a tomar decisiones.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

4. Pueden encontrar soluciones viables a los problemas aparentemente sin solución.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

5. Rara vez tienen opciones a la hora de decidir cómo comportarse.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

6. Están dispuestos a trabajar en soluciones creativas a los problemas.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

7. Son capaces de actuar adecuadamente en cualquier situación.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

8. Comportamiento, es un resultado de decisiones conscientes que ellos hacen.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

9. Tienen muchas maneras de comportarse en cualquier situación.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

10. Tienen dificultades para utilizar sus conocimientos sobre un tema determinado en la vida real.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

11. Están dispuestos a escuchar y considerar alternativas para el manejo de un problema.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

12. Tienen la suficiente confianza en ellos mismos para intentar diferentes formas de comportamiento.

(Elija uno)

- (1) Muy en desacuerdo
- (2) Totalmente en desacuerdo
- (3) En desacuerdo
- (4) Neutral
- (5) De acuerdo
- (6) Muy de acuerdo
- (7) Totalmente de acuerdo

Página 3

Sección III. A continuación se presentan una serie de casos que pueden describir a la alta dirección en su organización. Utilizando una escala de respuestas que van de (1) “nunca” a (7) “siempre”, favor de indicar cómo cada punto corresponde a la alta dirección en su organización.

Altos mandos...

1. Anima a los mandos medios para expresar ideas/sugerencias.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

2. Escucha de los mandos medios ideas y sugerencias.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez

- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

3. Utiliza las sugerencias de mandos medios para tomar decisiones que nos afectan.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

4. Da a todos los mandos medios la oportunidad de expresar sus opiniones.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

5. Considera de los mandos medios, ideas aunque no esté de acuerdo con ellos.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

6. Toma decisiones que se basan únicamente en sus propias ideas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

7. Podemos confiar en que hará lo que sea mejor para nosotros.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

8. Siempre cumplen las promesas que nos hacen.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

9. Es perfectamente honesto y sincero con nosotros.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

10. Es realmente sincero en sus promesas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

11. No tomaría ventaja de nosotros, incluso si se presentara la oportunidad.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez

- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

Página 4

Sección IV. En las siguientes preguntas han una serie de puntos que describen el desempeño de su empresa. Utilizando una escala de respuestas que van de (1) “extremadamente malo” a (7), “extremadamente bueno”, favor de indicar cómo cada punto corresponde al rendimiento de su compañía.

1. ¿Cómo es el desempeño actual de su empresa, comparada con otras de su misma industria?

a) Crecimiento de las utilidades

(Elija uno)

- (1) Extremadamente malo
- (2) Muy malo
- (3) Malo
- (4) Normal
- (5) Bueno
- (6) Muy bueno
- (7) Extremadamente bueno

b) Crecimiento en ventas

(Elija uno)

- (1) Extremadamente malo
- (2) Muy malo
- (3) Malo
- (4) Normal
- (5) Bueno
- (6) Muy bueno
- (7) Extremadamente bueno

c) Estabilidad de las utilidades

(Elija uno)

- (1) Extremadamente malo
- (2) Muy malo
- (3) Malo
- (4) Normal
- (5) Bueno
- (6) Muy bueno
- (7) Extremadamente bueno

d) Rendimiento de los activos

(Elija uno)

- (1) Extremadamente malo
- (2) Muy malo
- (3) Malo
- (4) Normal
- (5) Bueno
- (6) Muy bueno
- (7) Extremadamente bueno

Sección V. A continuación en las preguntas dos y tres, hay un listado que describe los puntos de vista de la alta dirección sobre la innovación en su unidad de negocio. Utilizando una escala de respuestas que van de (1) “nada importante” a (7) “extremadamente importante” para la pregunta dos y una escala de respuestas del (1) “nada satisfecho” al (7) “extremadamente satisfecho” para la pregunta tres, favor de indicar que tan bien representa al punto de vista de los altos directivos sobre la innovación en su unidad de negocio.

2. En los últimos 3 años, ¿cuál ha sido el grado de importancia que se concede a los siguientes criterios de los altos directivos en su organización?

a) Número de nuevos productos o servicios desarrollados

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

b) Número de nuevos productos o servicios llevados al mercado

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

c) La rapidez con la que los nuevos productos son desarrollados

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia

- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

d) La velocidad con la que los nuevos productos o servicios son llevados al mercado

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

e) Habilidad de responder rápidamente al mercado a desarrollos tecnológicos.

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

f) Capacidad para adelantarse a los competidores cuando responder a desarrollos tecnológicos o de mercado.

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

g) Incorporación de innovaciones tecnológicas en la oferta de productos y servicios

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral

- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

h) Incorporación de innovaciones tecnológicas en las operaciones internas

(Elija uno)

- (1) Extremadamente sin importancia
- (2) Sin importancia
- (3) Muy poco importante
- (4) Neutral
- (5) Importante
- (6) Muy importante
- (7) Extremadamente importante

3. Qué tan satisfecha está la alta dirección con relación al desarrollo de su empresa, en referencia a estos ocho criterios, alrededor de los últimos 3 años?

a) Número de nuevos productos o servicios desarrollados.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho
- (7) Extremadamente satisfecho

b) Número de nuevos productos o servicios que llegan al mercado.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho
- (7) Extremadamente satisfecho

c) La velocidad con la que nuevos productos o servicios son desarrollados.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho

(7) Extremadamente satisfecho

d) La velocidad con la que nuevos productos o servicios son llevados al mercado.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho
- (7) Extremadamente satisfecho

e) La capacidad para responder rápidamente a desarrollos tecnológicos o de mercado.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho
- (7) Extremadamente satisfecho

f) La capacidad para adelantarse a los competidores, cuando responden a desarrollos del mercado o tecnología.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho
- (7) Extremadamente satisfecho

g) La incorporación de innovaciones tecnológicas en la oferta de producto/servicio ofrecidos.

(Elija uno)

- (1) Extremadamente insatisfecho
- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy satisfecho

(7) Extremadamente satisfecho

h) La incorporación de innovaciones tecnológicas en las operaciones internas.

(Elija uno)

(1) Extremadamente insatisfecho

(2) Muy insatisfecho

(3) Insatisfecho

(4) Indeciso

(5) Satisfecho

(6) Muy satisfecho

(7) Extremadamente satisfecho

Por favor introduzca el número de 7 dígitos que le ha asignado el administrador de la encuesta en el espacio de abajo.

(Escriba su respuesta)

Este es la final del cuestionario. Muchas gracias por participar en la encuesta. Por favor haga click en el botón “finalizar” para enviar sus respuestas.

Innovación Corporativa – Altos Directivos

Página 1: EO y Liderazgo Participativo

Sección 1. A continuación se presentan una serie de enunciados que pudieran describir a su unidad de negocio. Utilizando una escala de respuesta de (1) “nunca” a (7) “siempre”, por favor indicar como cada punto representa a su unidad de negocio.

Mi unidad de negocio...

1. Invierto más tiempo en investigación y desarrollo a largo plazo (3+ años), que en de corto plazo.

(Elija uno)

(1) Nunca

(2) Casi nunca

(3) Rara vez

(4) Algunas veces

(5) Por lo general

(6) Casi siempre

(7) Siempre

2. Suele ser una de las primeras en la industria para introducir nuevos productos.

(Elija uno)

(1) Nunca

- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

3. Recompensa la toma de riesgos.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

4. Muestra una gran tolerancia para proyectos de alto riesgo.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

5. Usa solo métodos y procedimientos probados.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

6. Reta, más que responder a los principales competidores.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

7. Toma audaces y amplias acciones estratégicas en lugar de pequeños cambios en las tácticas.
(Elija uno)
 (1) Nunca
 (2) Casi nunca
 (3) Rara vez
 (4) Algunas veces
 (5) Por lo general
 (6) Casi siempre
 (7) Siempre

Sección II. A continuación se presentan una serie de enunciados que pueden describir cómo interactúa con los mandos medios en su empresa. Utilizando una escala de respuestas que van de (1) “nunca” a (7) “siempre”, favor de indicar cómo cada punto corresponde a su interacción en la empresa.

1. Animo a los mandos medios para expresar ideas y/o sugerencias.
(Elija uno)
 (1) Nunca
 (2) Casi nunca
 (3) Rara vez
 (4) Algunas veces
 (5) Por lo general
 (6) Casi siempre
 (7) Siempre
2. Escucho las ideas y sugerencias de los mandos medios.
(Elija uno)
 (1) Nunca
 (2) Casi nunca
 (3) Rara vez
 (4) Algunas veces
 (5) Por lo general
 (6) Casi siempre
 (7) Siempre
3. Utilizo las sugerencias de los mandos medios para tomar decisiones que nos afectan.
(Elija uno)
 (1) Nunca
 (2) Casi nunca

- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

4. Doy a todos los mandos medios, la oportunidad de expresar sus opiniones.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

5. Considero las ideas de los mandos medios, aun cuando esté en desacuerdo con ellas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

6. Tomo decisiones que están basadas solo en mis propias ideas.

(Elija uno)

- (1) Nunca
- (2) Casi nunca
- (3) Rara vez
- (4) Algunas veces
- (5) Por lo general
- (6) Casi siempre
- (7) Siempre

Sección III. A continuación se presentan una serie de enunciados que pueden describir a las personas en su empresa. Utilizando una escala de respuestas que van de (1) “totalmente extremadamente en desacuerdo” a (7) “totalmente de acuerdo”, favor de indicar cómo cada punto describe al personal en su empresa.

La gente...

1. Se siente como “parte de la familia” en la empresa.

(Elija uno)

- (1) Totalmente extremadamente en desacuerdo
 - (2) Extremadamente en desacuerdo
 - (3) En desacuerdo
 - (4) Neutral
 - (5) De acuerdo
 - (6) Muy de acuerdo
 - (7) Extremadamente de acuerdo
2. Siente un fuerte sentido de pertenencia a la empresa.
- (Elija uno)
- (1) Totalmente extremadamente en desacuerdo
 - (2) Extremadamente en desacuerdo
 - (3) En desacuerdo
 - (4) Neutral
 - (5) De acuerdo
 - (6) Muy de acuerdo
 - (7) Extremadamente de acuerdo
3. En general, estaría contenta de pasar el resto de su carrera en la compañía.
- (Elija uno)
- (1) Totalmente extremadamente en desacuerdo
 - (2) Extremadamente en desacuerdo
 - (3) En desacuerdo
 - (4) Neutral
 - (5) De acuerdo
 - (6) Muy de acuerdo
 - (7) Extremadamente de acuerdo
4. Se siente como si los problemas de la compañía fueran propios.
- (Elija uno)
- (1) Totalmente extremadamente en desacuerdo
 - (2) Extremadamente en desacuerdo
 - (3) En desacuerdo
 - (4) Neutral
 - (5) De acuerdo
 - (6) Muy de acuerdo
 - (7) Extremadamente de acuerdo

Página 2: La empresa y el rendimiento de la innovación

Sección IV. En las siguientes preguntas hay una serie de puntos que describen el desempeño de su unidad de negocio. Utilizando una escala de respuestas que van de (1) “pésimo” a (7), “lo mejor”, favor de indicar cómo cada punto corresponde al rendimiento de su compañía.

1. ¿Cómo es el desempeño actual de su unidad de negocio, comparada con otras de su misma industria?

a) Crecimiento de las utilidades

(Elija uno)

(1) Extremadamente pobre

(2) Muy pobre

(3) Pobre

(4) Normal

(5) Bueno

(6) Muy bueno

(7) Extremadamente bueno

b) Crecimiento en ventas

(Elija uno)

(1) Extremadamente pobre

(2) Muy pobre

(3) Pobre

(4) Normal

(5) Bueno

(6) Muy bueno

(7) Extremadamente bueno

c) Estabilidad en utilidades

(Elija uno)

(1) Extremadamente pobre

(2) Muy pobre

(3) Pobre

(4) Normal

(5) Bueno

(6) Muy bueno

(7) Extremadamente bueno

d) Rendimiento de los activos

(Elija uno)

(1) Extremadamente pobre

(2) Muy pobre

- (3) Pobre
- (4) Normal
- (5) Bueno
- (6) Muy bueno
- (7) Extremadamente bueno

Sección V. A continuación en las preguntas dos y tres, hay un listado que describe a su unidad de negocios en cuanto al desempeño en innovación. Utilizando una escala de respuestas que van de (1) “extremadamente sin importancia” a (7) “extremadamente importante” para la pregunta dos y una escala de respuestas del (1) “extremadamente insatisfecho” al (7) “extremadamente satisfecho” para la pregunta tres, favor de indicar cómo cada enunciado corresponde al desarrollo de la innovación en su empresa.

2. En los últimos 3 años, cuál ha sido el grado de importancia que se concede a los siguientes criterios por los altos directivos.

- a) Número de nuevos productos o servicios desarrollados
(Elija uno)
 - (1) Extremadamente sin importancia
 - (2) Muy poco importante
 - (3) sin importancia
 - (4) Neutral
 - (5) Importante
 - (6) Muy importante
 - (7) Extremadamente importante

- b) Número de nuevos productos o servicios llevados al mercado
(Elija uno)
 - (1) Extremadamente sin importancia
 - (2) Muy poco importante
 - (3) sin importancia
 - (4) Neutral
 - (5) Importante
 - (6) Muy importante
 - (7) Extremadamente importante

- c) La rapidez con la que los nuevos productos son desarrollados
(Elija uno)
 - (1) Extremadamente sin importancia
 - (2) Muy poco importante
 - (3) Sin importancia
 - (4) Neutral
 - (5) Importante
 - (6) Muy importante
 - (7) Extremadamente importante

- d) La velocidad con la que los nuevos productos o servicios son llevados al mercado
(Elija uno)
 (1) Extremadamente sin importancia
 (2) Muy poco importante
 (3) sin importancia
 (4) Neutral
 (5) Importante
 (6) Muy importante
 (7) Extremadamente importante
- e) Habilidad de responder rápidamente al mercado o desarrollos tecnológicos
(Elija uno)
 (1) Extremadamente sin importancia
 (2) Muy poco importante
 (3) sin importancia
 (4) Neutral
 (5) Importante
 (6) Muy importante
 (7) Extremadamente importante
- f) Capacidad para adelantarse a los competidores en responder al desarrollo tecnológico o de mercado.
(Elija uno)
 (1) Extremadamente sin importancia
 (2) Muy poco importante
 (3) sin importancia
 (4) Neutral
 (5) Importante
 (6) Muy importante
 (7) Extremadamente importante
- g) Incorporación de innovaciones tecnológicas en la oferta de productos y servicios
(Elija uno)
 (1) Extremadamente sin importancia
 (2) Muy poco importante
 (3) sin importancia
 (4) Neutral
 (5) Importante
 (6) Muy importante
 (7) Extremadamente importante

- h) Incorporación de innovaciones tecnológicas en las operaciones internas
(Elija uno)
 (1) Extremadamente sin importancia
 (2) Muy poco importante
 (3) sin importancia
 (4) Neutral
 (5) Importante
 (6) Muy importante
 (7) Extremadamente importante
3. ¿Qué tan satisfecho está usted con relación al desarrollo de su unidad de negocio, en referencia a estos mismos ocho criterios, en los últimos 3 años?
- i) Número de nuevos productos o servicios desarrollados
(Elija uno)
 (1) Extremadamente insatisfecho
 (2) Muy insatisfecho
 (3) Insatisfecho
 (4) Indeciso
 (5) Satisfecho
 (6) Muy insatisfecho
 (7) Extremadamente insatisfecho
- j) Número de nuevos productos o servicios llevados al mercado
(Elija uno)
 (1) Extremadamente insatisfecho
 (2) Muy insatisfecho
 (3) Insatisfecho
 (4) Indeciso
 (5) Satisfecho
 (6) Muy insatisfecho
 (7) Extremadamente insatisfecho
- k) La rapidez con la que nuevos productos o servicios son desarrollados
(Elija uno)
 (1) Extremadamente insatisfecho
 (2) Muy insatisfecho
 (3) Insatisfecho
 (4) Indeciso

- (5) Satisfecho
- (6) Muy insatisfecho
- (7) Extremadamente insatisfecho

- l) La rapidez con la que nuevos productos o servicios son llevados al mercado
(Elija uno)
- (1) Extremadamente insatisfecho
 - (2) Muy insatisfecho
 - (3) Insatisfecho
 - (4) Indeciso
 - (5) Satisfecho
 - (6) Muy insatisfecho
 - (7) Extremadamente insatisfecho
- m) La capacidad para responder rápidamente a desarrollos tecnológicos de mercado
(Elija uno)
- (1) Extremadamente insatisfecho
 - (2) Muy insatisfecho
 - (3) Insatisfecho
 - (4) Indeciso
 - (5) Satisfecho
 - (6) Muy insatisfecho
 - (7) Extremadamente insatisfecho
- n) La capacidad para adelantarse a los competidores, al responder a desarrollos del mercado o tecnología
(Elija uno)
- (1) Extremadamente insatisfecho
 - (2) Muy insatisfecho
 - (3) Insatisfecho
 - (4) Indeciso
 - (5) Satisfecho
 - (6) Muy insatisfecho
 - (7) Extremadamente insatisfecho
- o) La incorporación de innovaciones tecnológicas en la oferta de productos/servicios ofrecidos.
(Elija uno)
- (1) Extremadamente insatisfecho

- (2) Muy insatisfecho
- (3) Insatisfecho
- (4) Indeciso
- (5) Satisfecho
- (6) Muy insatisfecho
- (7) Extremadamente insatisfecho

p) La incorporación de innovaciones tecnológicas en las operaciones internas.

- (Elija uno)
- (1) Extremadamente insatisfecho
 - (2) Muy insatisfecho
 - (3) Insatisfecho
 - (4) Indeciso
 - (5) Satisfecho
 - (6) Muy insatisfecho
 - (7) Extremadamente insatisfecho

Página 3: Demografía

1. ¿Cuánto personal de tiempo completo, emplea su empresa?

- (Elija uno)
- 0 a 500
 - 501 a 2,000
 - 2,001 a 5,000
 - 5,001 a 10,000
 - 10,000+

2. De las industrias enumeradas a continuación, ¿Dónde puede clasificar a su empresa?

- (Elija uno)
- Minería/ Minerales
 - Construcción/ Ingeniería
 - Productos alimenticios/ Procesados
 - Textil/ Productos de Papel
 - Productos químicos/ Metales
 - Transportación
 - Telecomunicaciones
 - Venta al menudeo
 - Financiero/ Seguros

Otros

3. ¿Cuántos años tiene su empresa en existencia?
(Describe la respuesta)

4. En promedio, ¿Qué porcentaje de las ventas de su empresa, podrían ser consideradas de exportación o extranjeras?

(Elija uno)

0 a 20%

21 a 40%

41 a 60%

61 a 80%

81%+

5. Por favor introduzca el número de 7 dígitos dado por el administrador para su encuesta en el siguiente espacio.

(Describe la respuesta)

Este es el final del cuestionario. Muchas gracias por su participación en la encuesta. Por favor haga click en el botón “finalizar” para enviar sus respuestas.

Participative Leadership Scale Items

1. Encourages work group members to express ideas/suggestions
2. Listens to my work group's ideas and suggestions
3. Uses my work group's suggestions to make decisions that affect us
4. Gives all work group members a chance to voice their opinions
5. Considers my work group's ideas when he/she disagrees with them

Entrepreneurial Orientation Scale Items

1. My business unit spends more time on long-term R&D (3+ years) than on short-term R&D
2. My business unit is usually among the first in the industry to introduce new products
3. My business unit rewards risk taking
4. My business unit shows a great deal of tolerance for high-risk projects
5. My business unit uses only "tried-and-true" procedures, systems, and methods
6. My business unit challenges, rather than responds to, its major competitors
7. My business unit takes bold, wide-ranging strategic actions rather than minor changes in tactics

Organizational Trust Scale Items

1. People from the other function can always be trusted to do what is right for us
2. People from the other function always keep the promises they make to us
3. People from the other function are perfectly honest and truthful with us
4. People from the other function are truly sincere in their promises
5. People from the other function would not take advantage of us, even if the opportunity arose

LETTER TO SBU CONTACT

I am an academic scholar with an interest in understanding the role of middle managers within organizational innovation. Specifically, how mid-level management activity impacts innovation outcomes. Many executives have suggested creation of a competitive strategy with innovation is its foundation for achieving superior firm performance, as the global recession begins to loosen its grip. Since your firm, _____, is one of the largest and most innovative firms in the world, we are seeking to learn from your previous successes and failures in past innovation initiatives. Given the current economic climate, I think that you will agree that there might not be a more important topic in all of business today.

Specifically, we would like to invite you, or one of your colleagues, to participate in a research project aimed at better understanding the facilitating and inhibiting factors of organizational innovation. The time involved is quite minimal, and we would be pleased to share the results of our research with you after the project's completion in the form of an executive summary. Please note that we are not working with any commercial interests, and we will not share any data that can be traced back to individuals or firms unless they first provide written permission to do.

In order to participate, all you have to do is to select mid-level managers (a minimum of four) within your firm to fill out a brief online survey. Overall, the time commitment should be approximately 10-15 minutes. Any manager, who operates between top-level management (CEO, CFO, President, VP, etc.) and operating or line-management would be considered appropriate for this study.

If you are interested in participating in this research study, please reply to this e-mail and indicate the best way for us to follow up with you. If you have questions about this research study, please put those questions in your reply. And if you would prefer that we contact someone else in your firm regarding this study, feel free to indicate whom that might be and we will follow up on your suggestion.

Thank you for considering this request. We do hope to be hearing from you soon.

Sincerely,

J. Lee Brown III
PhD Candidate, Strategic Management
Old Dominion University

VITA**J. LEE BROWN III**

Fayetteville State University

School of Business & Economics, Fayetteville, NC 28301

Phone: 757-285-0483, e-mail: jbrown84@uncfsu.edu**EDUCATION:**

Ph.D. in Business Administration, Old Dominion University, Norfolk, VA 2008-present

Expected Graduation: August, 2012

Concentration: Strategic Management

Support Area: International Business

MBA, Strayer University, 2002, Concentration: General Management

BS, North Carolina State University, 1995, Major: Electrical Engineering

DISSERTATION: “The outcome of middle management innovative behavior: An examination of innovative behaviors and institutional factors impact on firm innovativeness in a regional trading block”

Dissertation Proposal: May, 2011

Expected Defense: August, 2012

Dissertation Chair: William Q. Judge

Dissertation Committee: Mike Provance, Lance Frazier, José Luis Rivas

RESEARCH INTERESTS:

- Innovation Management and Corporate Entrepreneurship
- International Corporate Governance

MANUSCRIPTS UNDER REVIEW:

Judge, W., Liu-Thompkins, Y., **Brown, J.L.**, & Ponpatipat, C. The national antecedents of corporate entrepreneurship: An empirical study of Fortune’s global 500 firms. **Entrepreneurship Theory & Practice** (Status: First Invitation to Revise & Resubmit)

CONFERENCES PAPERS AND PRESENTATIONS:

Brown, J.L., Gaur, A.J, Judge, W.Q., & Mukherjee, D. “Can You Fake it and Get Away? Ceremonial vs. Actual Adoption of CSR and Firm Performance” 4th Annual Content Analysis Professional Development Workshop at the Academy of Management Annual Meeting: Boston, MA: August, 2012

Judge, W.Q., Liu, Y., **Brown, J.L.**, & Pongpatipat, C. “The National Antecedents of Corporate Entrepreneurship: An Empirical Study of Fortune’s Global 500 Firms” Academy of International Business Conference: Nagoya, Japan: June, 2011

Judge, W.Q and **Brown, J.L.** “Toward a Global Theory of Corporate Governance: The Promise of National Governance Bundles” Strategic Management Society Conference: Miami, FL: November, 2011

Brown, J.L. “The Impact of Board Demography and Ownership Structure on Risk Management” Corporate Governance & Global Financial Crisis Conference: The Wharton School in Philadelphia, PA: September, 2010

WORKING PAPERS:

Abbey, B. & **Brown, J.L.** “Top Management Team Cultural Heterogeneity and Firm International Diversification: An Upper Echelons Perspective” Target Outlet: *Journal of Management Studies*

Judge, W.Q and **Brown, J.L.** “Toward a Global Theory of Corporate Governance: The Promise of National Governance Bundles” Target outlet: *Journal of International Business Studies*

Brown, J.L. & Abbey, B. “An Institutional Perspective: Financial Hedging, Market Valuation, & Market Learning” Target Outlet: *Journal of International Business Studies*

Brown, J.L. “The Impact of Board Demography and Ownership Structure on Risk Management” Target Outlet: *Corporate Governance, an International Review*

Gaur, A., **Brown, J.L.**, Judge, W.Q., & Mukherjee, D. “Can You Fake it and Get Away? Ceremonial vs. Actual Adoption of CSR and Firm Performance” Target outlet: *Business & Society*

Brown, J.L. “The Key to Successful Strategic Decisions focused on Corporate Entrepreneurship: Is it in Your ‘Head’ or Your ‘Gut’?” Target outlet: *Strategic Management Journal*

TEACHING EXPERIENCE:

Fayetteville State University - Instructor

MGMT 470 – Strategic Management – Undergraduate Elective, Fall, 2011

MGMT 311 – Principles of Management – Undergraduate Elective, Fall, 2011

Old Dominion University – Adjunct Faculty

MGMT 485 – Business Policy & Strategy – Undergraduate Elective, Summer, 2011

MGMT 340 – Human Resources Management – Undergraduate Elective, Summer, 2009

Summary of Evaluations

Summer 2011

Course Structure

Instructor Mean

4.75

Department Mean

4.59

Instructor Involvement

4.75

4.69

* 5 = High score

Sample of Student Comments – “Professor Brown is a very strong asset to FSU's School of Business. Not only is he young and well educated, he also has an overwhelming love for the subject in which he teaches on. He actively pursues a relationship with the students and strives to help them achieve the best grade possible. I'd recommend having him as a professor to any fellow peer and hope more instructors use his ways of teaching as a guide and/or aid for improvement.”

DOCTORAL CONSORTIA:

Business Policy and Strategy Doctoral Consortium, Academy of Management Meetings,

Montreal, QC Canada: August 2010
 Social Issues in Management Doctoral Consortium, Academy of Management
 Meetings, Chicago, IL: August 2009
 Gender and Diversity in Organizations Doctoral Consortium, Academy of
 Management Meetings, Anaheim, CA: August, 2008

CONFERENCES:

Corporate Governance & Global Financial Crisis Conference: The Wharton School in
 Philadelphia, PA: September 2010
 Academy of Management Annual Meeting, Chicago, IL: August 2009
 PhD Project Management Doctoral Student Association Conference, Chicago, IL:
 August 2009
 Corporate Governance: An International Review, CGIR Symposium on China &
 India, Virginia Beach, VA: October 2008
 Academy of Management Annual Meeting, Anaheim, CA: August 2008
 PhD Project Management Doctoral Student Association Conference, Anaheim, CA:
 August 2008

PROFESSIONAL SERVICE:

Student Recruitment Committee Member, Fayetteville State University, Fall 2011
 President, Business Administration Doctoral Student Association, Old Dominion
 University, 2010 - 2011
 Founding Member & Executive Officer, Business Administration Doctoral Student
 Association, Old Dominion University, 2008 - 2010

HONORS & AWARDS:

Outstanding Doctoral Student in Management Award, 2010 - 2011
 Phi Kappa Phi Honor Society
 Southern Regional Education Board - State Doctoral Scholars Fellow, 2009 - 2012
 PhD Project Member, 2008 - 2012

BUSINESS EXPERIENCE:

Carrier Corporation, 2003 - 2008

Applied Sales Manager, Richmond & Norfolk, VA:

- Primarily responsible for managing sales engineering staff that handles **\$11.0 million** in sales annually. Responsible for profit and loss aspect of commercial business, in conjunction with my duties as a Commercial Sales engineer.

Sales Manager, Intercity & Rail, York, PA:

- Responsible for managing multiple OEM accounts that generate **\$13 million** in sales annually. Main focus to cultivate and maintain commercial relationships with key decision makers, identifying and coordinating product enhancements required by the customers, developing and implementing strategies for growing revenue and margins within the market segment, and P & L responsibility for product group.

Senior Commercial Sales Engineer, Sterling, VA:

- Primarily responsible for **\$3.0 million** in sales annually. Handled every aspect of Project Management, responsible for financial costs estimating, engineering design, contract negotiations, project commissioning and close-out. Designing and installing mechanical systems in conjunction with primarily consulting engineers, mechanical contractors and building owner/developers. Instrumental in establishing new accounts and introducing new products to the engineering community.

The Trane Company, 1996 - 2003**Marketing/Applications Engineer, ChillerSource, Charlotte, NC:**

- Responsible for obtaining a minimum of **\$2.5 million** annually in HVAC rental revenue for the West and Northeast regions. Provide 7/24 Hr Emergency response to field sales group. Developed strategic Marketing Plan for Rental Business. Travel to field offices promoting ChillerSource Rental products to high-level customers and sales personnel. Brief field sales group on competitive strategies and product applications.

Global-National Account Executive/Sales Engineer, Richmond, VA:

- As National Account Executive developed and supported global business relationships with multi-national corporations that were headquartered in the Richmond metropolitan area through a process of discovery. In this capacity, National Account Agreements were signed with major corporations in the Richmond-metropolitan area. Created business plans that defined the objectives of the strategic alliance and was responsible for its delivery.
- As Sales Engineer primarily responsible for **\$2 million** in sales annually.

Sales Engineer, Cincinnati, OH:

- The application of engineering knowledge to the sale of technical products, which consist primarily of air conditioning equipment and services. Primarily responsible for the acquisition of \$1 million in sales annually. Designing and installing mechanical systems in conjunction with mechanical contractors, consulting engineers, building owner/developers and architects.

Technical Support Group Manager, Cincinnati, OH:

- Managed and trained inside technical sales team which accounted for \$10 million in sales annually for the Cincinnati sales office. As manager, setup priority schedules, reviewed plans and specifications, prepared system submittals and handled equipment selection and pricing.
- Generated specific design calculations and compiled data for preparation of contract drawings and modifications.

AVOCATIONS & INTERESTS:

Spending time with the family
 Running Marathons
 Sports: Golf and Basketball