

WHAT FIRMS LEARN DEPENDS ON WHAT FIRMS KNOW: THE IMPLICATIONS OF PRIOR KNOWLEDGE FOR MARKET ORIENTATION

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The ability to recognize and capitalize on new knowledge, i.e., to learn, can lead to competitive advantage(s) in the marketplace. Drawing from marketing and management strategy literatures in general and absorptive capacity literature in particular, this paper explicates the role of prior knowledge in market orientation. Specifically, this paper (1) focuses on ways in which an organization's existing knowledge can influence its ability to recognize the value of generated intelligence, facilitate its dissemination, and guide the organization's response, (2) develops several, empirically testable propositions, and (3) proposes avenues for future research.

INTRODUCTION

One of the most widely researched topics in the field of strategy has been that of competitive advantage (e.g., Barney 1991; Day and Wensley 1988; Gottfredson, Puryear and Phillips 2005; Hunt 2000; Hunt and Morgan 1995). Competing firms have heterogeneous resources and/or capabilities that they can leverage to achieve advantage(s) relative to their competitors (Barney 1991; Hunt 2000; Hunt and Morgan 1995). For example, firms can achieve competitive advantage through their core competences (Gottfredson, Puryear and Phillips 2005; Prahalad and Hamel 1990) or core capabilities (Leonard-Barton 1992). Although competences and capabilities are often conceptualized as different (e.g., Heene and Sanchez 1997), the terms competences and capabilities are essentially interchangeable (Day 1994; Madhavaram and Hunt 2006). Vargo and Lusch (2004) categorize core competencies among operant resources, or those resources that use or produce effects upon other types of resources, such as physical plant, patents, and access to raw materials (these other resources are known as operand resources). Operant resources include distinct technical systems, skills, managerial systems, and deeply

rooted values that differentiate a firm strategically (Leonard-Barton 1992).

The ability to recognize and capitalize on new knowledge, i.e., to learn, is one such operant resource (Johnson, Sohi and Grewal 2004). In fact, de Geus (1988, p. 71) suggests that "the ability to learn faster than competitors may be the only sustainable competitive advantage." Knowledge, including knowledge about markets and technologies, is a resource, and as such, is heterogeneously distributed among firms within an industry (Hunt 2000). Therefore, firms often have different, incomplete, ambiguous and often contradictory information about the environment. Consequently, the ability of firms to recognize the potential value of new information and to grasp the opportunities that others do not, may lead to an advantage (Hayek 1945; Kirzner 1997).

In the marketing literature, a knowledge related concept that helps investigate how organizations learn from the environment, particularly customers, competitors, and other forces that influence customer demand, is market orientation (e.g., Kohli and Jaworski 1990; Narver and Slater 1990). Market orientation "refers to the organization-wide generation, dissemination, and responsiveness to market intelligence" (Kohli and Jaworski 1990, p. 3). Concomitantly, in the management literature, Cohen and Levinthal (1990)

introduced the concept of absorptive capacity to explain why some firms are better able to take advantage of available external knowledge compared to others in the industry. Absorptive capacity is a firm's ability to "recognize the value of new, external information, assimilate it, and apply it to commercial ends" (Cohen and Levinthal 1990, p. 128). While Cohen and Levinthal operationalize their construct in the domain of technical information, it is defined more broadly. In fact, market intelligence is one type of external knowledge upon which the firm can capitalize. Therefore, this paper draws from *absorptive capacity* literature to explicate the role of *prior knowledge* in market orientation.

Market orientation has been described as an organizational *culture* that leads to value producing behaviors (Narver and Slater 1990), manifested as the *behavior* of generating, disseminating and responding to market intelligence (Kohli and Jaworski 1990). Absorptive capacity describes an organization's *ability* to do these things, i.e., to exploit external knowledge (Cohen and Levinthal 1990). Therefore, specific to market knowledge, absorptive capacity would likely facilitate market oriented behaviors. Since prior knowledge is essential to the effective evaluation and utilization of outside knowledge (Cohen and Levinthal 1990), what role, then, does *prior knowledge* play in market orientation? The purpose of this paper is to explore this question. Specifically, this paper focuses on ways in which an organization's existing knowledge can influence its ability to recognize the value of generated intelligence, facilitate its understanding and dissemination, and guide the organization's response.

This paper draws from the marketing and management strategy literatures and integrates that work with the economics literature particularly that of the Austrian School of Economics and Evolutionary Economics to understand the importance of prior knowledge for a firm's market orientation. The following section briefly describes and links absorptive capacity and market orientation. Next, the role

of prior knowledge in market orientation is discussed, and a series of testable propositions is presented. Then, a normative case is made for investing in knowledge systems that facilitate market orientation. Finally, suggestions for future research are presented.

THEORETICAL BACKGROUND

Absorptive capacity describes the ability, and market orientation the process by which the firm recognizes information from its environment as valuable, disseminates that information throughout the organization, and capitalizes on it. Traditionally, absorptive capacity is used to explain a firm's ability to act upon new technical information. This includes scientific and engineering advances that can be applied to products or production. It also includes knowledge about and understanding of competitors' technical advances. Market orientation is a firm's commitment to act upon market intelligence, such as "(1) exogenous market factors (e.g., competition, regulation) that affect customer needs and preferences and (2) current as well as *future* needs of customers" (Kohli and Jaworski 1990, p. 3, emphasis original). There is evidence that technical capabilities and marketing capabilities are in fact complementary assets, and that the success of innovation depends on synergy between these assets (Moorman and Slotegraaf 1999; Teece 1986).

Absorptive Capacity

Absorptive capacity is a firm's ability to exploit external knowledge, which is critical to a firm's innovative capabilities (Tsai 2001). Schumpeter (1942) sees this innovative capability as the source of competition in the marketplace, as firms "deliberately strive to be leaders in technical innovations," which can lead to positions of competitive advantage (Nelson and Winter 1982, p. 275). Absorptive capacity is a function of the firm's "preexisting knowledge structure" including, "basic skills," "a shared language," and "knowledge of the most recent scientific or technological developments in a given field" upon which it adds new, external

information (Cohen and Levinthal 1990, p. 128). In the context of technical knowledge, this prior related knowledge may help the firm's R&D function to recognize the value of new scientific advances or threats from a competitor's innovation. Such insight is crucial to the innovation process (Nelson and Winter 1982). The organization's prior technical knowledge may include production methods, product designs and technology, patents, the formal education of the R&D personnel, as well as knowledge of industry standards, practices and language.

Nelson and Winter (1982) describe the role of prior knowledge in providing the necessary insight into the opportunities for innovation. They describe a metaphorical topography, upon which each competitor has a unique vantage point that is a function of their particular Hayekian circumstances of time and place, and at which it has arrived via its own unique path of history. The possibilities that each competitor sees depends on the view from the particular vantage point it occupies, i.e., these possibilities are path dependent. What the organization can do depends in large part on what it has done and learned before (Kogut and Zander 1992). Furthermore, the decisions of the past to pursue research and development of one technology over another enables the firm to continue to succeed in the former, but essentially leads to a lockout from the latter (Burgelman 1994; Cohen and Levinthal 1990). Thus a firm's absorptive capacity is dictated by its past experience, and in turn this may limit the range of options that a firm can pursue successfully. Except for the works of Moorman and Miner (1997, 1998), little has been mentioned in the marketing literature regarding the role of prior knowledge in organizational learning, particularly market orientation. Prior marketing related knowledge might include knowledge of sales history, customer databases, seasonal and cyclical trends, competitor profiles, marketing strategy, existing supplier and distribution networks, regulatory constraints, and promotional experience. To explicate the role of prior knowledge in

marketing, we begin with a brief discussion of market orientation.

Market Orientation

Narver and Slater (1990) define market orientation as a one-dimensional construct consisting of five components: customer orientation, competitor orientation, inter-functional coordination, a long-term focus, and a profit objective. Market orientation has been shown to: (1) improve business performance (Kohli and Jaworski 1990; Narver and Slater 1990), (2) relate positively with sales growth and new product success (Slater and Narver 1994), and (3) along with an entrepreneurial drive and an appropriate climate, lead to a learning organization that creates knowledge (Slater and Narver 1995). "Organizations learn by searching for and acquiring information from the market and other learning partners, from repetitive experience, and from experimentation; by sharing that information widely throughout the organization; and by reaching organizational consensus on the meaning of the information. This sequence of information acquisition and processing creates knowledge" (Slater and Narver 1997, p. 3).

Managers must be able to recognize opportunities in the market environment, and react appropriately in order to capitalize on them. "Knowledge of markets, of technology being developed by other firms, and of the tastes and attitudes of consumers, are of particular importance" (Penrose 1959, p. 79). This same principle can be applied to a firm's ability to recognize and protect against threats. For example, a firm might react to information that a competitor has introduced a low price brand by launching a fighting brand. Whether a threat or an opportunity, the external information must be recognized before it can be internalized, disseminated and acted upon.

Just as a firm's absorptive capacity is dependent on prior related knowledge, so too a firm's ability to implement a market orientated philosophy and a successful marketing strategy is dependent on prior related knowledge (Ruzo,

Barreiro and Losada 2006). Yet, little attention has been paid to the role of prior knowledge in market orientation efficiency and effectiveness (see Kirca, Jayachandran and Bearden 2005 for a meta analysis of the extant literature). For example, a firm must have an understanding of prior customer preferences in order to recognize a change in those preferences. The following section describes how this prior knowledge enables an organization to recognize valuable information from the environment and ultimately to capitalize on it, whether that information pertains to technical know-how or market conditions. In particular, this section will discuss ways in which prior knowledge guides, informs, and facilitates market orientation.

PRIOR KNOWLEDGE AND MARKET ORIENTATION: SOME PROPOSITIONS

Dispersed information in the environment will enable an organization to capitalize on market imperfections as long as entrepreneurs have a diversity of beliefs concerning customer preferences (Cyert, Kumar and Williams 1993). For example, “special knowledge of circumstances of the fleeting moment not known to others” may lead to an advantage (Hayek 1945, p. 522). Once an opportunity for competitive advantage is identified, the response must match with the appropriate knowledge, experience, and skills within the organization in order to successfully seize that opportunity (Richardson 1972). From a marketing perspective, the steps taken to seize an opportunity might come in the form of new marketing mix strategies, new promotional strategies, entry into new markets, exit from existing markets, the development of new products, modifications to existing products or changes in the supply chain.

External boundary-spanners and information gatekeepers must recognize new information as valuable, and through diverse, internal systems this information must be disseminated throughout the organization (Cohen and Levinthal 1990). The firm then capitalizes on the new knowledge through changes in

behavior, for example, innovation (Langlois and Garrouste 1997; Moorman 1995; Sinkula 1994; Slater and Narver 1997). A great jazz musician spends many years learning music theory and practicing scales in order to be able to create a brilliant improvisational performance. So too a firm must develop knowledge structures to understand and take advantage of new knowledge from the competitive environment (Langlois and Garrouste 1997). These knowledge “structures develop or evolve slowly and cannot be recreated or ‘reengineered’ quickly or costlessly” (Langlois and Garrouste 1997, p. 288). The development of effective knowledge structures takes years, and must be continuously reinforced and reshaped.

Knowledge Acquisition. A firm’s ability to understand its environment is dependent on its prior stocks of knowledge and capabilities (Cohen and Levinthal 1990; Langlois and Garrouste 1997). Langlois (2001, p. 79) quotes Kenneth Boulding’s description of knowledge as “a structure, a very complex and frequently quite loose pattern.” One might think of this structure as a spider’s web or a fishing net, through which many objects can pass, but in which certain objects are captured. In this instance, the objects are new knowledge from the environment. Firms are constantly exposed to information flows from the environment, but the messages will not “stick” to the company’s existing knowledge structure, unless it somehow fits the existing knowledge template (Langlois 1997). In other words, the way that a firm perceives its market environment and how it reacts to it depends on the firm’s current knowledge base (Weick 1995). “The type of knowledge that the firm believes it may have to exploit will affect the sort of research the firm conducts” (Cohen and Levinthal 1990, p. 148). An organization’s prior knowledge can therefore influence the first stage of market orientation, the generation of market intelligence, or the acquisition of knowledge, as well as the information that is recognized as important.

- P_{1a}:** Organizations are more likely to generate market intelligence that is *congruent* with their prior knowledge structures.
- P_{1b}:** Organizations are more likely to notice external knowledge that is *congruent* with their prior knowledge structures.

Knowledge Interpretation. Once an organization has noticed external knowledge as potentially valuable or important, it must then analyze this knowledge to understand its potential impact (Weick 1995). The knowledge must fit with the prior knowledge structure in order to be understood (Langlois 1999). Managers within the organization rely on their prior knowledge to guide decision making (Stautamoyer, Lindquist and Wesley Thompson 1992). One such decision is which information flow presents the best opportunity or worst threat. Research on entrepreneurial recognition of opportunities demonstrates the critical role of prior knowledge (Ardichvili and Cardozo 2000; Ardichvili, Cardozo and Ray 2003; Baron 2006; Shane 2000; Shepherd and De Tienne 2005). Entrepreneurship within an organization likely begins with a similar opportunity and threat recognition process, and so it is likely that prior knowledge will play an important role in the organization's opportunity recognition process as well.

- P_{2a}:** Organizations are more likely to recognize opportunities and threats that are *congruent* with their prior knowledge structures.

Boulding points out that occasionally, external knowledge that conflicts with the knowledge structure cannot be ignored (Langlois 2001). Such disparate knowledge may cause the organization to notice, but because of the incongruity, to spend more time analyzing this knowledge than knowledge that fits its structure.

- P_{2b}:** Organizations will notice external knowledge that is *incongruent* with its prior knowledge structures, if it presents a substantial challenge to

the organization's current business practices.

- P_{2c}:** Organizations will spend more time analyzing external knowledge that is *incongruent* with the prior knowledge structures, than knowledge that is *congruent*.

Knowledge Dissemination. How well an organization exploits external information depends on how well it transfers that information throughout the organization (Cohen and Levinthal 1990). An organization's prior knowledge can influence the ability to notice and interpret the value of external knowledge, but may it may also influence how well this new knowledge is disseminated throughout the organization (Nonaka and Takeuchi 1995; Schultz 2003). Knowledge can be explicit or tacit (Polanyi 1966; Reed and DeFillippi 1990), and may be composed of routines, systems, rules, plans, capabilities, culture, technology, training, know-how, individual skills and experience (Cohen and Levinthal 1990; Kogut and Zander 1992; Nelson and Winter 1982). Explicit knowledge tends to be *slippery* while tacit knowledge tends to be *sticky* (Langlois and Robertson 1996). That is, explicit knowledge is easily transferred, and is thus easily understood by competitors and vulnerable to imitation (Reed and DeFillippi 1990). Tacit knowledge is more difficult to transfer or imitate and is therefore more of a private good, similar to proprietary knowledge that can be capitalized on by the firm (Langlois and Robertson 1996; Nelson and Winter 1982). A common, or shared prior knowledge structure within the organization can facilitate the dissemination of new knowledge, particularly tacit knowledge (Nonaka and Takeuchi 1995).

Because of the role of each competitor's unique prior knowledge, an organization's interpretation of the external knowledge will result in some level of ambiguity. The meaning that each organization ascribes to the external knowledge is unique. Even within the organization, different managers and key employees may have different interpretations of the acquired knowledge based on their own

prior knowledge. There may be significant costs in trying to communicate knowledge, and even in trying to convince others that the information has value (Silver 1984). Decision-makers within the organization may not have the knowledge necessary to understand the value of a particular response, and it may be difficult and costly to educate them. Redundant or overlapping knowledge provides a platform to facilitate knowledge exchange (Cohen and Levinthal 1990; Nonaka and Takeuchi 1995).

P_{3a}: An organization's prior knowledge structures facilitate the dissemination of *congruent know-ledge* throughout the organization.

Prior knowledge structures can facilitate learning, but they can also impede the process. Organizations that rely on routines that have proven successful in the past can become calloused to new ideas (Leonard-Barton 1992). This makes the organization less sensitive to information from the environment. This is likely to be particularly true of external knowledge that does not fit the prior knowledge structure.

P_{3b}: An organization's prior knowledge structures *hamper* the dissemination of *incongruent knowledge* throughout the organization.

Bringing together different organizational functions with diverse experiences, "provides a more robust basis for learning because it increases the prospect that incoming information will relate to what is already known" by some part of the organization (Cohen and Levinthal 1990, p. 131). Where marketing may see a customer satisfaction problem when a minivan sliding door won't stay open on a hill, engineering sees an easily correctable problem (Hauser and Clausing 1988). Thus, the broader the backgrounds of those involved in organizational learning, the more likely the organization can understand even incongruent knowledge. Emphasis on organizational coordination such as "cross-functional interfaces, participation in decision making, and job rotation" increase an organization's ability to disseminate

information (Jansen, Van Den Bosch and Volberda 2005, p. 1009).

P_{3c}: Involvement of more functional areas of the organization will be necessary to facilitate the dissemination of *incongruent knowledge* than *congruent knowledge* throughout the organization.

Responsiveness to Knowledge. Not only does prior knowledge affect how the firm perceives the environment, but also how the firm reacts to those perceptions. "What a firm has done before tends to predict what it can do in the future" (Kogut and Zander 1992, p. 383). When new information is compatible with the existing knowledge, the prior information can be leveraged to improve performance. The organization's response is dependent on a diverse prior knowledge structure including existing technical know-how, design capabilities, production routines, and marketing skills and routines. How the organization responds to what it has learned will be guided by the totality of its prior knowledge structures.

P_{4a}: An organization's response to external knowledge will be informed and guided by its prior knowledge structures.

Furthermore, there is a tension between external and internal focused learning (Cohen and Levinthal 1990; Levinthal and March 1993). External information systems are those positions and methods that gather information about the environment and bring it to the organization, and internal information systems are those which disseminate and integrate information throughout the organization (Maltz and Kohli 1996; Sinkula 1994; Slater and Narver 1995, 1997). The effectiveness and efficiency with which these information systems operate is often a source of competitive advantage (Cyert, Kumar and Williams 1993; Cohen and Levinthal 1990; Moorman 1995). Firms must reach an effective balance between acquiring and assimilating new information, and capitalizing on its prior knowledge. External information can be disruptive to existing routines, leading to resistance within the organization. The organization's response

often involves overcoming these established routines (Kesting 2006).

P_{4b}: An organization's response to *incongruent* knowledge will be slower and more difficult than its response to *congruent* knowledge.

An organization's ability to respond to external knowledge will be dependent on how near or far this new knowledge is from the firm's prior knowledge, i.e., the knowledge distance (Liyanage and Barnard 2002). For example, as companies develop new products they build upon the prior knowledge gained through the development of earlier products, research and development, and market intelligence. The closer a firm stays to its base of prior knowledge, the less risk it faces when launching new products (Cohen, Eliashberg and Ho 1997). To create a *line extension*, a modification of an existing product using the same brand, a firm must *simply* modify or improve a product that is already available to its current customers. Perhaps that is why it is the most common type of new product, accounting for approximately 89 percent of new product introductions (Aaker 1991, pg. 208). On the other hand, to successfully create a new brand in a new product category often requires new technology, and new marketing routines. A firm must expend more cognitive, managerial and fiscal effort to acquire the necessary knowledge and subsequently develop the pertinent routines. In essence, the firm must learn new knowledge rather than depend on its prior knowledge (Joglekar and Rosenthal 2003).

From a marketing perspective, the current product line is a tangible representation of the firm's prior knowledge. The further away from the current product line, the more creativity and effort the firm would be expected to invest for the new product to succeed. Creativity may come in the form of a new technology, an improved operating system, or an innovative marketing mix. Effort can be expended in R&D, intelligence gathering, advertising, promotion, sales, or distribution network expansion. A firm might have an extensive history of successfully developing new

products, to which the new product development (NPD) routine is part of the prior knowledge structure, even if the development of the product itself relies on external knowledge. That NPD experience becomes a routine, part of the organization's prior knowledge, and it facilitates the launch of another new product. This experience moderates the risk and degree of difficulty associated with moving away from the current product line.

The further away from the current product line the firm moves in the development of the new products, the more it will have to rely on its learning systems in order to successfully develop a new product (Menon and Varadarajan 1992). "One of the most important ways of reducing subjective uncertainty about the future course of events is surely to obtain more information about the factors that might be expected to affect it" (Penrose 1959, pg. 59). Furthermore, "greater uncertainty increases the value of information, and thus increases incentives to invest in knowledge generation or acquisition" (Cohen and Levinthal 1994, p. 237). In fact, the necessary knowledge may be so distant from the prior knowledge structure that the organization must consider acquiring that knowledge via new personnel, i.e., a graft of a person or group that possesses the knowledge, consultants, or perhaps even a strategic merger or acquisition (Cohen and Levinthal 1990; Liyanage and Barnard 2002; Madhavaram and McDonald 2004; Warner 2003).

P_{4c}: The greater the *incongruence* between the knowledge acquired from the environment and the organization's prior knowledge structures, the more knowledge the organization must acquire to respond appropriately.

Again as in the dissemination of knowledge, diverse inputs from across the organization are important. Along with strong "socialization capabilities (connectedness and socialization)," they will facilitate the exploitation of the new knowledge (Jansen et al. 2005, p. 1009).

- P_{4d}:** Cross functional efforts, bolstered by socialization efforts, will enhance an organization's ability to respond to external knowledge.

Balancing External and Prior Knowledge.

Once external knowledge has been integrated, the organization must choose from among various response options. The utilization of newly acquired knowledge must be integrated and balanced with successful routines already in place. Ghemawat and Costa (1993) describe the need to find a balance between static and dynamic efficiencies. One response option might be the refinement of existing products (static efficiency) and another might be the development of new products (dynamic efficiency). From a knowledge perspective, one can say that there is a need to balance between the exploitation of existing knowledge and the exploration for new knowledge (Levinthal and March 1993). An organization needs to exploit the knowledge that it has in order to recoup development costs and capitalize on its earlier investments. Furthermore, there is some evidence that investments in knowledge exploration may eventually reach a point of diminishing returns (Stock, Greis and Fischer 2001). Also, while innovation can lead to rich rewards, it can also lead to large losses (Kerin, Varadarajan and Peterson 1992). Firms that are able to find the proper balance between exploitation and exploration are likely to be more successful.

- P₅:** An organization's ability to balance the exploration for and exploitation of knowledge will lead to improved performance.

DEVELOPING A KNOWLEDGE BASE

Given the important role of prior knowledge structures in market orientation, the organization must invest in its knowledge in order to maintain this resource at the level necessary to effectively and efficiently implement a market orientation (Cohen and Levinthal 1990). Furthermore, managers must facilitate efforts to overcome established

routines that might resist changes necessitated by the newly acquired external knowledge (Kesting 2006; Nelson and Winter 1982). The firm must create an atmosphere that allows for and even encourages innovation. Success from the exploitation of current knowledge is temporary. Even if competitors are unable to imitate the organization's success, environmental change is likely to reduce and eventually eliminate the competitive advantage associated with knowledge exploitation. Organizations must continue to learn in order to gain or maintain positions of competitive advantage in changing environments.

For knowledge acquisition and assimilation to take place, external and internal information systems must be in place along with the stocks of prior knowledge. The more complex and dynamic the change in technology driving the innovative process, the more the firm should "expose a fairly broad range of prospective 'receptors' to the environment" (Cohen and Levinthal 1990, p. 132). The firm must direct resources to learning, that is, there must be managerial support and a commitment of resources in order to successfully recognize and assimilate external knowledge to profitable ends. While the existence of information systems creates the structure to support learning, the actual process is dependent upon the amount of effort that is put forth. The accomplished jazz musician has honed his or her skills over many years, but must still concentrate on the song being played and the cues given by the accompanying musicians in order to successfully improvise a solo. So too, an organization must not only establish the necessary information gathering and dissemination systems, but it must also actively look for new information (Cyert, Kumar and Williams 1993, Slater and Narver 1995, 1997), widely disseminate the new information (Grant 1996, Maltz and Kohli 1996), and take action to gain or maintain a competitive advantage (Prahalad and Hamel 1990, Reed and DeFillippi 1990). "Intensity of effort is critical" (Cohen and Levinthal 1990, p. 131).

The information acquisition process will be more specific and less routine as the firm moves away from its prior knowledge structure. However, it may be more difficult to gather information about markets as the firm moves away from its existing knowledge. "It is exceedingly difficult to conduct an effective intelligence program in domains where a company has no expertise" (Simon 1993, p. 136). A firm can expend effort through its R&D program, its promotional campaign, market intelligence gathering, personnel assigned to NPD teams (numbers and variety of functional expertise), production modifications, customer service and visible commitment of the top management team toward the new product. It may still be necessary to undertake stronger measures to learn in those instances where the organization does not have the prior knowledge. This may take the form of grafting an individual or group that possesses the necessary tacit and explicit knowledge (Madhavaram and McDonald 2004) or, possibly, even a strategic merger or acquisition (Liyanage and Barnard 2002).

FUTURE RESEARCH

The search for competitive advantage has been an important question for decades and continues to be so. More recent inquiries into the central roles of knowledge and learning in achieving and sustaining such advantages have proven insightful. The current work points out that firms have different starting points in the race to achieve competitive advantage as a result of each firms' existing knowledge. These prior knowledge structures influence each organization's ability to notice, recognize, understand, and utilize knowledge from the external environment. Furthermore, each firm's ability to respond to what is learned is influenced by its prior knowledge, as is its decision to respond at all. As this discussion argues for understanding the facilitating and hindering roles of prior knowledge in organizational learning, there is much yet to be studied.

A logical next step is to test the propositions presented in this paper. This will involve operationalizing the constructs of prior knowledge structures, congruent knowledge, incongruent knowledge, and the balance between knowledge exploration and exploitation. Given the complexity of the subject, the numbers of employees, functions, and routines involved, a multiple method approach is recommended. Qualitative techniques such as in-depth interviews, means-end laddering, case analysis, and critical incidence analysis will provide rich descriptions of how prior knowledge influences learning. These techniques may not only help operationalize the relevant constructs, but also help explore the kinds of organizational characteristics that support the development and utilization of prior organizational knowledge, including culture, orientation and climate. Quantitative techniques can test the hypothesized relationships among these constructs.

Another important step for researchers would be to delve deeper into the items and processes that constitute an organization's prior knowledge. In particular, researchers should strive to understand how prior knowledge structures are formed, and how firms can develop and reshape these structures to achieve the organization's strategic goals. The effectiveness of these efforts may be contingent on understanding whether different types of prior knowledge are better suited to learning or adapting to different kinds of external knowledge. It would also be helpful to know if certain types of external information or information sources are more likely to be noticed. Perhaps industry characteristics such as structure, competitive intensity and dynamism, and stage of life cycle will influence how willing the organization is to adapt to new knowledge.

CONCLUSION

There are constant flows of information to an organization from its environment, including market intelligence and technical knowledge. A

firm's ability to recognize new, valuable information from its environment and capitalize on it can be a source of competitive advantage. The firm's existing knowledge base, i.e., its prior knowledge may influence its ability to do this by framing the organization's perception of the environment, facilitating or obstructing the dissemination of this information, and informing the organization's response to the new information. Past research has investigated the role of resources and capabilities in achieving and sustaining competitive advantages. The organization's prior knowledge is an important resource that serves as a foundation upon which the organization builds its advantage(s). As such, it is critically important that organizations build knowledge structures that will enable the firm to learn from and respond to information from the external environment. It is also important to find a balance between exploiting the prior knowledge and leveraging it in the exploration for new opportunities and innovations. Marketing science has progressed through the cumulative development of new knowledge that, in turn, relied on existing knowledge structures. So, too, must market oriented management.

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