

Market Turbulence, Entrepreneurial Orientation and Explorative Innovation: The Role of Organizational Capabilities

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ABSTRACT

Recent literature suggests that explorative innovation is essential for both the organizational success and survival of firms. Based upon a comprehensive review of the literature, we find limited discussion of market turbulence and the entrepreneurial orientation of the organizational environment. There are both external and internal conditions that constrain how firms facilitate explorative innovation. Given the fact that each has a different effect on explorative innovation, we discuss the fact that organizational capabilities (such as slack resources and competitive intensity) are critical elements required by firms to improve innovative performance. Furthermore, we suggest that based upon a literature review and the discussion of various propositions, the steps that firms must take in order to identify what they ought to pay attention to and how to utilize resources effectively.

Keywords: Market Turbulence, Entrepreneurial Orientation, Explorative Innovation

1. INTRODUCTION

In the changing and competitive industrial and market environments, firms attempt to identify the needs of customers by investing in innovative activities in the hopes of furthering the creation of novel ideas and the development of new products. We can divide innovative activities into two types, explorative and exploitative innovations, which indicate different directions for innovative creations to take. Explorative innovation refers to firm behaviors like search, discovery, experimentation, and risk taking; while exploitative innovation refers to refinement, implementation, efficiency, production and selection (March, 1991; He and Wong, 2004). Previous studies on multimarket contact focus on exploitative innovation because through this form of innovation firms are able to capitalize on fairly certain revenue streams with known parameters of technologies or skills (Korn and Baum, 1999). Explorative innovation, on the other hand, is limited in that it entails searching for profitable opportunities in unknown and therefore highly uncertain environments (March, 1991) which need to

be explored for firms to perform well in developing market demands (He and Wong, 2004).

That is, in changing and uncertain market environments, it is difficult to predict customers' preferences and demands. Moreover, these external environmental concerns affect the constraints that shape a firm's innovation by limiting access to, and the use of, information (Tsai and Yang, 2013). The value that is created by an innovation is not appropriated exclusively by innovating firms (Grant, 2010). For explorative innovation, market turbulence dramatically influences the extent to which firms' innovativeness restricts business performance (Tsai and Yang, 2013). On the contrary, and in relation to factors internal to the firm, in order for firms to identify opportunities for innovating in an unpredictable environment, entrepreneurial orientation is critical because it reflects a firm's cultural values and beliefs, which encourage the firm's employees to act in innovative ways. The entrepreneurial orientation of a firm is assessed according to three variables, each consisting of multiple subscales for risk taking, innovation, and being proactive (Miller, 1983). Previous studies suggest that entrepreneurial orientation is one of the key antecedents of competitive advantage and performance (Hurley and Hult, 1998; Rauch et al., 2009). Entrepreneurial orientation has also been viewed as a resource, a capability, and an organizing context that allows firms to take advantage of their resources effectively (Newbert, 2007). Moreover, it reflects a firm's openness to new ideas since innovation is a key aspect of firm culture (Hurley and Hult, 1998). Based on an understanding of the impact of disclosed external (market turbulence) and internal (entrepreneurial orientation) factors on explorative innovation, these studies show firms how to improve their innovative strategies and thereby facilitate innovative activities in challenging environments.

During the innovation process, resources play the critical role of a lubricant that enables innovative behavior and smoother operations. Organizational resources, e.g. slack resources, are able to influence the entrepreneurial orientation of a firm and thereby improve the firm's ability to innovate and create new products or technologies under market turbulence. This is because organizational resources are an inducement to take risks and make proactive strategic decisions based upon which firms are able to compete with their rivals and meet their customers' needs (George, 2005). Slack resources refer to potentially utilizable resources that can be diverted or redeployed for the achievement of organizational goals (O'Brien, 2003). Previous studies suggest that there is a positive relationship between slack resources and a variety of explorative activities, including innovation (Nohria and Gulati, 1996), risk taking (Singh, 1986), and adaptation (Kraatz and Zajac, 2001). In addition, the competitive

intensity of a firm indicates its degree of competitive rivalry in a market, which increases when competitors' marketing actions are both frequent and aggressive (Narver and Slater 1990). The impact of innovative efforts on performance varies depending on a firm's level of competitive intensity. When its competitive intensity is high, innovative efforts will have a positive impact on performance due to an increased ability to produce new and better products and thereby keep up with competitors' innovations and the changing environment (Jaworski and Kohli, 1993; Johnny, 2006). Therefore, we consider the slack resources and competitive intensity of a firm to be moderators among market turbulence, entrepreneurial orientation, and explorative innovation.

This study contributes to the literature on firm innovativeness by identifying the competitive intensity and slack resources that affect the relationship between market turbulence, entrepreneurial orientation, and explorative behavior: paying attention to how firms facilitate explorative innovation and what they should pay attention to if aiming to improve their innovative performance. The findings of this research underscore the fact that explorative behaviors have a positive influence on firms in turbulent markets and they suggest that in conditions of high entrepreneurial orientation attention should be paid to the combined influence of competitive intensity and slack resources. This study also offers rich and useful implications for scholars and practitioners.

2. LITERATURE REVIEW AND PROPOSITIONS

2.1 Explorative Innovation

A central concern of corporate strategies is making choices about how much money to invest in different types of activities. Two broad types of qualitatively distinct learning activities between which firms divide their attention and resources have been proposed in the literature (exploration and exploitation). Exploration implies that a firm's behavior is characterized by search, discovery, experimentation, risk taking and innovation, while exploitation implies that a firm's behavior is characterized by refinement, implementation, efficiency, production and selection (March, 1991). The conceptual distinction between exploration and exploitation has been used as an analytical construct, explicitly or implicitly, in a wide range of management research areas, including strategic management (e.g., Winter and Szulanski, 2001), organization theory (e.g., Holmqvist, 2004), and managerial economics (e.g., Ghemawat and Ricart, 1993). These studies have shown that pursuing exploration and exploitation require substantially different structures, processes, strategies,

capabilities, and cultures, and may have different impacts on firm adaptation and performance. In general, exploration is associated with organic structures, loosely coupled systems, path breaking, improvisation, autonomy and chaos, and emerging markets and technologies. Exploitation, on the other hand, is associated with mechanistic structures, tightly coupled systems, path dependence, routinization, control and bureaucracy, and stable markets and technologies (Ancona et al., 2001). The returns associated with exploration are more variable and temporally distant, while the returns associated with exploitation are more certain and are gained sooner. In other words, explorative firms generate larger performance variation by experiencing substantial success as well as failure, while exploitative firms are likely to generate more stable performance.

In this research, we emphasize the explorative behavior of firms. For example, Peter (1990) advocates a radical self-generating innovation strategy that obsolesces itself from the inside; including licensing the firm's most advanced technology and selling off old winners to force dependence on the new. Similarly, D'Aveni (1994) strongly argues that no firm is able to build a competitive advantage that is sustainable given that today's strengths may become tomorrow's weaknesses. Instead of trying to create stability and equilibrium, then, firms should actively work to disrupt their own advantages and the advantages of their competitors by creating a series of temporary advantages (D'Aveni 1994). In conditions of strong market turbulence and high competitive intensity, both of which are external environmental factors, a firm must actively seek to ignite innovation, attract consumers' attention, develop market segmentation, and make their own niche in the market. Given these conditions, then, explorative behavior is more important and warrants more attention than exploitative behavior.

2.2 Market Turbulence

Market turbulence reflects the degree of change in customer preferences for products in an industry (Jaworski and Kohli, 1993), and is a key source of environmental turbulence. Market turbulence affects a firm in relation to the strategic deployment of resources. Structural contingency theory suggests that the value of a resource depends on the context within which it is deployed (Lawrence and Lorsch, 1967) and Starbuck's (1976) review of organizational task environments provides a wealth of potential dimensions that can affect firm strategy and operations. This study focuses on market turbulence that may suppress the culture of competitiveness. Moreover, as Aldrich (1979) stresses, a high level of turbulence leads to externally induced change that is both obscure to administrators and difficult to plan for. Weiss and Heide (1993)

also note that rapid change in the marketplace can be destructive and detrimental to already existing cultural competencies (e.g., a culture of competitiveness) and that firms must create value for customers in order to make a profit. And in order for this to be the case, firms must first gain a clear understanding of their customers by monitoring and analyzing the industry environment (Grant, 2010). That is, firms need to properly understand their customers in order to successfully market new products.

In this study, we focus on the impact of market movements on a firm's explorative behavior, and suggest that market turbulence will adversely affect a firm's explorative behavior because the firm's resources are limited, and explorative behavior requires more resources. Given severe changes in the market, then, a firm will distribute enterprise resources, and reduce innovation and its willingness to conduct business. Therefore, we propose that:

Proposition 1: Market turbulence is negatively related to a firms' explorative innovation.

2.3 Entrepreneurial Orientation

Entrepreneurial orientation (EO) refers to a process or a way in which entrepreneurs behave when creating a new entry—be that entry a new firm, a new product or technology, or a new market. Entrepreneurial orientation encompasses the processes, structures, and behaviors of firms that are characterized by innovativeness, being proactive, and taking risks (Covin and Slevin, 1989; Miller, 1983). A firm's entrepreneurial orientation is displayed in its propensity to act autonomously, to innovate, take risks, and act proactively when confronted with market opportunities (Lumpkin and Dess, 1996). Entrepreneurial orientation is also often seen as a process construct concerning the methods, practices, and decision-making styles that managers use (Lumpkin and Dess, 1996: 136). Entrepreneurial orientation is also described as a firm-level construct (Covin and Slevin, 1991) that is closely linked to strategic management and strategic decision making processes (Birkinshaw, 1997). There are numerous studies examining the precursors of EO: some explore the psychology of the manager or of founders and non-founders (e.g., Begley and Boyd, 1987; Poon et al., 2006), others examine environmental and organizational influences (e.g., Lumpkin and Dess, 2001), and still others look at the strategic context of EO (Covin et al., 2006) and the connections between EO and firm resources and capabilities (Smart and Conant, 1994). In this research, we argue that firms with high levels of entrepreneurial orientation are more inclined to engage in explorative behavior. Further, they often have a clear strategic direction and

motivation to engage in explorative behavior. Entrepreneurial orientation is grounded, we suggest, in the strategic choice perspective and concerns the intentions and actions of key players functioning in a dynamic generative process (Lumpkin and Dess, 1996: 136).

Firms with entrepreneurial orientation learn from the general direction of thought, and base the future direction of the enterprise and its innovation strategy on this general direction. Entrepreneurial orientation can be understood as innovativeness, pro-activeness, and risk taking and thus focuses on the performance implications of a firm's overall entrepreneurial posture. An entrepreneurial orientation may contribute to higher performance by facilitating a firm's capacity to identify innovative opportunities with potentially large returns, target premium market segments, and obtain first mover advantages (Lumpkin and Dess, 1996). Consequently, we suggest that:

Proposition 2: *Entrepreneurial orientation is positively related to a firms' explorative innovation.*

2.4 Slack Resources

Slack resources are used to stabilize a business by absorbing excess resources that enable enterprises to survive in critical moments (Meyer, 1982). Slack resources provide actual or potential resource cushions, allowing organizations to adapt to changes in internal policies, as well as changes in external policies. Through this dual internal and external role, slack resources are able to influence performance. Three conceptual studies have articulated a rationale for the existence of different forms of slack resources (Sharfman et al., 1988). These studies have forwarded classifications of slack resources based on managerial discretion in the deployment of resources. Sharfman and colleagues (1988) suggest that slack resources are anchored along a continuum of managerial discretion. These authors note that absorbed slack, or excess costs in specialized assets, indicates low levels of discretion, while unabsorbed slack indicates high levels of discretion. Examples of high-discretion financial resources are cash and receivables, and examples of low-discretion resources include debt, fixed assets, and excess capacity. It is important to recognize that both low- and high-discretion slack resources offer implicit benchmarks for managers of their own firm's resources as compared to their competitors. This comparison of absolute levels of resources may motivate managers' strategic actions and competitive behaviors.

In this research, firms experiencing market turbulence, and with managers focusing on EO, are affected by how slack resources are used, how they face their

own competitive mentality, and how they take strategic action. Therefore, we consider that:

Proposition 3a: *A high level of slack resources will negatively moderate the relationship between market turbulence and firms' explorative innovation.*

Proposition 3b: *A high level of slack resources will positively moderate the relationship between market turbulence and firms' explorative innovation.*

2.5 Competitive Intensity

Competitive intensity reflects the degree of inter firm competition in an industry (Jaworski and Kohli, 1993). The level of competitive intensity is related to the activities of competing firms, including price competition, promotion competition, and so forth. As Porter (1996) notes, competition in an industry continually works to drive down the rate of return toward the competitive floor rate of return. When competition in a market is intense, customers have many alternatives (Kohli and Jaworski, 1990). Like many other studies in the marketing and innovation literature (e.g., Kim and Atuahene-Gima, 2010), this research focuses on competition in the product market and how it is affected by market turbulence and the EO of firms in an industry. The moderating impact of each of these two factors is likely to depend on the level of the other. In addition, market turbulence and competitive intensity both require firms to draw upon their innovativeness in order to achieve better performance. Market turbulence and competitive intensity together may have a synergistic moderating effect on the degree to which firm innovativeness contributes to business performance (Tsai and Yang, 2013). When market turbulence is combined with competitive intensity this can have a very good binding effect, and competitive intensity will weaken the harm of market turbulence. Therefore, the firm will focus on the competition and its competitors, and the attention of consumers, discerning the firms' products through comparison and confrontation. This helps firms to think about their rivals, and focus more on explorative behavior, thereby releasing new and innovative products to attract consumers as well as induce competitors to fight. Competitive intensity in an industry arises from resource constraints (Lusch and Laczniak, 1989). EO can also be considered as a resource here. In a highly competitive environment, external environmental competitors and resources will vary by competition. Given competitive intensity, firms tend to use more resources and pay more attention to the external environment; members of the internal EO will also

respond to changes in the external environment, improve their use of EO resources, and be more willing to engage in innovative behavior (Lumpkin and Dess, 2001).

In this research, we argue that the market will be stimulated by the competition of EO firms. As compared to the average company, EO firms are more willing to take risks, to innovate, in conditions of high competitive intensity. Hence competitors are increased in competition, and, internally, employees are more willing to work and engage in explorative behavior. As a quasi-moderator variable, then, competitive intensity will affect the level of innovative effort (Miller, 1987) and performance (Calantone et al., 2002). Consequently, we suggest that:

Proposition 4a: A high level of competitive intensity in the industry will negatively moderate the relationship between market turbulence and firms' explorative innovation.

Proposition 4b: A high level of competitive intensity in the industry will positively moderate the relationship between entrepreneurial orientation and firms' explorative innovation.

3. DISCUSSION AND CONCLUSION

3.1 Discussion

This research aimed to clarify and explain how changes in highly competitive and highly interactive market environments lead companies to adjust their EO and slack resources corporate strategies in order to further exploratory behavior and maintain their ability to innovate. In terms of the external environment, intense changes in the market do not help enterprises to engage in exploratory behavior because this requires adequate resources and development time, and frequent changes in the market lead to slower business reactions, making it difficult to keep up with changes in the market through innovative behavior. However in cases of high competitive intensity, changes will be inhibited, and consumers' attention is drawn away from their demands. That is, when the relationship between firms' products is highly competitive, consumers tend to elect their own products, even if these do not fully comply with their demands.

Internally, there is a need for adequate support of exploratory behavior and creative thinking, and this support is often people, resources, and technology. We believe that companies such as the operation of more than basic, more slack resources to support them to do exploratory behavior, explore behavior brings innovation, which in turn brings about a higher likelihood of success, which itself leads to the potential for continuous innovation.

We believe that when management has EO qualities, they have a higher risk mentality. Further in highly competitive environments they will experience a higher sense of competition and innovation to pursue, and will be eager to improve. Innovative behavior grounded in their enthusiasm could be the spark that is needed to ignite exploratory behavior. That is, management with EO qualities are more willing to support the development of programs, and give developers more freedom and resources, which contributes to the overall centripetal force of the firm, and shapes business culture.

3.2 Managerial Implications

What kind of firm can survive and succeed in conditions of high competitive intensity and high market turbulence? First, we believe that firms that engage in more exploration are more innovative and have better working conditions. Second, firms that are characterized by EO are more willing to engage in exploration. Third, they tend to have more redundant resources and are more conducive to explorative behavior. These, that is, are positive conditions for innovative behavior. Market turbulence and low competitive intensity are the negative conditions if positive conditions as molecular negative conditions are the denominator. The contribution made by a manager is the provision of tools to detect the position of the firm in the industry, and to think and adjust strategy in order to make improvements. If a firm is in highly competitive conditions, then strategies should be taken to improve the use of slack resources and enhance EO.

In addition, strategies should be put in place to improve slack resources and enhance EO based on the following suggestion: firms are able to observe their own market environment and gradually adjust strategy in order to move their firm from conditions of high competitive intensity and high market turbulence to one of low competitive intensity and low market turbulence. Following this suggestion could enable firms to obtain greater working conditions and further profits.

3.3 Conclusion

We believe that with the arrival of the BIG DATA era and IT technology, highly competitive market environments characterized by high variation will become the norm. This research therefore aimed to account for how firms in such an environment are able to remain innovative and adapt to environmental changes in order to survive. In order to survive in tough market environments and remain ahead of competitors in terms of innovation, firms must be ready to adjust their strategies, as well as the attention they pay to the market and their interactions in the market.

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