Does National Culture Impact Managerial Cognition of RBV Capabilities?

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Does national culture influence how managers cognate organizational capabilities? To advance our knowledge about that question, this research explores the Resource-based view and the managerial cognition literature. After reminding fundamentals of the RBV fields and of the national culture construct, the paper reviews a rich literature that provides insights about the phenomenon. The most critical finding relates to mental mechanisms that connect the values, beliefs, and individual mechanisms to the perception and cognition of the organizational capability construct. However, the paper opens a larger perceptive to the phenomenon. Managerial capability cognition appears to be more complicated than thought and this paper acknowledges other sources of influence on this cognition such as universal principles or institutional phenomena. More research is needed and the paper offers a proposal to study this phenomenon in two different cultures, based on a qualitative methodology for American and Chinese managers' cognitive processes.

INTRODUCTION

Despite an impressive volume of research, the identification, capture, and use of the fundamental Resource-based view (RBV) concepts remains incomplete (Arend & Lesveque, 2010; Molloy, Chadwick, Ployhart et al., 2011; Newbert, 2008). The literature in management dominantly acknowledges the existence of a strong influence of national culture on how managers perceive the world, make sense of it, think, and behave (Dong & Liu, 2010; Fang, 2005-2006; Hong et al., 2000; Javidan et al., 2006). For example, consequences of national culture have been explored in management specific areas such as innovation (Demircan & Eturk, 2010; Mueller & Thomas, 2000), strategic design (Rauch, Wiklund, Lumpkin & Frese, 2009; Marino et al., 2002), decision making (Dong & Liu, 2010; Sagie & Aycan, 2003), organizational structure (Lee, 1996), entrepreneurial activities (Hayton et al., 2002), or management as a whole (Kanungo, 2006). According to this literature, national culture includes the beliefs, values, and assumptions which direct managers' representations, decisions and, ultimately, behaviors.

However, although widely shared, this perspective is questioned by authors who suggest other drivers for managers' behaviors. For example, Holt (1997) claims that universal human behavior drives managerial action and is "country-agnostic", whereas Singh (2007) believes that economic variables dominantly impact managerial behavior. Fang (2005-2006) affirms that behaviors and values shape each other, and that firms' current globalization challenges call for a more sophisticated view of national culture than the Hofstedian's approach.

Considering the interest of the RBV for managers and firms (Li-Hua & Simon, 2007; Di Benedetto & Song, 2003; Peng, 2001) we explore the influence of national culture of how managers cognate RBV's

concepts and tools. Understanding what are the mechanisms that connect perception, cognition, and action contributes to the strategy field (RBV's home) and to practitioners', educators', and consultants' work.

We organize this study in three parts: 1) a review of literature for the construct of national culture and RBV; 2) a review of the literature about the impact of national culture on the cognition of RBV's capabilities; 3) a discussion of these findings and their implications, and 4) a conclusion.

REVIEW OF LITERATURE: KEY CONCEPTS

Let us start the literature review on the national culture construct and on the RBV.

National Culture

Although many perspectives exist on the concept of national culture, the pioneering work of Hofstede is widely known and the standard against which "new work on cultural differences is validated" (Triandis, 2004, p.89).

According to Hofstede, national culture is defined as the "collective mental programming that distinguishes people from one group or category of people from another" (Hofstede, 2001, p.9). Culture is therefore a set of stable unconscious shared beliefs, values, and behaviors embedded in everyday life (Hofstede, 1980). For Hoecklin (1995) basic assumptions and values constitute the core of national culture; these assumptions and values inform how people see the world.

National culture is described by the classic Hofstedian five dimensions of individualism, masculinity, power distance, uncertainty avoidance, and term orientation (Hofstede, 1983, 1991). However, scholars have developed other dimensions; for example, national culture can be characterized as high context and low context (Hall, 1976), or monochronic and polychronic (Lewis, 1992), or low trust and high trust (Fukuyama, 1995), or idealist and pragmatist (Lessem & Neubauer, 1994).

Triandis (2004), looking at the national culture construct over time, explains that national culture was quasi-absent from psychology until Markus and Katayama concluded in their 1991 study that differences in individuals' cognition, emotion, and motivation were driven by national culture. In other words, the so-called universal truths in psychology were valid only in a Western context. That reintegrated the "self" inside the construct of national culture, indicating that all psychological processes have a cultural component.

Zhou et al. (2009) suggest three approaches for conceptualizing national culture: 1) an atomistic perspective inspired by the cross cultural psychology perspective, where national culture exists in the inward self-concepts, values, and beliefs of individual members; 2) a meso perspective where national culture is conceptualized as shared knowledge. In that perspective, "national culture does not lie inside individual's private knowledge but does not entirely transcend the individual either; it exists largely in public discourse. Culture can feel at the same time under one's skin part of the self, and like something external constraining the self" (Zhou et al., 2009, p.591); and 3) a holistic national culture that exists at a collective and emergent level, beyond individual thoughts. Similarly, Prinz (2011:3) develops the different "objects" or "entities" included in various definitions of national culture: 1) artifacts; 2) behavior; 3) symbols; 4) ecology; and 5) mental states. He concludes his review of the various philosophical positions taken about national culture by (2011, p.3): "definitions that focus on external variables tends to imply that national culture is not reducible to the mental states of individuals, whereas psychological definitions may imply the opposite. At one extreme, there are definitions like Richardson and Boyd's culture as information (Richerson & Boyd, 1995, p.5) that leave external variables out, and, at the other extreme, there are authors such as Harris who emphasizes "material variables" in an approach called "material culturalism" (Harris, 2001).

The same author offers a set of variables impacted by national culture that drive cognition: 1) language as a human activity influencing thoughts and as a cultural item itself; 2) perceptive activities; 3) thinking activities; 3) emotional states, and 4) morality.

For our purpose, we use a perspective of national culture positioned at the meso-level of analysis that considers a balanced integration of information and mental states. We follow Markus and Kitayama when they integrate the permanent interaction of culture (beliefs, values, and artifacts) with selves. "National culture is a stand-in for similarly untidy and expansive set of material and symbolic concepts such as world, environments, contexts, cultural systems, social systems, social structures, institutions, practices, policies, meanings, norms, and values that give form and direction to behavior. Culture is not a stable system of beliefs or values that reside inside people. Instead, culture is located in the world in patterns of ideas, practices, institutions, products, and artifacts" (Markus & Kitayama, 2010, p.422).

The Resource-Based View

The Resource-Based View (RBV) is currently the dominant theory to explain the performance of the organization and the internal attributes that create a competitive advantage (Zubac, Hubbard & Johnson, 2010). It has generated an enormous interest because it emphasizes the dynamics at work within an organization to create such a competitive advantage and to deliver excellence in a world increasingly characterized by innovation and change (Easterby-Smith, Lyles & Peteraf, 2009).

The RBV is fundamentally an entry into the "black box" of the organization to determine which internal organizational components and/or attributes lead to a competitive advantage. This entry is made possible by several constructs that enable a comparative analysis across functions and departments. These constructs are respectively the "resource', the "capability", the "core capability", and the "dynamic capability".

A "resource" is defined as an asset used by the organization in its production process (considered in its broad sense); this asset is controlled or owned by the organization and can be accumulated, as a stock (Mahoney & Pandian, 1992; Dierickx & Cool, 1989). An organizational capability is a firm's ability to perform a coordinated set of tasks utilizing organizational resources (Helfat & Peteraf, 2003, Sirmon et al, 2007).

"Core capabilities" constitute a subset of the capability construct with specific attributes that confer them a higher strategic value (Value, Rarity, Inimitability, and Non-substitutability) (Barney, 1991; Bowman & Ambrosini, 2003), and create a sustainable competitive advantage.

The last construct, "dynamic capability' is the capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat et al., 2007, p.4). A dynamic capability stands out as a second order capability (Teppo & Foss, 2009) and as a higher order of routines to modify operating routines (Zollo & Winter, 2002). The RBV theory has been criticized since its conception and presents several weaknesses discussed for example by El Shafeey and Trott (2014), and Priem and Butler (2001). For Easterby-Smith, Lyles & Peretaf (2009, S4) "dynamic capabilities are difficult to identify. As the capacity to effect change, dynamic capabilities remain hidden until exercised and even then may not be utilized to their full extent". This problem is amplified by their association with tacit organizational elements and intangibles.

Different RBV schools of thought emphasize various concepts such as the resource, the capability, knowledge as the ultimate capability, and dynamic capabilities as second order capabilities, etc. The most common conception is that organizational capabilities are built upon a combination of resources and related to time and "excellence", in comparison to the organization rivals. For a review of the RBV, one may refer to some key articles belonging to the different schools of thought: the seminal work of Wernerfelt (1984), the classic RBV approach (Barney, 2001, 1996; Collis, 1994; Henderson & Cockburn, 1994), the knowledge-based view of capabilities (Felin & Hesterly, 2007; Grant, 1996), and the dynamic capability approach (Teece, Pisano & Shuen, 1997; Eisenhardt & Martin, 2000; Helfat & Peteraf, 2003; Schreyogg & Kliesch-Eberl, 2007).

Beyond the study of capabilities, another stream of research has developed to understand how capabilities can be purposefully managed by the organization which wants to acquire, maintain, and organize its capabilities to their full extent as drivers of competitive advantage (Degravel, 2011; Arend & Lesveque, 2010; Kunc & Morecroft, 2010; Sirmon, Gove, and Hitt, 2008; Grossler, 2007; Sirmon, Hitt & Ireland, 2007; Arregle & Quelin, 2001; Barney, 2001; Collis & Montgomery, 1995; Aaker, 1989). With

the development of the dynamic capability perspective, this conscious and voluntary effort to manage the "ordinary capabilities" has been integrated in the fabric of the dynamic capability itself. For example, Teece (2007) identifies three categories of dynamic capabilities to 1) sense and shape opportunities; 2) seize opportunities, and 3) reconfigure the asset base. His typology is articulated around the various functions to manage and to mobilize capabilities. Ambrosini, Bowman & Collier (2009) suggest three categories of dynamic capabilities based on the depth of the learning loop: 1) incremental change of capabilities; 2) renewing capabilities, and 3) regenerating capabilities. These two approaches to study a central phenomenon of capability management are valuable and can be used as complementary to assess the role of national culture on the cognition of the capability construct.

The purpose of the article is to progress on the understanding of the mediation of national culture on the cognition of the organizational capabilities phenomenon. In other words, we want to understand better how national culture influence the 1) awareness of the existing capabilities, 2) the existence of capabilities; 3) the construction of capabilities; and 4) the use of capabilities by the organization.

IMPACT OF NATIONAL CULTURE ON CAPABILITY COGNITION

To study the impact of national culture on capability cognition, we use a three-pronged approach. First, we look at the most recent perspective in the RBV called the Dynamic capabilities and the insights provided by its "micro-foundations". Second, we examine the classic Resources and Capabilities Management (RCM) perspective which studies the same phenomenon. Finally and third, the managerial cognition field offers interesting contribution about the mental mechanisms that take place in managers' minds.

Let us start with the analysis of the micro-foundations of dynamic capabilities.

Micro-Foundations of Dynamic Capabilities

To examine these micro-foundations, we use first a classic typology of the processes that exist to build dynamic capabilities and, second, we broaden the perspective to review contributions about the role of managers' mental mechanisms in connection to dynamic capabilities.

Teece's Typology of Micro-Foundations of Dynamic Capabilities

We use Teece's (2007) typology of dynamic capabilities micro-foundations to identify potential connections between capabilities management and national culture.

Teece proposes three processes:

1. Perceiving opportunities in environment (Sensing opportunities and threats).
2. Perceiving the potential role of resources and capabilities (R&C) in order to exploit these opportunities (Seizing opportunities).
3. Building R&C systems to benefit from opportunities (Reconfiguration of assets).

Perceiving opportunities

Discussing the micro-foundations of dynamic capabilities, Helfat and Peteraf (2015) analyze perception, sensation, and attention as critical activities for the design and use of capabilities. They explain that the "human brain combines perceptual data from the environment with knowledge, beliefs, expectations to make reasonably informed guesses about what is present in the environment" (Helfat & Peteraf, 2015, p.838). When perceiving opportunities in the environment, managers' emotions and moods play a critical role because they influence organizational goals and managers' mental representations (Hodgkinson & Healey, 2011). Eggers and Kaplan (2013) point out that the environment constitutes an image in managers' minds that depends on these individuals' cognitive frames. Managers conceptualize business and make resource allocation decisions in a way consistent with the "dominant logic" frame (Eggers & Kaplan, 2013, p.314). These elements create an "anchor" that determines future choices. Organizational culture constitutes lens though which strategic choices are made (Eggers & Kaplan, 2013). To search for opportunities, managers mobilize two mechanisms to make sense of their environment: 1)

Attention, where managers signal their intention to pursue a course of action, and 2) Search, where managers model the new problem space and develop strategies based on their view of the world, using analogic reasoning and similarity, as well as experimentation (Eggers & Kaplan, 2013). When facing complex choices, people are not rational decision-makers but cognitive entities that rely on simplifying heuristics to make decisions (Garbuio, King & Lovallo, 2011). Schneider and De Meyer (1991) note that the uncertainty of the environment mediates the influence of national culture on perception. National culture determines how managers behave because it acts as a perceptual screen by constraining their vision of the environment. Values tend to emphasize the information that supports people preferences. More precisely, national culture influences how people cognate and respond to their environment because it constitutes a frame of reference or logic through which the members of a society frame organizations, their environment, and their relationships. Behaviors and understanding are a mix of local cognitive phenomena and of broader social preferences around the issues of organization and adaptation (Geletkanycz, 1997). In the same vein, for Schneider (1989) the perception of variables directly impacts the managerial construction of assumptions about the environment and people that influence strategy design. These assumptions impact the way data are collected and interpreted. They also impact perception, thinking, feeling and evaluating strategic opportunities and options. Top management thinking and managerial practices are impacted by national culture (Su, Zhang & Hulpke, 1998; Hong et al., 2000; Dong & Liu, 2010).

Seizing Opportunities

When sizing opportunities (i.e. understanding how capabilities can respond to these opportunities) the role of decision-making biases appears crucial for Hodgkinson and Healey (2011). They again emphasize the role of emotional phenomena within the decision making process; "the visceral overpowers the rational to determine behavior" (Hodgkinson & Healey, 2011, p.1507). For these authors, managers' emotions trigger "somatic markers" that provide a basis for action without any debate; generating a feeling state that then determines behavior. Behavior is influenced by the imagery of experience of choice outcomes. Similarly, capability management is prone to the classic biases of omission vs. over-commitment, escalation of commitment, and the influence of ego protective behavior. During this Seizing Opportunities stage, managers must break existing capabilities into components to understand them and use two sub-processes to do so: 1) Identification of purpose, connected to the recognition of opportunities and the interpretation of the business landscape; and 2) Identification of what the organization can achieve. This second sub-process relies on various mechanisms based on past experience, personal transactions with people and activities, observation of other individuals' skills, and benchmarking (Eggers & Kaplan, 2013). All these mechanisms are subject to strong cultural determination. For Helfat and Peteraf, Seizing opportunities involve problem solving and reasoning. Reasoning mobilizes formal rules of logic, some rational procedures, but also automatic heuristic processes; and short cuts in a context of time pressure (Helfat & Peteraf, 2015, p.840).

Reconfiguring Assets

Helfat and Peteraf (2015) call this activity "Asset orchestration" and state that it involves managerial choice and action, the use of language as a system to represent ideas, but also non-verbal communication, and memorization activities. They add to the picture the need to manage resistance to change, persuasion, and social cognition defined as "perceiving, attending to, remembering, thinking about and making sense of people in our social world management" (Helfat & Peteraf, 2015, p.842-843).

When reconfiguring assets (building systems of resources and capabilities to benefit some opportunities), Eggers and Kaplan (2013) emphasize managerial cognitive activities to build capabilities. They claim that capability development is conceived and implemented by managers: the value of capabilities depends on what managers decide to do with them. Managers behave and make imperfect decisions based on their knowledge of the competitive landscape and on their interpretation of existing capabilities, not always based on accurate representations.

Routines, shared processes to achieve goals, are defined by these authors as "building blocks of organizational capabilities", and "organizational truces" (Eggers & Kaplan, 2013, p.299). These routines are the product of past organizational experiences and of conflicting interests between coalitions of actors; they also embody the understanding and interpretation of the identity of the organization. To build these routines, human cognition plays a central role: when managers sense, interpret, and retrieve prior experiences; when managers develop inaccurate representations of existing capabilities, or are influenced by the classic biases in decision making; or when managers select and store routines. Garbuio, King, and Lovallo (2011, p.1449) analyze more in depth the impact of decision making biases when managers are structuring a resource portfolio. They establish a typology of these biases based on two dimensions: the complexity of the investment choice and variables framing the decision situation as well as contextual variables. Hodgkinson and Healey (2011) pinpoint the role of emotions, reflexive systems, and stereotyping processes when managers are building and reconfiguring resources and capabilities.

In short, cognition impacts capabilities development through various processes and mostly through managerial cognitive frames and schemata of interpretation.

Managers' Mental Mechanisms and Dynamic Capabilities

When discussing the resource and capability management in general, Laamanen and Wallin (2009, p.977) frame this process as the interaction between two phenomena: 1) managerial cognition on one hand, and 2) the capability development path on the other hand. These two intertwined co-evolutionary processes condition each other evolution over time. For managers, it looks like a race between co-specialized capabilities developing in parallel that they must control and organize to achieve a balanced and harmonious development. Managerial cognition is itself constituted of complex phenomena of analogical reasoning, attention allocation, and sensitivity to learning.

The concept of "mental model" is central in managerial cognition. Mandal, Thomas, and Antunes (2009, p.218), following Hodgkinson, define it as "a mental representation of the knowledge of activities such as remembering, perceiving, reasoning, and decision making". A mental model constitutes a "working model of a phenomenon and a simplified and internalized representation of the knowledge and understanding of a given reality". They conclude that mental models strongly impact strategic choices and resource and capability management because managers' psychological differences influence their motivation and their priorities (opportunity recognition, and desire to achieve a certain development path).

Studying the role of managers for dynamic capabilities management, Augier and Teece (2009) acknowledge how managers influence the process through various activities they perform: asset selection, coordination of economic activity, acquiring and selling assets, bargaining and negotiation, design and implementation of business models. Bounded rationality and cognitive functions are at play when managers collect, analyze, interpret information, and act upon it. They add that dynamic capabilities management involves the articulation of goals, loyalty, and identity, and the shaping of organizational culture and trust (Augier & Teece, 2009, p.417).

Going backward in the causal chain of the managerial cognition phenomenon, Chattopadhyay, Glick, Miller, and Huber (1999) study the connection between managers' aspirations, goals, cognition, and actions, claim that the main driver of managers' beliefs lies in social influence. Beliefs, defined as the understanding about credible relationships between objects, properties, and ideas, include two components: 1) normative beliefs about the relevance and status of business goals, and 2) cause-and-effect beliefs about the efficiency of business tactics in achieving business goals (Chattopadhyay, Glick, Miller & Huber, 1999, p.765). Beliefs are formed through the interaction with other people, communication, networking, and socialization (Social influence). Going deeper into this social influence, the authors explain that beliefs are transmitted through sense-making processes via interaction with other organizational members, but also via the influence of a reference group's observable behavior and other variables" (Chattopadhyay, Glick, Miller & Huber, 1999, p.768).

Managerial cognition relies on two information processing modes: 1) an automatic, reflexive, visceral, and feeling-laden mode; and 2) an effortful and controlled, logical, planned reasoning. Therefore

managers are driven by both thoughts and feelings; the ultimate quality of information processing and of decisions depends on managers' affective and self-regulating processes (Hodgkinson & Healey, 2011, p.1501-1502). Managerial cognition is central in the way resources and capabilities are managed; perceptions of the environment lead to change in the way the organization uses its capabilities and configures its asset base. Understanding of search processes for information should be connected to dynamic capabilities micro-foundations (Easterby-Smith, Lyles & Peteraf, 2009).

Classic Resources and Capabilities Management (RCM)

The necessity for a firm to manage its capabilities to achieve success is acknowledged in the theoretical literature (Holcomb, 2009; Sirmon et al., 2008; Sirmon & Hitt, 2003) and in the empirical literature (Wong & Karia, 2010; Danneels, 2008; Harreld et al., 2007). According to Barney (2001, p.173), the firm's competitive advantage must be "nurtured and maintained", and in fact, its drivers "managed".

This activity, also called "Resource and Capability Management" (RCM) is defined as the "comprehensive process of structuring the firm's resource portfolio, of bundling resources to build capabilities, and of leveraging these capabilities to create value for customers and owners" (Sirmon et al., 2007, p.278). Citing Mahoney and Pandian (1992), Grossler (2007, p.252) define RCM as "the continuous assessment of the possibilities to apply the resources and capabilities to changing environment and to focus management's attention on these resources that are necessary for success". For Kunc and Morecroft (2010), RCM must include (1) (Analytical step) Resource conceptualization, where managers cognitively and creatively build resources and capabilities (they develop a mental representation of these assets) and, (2) (Action step) Resource management, where assets are actually being built within the firm, through a process of stock accumulation, to close the gap between the desired and actual owned resources (Dierickx & Cool, 1989).

The literature about RCM shows the role of human agency on first order capabilities, called "routines": "human agents interpret, adapt, ignore, and mediate rules and action" (Becker & Zirpoli, 2008, p.130, p.145); routines are filled with "improvisation, exceptions, and workarounds" (Pentland, Haerem, & Hillison, 2010, p.918, p.929-930, p.934); For Pentland and Feldman (2005), power, subjectivity and agency appear critical in operations and routines. Teppo and Foss (2009, p.162-165) note the impact of individuals' behaviors: "interacting individuals take actions, behave, and create the overall emergent outcome". Becker (2004, p.648, p.651-653) shows the importance of higher order assumptions and beliefs in routines development as well as the links between routines, cognition, and organizational structure".

The literature about RCM shows the role of human agency on second order capabilities, called "dynamic capabilities". These dynamic capabilities belong to a complex system that comprises many variables, such as social capital, trust, managerial cognition, experience, leadership (Ambrosini & Bowman, 2009), managerial perception (Ambrosini, Bowman & Collier, 2009), skills, processes, structure, procedures, and decision rules (called dynamic capabilities' micro-foundations) (Teece, 2007). Teece (2007), and Pandza and Thorpe (2009) acknowledge the importance of cognitive functions and sense-making activities for the dynamic capabilities as well as the criticality of managers' role in that phenomenon, involving judgment, creativity, insights, tacit components, and assembling evidence to validate conjectures. "Managers influence capability development and reverse process of knowledge progression influences cognitive representation"; external events must be interpreted, identifying the causal relevance of capabilities for performance (Pandza & Thorpe; 2009, S128, S123).

The role of the mental model construct appears critical in both routines and capabilities phenomena: defined as a vision of the world in people's minds (Kiesler & Sproull, 1982), and a "working model of a phenomenon that is a simplified representation of the knowledge and understanding of a given reality" (Mandal, Thomas & Antunes, 2009, p.218-219), these mental models strongly influence RCM practices and organizational knowledge (Mandal, Thomas & Antunes, 2009; Hodgkinson & Healey, 2008; Gavetti, 2005; Kim, 1993; Shrivastava, 1983). Kim (1993, p.44) claims that mental models determine managers' interpretation of available material, and arbitrate the retaining, deleting, or transforming of the

organization's vision. They shape how individuals and organizations pay attention to the world, view it, and act on it. Most organizational knowledge resides in mental models. According to Dougherty (2001), images (mental representations) precede action and order the work. Mandal et al. (2009) describe the causal loop between culture and capabilities: long term performance comes from capability position, which emerges from prior resource allocation, determined by mental models. Mental models play a critical role especially in the early stages of capability development. In other words, mental models contribute to capabilities path-dependency. Both cognitive process and cognitive content matter because managerial cognition interplays with experiencing and practice in capacity development (Gavetti, 2005; Kunc & Morecroft, 2010). Mental models and representations also influence organizational learning (Shrivastava, 1983). For example, Bettis and Prahalad's "dominant logic" (1995, p.7) -defined as "the way managers conceptualize the business and make critical resource allocation decisions"- operates as a cognitive filter for managers, without them "being aware of that filter". Foss (2007), Kor, Mahoney, and Michaels (2007), Kemmerer (2003), Eden and Ackermann (2000), Day and Nedungadi (1994), and Hodgkinson and Johnson (1994) offer insights about situations where mental activities and perceptions influence capability-related decisions and lead to various legitimate choices, relevant in each context.

Degravel (2011, p.1:15) suggests a model of RCM that focuses on the cognitive and mental activities involved. The author's "keystone step" construct encompasses "a specific stage within the RCM process, based on organizational reflection, dialogue, individual and collective introspection of mental processes, that leads to a representation and a conceptualization of two major RBV issues: 1) the contribution of critical capabilities to organizational performance, and 2) the use of these critical capabilities through the organization's strategy". Within the RCM process, the organization "collects, understands, establishes or extracts the foundational constructs, facts, beliefs, and strategic orientations necessary to manage its resources and capabilities", all highly culturally-conditioned activities.

The same author explains that the value of the keystone step concept derives from a fundamental difficulty in RCM to integrate a broader system of capabilities and their context than the "pure assets to be managed" (Wang & Ahmed, 2007; Spender, 2006; Becker, 2004).

Indeed, RCM must incorporate variables such as structure, culture, human resources, mental mechanisms, assumptions, and organizational phenomena. Degravel (2011, p.17-18) affirms the necessity of a "keystone-like" step because, despite a consensus about the importance of mental mechanisms for managerial decisions in general, and for RCM in particular (Jarratt, 2008; Duhan, 2007; Trispas & Gavetti, 2003), these mental mechanisms remain largely overlooked in the RCM literature. Because of insufficient, unclear, or conflicting information about capabilities (Kunc & Morecroft, 2010), and because convincing evidence that managerial perceptions are influenced by managerial beliefs and by the classic decision-making biases (Winter, 2003; Schoemaker, 1992), cognition and beliefs must be dealt with in a specific and dedicated way.

Managerial Cognition

Cognition is defined by Gavetti and Levinthal as a "forward-looking form of intelligence on actors' beliefs about the linkages between choice of actions and their impact on outcomes. Such beliefs derive from actors' mental models of the world". The cognitive process that they also qualify as "experiential wisdom" accumulates over time as the result of positive and negative reinforcement of prior choices" (Gavetti & Levinthal, 2000, p.113-114).

Discussing the foundations of managerial cognition in strategic management (within which the RBV is usually positioned), Stubbard (1989, p.31) explains that cognitive science relies on three pillars: 1) intentions, where managers have incentives and desire to think about strategic issues and options, 2) representations that embody the content of managers' knowledge about strategic management and their environment, and 3) computation, understood as the thought process where intentions and representations are created, manipulated, changed, sustained, or abandoned.

Decision-making, far from being only driven by economic rationalization, is the product of behavioral factors (Hambrick & Mason, 1984). Decision makers' perception of the context and the focal decision itself critically influence the outcomes (Hitt & Tyler, 1991). For example, they use heuristics to simplify

the complexity and uncertainty that they are facing (Schwenk, 1984). The managerial cognitive field considers the manager as "a key actor who invents or creates a bounded field of decision possibilities which is then navigated in the process of choice". Therefore, the "strategic choices reflect the idiosyncrasies of top executives' cognitive bases and values" (Hitt & Tyler, 1991, p.331-332).

The concept of mental model, or frame of reference, defined earlier, is again central in many contributions of the managerial cognition field. For Ireland et al., (1987) since these mental models encompass 1) beliefs, theories, and propositions developed over time based on managers' experience, and 2), cognitive models that allow managers to categorize events, assess consequences, and take corrective actions, they are informational raw material related to representations of the world upon which top managers operate.

National culture does intervene in the cognitive process: Shrivasta and Mitroff's (1984) breaking down this frame of reference into six categories, include among others beliefs, metaphors, cognitive operators, and domain inquiry which are directly related to national culture. Broadening the scope, Hodgkinson and Johnson (1994) affirm that many frames of reference, at different levels, influence managers: national culture, the functional group, the industry frame, the organization frame, the career background, and the individual level. In the same vein, Lewis and Gregory (1996) state that five factors shape managers' perception of competencies: the culture, the perceived benefits of the competence, the coupling of marketing and competence, the opinion of external stakeholders (e.g. customers), and organizational micro-politics.

More sophisticated models attempt to understand the phenomenon of managerial mental representations. Felin and Zenger's model (2009) describes the managers' actions toward the creation of competitive advantage. The construction of collective beliefs in their model are generated by managers' experience, their perceptual activity, a theorizing activity, and social mechanisms (social interaction with other managers, and self-selection, by adherence to an "entrepreneurial theory"), all highly culturally-conditioned mechanisms. The theorizing activity encompasses four components: 1) the triggering role of experiential and observational fragments, 2) the imagination of possibilities, 3) reasoning and justification of theories, and 4) testing theories or opportunities.

Studying organizational culture, Harris (1994) focuses on the level of the individual where cultural influences strongly shape organizational sense-making. The individual level of culture is revealed by schemas hold by organizational members; repositories of organizational cultural knowledge and meanings. These schemas are "dynamic, cognitive knowledge structures regarding specific concepts, entities, or events" and "subjective theories derived from one's experience about how the world operates" but also "outlines of expectations" (Harris, 1994, p.310-311). They serve as mental maps and guides to interpret and expect others to behave in a certain way. To build these shared meanings, a process of social comparison, social information, and observation of others' responses is necessary. Because of the existence of culture, Harris explains that some schemas are more likely to be activated. This activation is mediated by social information, by the salience of the schemas, and by one's motives and goals (Harris, 1994). Looking at what happens inside an organizational member's mind, Harris suggests the existence of an intra-psychic mental dialogue where a member converses internally with other members about the attitudes of the social group. Individuals behave in response to the experiences discussed during those mental dialogues. According to Harris's own words, "culture is reflected in the emergence of congruent schemas which are similarly salient and shape and are shaped by social sense-making processes on intra-psychic mental dialogue between self and others", this mental dialogue being conscious or unconscious (Harris, 1994, p.316-317).

Using a similar construct, Chattopadhyay, Glick, Miller, and Huber propose the construct of belief, defined as the "understanding about credible relationships between objects, properties, or ideas" (Chattopadhyay, Glick, Miller & Huber, 1999, p.765). These beliefs are influencing executives' behaviors via intermediary variables such as bounded rationality, goals and options, and aspirations. They belong to the social influence that is generated by the interaction with others, communication, network and socialization. These authors also recognize the impact of the functional areas and related experiences.

Kastanakis and Voyer (2014), reviewing the influence of culture on mental mechanisms of perception and cognition, define culture as a "set of materials and symbolic concepts located in patterns of ideas, ideas, institutions, products, and artifacts. This set of materials gives form and direction to behavior" (Kastanakis & Voyer, 2014, p.426). They examine two "pre-behavioral" variables that condition human beings' actions in a marketing context of consumer preferences, namely perception and cognition. Perception, the process by which people become aware of their environment, is shaped by culture in the perception of self and others, by the medium of language, by emotions, and by sensory perceptions. People (re)create the environment that matches their perceptual and aesthetic preferences (p.426). Cognition, the process of stimuli such as attention, memory, language, problem-solving and decision making, transforms the perception through mental work (p.428). It depends on the ability to see others, the perception of the group vs. self, and the dominant mode of self-construal, but also on the situational or dispositional judgments about causes of events. Cognitive styles, causal reasoning, self-esteem, information processing mode, personal memories, and ability to make predictions are variables influencing cognitive activities and are themselves shaped by culture (p.427-428).

In sum, culture is considered as a gateway through which external stimuli are received; a culturally-conditioned perception process triggers a field-independent way to process information (cognition) that in turns affects decision-making and ultimately behavior (Kastanakis & Voyer, 2014, p.429-430).

Moreover, a circular relationship connects national culture, perception, cognition, and behavior. Let these two authors express this relationship in their own words: "behavior reinforces the mechanism by which culture influences individual-level psychological mechanisms; culture conditions perception and cognition by providing values, life expectations, and needs which affect people sensory perceptions. Culture defines the world and shape how people think, attend, crafting their life views and philosophies. Factors endogenous to the individual such as cultural expectations, values, emotions, and needs influence behavior as well (Kastanakis & Voyer, 2014, p.426).

FINDINGS AND IMPLICATIONS

Core of Mental Mechanisms

The analysis of the three sets of contributions examined (the micro-foundations of dynamic capabilities, the classic RCM, and managerial cognition) confirm the influence of national culture on capabilities cognition. Because national culture is made of beliefs, of values and artifacts, mental processes that take place in managers' minds appear critical for their understanding of capabilities. Differences in national culture translate into differences in the perception of organizational capabilities through cognitive structures and cognitive processes.

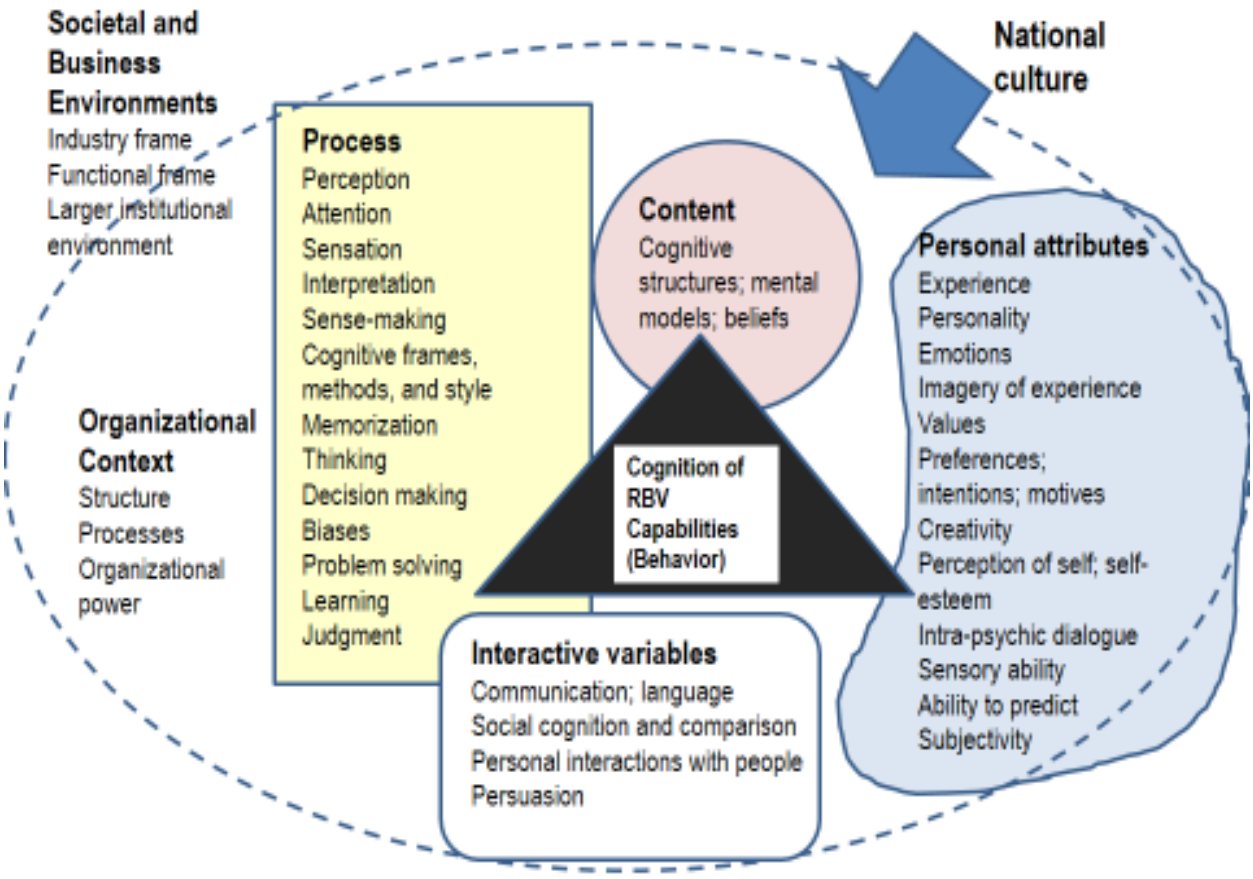
The impact of national culture on the use of capabilities exists because: 1) human beings' values, beliefs, and personal attributes (such as emotions) participate in the mental mechanisms (perception and cognition), and ultimately behavior; 2) mental constructs and the context of the mental mechanisms shape each other, creating a circular loop of reinforcement. However, these findings do not exclude other variables from intervening in that influence on capabilities.

A representation of the variables that come to play in the cognitive phenomenon of organizational capabilities is proposed in Figure 1. These emerging elements extracted by the author represent various phenomena seen from the different perspectives of the literature and could become the foundation of a future model that could comprise variables such as 1) Content; 2) Process; 3) Interpretative outcomes; 4) Personal attributes and phenomena; 5) Interactions; and 6) Broader context; such model lies beyond the scope of that study.

The emerging elements comprise: 1) the content of knowledge structures and mental models represent what people believe and how they have organized their knowledge. 2) the process encompasses all the mental operations that are involved in the RBV concepts cognition. Because managers and decisions makers have different cognitive structures and different mental processes shaped by their respective national culture, the outcome of the combination cognitive structures and cognitive processes is also different. However, these two families of variables do not operate alone: they are strongly influenced by

3) individual-level phenomena connected to the individual personal attributes that shape the cognitive outcomes as well. 4) Specific variables related to interaction and comparison and integration into a larger environment play a role. An individual does not cognate in isolation but learns and achieves sense-making in interaction with other individuals at various levels. 5) All these activities exist within a broader context at the organizational level, 6) but also at the industry and societal levels.

FIGURE 1
THE IMPACT OF NATIONAL CULTURE ON CAPABILITY COGNITION



Attributes of Mental Mechanisms

It seems impossible to look at the mental processes independently from its context. More complex than initially thought, the cognition of organizational capabilities opens more questions about other variables potentially involved. In particular, the importance of context and of the individual level appears critical.

The strong relationship between organizational and national culture cannot be overlooked (Pun, Chin & Lau, 2000). These two levels of culture might constitute two potentially contradictory layers, which mean that they can produce opposite effects (Engelen et al., 2009). In this paper, we consider that the two levels are distinct but strongly related and constitute a space for complex interactive phenomena. However, studying the linkage between these two levels requires a study on its own. Similarly, the literature examined introduces explicitly the institutions and the environment as a variable in the cognitive process, which requires additional investigation.

If national culture influences capabilities perception, companies in different contexts will not perceive their capabilities and use them in the same way. This questions our current practices: for example, can managers all over the world apply the Western teachings and principles about the RBV and its connection to performance the same way in their respective national culture? Is RBV culture-sensitive and therefore has to be used in a context-sensitive manner? Is the RBV not universal across cultures and therefore not applicable everywhere in the world? These questions are not answered by the paper and require additional research. How can education institutions adapt their programs and teachings of RBV in the various national cultures and environments? Do they need to? The same question applies for international consultants and for consultants operating out of the Western sphere. We can assume that the answers are probably more subtle than a simple yes or no because the perception and use of capabilities can be split into various sub-fields that behave differently in regard to national culture.

Similarly, can researchers continue to theorize on the dynamic capabilities without integrating the fundamental mental mechanisms so critical to the response provided by companies on understanding and using their capabilities?

How can we operationalize national culture differences across geographies to capture their impact on the perception and use of the RBV?

Limitations

National culture and the RBV are very complex phenomena which are still in development and in search for the status of concept "stabilization". Therefore our analysis is based on the contributions that fit best the linkage between national culture and the RBV; the domain remains incomplete and this article opens the door to future research. We believe that a first work that positions the big picture had to be done to enable more focused future research.

The definition of the cognition of capabilities is incomplete in the literature and its level of generality can hide more subtle phenomena. The many critics that emphasize the weakness of the capabilities and dynamic capabilities are important to notice to be able to clarify the concept actually studied. What precisely is examined within the various concepts of RBV?

Indeed, more research is needed to see 1) if different national cultures lead to expected different representations of capabilities; 2) if different national cultures lead to expected different use and implementation of capabilities. We could operationalize capabilities cognition by various components such as managerial awareness of capabilities; managerial interest in the RBV perspective; managerial knowledge of the RBV theory and tools; actual use of the RBV in the organization; managers' philosophy behind RBV inside the organization; managers' preferences for the translation of their existing organizational capabilities into strategy; and managerial preferences for acquisition of capabilities.

Future Research

A valuable study to continue the work of this paper could explore and compare the role of national culture on the representations of the "organizational capability" concept by Chinese and American managers and their actual knowledge of the RBV. The Asian (and in particular) the Chinese context presents an interesting field. Many authors have described how Chinese values have shaped today's beliefs and values, in contrast with the dominant Western values. These studies could be explored and critical dimensions extracted to provide a basis for the analysis: Chitakomkijsil (2009); Dong & Liu (2010) with the essence of Chinese values; Fang & Faure (2011) with a Ying Yang perspective; Giridharadas (2011) and Redding (1980) both with key Chinese values; Huang (2009) with the Holistic and dialectic thinking and Guanxi; Vermander (1984) with Chinese wisdom; Tsui, Wang, and Xin (2006) with Chinese organizational cultures; and Xi, Cao, and Xiangli (2010) with the He-Xie theory.

That study entails two questions: 1) How do Chinese and American managers perceive, understand, and frame their own firm organizational capabilities? Which representations do they construct for themselves? 2) If we compare these findings, how do national level cultural values influence these representations? Because of the complexity of the capability concept, a more complex construct such as that the system called "Resources and Capabilities System" can be used. This Resource and Competences

system comprises the set of fundamental concepts of resource, capability, core capability, key success factors, competitive advantage and performance, mobilized in the RBV literature and their relationships. When used empirically, this system flexibility greatly increases the capture of these various concepts. Qualitative methodologies enable a better capture of managers' cognition of the capability construct and of the mediation of national culture.

To explore the managerial representations and beliefs about capabilities, highly qualitative in nature, the author extracts meanings from semi-structured interview material by coding, by facilitating the emergence of categories, and by interpreting the material. The author has explored these representations in previous unpublished studies, where the method was tested, allowing categories and patterns to emerge, and providing "pre-theory" to guide future research. In order to select a sample, ten firms (half of them in each country) will be identified within the same industry and in a way to authorize only the influence of specific potential drivers of cognition variance such as organizational size. Several top managers who possess a global vision of the organization will be interviewed in each firm to capture in depth the phenomenon. To prepare the interview, prior work must identify potential zones of cultural differences from the national cultures.

The epistemological stance admits a Constructionist inspiration, acknowledging that social reality is constructed by the subjects and that the researcher influences the product of research. The quality of research is addressed by the criteria appropriate in the Constructionist tradition, such as credibility, dependability, generalizability, and authenticity (Easterby-Smith, 2008). All the procedures to improve quality such as researcher's reflexive account, analytic induction, triangulation of methods and theories, and communicative validity are used (Boeije, 2010; Flick, 2009; Maxwell, 2013), as well as the usability of research (Bacharach, 1989; Whetten, 1989). Some implications of this study relate to the use of the RBV in practice, to the impact of culture on strategy in its RBV aspect, and on the quality of our work as consultants and academics.

CONCLUSION

The review of three perspectives in the literature confirms the existence of a strong influence of national culture on managerial cognition of organizational capabilities It provides a rich material about that relationship and implies the existence of a larger set of variables, at the level of the individual but also at the environmental and institutional level. However, the claims that universal human values and traits as well as universal business principles for behavior impact capability cognition are not rejected by this review of literature. This paper considers capability cognition as a whole, without entering into the complexity of that construct.

More research is needed to understand the cognition of the RBV concepts and tools. Our paper has provided a richness of perspectives and a solid base to pursue the research on the mental mechanisms that lead to managerial awareness, knowledge, and use of the capability construct and of the associated theories.

The RBV is a dominant paradigm in strategy but we know relatively little about its diffusion and interest in the real business world. This paper contributes to fill this gap and opens new avenues to explore the mental mechanisms that preside to its use as a strategic and managerial tool.

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