

Approaching global industrial marketing from a managerial cognition perspective: a theoretical framework

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Abstract

Purpose – This paper aims to attempt to develop an integrative theoretical framework that approaches global industrial marketing from a managerial cognition perspective.

Design/methodology/approach – Drawing from the managerial cognition research, business strategy research, and international business research, this paper develops a theoretical framework that is relevant to global industrial marketing.

Findings – Global industrial marketing research has much to gain from the managerial cognition literature. The framework developed in this article presents relevant managerial cognition variables, their individual and firm level antecedents, and desirable outcomes.

Research limitations/implications – The framework presented in this paper provides strong theoretical foundation for further theory development in global industrial marketing research and managerial cognition research. However, given the conceptual nature of our research, empirical scrutiny and further conceptual and empirical research are required.

Originality/value – Given the growing importance of global industrial marketing, the authors hope that this article provides a theoretical foundation for future research. For practitioners, the framework provides a useful starting point for evaluating managerial cognition in their firms and effective usage of the managerial cognition concept.

Keywords Managerial cognition, Global industrial marketing, Theoretical framework, Industrial marketing, Cognition

Paper type Research paper

Industrial marketing is often highly complex when compared to consumer marketing. For example, consider industrial purchasing, an important managerial activity in the context of industrial marketing. The industrial purchase process involves a multitude of complexities that often make it difficult to investigate (Johnston, 1981; Moriarty, 1983). Due to these complexities, industrial buying decisions are seldom made by individuals and are managed by buying centers that are composed of multiple participants are involved in the industrial buying process (Webster and Wind, 1972). As Smith and Taylor (1985) note, a buying center is typically made up of members drawn from between three (Alexander *et al.*, 1961) and ten (Kellog, 1970) functional areas, with almost 40 percent of purchase decisions being influenced by at least three persons. As a result, the process of joint decision-making in a buying center necessitates the management of various cognitive complexities such as the assimilation of information, deliberations on accumulated

information on various alternatives, and the resolution of conflicts that are likely to emerge in joint decisions (Sheth, 1973).

Similarly, other aspects of industrial marketing including marketing strategy making, marketing communications, selling and sales management, and supply chain management are also inherently complex. These complexities are further compounded in the global industrial marketing environment (Johnston *et al.*, 1999). Technological advances, technology transfer, international sourcing, and global trading create continuous changes in international markets (Samli *et al.*, 1997), while global managerial interactions and actions require cultural considerations in order to be successful (Guy and Patton, 1996). However, despite these inherent challenges, global industrial marketing remains an increasingly important but under-studied area (Hult, 2000). Specifically, considering the inherently complex nature of global industrial marketing, no research has approached global industrial marketing from a “managing complexities” perspective.

How do firms and managers manage complexities? A review of the management research and global business research reveals that extant research on “managerial cognition” offers valuable insights for managing complexities in the global industrial marketing environment. Noting that managerial cognition plays a pivotal role in strategic management processes, Stubbart (1989) suggests that cognitive science

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principles can help in managing complexities in strategic management processes. Likewise, in the context of global business, Levy *et al.* (2007) propose a strong link between cognitive orientations of managers and the effective management of multinational corporations and identify managerial cognition as a significant factor in managing complexities with reference to decision-making and strategic choice.

In a similar vein, this paper approaches global industrial marketing from the managerial cognition perspective and addresses the following questions: how do firms and managers deal with the complexities of global industrial marketing? What kinds of managerial cognition related characteristics help firms in managing the complexities of global industrial marketing? What kinds of individual (manager) characteristics help in managing the complexities of global industrial marketing? In doing so, the remainder of the paper is organized as follows. First, a brief overview of the managerial cognition research stream is provided. Second, an integrative theoretical framework that approaches global industrial marketing from a managerial cognition perspective is provided. Third, the contribution of our paper and the implications of the paper for research and practice are discussed.

Managerial cognition research – a brief overview

Managerial cognition research has its origins in the work of Schendel and Hofer (1979). As Stubbart (1989, p. 325) notes, “Schendel and Hofer, in their classic work *Strategic Management: A New View of Business Policy and Planning*, implicitly assumed a cognitive basis for much of the strategy-making process.” Specifically, Stubbart (1989) discusses the six responsibilities of managers that Schendel and Hofer (1979) identified for strategic management, namely, goal formulation, environmental analysis, strategy formulation, strategy evaluation, strategy implementation, and strategic control, and concludes that the “six steps require managers to envision, contemplate, prioritize, use knowledge, direct their attention, anticipate, engage in problem-solving, use logic, perceive, make conscious judgments” (p. 328). Furthermore, noting that managerial cognition is the unnamed missing link in Schendel and Hofer’s strategic management paradigm, Stubbart (1989, p. 325) called for a more explicit cognitive emphasis in strategic management.

Following Stubbart (1989), several researchers have subsequently answered his call and linked managerial cognition to actionable knowledge (Cross and Sproull, 2004), being competitive in the marketplace (Daniels *et al.*, 1994; Reger and Palmer, 1996), developing a global mindset in multinational corporations (Levy *et al.*, 2007), developing specific firm capabilities (Tripsas and Gavetti, 2000), evolution of industry structure (Johnson and Hoopes, 2003), firm performance (Kabanoff and Brown, 2008; McNamara *et al.*, 2002; Panagiotou, 2006), global strategic posture (Levy, 2005), internationalization of firms (Chetty *et al.*, 2006), organizational sense making (Day and Lord, 1992), mimetic adoption of market positions (Greve, 1998), new venture creation (Forbes, 1999), and new venture success (West, 2007). However, answers to three important questions are required for understanding the potential of the managerial cognition concept and the promise it holds for firms and managers.

What is managerial cognition?

Although many of the researchers do not explicitly define managerial cognition in their work, the implicit consensus seems to be that managerial cognition is how and what managers think about and understand various firm issues that require action. Forbes (1999, p.416) uses the definition of the academy of management that managerial cognition is “how organization members model reality and how such models interact with behaviors”. Drawing from cognitive science, Stubbart (1989) proposes that cognition be viewed as intentional, representational, and computational. With reference to intentions, for Stubbart (1989, p. 329), “purposeful minds guide higher-level human activities such as interpreting events, contemplating goals, and making plans”. That is, managers and firms act intentionally to reach planned strategic objectives. As to representations, following Gardner (1985), managers’ cognitive maps serve as mental representations of knowledge and drive strategic choices. The concept of computational strategic knowledge refers to how managers use a rational-deductive process for strategy development and strategic choices (Stubbart, 1989). As has been noted previously, managerial cognition through strategic choice and action can result in positive outcomes for firms. For example, managerial cognition can result in better assessment of a firm’s strategic position in the marketplace, competitors’ strategies and strategic positions, market conditions, and requirements of resources and capabilities that, in turn, can have far reaching implications for achieving competitive advantages.

What specific tools does the managerial cognition concept offer managers and firms in their strategic decision-making?

Managerial cognition research offers several tools based on the three essential topics that Stubbart (1989) identified and discussed with reference to managerial cognition: categories, semantic networks, and inferences. Categorization can be very helpful to managers and firms. For example, let us consider resources. Strategy researchers have used several categories with regards to resources. Barney (1991) classifies resources into physical capital, human capital, and organizational capital. Hunt and Morgan (1995) extend Barney’s work by providing a more finely grained view that categorizes resources as financial (e.g. cash resources and access to financial markets), physical (e.g. plant and equipment), legal (e.g. trademarks and licenses), human (e.g. the skills and knowledge of individual employees), organizational (e.g. competences, controls, policies, and culture), informational (e.g. knowledge from consumer and competitive intelligence), and relational (e.g. relationships with suppliers and customers). Constantin and Lusch (1994) categorize resources as operand and operant resources, in which the former are resources on which an operation or an act is performed to produce an effect, and the latter are employed to act on operand resources and/or other operand resources. These different categorizations of resources represent useful structures for managers in terms of assessing firm resources and competitors’ resources and, ultimately, strategy selection. Importantly, as managers often confront situations for which they are quasi-experienced, useful categorizations can be the difference between strategic successes and failures (Reger and Palmer, 1996).

Semantic networks represent knowledge about the meaning of concepts (Stubbart, 1989). An example of semantic networks is cognitive maps. For Fiol and Huff (1992, p. 267), cognitive maps “are a means of displaying graphically the firm’s current strategic position, as various observers understand it, and because they hold the promise of identifying alternative routes to improving that position”. As a specific example, drawing from the cognitive maps concept, Priem (1992, p. 143) demonstrates that metric conjoint analysis can be used “as a tool for evaluating the decision policies employed by top managers in making strategic decisions”.

The semantic networks concept is very similar to how several researchers conceive conceptual frameworks. For Garda (1988, p. 35), “conceptual frameworks help the marketer think about a concept”. Rossiter (2001, p. 5) elaborates further and conceptualizes a structural (conceptual) framework as a “descriptive list of concepts in serial or grid format, that helps organize, and therefore, begins to solve, a marketing problem”. For example, the BCG growth share matrix, marketing audit, marketing mix, marketing plan, Porter’s five forces framework, product-marketing audit, promotional mix, strategic career plan, SWOT framework, and value chain concept may all be considered as conceptual frameworks/semantic networks that help managers think about problems.

Finally, with reference to inference, managers can make inferences based on rationality, heuristics, and/or expertise (Stubbart, 1989). For example, experts have implicit knowledge structures and they rely on well-developed, context-dependent heuristics in the early stages of their decision-making (Day and Lord, 1992). A knowledge structure is “a mental template that individuals impose on an informational environment to give it form and meaning” (Walsh, 1995, p. 281). As Priem (1992) notes, the knowledge structures of managers are critical to purposive behavior of firms. Consequently, managers can use all the help that they can get to make inferences. Stubbart (198) discusses several expert systems that can help managers in making inferences. However, there is a great scope for further investigating and improving the facilitation of managerial inference.

What individual (manager) characteristics and firm characteristics facilitate managerial cognition?

Although several researchers have studied how managerial cognition influences firm outcomes, possibly with the exception of Kuvaas and Kaufmann (2004) and West (2007), there has not been much research that looks at what facilitates managerial cognition in firms. Kuvaas and Kaufmann (2004) proposed cognitive complexity of individuals as a potential antecedent of managerial cognition. As Kuvaas and Kaufmann (2004) note from Schneier (1979), cognitive complexity is an individual’s ability to draw distinctions among objects. West (2007) proposes individual member cognitions, changes in team composition, industry and competitive information, and organizational and team processes as antecedents of collective managerial cognition. Of the four, the first one is an individual level antecedent and the remaining three are organizational level antecedents. However, again, much more research needs to be done with reference to identifying, discussing, and studying individual and firm characteristics that can positively influence managerial cognition.

In summary, we may conclude from our overview of managerial cognition research that:

- managerial cognition can offer several benefits to firms;
- although managerial cognition research is very rich, there is scope for much more to be done;
- managerial cognition research needs to emphasize more on firm and individual characteristics that can facilitate managerial cognition; and
- current managerial cognition research is fragmented.

With reference to the fragmented nature of managerial cognition research, there is a need for integrative research that can increase the scope of the managerial cognition concept. Specifically, in this paper, we attempt to integrate managerial cognition concept and global industrial marketing to propose an integrative, theoretical framework. In the next section, we discuss the criticality of managerial cognition concept for global industrial marketing and, then, propose and discuss a theoretical framework.

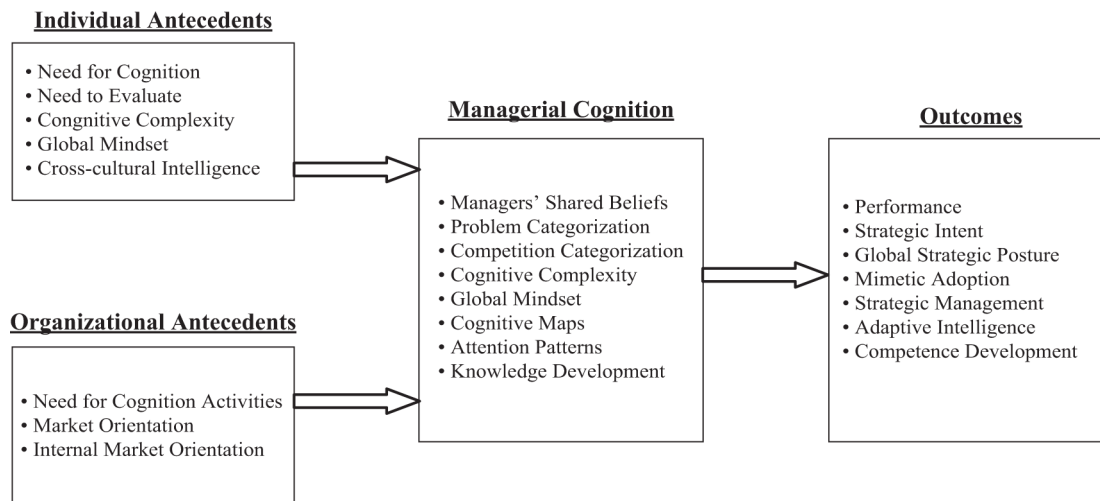
Global industrial marketing and managerial cognition: a theoretical framework

For Kabanoff and Brown (2008, p. 149), “the managerial cognition perspective argues that managers operating in complex, dynamic environments develop knowledge structures that help them focus their attention, interpretation, and actions”. Given the complex and dynamic nature of global industrial marketing, the managerial cognition concept has a lot to offer global industrial marketing. However, leave alone global industrial marketing, with the exception of Chetty *et al.* (2006), Levy (2005), and Levy *et al.* (2007), there is no research that approaches global business from a managerial cognition perspective. While Chetty *et al.* (2006) link different kinds of firm experience and managerial cognition, Levy (2005) and Levy *et al.* (2007) note that cognitive capabilities and orientations of managers are critical to globalization efforts. Clearly, the managerial cognition concept has the potential to benefit global business research in general and global industrial marketing research in particular.

As has been noted earlier, most of the managerial cognition research has been in the area of strategic management. Furthermore, as much of the strategic management research is relevant to global industrial marketing, there is a lot to be drawn from managerial cognition research stream that can be applied to global industrial marketing. Therefore, in this paper, we approach global industrial marketing from a managerial cognition perspective and propose an integrative, theoretical framework. In addition to drawing from managerial cognition and applying it to the global industrial marketing context, our objectives are:

- to explore issues that are specific to global industrial marketing; and
- to contribute to the managerial cognition research by integrating the fragmented managerial cognition research and bringing in additional concepts to make it comprehensive.

In developing the framework (see Figure 1), we focus on all the relevant variables that reflect managerial cognition, the individual and organizational antecedents that positively influence managerial cognition, and the outcome variables that are positively influenced by managerial cognition.

Figure 1 Global industrial marketing and managerial cognition: an integrative theoretical framework

Source: Madhavaram (2011)

Variables that reflect managerial cognition

Managers' shared beliefs

In the context of global industrial marketing, the collective perspectives of management teams can have significant influence on the firm's global marketing strategy and changes to strategy. This view has affinities with the upper echelons theory that suggests that an organization is a reflection of its top managers. For example, for Hambrick and Mason (1984), cognitive properties of top managers affect how strategic issues are identified and interpreted. Therefore, the managers' shared beliefs about global competition, firm's global strategic posture, customers, and desirable changes to strategy can go a long way in influencing firm performance. Specifically, Johnson and Hoopes (2003) suggest that managerial beliefs can influence industry structure and competitive heterogeneity and find that, sometimes, clusters of firms will have similar beliefs resulting in stable strategic and performance heterogeneity within an industry.

Problem categorization

Day and Lord (1992) identify categorization as a critical component in the early stages of problem formulation, in making sense of strategic issues, and subsequent decision-making in organizations. Some important findings of Day and Lord's (1992) study are:

- experts categorize ill-structured problems significantly faster than novices;
- experts have greater variance in the number of categories used and incorporate more problem information in categorization; and
- problem categorization is positively related to the number of processes and services offered by firms.

One implication of these findings for global industrial marketing is that firms can benefit immensely by bringing in consultants (experts) when entering new markets and/or facing crises situations in global markets.

Competition categorization

Several researchers have investigated managerial cognition in the context highly competitive business environments (e.g. Daniels *et al.*, 1994; Ginsberg, 1994; Panagiotou, 2005; Reger and Palmer, 1996). Ginsberg (1994) notes that interpreting and analyzing competitive environments can help firms in developing specific capabilities for achieving specific competitive advantages. For Panagiotou (2005), managerial perceptions of competition affect strategic decisions on competitive strategies and resource allocation. Therefore, how firms categorize competitors and subsequent analyses can have significant impact on firms' strategies in the context of global industrial marketing. For example, one could focus on positioning as a categorization variable in global markets. Reger and Palmer (1996), in the context turbulent competitive environments, note that managers should be mindful of incorporating new information proactively from many sources and should actively discard old categorization.

Cognitive complexity

Although the concept of cognitive complexity was originally introduced by Bieri (1955) as a personality trait, in recent times, researchers (Stern, 2000; Stern and Rose, 2006) have employed the concept at the firm level. With reference to cognitive complexity at the organizational level, organizations are considered as cognitive units that collectively share information, develop interpretations, and determine actions (Stern, 2000). Stern and Rose (2006) conceptualize cognitive complexity as an organization's capacity to integrate multiple environmental dimensions during marketing strategy making. Therefore, firms with high cognitive complexity will be better able to come up with creative and appropriate solutions after considering all the available options and environmental dimensions and will be able to make better and faster decisions on which strategy would be best suited for the situation. In the context of global industrial marketing, organizational cognitive complexity can enable effective marketing strategy making and produce superior firm performance.

Global mindset

Specific to global industrial marketing, global mindset is an important managerial cognition concept. Researchers have studied this concept at the individual level (e.g. Arora *et al.*, 2004; Levy *et al.*, 2007), team level (Bouquet, 2005; Levy, 2005), and organizational level (Gupta and Govindarajan, 2002; Jeanett, 2000; Kobrin, 1994). At the organizational level, a firm's global mindset gives it the ability to understand a business, an industry sector, or a particular market on a global basis and firms that implement a global mindset ahead of other will have competitive advantages (Jeanett, 2000). On similar lines, for Gupta and Govindarajan (2002), a global mindset combines openness to and awareness of diversity across cultures and markets with a propensity and ability to synthesize across the diversity and a deeply embedded global mindset enables firms to take advantage of emerging opportunities in global markets. According to Levy *et al.* (2007), the works of Jeanett (2000) and Gupta and Govindarajan (2002) take a strategic research perspective and suggest a strong relationship between global mindset and global strategy.

Cognitive maps

Cognitive maps provide a frame of reference for what is known and believed and often perform the following functions: focus attention, trigger memory, reveal gaps, highlight key factors, and/or supply missing information (Fiol and Huff, 1992). Furthermore, for Fiol and Huff (1992), cognitive maps could lead to issue structuring, issue closure, and/or creative problem solving. Often, for making sense of dynamic, global environmental stimuli, cognitive maps can prove useful. Meaningful cognitive maps that provide accurate representation of a firm's current strategic position can help in developing alternative strategic options and specific capabilities for realizing strategic objectives. As Ginsberg (1994) notes, tools and techniques for cognitive mapping and modeling including causal loop and policy structure diagrams, system dynamic simulations, interactive computer mapping, and group decision support systems may be related to sustainable competitive advantages and superior firm performance. Therefore, the kinds of cognitive maps that firms use, the extent of the usage of cognitive maps, and the way cognitive maps are used by firms and managers can have significant impact on global industrial marketing.

Attention patterns

The managerial cognition and upper echelons perspectives suggest that cognitive capabilities of top management teams significantly affect globalization efforts (Levy, 2005). Specifically, Levy (2005, p. 797) proposes "that managerial attention patterns or the cognitive processes of 'noticing and constructing meaning' about the environment influence the strategic posture of firms". In addition, as Daft and Weick (1984) note, attention is the first step of the information processing sequence that involves attention, interpretation, and action. Important considerations for top management teams with reference to attention concern the allocation of attention between the external and internal environments and the allocation of attention among different aspects of the external environment. Levy (2005), using a sample of 69 firms in the computer, pharmaceutical, and semiconductor industries, found that the top management attentional patterns are positively related to the expansiveness of global strategic posture.

Knowledge development

A firm that looks at competing in global markets invariably acquires different kinds of experiences (Chetty *et al.*, 2006). In the context of international business, the impact of learning and knowledge on firm performance is well established (e.g. Delios and Beamish, 1999; Zahra *et al.*, 2000). For Chetty *et al.* (2006, p. 701), knowledge development "is a cumulative process, where prior experiences generate knowledge that is applied as firms make resource commitments in their ongoing business". These knowledge development processes can result in useful knowledge structures for top management teams. Knowledge structures are "mental templates consisting of organized knowledge about an information environment that enables interpretation and action in that environment" (Walsh, 1995, p. 286). Furthermore, there is benefit to developing highly complex knowledge structures so that top management teams can respond appropriately to the organization's environment (McNamara *et al.*, 2002).

Consequences of managerial cognition

Over the years, researchers have proposed and/or investigated several consequences of managerial cognition. Prominent among the variables studied are: performance (Forbes, 1999; Jenkins and Johnson, 1997; Kabanoff and Brown, 2008; McNamara *et al.*, 2002; West, 2007), strategic intent (Tikkanen *et al.*, 2005), global strategic posture (Levy, 2005), mimetic adoption (Greve, 1998), strategic management (Fiol and Huff, 1992; Stubbart, 1989), adaptive intelligence (Tripsas and Gavetti, 2000), and competence development (Ginsberg, 1994; Harmsen and Jensen, 2004; Tripsas and Gavetti, 2000). Initially, researchers focused on investigating the influence of managerial cognition on strategic management and overall firm performance. Specifically, Stubbart (1989), one of the first researchers to research managerial cognition, emphasized the criticality of managerial cognition. As to firm performance, for example, while McNamara *et al.* (2002) studied average return on average assets (ROA), Forbes (1999) approached firm performance in terms of new venture creation.

Once researchers established the influence of managerial cognition on strategic management and firm performance, they turned their attention to specific mediator variables that, in turn, influence firm performance. Many such variables that management strategy researchers included in their research are relevant to global industrial marketing. For example, strategic intent, adaptive intelligence, and competence development can be useful concepts for global industrial marketing. For Tikkanen *et al.* (2005, p. 793), "*strategic intent* involves long-term organization commitment to ambitious business objectives, creating a shared mindset and a sense of direction for the company" (italics added) and drives the content and process of business strategy. In addition, noting that failure to adapt mental models can lead to poor organizational performance, Tripsas and Gavetti (2000) propose that managerial cognition affects the processes of organizational adaptation. Often, among other things, adaptive intelligence of organization can lead to accumulation and/or development of new capabilities/competences. Based on an in-depth, inductive case study of the Polaroid Corporation's historical involvement in digital

imaging, Tripsas and Gavetti (2000) conclude that managerial cognition is critical to developing new capabilities/competences that contribute to firm survival and performance.

Next, researchers have also looked at the influence of managerial cognition on specific globalization concepts like global strategic posture (Levy, 2005) and mimetic adoption (Greve, 1998) that are particularly relevant to global industrial marketing. Following Sullivan (1994), Levy (2005, p. 799) notes that “*global strategic posture* reflects the degree to which firms develop a global presence and come to depend on foreign operations and markets for creating and sustaining competitive advantage” (italics added). For Greve (1998, p. 968), “organizations use other organizations as reference groups when abandoning their market position, so an organization abandoning its market position is likely to adopt an existing rather than create a new position. Among the available choices, the relatively uncrowded will be highly attractive. An important consequence is that innovations in market positions are mimetically adopted, so that new market positions diffuse in the industry”. As can be seen, both these concepts can prove beneficial to global industrial marketing.

Antecedents of managerial cognition

In discussing the antecedents of managerial cognition, we first discuss need for cognition, need to evaluate, cognitive complexity, global mindset, and cross-cultural competence as the individual level antecedents, and need for cognitive activities, market orientation, and internal market orientation as the firm level antecedents of managerial cognition.

Need for cognition

Cohen *et al.* (1955) describe need for cognition as a need to structure relevant situations in meaningful, integrated ways. Gardner Murphy (1947) described a similar tendency as characterizing “thinkers”, for whom he suggested it had become “fun to think” and “to quest for reality”. Accordingly, Cacioppo and Petty (1982) define need for cognition as “the tendency for an individual to engage in and enjoy thinking”. For Cacioppo and Petty (1982), need for cognition is a stable individual difference in people’s tendency to engage in, and enjoy, effortful cognitive activity. The individual variations in need for cognition fall along a bipolar continuum from low to high. Individuals high in need for cognition are thought to naturally seek, acquire, and reflect on information in their environment. These people are thought of as having positive attitudes towards tasks and stimuli that require reasoning, problem-solving, and effortful thinking (Cacioppo *et al.*, 1996). Petty *et al.* (1985) show that individuals with high need for cognition, are less likely to loaf on cognitive (brainstorming) tasks under group conditions. In other words, individuals with high need for cognition form their judgments based on careful evaluation of the relevant information that is available, and individuals with low need for cognition do so in a superficial manner. This clearly shows that need for cognition has significant relevance to managerial cognition and global industrial marketing.

Need to evaluate

Jarvis and Petty (1996) introduced a new individual difference – need to evaluate – and found strong initial support for the view that some people are more prone to engage in evaluative responding than others, and that such an

individual difference is measurable. For Bizer *et al.* (1998), people high in need to evaluate are more chronically engaged in evaluation of various aspects of their lives and environments. More so than individuals in low need to evaluate, individuals in high need to evaluate spontaneously evaluate information they receive and experiences they have as good or bad, thus forming overall evaluations. Whereas individuals in low need to evaluate are content simply to experience life, individuals in high need to evaluate enjoy the process of assessing the advantages and disadvantages of all they observe and do so frequently. Individuals in high need to evaluate express their opinions more quickly than individuals in low need to evaluate, presumably because individuals in high need to evaluate access their attitudes more frequently. As individuals high in need to evaluate enjoy the process of assessing the advantages and disadvantages of all they observe, the information provided by them to a large extent could possibly affect the actions of other participants in the decision-making unit. Therefore, the concept of need to evaluate can be an important influencer of managerial cognition.

Cognitive complexity

Cognitive complexity is the ability to differentiate between alternative perspectives and to integrate these perspectives into an informed decision (Streufert and Swezey, 1986). Specific to managerial cognition, for Hambrick and Finkelstein (1987), individuals with higher cognitive complexity will have greater discretion in strategic choices, because they are aware of more alternatives and are able to differentiate among a greater number of dimensions. In addition, cognitive complexity theory suggests that impressions acquired by cognitively complex perceivers will be well rounded compared to those of less complex perceivers (Streufert and Swezey, 1986). Therefore, following Chang and McDaniel (1995), Kuvaas and Kaufman (2004, p. 250) note that “cognitively complex managers might, compared with their less complex colleagues, be prepared to go beyond the surface characteristics of issues and to base their interpretations on the deep structures of information”.

Global mindset

At the individual level, global mindset is the propensity of managers to engage in proactive and visionary behaviors to achieve strategic objectives in international markets (Harveston *et al.*, 2000). For example, using a sample of 305 managers working in an MNC (multi-national corporation), Murtha *et al.* (1998) found that global mindsets evolved over a three-year time period across all managers in the organization and influenced global strategy. Furthermore, global mindset and supportive knowledge and skills are critical for managers to make their firms globally competitive (Kedia and Mukherji, 1999). Kedia and Mukherji (1999) also note that global mindset enables managers to understand and act on the complexities of managing an interdependent and complex global network. Recently, Levy *et al.* (2007, p. 244) defined global mindset as a “highly complex cognitive structure characterized by an openness to and articulation of multiple cultural and strategic realities on both global and local levels, and the cognitive ability to mediate and integrate across this multiplicity” and suggested that global mindset has the potential to affect individual and firm actions.

Cross-cultural intelligence

Lack of cross-cultural competence is often the reason for international business failures (Johnson *et al.*, 2006). In addition, cross-cultural competence of individuals can influence the cultural capital of top management team members in terms of the team's ability to implement knowledge initiatives that can provide competitive advantages in the global market place (Harvey *et al.*, 2005). Johnson *et al.* (2006) review the international business literature on cross-cultural competence and conclude that the existing conceptualizations of cross-cultural competence are inadequate. Therefore, Johnson *et al.* (2006, p. 530) build upon the previous definitions, take into account the complex environment of international business, and propose the following definition of cross-cultural competence for the international business field: "cross-cultural competence in international business is an individual's effectiveness in drawing upon a set of knowledge, skills, and personal attributes in order to work successfully with people from different national cultural backgrounds at home or abroad". This conceptualization suggests that cross-cultural competence can have a definitive influence on managerial cognition in firms.

Organizational need for cognitive activities

Peter and Olson (1987) define cognitive activity as the mental thought and effort involved in interpreting and integrating information, as in a purchase decision (often considered a cost). For the purposes of this paper, in the context of global industrial marketing, organizational need for cognitive activity can be defined in terms of constituent elements that reflect the overall organizational need to engage in conscious cognitive activity because of the novelty of the various activities and processes involved in global industrial marketing, the complexity of such activities and processes, and last but not the least, the importance of the activities and processes. Following McQuinston (1989), novelty can be defined as the lack of experience of in the organization with global industrial marketing. Sheth (1973), in his model of organizational buyer behavior, mentions the effect of "once-in-a-lifetime" decision on decision making in terms of more versus less information required to reach a decision.

Similarly, following McQuinston (1989), complexity can be defined as how much information the organization must gather to be successful in global industrial marketing. Gronhaug (1975) found that the complexity of a task was correlated positively with amount of information sought to make that decision. Furthermore, organizational buying theory states that when members of a decision-making unit are faced with uncertainty, they seek to reduce it through the gathering of more information (Cyert and March, 1963; Sheth, 1973; Webster and Wind, 1972). In this context, following McQuinston (1989), importance can be defined as the perceived impact of global industrial marketing on organizational profitability and productivity. Reve and Johansen (1982), in a study of offshore drilling industry in Norway, discovered that importance of purchase decision to the organization to be one of the factors that affected the behavior of the participants throughout the purchase process.

Market orientation

In managerial cognition context, Kuvaas and Kaufmann (2004) note that organizational scanning, the frequency of acquiring environmental information and using it in strategic analyses and planning, can have a positive impact on managerial cognition. For example, Chonko *et al.* (1991) observe that market intelligence is critical to overcoming the seemingly insurmountable problems of global markets. This idea of using market intelligence for strategy traces to the marketing concept, which has been considered a marketing cornerstone since its articulation and development in the 1950s and 1960s. In the 1990s, the marketing concept morphed into market orientation. Kohli and Jaworski (1990, p. 6) defined a market orientation as "the organizationwide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organizationwide responsiveness to it" (italics in original). Therefore, as Hunt and Madhavaram (2005) note, the fundamental imperative of market orientation strategy is that, to achieve competitive advantage and superior financial performance, firms should systematically gather information on present and potential customers and competitors, and use such information in a coordinated way to guide strategy recognition, understanding, creation, selection, implementation, and modification. Specifically, for Calantone and Knight (2000) and Wren *et al.* (2000), market orientation plays an important role in the performance of global industrial marketing firms.

Internal market orientation

Managerial cognition and global industrial marketing concepts require that employees work together and cooperate with each other. Therefore, the managerial cognition research has much to draw for the internal marketing (IM) literature. Synthesizing the voluminous IM literature, Gounaris (2006) suggests that IM refers to the strategies and programs that the firm implements in its internal market (employees at all levels) in order to attain its external market objectives. Drawing from research on market orientation (e.g. Kohli and Jaworski, 1990) and internal relationships (e.g. Gummesson, 1999), Gounaris (2006) conceptualizes internal market orientation as having three dimensions:

- 1 internal intelligence generation;
- 2 internal intelligence dissemination; and
- 3 response to internal intelligence generation.

Furthermore, he conceptualizes:

- identification of exchange value and awareness of labor market conditions as two facets of internal intelligence generation;
- communication between managers and employees and communication among managers as two facets of internal intelligence dissemination; and
- internal segmentation, job description, remuneration system, management concern, training, and internal targeting as six facets of response to intelligence.

Analyzing data from 583 interviews, he finds a positive influence of internal market orientation on firms.

Discussion

This paper makes several contributions to the global industrial marketing research and managerial cognition research. First, an integrative theoretical framework that approaches global industrial marketing from a managerial cognition perspective is developed. As research has never integrated managerial cognition concepts into global industrial marketing, this paper provides a good theoretical foundation for future research. Specifically, in addition to drawing from managerial cognition, specific global business concepts like global mindset, cross-cultural intelligence, global strategic posture, and mimetic adoption are included in the conceptual framework. Second, this paper contributes to managerial cognition research by introducing new concepts like need for cognition, need to evaluate, need for cognitive activities, market orientation, and internal market orientation that can have significant influences on managerial cognition.

Third, though we do not explicitly state propositions owing to space limitations, a total of 192 propositions can be developed based on our framework. The proposed conceptual framework and the testable research propositions offer multiple avenues and opportunities for future global industrial marketing research. Various conceptual, qualitative, and quantitative research projects would be appropriate for this endeavor. Specific to conceptual research, critical review method can be used to evaluate the proposed theoretical framework. With regards to qualitative research, for example, case method can be used to study how global industrial marketing firms make use of managerial cognition, specific facilitators and inhibitors of managerial cognition, and the influence of environmental turbulence on managerial cognition.

As to quantitative research, the proposed conceptual framework can be tested empirically. Published scales are available for several of the constructs in the proposed framework. Scales for the remaining constructs can be developed using items adapted from other scales or created anew. Using surveys, researchers could study the global industrial marketing managers and/or firms. Future research could test our conceptual framework in parts. That is:

- individual and firm-level antecedents influencing managerial cognition;
- in-depth research into managerial cognition variables in terms of what works and what does not work; and
- specific managerial cognition variables influencing specific outcomes.

A more sophisticated study might involve dyadic or even triadic research, studying the global industrial marketing managers, supplier firms, and client firms.

Fourth, with the growing importance of global industrial marketing, global industrial marketing should focus on managerial cognition concepts that can give firms competitive advantages in the marketplace. Furthermore, managerial cognition concepts that are specific to global industrial marketing can prove very useful. Consequently, firms should consciously and continuously aim to develop organizational policies, learning systems, and cultures that facilitate the development of effective managerial cognition. Using the theoretical framework proposed in this paper, firms can evaluate, work on, and develop managerial cognition that can guide strategy recognition, understanding, creation, selection, implementation, and modification.

In conclusion, we hope that this article acts as a catalyst for further theory development in global industrial marketing research utilizing the managerial cognition concept and managerial cognition research that focuses on individual and firm level antecedents and/or outcomes of managerial cognition.

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