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Understanding internal conditions driving ordinary and dynamic capabilities in Indian high-tech firms

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ABSTRACT

Organizational capabilities are the cornerstone of a firm's competitive advantage. However, considerable ambiguity exists on the contributions of ordinary and dynamic capabilities. This study examines the relative contributions of ordinary and dynamic capabilities to firm performance. Based on a survey of 260 Indian high-tech firms, we find that in those firms that are in early stages and the very last stage of their life cycle, ordinary capabilities outperform dynamic capabilities in improving firm performance. However, for firms in the middle two stages of their life cycle, both types of capabilities contribute equally. Similarly, for small and medium enterprises (SMEs) ordinary capabilities are more important than dynamic capabilities. However, large firms are served equally well by both types of capabilities. Our findings indicate that the role of the internal organization has been underrated in previous research that has focused primarily on the external environment to understand ordinary and dynamic capabilities contributions.

"Obsession is a young man's game." John Cutter to Robert Angier in the movie The Prestige.

Robert, a successful magician, had already had what academicians call ordinary capabilities but was obsessed with developing new capabilities all the time, capabilities that we refer to as dynamic capabilities. The reference by John, Robert's manager, to age was a reference to a person's inner capacity to carry out ordinary and dynamic capabilities effectively. In contrast, Robert saw outside opportunities as a determinant of ordinary and dynamic capabilities potential and had little consideration for internal capacities. As the climax of the movie reveals, not listening to John's advice proved fatal for Robert. However, that was a movie, and this is research. Is there any similarity between the two? We believe there is.

1. Introduction

Organizational capabilities are a firm's "capacity to deploy resources, usually in combination, using organizational processes, to affect a desired end" (Amit & Schoemaker, 1993: 35) and are widely seen as the building blocks of a firm's competitive advantage (Dosi, Nelson, & Winter, 2000; Teece, Pisano, & Shuen, 1997). The resource-based view (RBV) of the firm and the dynamic capabilities view (DCV) have focused on two broad categories of organizational capabilities that are essential for firm performance: zero-order ordinary capabilities needed to exploit a firm's current strategic assets through day-to-day operations (Winter, 2003) and higher-order dynamic capabilities required to alter a firm's resource base by integrating, building, and reconfiguring competences (Eisenhardt & Martin, 2000; Teece et al., 1997).

Ordinary and dynamic capabilities operate on the resource base in a distinct manner and thus have a different but direct impact on firm performance (Lin & Wu, 2014; Pezeshkan, Fainshmidt, Nair, Lance Frazier, & Markowski, 2016). Since both types of capabilities compete for the same limited resources, it is essential to understand when and under what conditions they are needed more. Scholars have mostly focused on the external conditions to understand this. For instance, it has been suggested that a dynamic environment favors dynamic capabilities (Teece, 2014) and a stable environment is suited for ordinary capabilities (Vorhies, Morgan, & Autry, 2009). This research implies that outside forces dictate the fortunes of organizational capabilities. However, our understanding of what goes on inside the organization that affects ordinary and dynamic capabilities' rent potential is insufficient. Although advising managers to calibrate their organization's capabilities based on the outside environment is not wrong, it is surely inadequate. For instance, just because outside forces are favorable for dynamic capabilities does not necessarily mean that the focal organization can support dynamic capabilities. There is not always a one-to-one correspondence between outside and inside forces, and it pays to complement outside knowledge with inside knowledge (Baden-Fuller,

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1995).

In this study, we seek to understand the inner capacities of organizations to support organizational capabilities, as well as how these capacities have a different impact on different types of capabilities to the extent that certain internal conditions become more favorable towards one type of capability over another. To do so, we examine the relative contributions of ordinary and dynamic capabilities to firm performance, drawing on survey data from 260 Indian high-tech firms. In particular, we focus on ordinary and dynamic capabilities through the functional lens of marketing and technology - two vital and complementary functional capabilities (Song, Droge, Hanvanich, & Calantone, 2005), especially in high-tech firms: technological capabilities are needed for scientific inventions and translating them into concrete products, while marketing capabilities ensure that such products effectively serve the desired customers (Franco, Sarkar, Agarwal, & Echambadi, 2009). Specifically, we conceptualize that ordinary capabilities consist of ordinary technological capability (i.e., a firm's ability to leverage current technologies) and ordinary marketing capability (i.e., a firm's ability to serve existing markets); dynamic capabilities consist of dynamic technological capability (i.e., a firm's ability to identify and adopt new technologies) and dynamic marketing capability (i.e., a firm's ability to detect and enter markets previously unserved) (Danneels, 2009). This conceptualization is in line with recent calls to study organizational capabilities in their specific functional domains (Pezeshkan et al., 2016).

We aim to contribute to the strategic management research, in particular the organizational capabilities literature, by building a theory on internal conditions that support ordinary and dynamic capabilities. More importantly, our study also helps to solve the dilemma faced by practitioners in allocating resources to develop organizational capabilities. Both ordinary and dynamic capabilities directly compete for limited organizational resources (Ambrosini & Bowman, 2009). By delineating the internal conditions that equally favor both types of capabilities or favor one type more than the other, we intend to solve managers' dilemma of resource allocation. Our findings will provide practical guidance for managers to make informed decisions on their commitment to developing ordinary and dynamic capabilities under different internal conditions.

2. Theory and hypotheses

Ordinary capabilities exploit the existing resource base to ensure continuity of current operations. Dynamic capabilities, on the other hand, alter the resource base to allow firms to explore beyond their current market and technological domains. The organizational ambidexterity literature suggests that both exploitation and exploration are equally important. Moreover, those firms that do not give equal weight to both will suffer in the long run (Raisch & Birkinshaw, 2008). Consequently, firms need to maintain the same level of proficiency in both ordinary and dynamic capabilities to survive. In contrast, the punctuated equilibrium literature posits that as long as firms face a stable competitive environment, they need to exploit more than explore. However, radical changes in the competitive environment force firms to explore more, for a short burst of time, before moving back to the status quo (Sarkees, Hulland, & Prescott, 2010). Therefore, the weight of both ordinary and dynamic capabilities changes with a change in the outside environment. That a firm does not necessarily need both ordinary and dynamic capabilities equally all the time also has a parallel in the organizational capabilities literature. The empirical findings in this literature suggest that ordinary capabilities are more vital in a stable environment and dynamic capabilities in a more turbulent environment (Drnevich & Kriauciunas, 2011).

The current study predicts the relative importance of ordinary and dynamic capabilities by relying on an outside-in perspective. That is, it is the outside environment that forces the firm to use one type of capabilities more than the other. While the importance of environment can never be underestimated, the outside-in perspective overlooks the internal condition that favors the use of one type of capability more than the other. We take a firm perspective to understand when and why the relative importance of ordinary and dynamic capabilities keep changing. Complementing the market perspective with firm perspective is the ultimate challenge of strategic management research (Chen & Miller, 2012). We use information processing theory to do so.

Information processing theory posits that a firm's behavior can be explained by examining the flow of information in and around the firm (Thompson, 1967; Tushman & Nadler, 1978). Information processing in an organization entails data gathering and its transfer from those who are at the forefront of the market within the organization and have a more accurate picture of the environment, to the middle and top managers to help them make strategic decisions regarding the organization (Smith, Grimm, Gannon, & Chen, 1991). The information processing theory explains the different phenomenon ranging from strategy to structure, decision making, and competitive moves (Dibrell & Miller, 2002). In this paper, we study how information processing capacity changes with the ‘organizational life cycle’ and ‘firm size’ to understand the relative performance of ordinary and dynamic capabilities.

2.1. Information processing and organizational life cycle

Ordinary and dynamic capabilities have different underpinnings. Ordinary capabilities are more rooted in routines than dynamic capabilities (Teece, 2012). Routines refer to both behavior and cognitive regulation that results in recurring interaction patterns and rules respectively (Nelson, 2009). How an organization will serve its current market will have both behavioral and cognitive regulation about it. Dynamic capabilities, on the other hand, are ingrained in ‘creative managerial and entrepreneurial acts', acts that by their nature are strategic and non-routine (Teece, 2012). For instance, creating new markets is a strategic act, which might be guided by some underlying principles of ‘what to do when entering new markets', is primarily based on the judgment and skills of managers. Dynamic capabilities of any form signify change, and change is itself never wholly routinized (Pentland, Feldman, Becker, & Liu, 2012). It is entrepreneurial and leadership skills, in other words, that are required to sustain dynamic capabilities (Hodgson, 2012). However, this is not to suggest that dynamic capabilities are completely devoid of routines. While (Teece, 2012) argues that there may be some underlying principles that guide dynamic capabilities, without a doubt ordinary capabilities are far more routinized than dynamic capabilities (Winter, 2003).

The information processing theory posits that the nonroutine nature of a task increases uncertainty (Dibrell & Miller, 2002). Uncertainty is defined as “the difference between the amount of information required to perform the task and the amount of information already possessed by the organization” (Galbraith, 1973: 5). Galbraith (1973: 4) argues that “the greater the task uncertainty, the greater the amount of information that must be processed among decision makers during task execution in order to achieve a given level of performance”. The amount of information required to manage current technology will always be less than the information required to grasp new technologies. For instance, in a study of the match between technology and amount of information processing in R&D project groups, Keller (1994) finds that nonroutine technology requires high information processing to achieve project quality. This suggests that ordinary and dynamic capabilities differ in their information processing requirements. The later requires higher information processing than the former.

How do organizations go about increasing their information processing capacity that can support dynamic capabilities well? Organizational theorists have long proposed that the information processing capacity of firms changes with the organization life cycle stage (Lester, Parnell, & Carraher, 2003). The organization life cycle is a theoretical notion that organizations progress through various life cycle stages as they are born, grow and eventually die. These stages are a