



## Achieving new product success via the synchronization of exploration and exploitation across multiple levels and functional areas



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### ARTICLE INFO

#### Article history:

Received 24 April 2013

Received in revised form 6 January 2014

Accepted 6 January 2014

Available online 9 May 2014

#### Keywords:

Ambidexterity

Exploration

Exploitation

Strategy implementation

Positional advantage

### ABSTRACT

While ambidexterity has been identified as a critical prerequisite for new product success, synchronizing exploration and exploitation in practice represents a multifaceted enigma. Ambidexterity is not in reality limited to a single organizational level, or a specific functional area. Firms become ambidextrous when corporate-level exploratory and exploitative strategies interact with operational-level exploratory and exploitative capabilities across multiple functional areas. Data from a sample of technology-intensive industrial firms using a multi-informant design shows that operational-level exploratory and exploitative product innovation and marketing capabilities allow firms to implement corporate-level exploratory and exploitative strategies in the context of new product development (NPD). Further, the findings reveal that the integration of exploratory product innovation–exploratory marketing and exploitative product innovation–exploitative marketing is significant for the implementation of exploratory and exploitative strategies over deploying each capability in isolation. Finally, we show that the implementation of exploratory and exploitative strategies drives new product success through creating distinct positional advantages to customers in the form of both differentiation and cost efficiency. These positional advantages help to better explain the effects of exploratory and exploitative capabilities on new product market performance.

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### 1. Introduction

Successful new products are paramount for the success and even survival of firms (Harmancioglu, Droge, & Calantone, 2009; Lisboa, Skarmneas, & Lages, 2011). However, the evidence regarding significant new product failure rates creates a dilemma that manifests both practical and theoretical concerns about the best approach to develop and market successful new product efforts. In the pursuit of reconciling this dilemma, many show that pursuing both exploration and exploitation is a critical prerequisite for new product success (Atuahene-Gima, 2005; Rubera, Ordanini, & Calantone, 2012). The concepts of exploration and exploitation are central to ambidexterity theory, which suggests that a firm can be ambidextrous when it synchronously exploits its existing capabilities as well as overcomes their dysfunctional rigidity by renewing and replacing them with entirely new ones (Benner & Tushman, 2003; McCarthy & Gordon, 2011). However, ambidexterity is difficult to manage and achieve, as it is not limited to a single organizational level or a specific functional

area. Ambidexterity transcends the interactions between corporate-level exploratory and exploitative strategies and operational level exploratory and exploitative capabilities (Cantarello, Martini, & Nosella, 2012), as well as the interactions between different functional areas (Rubera et al., 2012). This ability to transcend is fundamentally what ambidexterity is about and represents a fuller delineation of the synchronicity required to develop and market successful new products.

Our focus on corporate-level strategies and operational-level capabilities is underpinned by the argument that firms pursue different strategies at corporate and operational hierarchical levels in an organization (Nandakumar, Ghobadian, & O'Regan, 2010). While senior managers at the corporate-level determine basic goals related to choices of product/market domain's, mid-level managers and employees in a business-unit or department takes an operational approach to implement corporate strategies using specific organizational capabilities (Bodwell & Chermack, 2010; Nandakumar et al., 2010). This view is outlined within the literature on dynamic capabilities where it is argued that a firm may also create new capabilities to implement corporate-level strategies (Bowman & Ambrosini, 2003), especially the dynamic ones (Bodwell & Chermack, 2010).

This view indicates that corporate-level exploratory and exploitative strategies are effective when firms deploy, renew, and improve requisite capabilities at the operational-level. However, to the best of our

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knowledge no research at present has examined how firms manage exploration and exploitation across multiple hierarchical levels to develop and market successful new products. Our study aims to understand the extent that technology-intensive industrial firms implement corporate level exploratory and exploitative strategies at the operational-level through exploratory and exploitative capabilities in the context of NPD. We focus on technology-intensive industrial firms (e.g., automation, electronic equipment) as the exploration and exploitation of organizational strategies and capabilities are paramount for firms competing in such industries with the incidence of disruptive market and technological changes high (Molina-Castillo, Jimenez-Jimenez, & Munuera-Aleman, 2011; Newbert, Gopalakrishnan, & Kirchoff, 2008).

Our study offers three contributions to the literature. First, we contribute to the literature by showing that the interactions between corporate-level exploratory and exploitative strategies and operational-level exploratory and exploitative capabilities enable a firm to truly synchronize exploration and exploitation. This contribution is embedded in the theoretical contention that achieving superior performance-outcomes depends on the effective implementation of exploratory and exploitative strategies through specific operational-level capabilities (Cantarello et al., 2012; Sarkees, Hulland, & Prescott, 2010). Given that the exploratory and exploitative strategies have different centers of attention, the congruence between these strategies and operational-level capabilities is critical for the effective implementation of these strategies. As such, we suggest that the implementation of exploratory and exploitative strategies depends on distinctive capabilities that are exploratory and exploitative in nature. Exploratory and exploitative capabilities enable the generation and refinement of routines and processes directed toward implementing exploratory and exploitative strategies.

Second, we contribute to the literature by showing that the deployment of exploratory and exploitative capabilities within a single functional area is not sufficient to implement corporate-level exploratory and exploitative strategies and drive new product performance (NPP). It is generally accepted that firms cannot utilize a single capability in isolation to develop and market a new product successfully (Day, 1994). New product success to a large extent relies on the deployment and integration of product innovation and marketing capabilities (Danneels, 2002; Rubera et al., 2012). However, little is known about how the integration between exploratory and exploitative capabilities across multiple functional areas facilitates the effective development and marketing of new products. Adapting the notions of exploratory and exploitative capabilities to product innovation and marketing as functional areas within firms, we show that the deployment and cross-functional integration of exploratory and exploitative product innovation and marketing capabilities enable firms to implement exploratory and exploitative strategies.

Third, we contribute to the literature by showing that new product positional advantages can assist in explaining the effects of exploratory and exploitative capabilities on NPP. Although several studies show that exploration and exploitation positively drive financial performance, some also reveal that these capabilities have associated costs that lessen financial performance (Kim & Atuahene-Gima, 2010; Vorhies, Orr, & Bush, 2011). A possible reason for this inconsistency in the findings is that exploratory and exploitative capabilities have different outcomes and they affect financial performance through different paths, especially when researchers bring positional advantages into their research (Hughes, Martin, Morgan, & Robson, 2010; Kim & Atuahene-Gima, 2010). To resolve the causal ambiguity regarding the performance implications of exploratory and exploitative product innovation and marketing capabilities, we use the source–position–performance principle (Day & Wensley, 1988). Within this principle, positional advantages reflect the firm's efforts to create superior or more advanced benefits for customers than those offered by competitive products in the market (Kim & Atuahene-Gima, 2010). We used new product differentiation and cost efficiency, arguably two key determinants of NPP, to distinguish the outcomes of exploratory and exploitative product innovation and marketing capabilities with respect to NPP.

## 2. Background

During the last two decades, continually shorter product life cycles and accelerating market changes have driven firms to simultaneously pursue two distinct corporate strategies, exploratory and exploitative strategies (Siren, Kohtamäki, & Kuckertz, 2012; Smith & Tushman, 2005). Exploratory strategy is pursued to proactively capitalize on emerging product-market opportunities and introduce new products that offer unique (e.g., differentiated, innovative) advantages beyond those provided by existing products in the market (Siren et al., 2012; Smith & Tushman, 2005). Exploitative strategy is pursued to respond to existing market needs and introduce new products that offer incremental improvements (e.g., higher quality) and cost efficient advantages to customers (Siren et al., 2012; Smith & Tushman, 2005). While exploratory strategy is associated with uncertain payoffs and a high risk of failure, exploitative strategy results in more secure, but short-term performance outcomes (Gupta, Smith, & Shalley, 2006; Siren et al., 2012). Given that the exploratory and exploitative strategies lead to different outcomes, it has been suggested that the synchronous pursuit of these two strategies leads to superior NPP more than overemphasizing one at the expense of the other (Siren et al., 2012; Smith & Tushman, 2005).

Although synchronizing the pursuit of exploratory and exploitative strategies is necessary, the literature shows that even firms with a sound corporate strategy are often unsuccessful due to poor strategy implementation at the operational-level (DeSarbo, Di Benedetto, Song, & Sinha, 2005; Love, Priem, & Lumpkin, 2002). Indeed, exploratory and exploitative strategies will only drive NPP, when appropriate capabilities are deployed at the operational-level (see Cantarello et al., 2012; Sarkees et al., 2010). Such capabilities represent the orchestration and application of employees knowledge and skills to perform specific tasks (e.g., develop a new product) (Day, 1994; Krasnikov & Jayachandran, 2008). Over time, capabilities become embedded in organizational routines and processes (Lisboa et al., 2011; Peng, Schroeder, & Shah, 2008). Past research positions product innovation and marketing capabilities as two primary capabilities that enable firms to develop and market new products to satisfy customers' existing and emerging needs (Danneels, 2002; Ngo & O'Cass, 2012). In this study, a firm's product innovation capability represents a bundle of technological routines that enable it to develop new products (Krasnikov & Jayachandran, 2008; Ngo & O'Cass, 2012). A firm's marketing capability represents a bundle of routines that enable it to link new products to customers (Krasnikov & Jayachandran, 2008; Moorman, 1995).

Prior research shows that a corporate strategy (e.g., a specific strategic type) determines the type of capabilities required to implement that strategy (DeSarbo et al., 2005). Furthermore, firms that continually orchestrate their employees, knowledge, and processes to renew and improve their organizational capabilities are better to pursue and implement new corporate strategies to respond to market changes (Lisboa et al., 2011). To this end, we posit that a firm successfully implements its corporate strategies when it deploys distinctive capabilities at the operational-level that are exploratory and exploitative in nature. In this pursuit, exploratory and exploitative capabilities are seen as the mean to generate new routines and refine existing routines that firms deploy to perform specific tasks (e.g., implement corporate strategies) (Greve, 2007; Peng et al., 2008). In particular, we focus on exploratory and exploitative capabilities pertaining to product innovation and marketing as the means to implement exploratory and exploitative strategies that underpin the development and marketing of new products.

Building on the work of Homburg, Krohmer, and Workman (2004) and Hughes et al. (2010), we develop a theoretical framework to examine the extent that corporate-level exploratory and exploitative strategies drive NPP through a strategy–capability–position–performance linkage. This linkage implies that exploratory and exploitative capabilities enable strategy implementation if they intervene (or mediate the link) between strategy–performance (Homburg et al., 2004). This mediational effect explains the effects of exploratory and exploitative strategies on NPP

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