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S Y M P O S I U M

ORGANIZATIONAL AMBIDEXTERITY: PAST, PRESENT, AND FUTURE

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Organizational ambidexterity refers to the ability of an organization to both explore and exploit—to compete in mature technologies and markets where efficiency, control, and incremental improvement are prized and to also compete in new technologies and markets where flexibility, autonomy, and experimentation are needed. In the past 15 years there has been an explosion of interest and research on this topic. We briefly review the current state of the research, highlighting what we know and don't know about the topic. We close with a point of view on promising areas for ongoing research.

Periodically in scholarly research there emerges a topic that catches the interest of researchers and leads to an outpouring of studies. In the study of organizations, *organizational ambidexterity* appears to be one such topic. In 1996 (p. 24), Tushman and O'Reilly proposed that organizational ambidexterity—defined as "the ability to simultaneously pursue both incremental and discontinuous innovation . . . from hosting multiple contradictory structures, processes, and cultures within the same firm"—was required for long-term firm survival. Since then, there has been a proliferation of interest and research on the topic, including hundreds of empirical studies (e.g., Nosella, Cantarello, & Filippini, 2012), theory papers (e.g., O'Reilly & Tushman, 2008; Simsek, Heavey, Veiga, & Souder, 2009), special issues of journals devoted to the topic (*Academy of Management Journal*, August 2006; *Organization Science*, July–August 2009), review articles (e.g., Lavie, Stettner, & Tushman, 2010; Raisch & Birkinshaw, 2008; Turner, Swart, & Maylor, 2013), and a large number of symposia at professional meetings. This outpouring of interest has broadened and deepened our understanding of the topic but has also brought with it some confusion about the construct itself and raised issues about what we know and don't know (see also Birkinshaw and Gupta, this issue). The purpose of this paper is to review and summarize the evolution of this research, identify what it is that we know with some certainty, highlight areas of confusion, and suggest where future research is needed.

THE PAST: ORIGINS OF THE CONSTRUCT

One foundational insight from the study of organizations is that different organizational forms are associated with different strategies and environmental conditions (e.g., Lawrence & Lorsch, 1967; Woodward, 1965). For example, in a seminal study of innovation, Burns and Stalker (1961) noted that firms operating in stable environments developed what they referred to as "mechanistic management systems" that were characterized by clear hierarchical relations, well-defined roles and responsibilities, and clear job descriptions. In contrast, firms operating in more turbulent environments developed more "organic" systems with a lack of formally defined tasks, more lateral coordination mechanisms, and less reliance on formalization and specialization. Subsequent research has confirmed this insight, and researchers now largely accept that different structural alignments are associated with different strategies and environments (e.g., Aldrich, 1999; Sine, Mitsuhashi, & Kirsch, 2006; Tushman & O'Reilly, 2002).

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Building on this insight, studies of organizational adaptation have argued that for firms to succeed over time and in the face of environmental and technological change may require them to change these structure alignments (e.g., Schumpeter, 1934; Tushman & O'Reilly, 2002). Thompson (1967) characterized this trade-off between efficiency and flexibility as a paradox of administration. In a seminal article, James March (1991) noted that the fundamental adaptive challenge facing firms was the need to both exploit existing assets and capabilities and to provide for sufficient exploration to avoid being rendered irrelevant by changes in markets and technologies. In his view, exploitation was about efficiency, control, certainty, and variance reduction, while exploration was about search, discovery, autonomy, and innovation. In March's view, "the basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, devote enough energy to exploration to ensure its future viability" (1991, p. 105). The difficulty in achieving this balance is a bias in favor of exploitation with its greater certainty of short-term success. Exploration, by its nature, is inefficient and is associated with an unavoidable increase in the number of bad ideas. Yet, without some effort toward exploration, firms, in the face of change, are likely to fail.

Based on the idea that different structures are required for exploitation and exploration, several authors suggested that for long-term survival, organizations needed to accommodate both. For instance, in the first use of the term "ambidextrous," Robert Duncan (1976) argued that firms needed to shift structures to initiate and, in turn, execute innovation. After reviewing how some firms managed to survive and change over decades, Tushman and O'Reilly (1996) proposed that organizations needed to explore and exploit simultaneously, to be ambidextrous. This observation has led to a very large number of empirical studies exploring whether ambidexterity is, as the theory suggests, associated with organizational performance and survival; whether ambidexterity is, as originally suggested, accomplished through architecturally separate units or via other means; under what conditions ambidexterity seems most useful; and how ambidexterity is achieved (see also Junni, Sarala, Taras, and Tarba's meta-analysis in this issue). Its theoretical underpinnings have also been elaborated on using theories as disparate as absorptive capacity (Jansen, Van den Bosch, & Volberda, 2005; Rothaermel & Alexandre, 2009), dynamic capabilities (O'Reilly & Tushman, 2008; Taylor & Helfat, 2009), and organizational learning (Holmqvist, 2004; Kang & Snell, 2009; McGrath, 2001). Unfortunately, as Nosella and colleagues (2012) pointed out, this proliferation of interest has also blurred some of the initial clarity about the definition of organizational ambidexterity and diminished its potential as a capability for resolving the tensions between exploration and exploitation. In the following sections, we review and summarize what these studies have found, where there seems to be ambiguity, and what areas seem most important to resolve as well as further explore.

THE PRESENT: WHAT DOES THE EVIDENCE SHOW?

Ambidexterity and Firm Performance

Perhaps the most important question addressed by the empirical research is whether organizational ambidexterity is, as the original theory suggests, associated with firm performance. Here the preponderance of evidence shows a clear pattern: Ambidexterity has been shown to be positively associated with sales growth (Auh & Menguc, 2005; Caspin-Wagner, Ellis, & Tishler, 2012; Geerts, Blindenbach-Driessen, & Gemmel, 2010; Han & Celly, 2008; He & Wong, 2004; Lee, Lee, & Lee, 2003; Nobeoka & Cusumano, 1998; Venkatraman, Lee, & Iyer, 2006; Zhiang, Yang, & Demirkan, 2007), subjective ratings of performance (Bierly & Daly, 2007; Burton, O'Reilly, & Bidwell, 2012; Cao, Gedajlovic, & Zhang, 2009; Gibson & Birkinshaw, 2004; Lubatkin, Simsek, Ling, & Veiga, 2006; Markides & Charitou, 2004; Masini, Zollo, & van Wassenhove, 2004; Schulze, Heinemann, & Abedin, 2008), innovation (Adler, Goldoftas, & Levine, 1999; Burgers, Jansen, Van den Bosch, & Volberda, 2009; Eisenhardt & Tabrizi, 1995; Katila & Ahuja, 2002; McGrath, 2001; Phene, Tallman, & Almeida, 2012; Rothaermel & Alexandre, 2009; Rothaermel & Deeds, 2004; Sarkees & Hulland, 2009; Tushman, Smith, Wood, Westerman, & O'Reilly, 2010; Yang & Atuahene-Gima, 2007), market valuation as measured by Tobin's Q (Goosen, Bazzazian, & Phelps, 2012; Uotila, Maula, Keil, & Zhara, 2008; Wang & Li, 2008), and firm survival (Cottrell & Nault, 2004; Hensmans & Johnson, 2007; Hill & Birkinshaw, 2012; Kauppila, 2010; Laplume & Dass, 2012; Mitchell & Singh, 1993; Piao, 2010; Tempelaar & Van de Vrande, 2012; Yu & Khessina, 2012). These studies have documented the effects of ambidexterity at the

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firm, business unit, project, and individual levels. Although organizational ambidexterity may, under some conditions, be duplicative and inefficient (e.g., Ebben & Johnson, 2005; March 1991; Van Looy, Martens, & Debackere, 2005), the empirical evidence suggests that under conditions of market and technological uncertainty, it typically has a positive effect on firm performance (see Junni et al., this issue).

There are several impressive aspects to this body of research. First, despite using different measures of ambidexterity, a range of outcome variables, different levels of analysis, and samples from differing industries, the results linking ambidexterity to performance are robust. Second, although some of the early studies relied on case studies or anecdotal evidence (e.g., Markides & Charitou, 2004; Tushman & O'Reilly, 1996), many of the more recent studies use large samples with longitudinal data and document the effects of ambidexterity over time. For instance, the recent study by Geerts, Blindenbach-Driessen, and Gemmel (2010) looked at more than 500 firms over a four-year period and found that ambidexterity had a positive effect on firm growth. Importantly, they also showed differences in how ambidexterity differs between manufacturing and service firms. The study by Goosen and colleagues (2012) also used a large sample (500 companies) over a 10-year period and showed that firms with greater technological capabilities benefitted more from ambidexterity. The study by Caspin-Wagner and her colleagues looked at 605 technology companies and found an inverted U-shaped relationship between ambidexterity and firm financial performance (Caspin-Wagner et al., 2012), a finding corroborated in another large sample study by Uotila and colleagues (2008).

In addition to these, other studies of the antecedents of ambidexterity have shown that it is typically more valuable under conditions of environmental uncertainty (Caspin-Wagner et al., 2012; Goosen et al., 2012; Jansen et al., 2005; Jansen, Vera, & Crossan, 2009; Sidhu, Volberda, & Commandeur, 2004; Siggelkow & Rivkin, 2005; Tempelaar & Van De Vrande, 2012; Uotila et al., 2008; Wang & Li, 2008; Yang & Atuahene-Gima, 2007), with increased competitiveness (Auh & Menguc, 2005; Bierly & Daly, 2007; Caspin-Wagner et al., 2012; Geerts et al., 2010), when a firm has more resources (e.g., Cao et al., 2009; Goosen et al., 2012; Sidhu et al., 2004; Tempelaar & Van De Vrande, 2012), and for larger firms (e.g., Yu & Khessina, 2012; Zhiang et al., 2007). In aggregate, these studies suggest three conclusions. First, ambidexterity is positively associated with firm performance. Second, these effects can be contingent on the firm's environment, with ambidexterity more beneficial under conditions of uncertainty and when sufficient resources are available, which is often the case with larger rather than smaller firms. For example, the meta-analysis by Junni and colleagues (this issue) shows that the effects of ambidexterity are stronger for technology firms than for those in manufacturing. Finally, as suggested by March (1991), the evidence is that either under- or overuse of ambidexterity comes at a cost (e.g., Benner & Tushman, 2002; Mitchell & Singh, 1993; Wang & Li, 2008). Uotila and colleagues, for example, estimated that 80% of the firms in their sample underemphasized exploration and overemphasized exploitation (Uotila et al., 2008).

A final impressive aspect to this cumulative body of research is the use of in-depth studies of individual companies examining how ambidexterity plays out over time. Danneels, for instance, has studied former typewriter-ribbon giant Smith Corona and an Italian manufacturer of business machines, Olivetti, and documented how they failed to explore and exploit (Danneels, 2011; Danneels, Provera, & Verona, 2013). Laplume and Dass (2012) showed how over a 65-year period a company was able to adapt through various forms of ambidexterity. In a remarkable history of the Hewlett-Packard company, House and Price (2009) documented how the firm was able to transition from electronic instruments to mini computers to printers to services. Other studies have illustrated how adaptation has occurred in firms like Polaroid, IBM, Oticon, URS, NCR, and others (Boumgarden, Nickerson, & Zenger, 2012; Bryce, Dyer, & Furr, 2007; Holmqvist, 2004; Lovas & Ghoshal, 2000; O'Reilly, Harreld, & Tushman, 2009; Rosenbloom, 2000; Tripsas & Gavetti, 2000). What is valuable about these studies is that they capture the complexities of ambidexterity and help ground the phenomenon in reality.

Although several studies report no effects for ambidexterity on performance (Ebben & Johnson, 2005) and others find effects only under specific conditions, the overall conclusion appears clear: In uncertain environments, organizational ambidexterity appears to be positively associated with increased firm innovation, better financial performance, and higher survival rates.

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How Is Ambidexterity Achieved?

Duncan (1976), in his original paper, suggested that to accommodate the conflicting alignments required for innovation and efficiency firms needed to shift their structures over time to align the structure with the firm's strategy; that is, in his view, organizations achieved ambidexterity in a *sequential* fashion by shifting structures over time. Tushman and O'Reilly (1996) argued that in the face of rapid change, sequential ambidexterity might be ineffective and organizations needed to explore and exploit in a *simultaneous* fashion. They suggested that this could be accomplished by establishing autonomous exploration and exploitation subunits that were *structurally* separated, each with its own alignment of people, structure, processes, and cultures, but with targeted integration to ensure the use of resources and capabilities. Gibson and Birkinshaw (2004) subsequently argued that organizations could be ambidextrous by designing features of the organization to permit individuals to decide how to divide their time between exploratory and exploitative activities. In this view, *contextual* ambidexterity was achieved by "building a set of processes or systems that enable and encourage individuals to make their own judgments about how to divide their time between conflicting demands for alignment and adaptability" (p. 201). Over the past 15 years, these three approaches to ambidexterity (sequential, structural, and contextual) have been extensively investigated. The following sections review the evidence for each.

Sequential ambidexterity. The view that firms can realign their structures to reflect changed environmental conditions or strategies is reflected in many of the early studies of organizational adaptation. For example, in his classic history Chandler (1977) described how firms like General Electric and DuPont evolved their structures to adapt to changing market conditions. Firm histories often illustrate how, in the face of change, organizations adapt their structures and processes (e.g., Kauppila, 2010; Lovas & Ghoshal, 2000; Rosenbloom, 2000; Tripsas, 1997). In formulating their theory of punctuated equilibrium change, Tushman and Romanelli (1985) proposed that firms evolve through punctuated changes in which firms adapt to environmental shifts by realigning their structures and processes, a sequential process. More recently, temporal shifting has been proposed as a way for firms to be ambidextrous. For example, in describing how small electronics firms adapt to changes in technology and products, Brown and Eisenhardt (1997) proposed that firms use "semistructures" and "rhythmic switching" to oscillate back and forth between periods of exploitation and exploration. Nickerson and Zenger (2002) and Boumgarden and colleagues (2012) referred to this process as "vacillation" and argued that firms can more easily switch between formal structures than they can change the culture and informal organization. They used Ford and Hewlett-Packard as examples of firms that have used this approach. A simulation study by Siggelkow and Levinthal (2003) also suggested that sequencing changes in organizational structure to promote temporary decentralization can be an effective way of exploring and exploiting.

Studies of sequential ambidexterity often focus on large-scale examples with the changes taking place over long periods. For example, Laplume and Dass (2012) described the evolution of a company over a 65-year period. They suggested that during the first 25 years the firm emphasized sequential ambidexterity and only then began to use both sequential and simultaneous modes of exploration and exploitation. Lovas and Ghoshal (2000) described the evolution of the Danish hearing aid firm Oticon for over a century and showed how the firm's strategy and structure evolved. In their study of 532 Belgian companies, Geerts and colleagues (2010) found that both sequential and simultaneous ambidexterity had positive effects on growth but noted that service firms were more likely to rely on sequential ambidexterity. Overall, this pattern suggests that sequential ambidexterity may be more useful in stable, slower moving environments (e.g., service industries) and for smaller firms that lack the resources to pursue simultaneous or sequential ambidexterity (Chen & Katila, 2008; Goosen et al., 2012; Ramachandran & Lengnick-Hall, 2010; Rosenkopf & Nerkar, 2001; Tempelaar & Van De Vrande, 2012).

What is missing from these examples, however, is how sequential ambidexterity occurs and what the transition looks like. At a high level of abstraction, it is easy to claim that firms shift structures between exploitative and exploratory modes—but what would this mean at ground level? Major structural transitions can be highly disruptive. What does it mean to go from exploitation to exploration, or the reverse? Here the research is not fine-grained enough to provide much insight. For example, Nickerson and colleagues described how HP vacillated between a centralized and decentralized form

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over a 25-year period and label this sequential ambidexterity (Boumgarden et al., 2012). While interesting, is this really ambidexterity? As House and Price (2009) described in great detail, HP has failed to make the shift from PCs and peripherals to services. The company has changed strategy and structures over time but failed to be effective at exploration. If ambidexterity is about balancing exploration and exploitation, then HP in recent times is arguably a failure despite its structural changes.

Simultaneous or structural ambidexterity. A second way proposed to balance the exploration/exploitation trade-off is through the simultaneous pursuit of both using separate subunits. This approach is typically characterized as *structural* ambidexterity but, as O'Reilly and Tushman (2008) noted, this "entails not only separate structural units for exploration and exploitation but also different competencies, systems, incentives, processes, and cultures—each internally aligned" (p. 192). These separate units are held together by a common strategic intent, an overarching set of values, and targeted linking mechanisms to leverage shared assets (O'Reilly et al., 2009; O'Reilly & Tushman, 2004). From this perspective, the key to ambidexterity is the ability of the organization to sense and seize new opportunities through simultaneous exploration and exploitation. This is, at heart, a leadership issue more than a structural one (O'Reilly & Tushman, 2011; Smith, Binns, & Tushman, 2010; Smith & Tushman, 2005), a finding confirmed in several other studies (e.g., Carmeli & Halevi, 2009; Jansen, George, Van den Bosch, & Volberda, 2008; Jansen et al., 2009; Lai & Weng, 2010; Nemanich & Vera, 2009).

The research on structural ambidexterity is both broad and deep. Early studies suggested that structural ambidexterity was associated with firm performance (e.g., He & Wong, 2004; Katila & Ahuja, 2002; Lubatkin et al., 2006; Markides & Charitou, 2004). These studies were followed by a large number of others both confirming the link between ambidexterity and firm performance and exploring the determinants of ambidexterity itself (e.g., Jansen, Tempelaar, Van den Bosch, & Volberda, 2009). Again, these studies have employed a range of methodologies from large-scale data collections (He & Wong, 2004; Venkatraman et al., 2006) to in-depth case studies (e.g., Garaus, Mueller, Guettel, & Konlechner, 2012; Harreld, O'Reilly, & Tushman, 2007; Raisch, 2008) to simulations (Fang, Lee, & Schilling, 2010).

Although the results are not completely consistent across studies, in general they confirm that structural ambidexterity consists of autonomous structural units for exploration and exploitation, targeted integration to leverage assets, an overarching vision to legitimate the need for exploration and exploitation, and leadership that is capable of managing the tensions associated with multiple organizational alignments (e.g., Burgers et al., 2009; Burton et al., 2012; Hill & Birkinshaw, 2012; Jansen et al., 2009; Lai & Weng, 2010; Lubatkin et al., 2006; Martin & Eisenhardt, 2010; O'Reilly & Tushman, 2011; O'Reilly et al., 2009; Schulze et al., 2008; Smith & Tushman, 2005).

Interestingly, several studies have also explored the effects of structural ambidexterity in inter-organizational or community settings rather than simply intra-organizational ones (e.g., Adler, Heckscher, & Grandy, 2013; Lavie & Rosenkopf, 2006; Lavie, Kang, & Rosenkopf, 2011; Puranam, Singh, & Zollo, 2006). These results confirm the positive effects of ambidexterity on firm performance. For example, in a study of 325 biotech firms, Rothaermel and Deeds (2004) showed how alliances could be used to enhance both exploration and exploitation. Phene and colleagues (2012) and Zhiang and colleagues (2007) reported similar effects. In a detailed case study, Kauppila (2010) illustrated how a company relied on both internal ambidexterity and external partnerships to enhance its ability to explore and exploit. He concluded that inter-organizational and intra-organizational approaches to ambidexterity are complements rather than substitutes.

Contextual ambidexterity. Both sequential and structural ambidexterity attempt to solve the exploration/exploitation tension through structural means. In 2004 Gibson and Birkinshaw proposed that this tension could be resolved at the individual level through what they termed *contextual* ambidexterity, which they defined as "the behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit" (p. 209). In their view, the ability to balance exploration and exploitation rests on an "organizational context characterized by an interaction of stretch, discipline, and trust" (p. 214) and requires a "supportive organizational context" that "encourages individuals to make their own judgments as to how to best divide their time between the conflicting demands for alignment and adaptability" (p. 211). They defined "ambidextrous" as "aligned and efficient in their management of today's business de-

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mands, while also adaptive enough to changes in the environment that they will still be around tomorrow" (p. 209). They then measured alignment and adaptability using three-item scales and used the multiplicative product of these two scales as a measure of ambidexterity. Using data from 41 business units and subjective ratings of performance, they found that successful business units were higher on both alignment and adaptability than less successful units.

Although similar in some ways, contextual ambidexterity is subtly different from sequential and structural ambidexterity. First, the emphasis is on individuals rather than units making the adjustment between exploration and exploitation. Second, ambidexterity is achieved when individuals agree that their unit is aligned and adaptable. Third, what the organizational systems and processes are that enable this individual adjustment is never concretely specified, other than that they promote stretch, discipline, and trust. Thus, it is possible that if employees of a structurally or sequentially ambidextrous organization were to be asked, they could agree that their unit was aligned and adaptive without ever specifying the underlying mechanisms that made this alignment possible.

Perhaps the most visible illustration of what contextual ambidexterity might look like is Adler and colleagues' (1999) description of how the Toyota production system operates. In this instance, workers perform routine tasks like automobile assembly (exploitation) but are also expected to continuously change their jobs to become more efficient (exploration). This is done using what Adler and his colleagues termed "meta-routines" or, as Simsek and his coauthors referred to it, "harmonic" ambidexterity (Simsek et al., 2009). In these cases, the larger management system and culture supports workers to pursue exploration and exploitation.

An alternative way to conceptualize contextual ambidexterity is suggested by Khazanchi, Lewis, and Boyer (2007), who see alignment and adaptability as a function of a culture that promotes both flexibility and control within the unit. In a study of 271 manufacturing businesses, they found that a culture of flexibility promoted creativity while norms for control helped with execution. Hargadon and Sutton (1997) provided a similar illustration in their study of IDEO, a well-known product design firm with a culture that emphasizes creativity and implementation. More recently, Chatman, Caldwell, O'Reilly, and Doerr (2013) have shown that norms for adaptability (e.g., risk taking, quickness to opportunities, innovation) are associated with firm performance in dynamic environments. Thus, it may be that the alignment and adaptability attributed to contextual ambidexterity is a function of a culture that promotes flexibility and control (Bueschgens, Bausch, & Balkin, 2010).

While it is conceptually easy to imagine how contextual ambidexterity might operate within a given setting or technological regime, it is harder to see how it would permit a company to adjust to disruptive or discontinuous changes in technologies and markets. For example, the decision on the part of print newspapers to compete in the digital space required significant restructuring and the reallocation of resources (Gilbert, 2005; O'Reilly & Tushman, 2004). Such decisions cannot be left to the discretion of lower-level employees but, at some point, require senior managers to provide the resources and legitimacy for the new technology or business model. Similarly, given the new skill sets required, it seems unlikely that individual employees (e.g., print journalists) would possess the technical capabilities necessary for online news without the approval and investment of senior management.

For these reasons, Kauppila (2010) observed, a key shortcoming of contextual ambidexterity is that "it does not really consider how a firm can simultaneously conduct radical forms of exploration and exploitation. It simply assumes that exploratory knowledge is produced somewhere and is available for use" (p. 286). In this sense, Kauppila (2010) argued that structural separation between radical exploration and exploitation is a necessary but not sufficient condition for ambidexterity. Within a given project or business unit, it is easier to envision how contextual ambidexterity might permit limited exploration and exploitation. But in a study of ambidexterity at the project level, Burton and her colleagues found that a separation of exploratory and exploitative projects was associated with improved project performance and that the misalignment of management systems degraded the performance of exploratory efforts (Burton et al., 2012). Nevertheless, holding aside the subtle differences in how ambidexterity is defined and measured, the evidence is still consistent with ambidexterity being positively associated with business unit performance.

Although each of the three modes of ambidexterity just described were initially proposed as separate ways to deal with the need for exploitation and exploration, the evidence clearly suggests that all

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three are potentially viable. As Chen and Katila (2008) observed, "Exploration and exploitation need not always be competing activities, but can and should be complementary" (p. 208). In-depth studies often illustrate how over time firms may use combinations of these to balance exploitation and exploration (e.g., Goosen et al., 2012; Laplume & Dass, 2012; Raisch, 2008). For example, Raisch and Tushman (2103) found that incumbent firms created new business by initially employing structural ambidexterity and switched to integrated designs when the exploratory unit achieved political and economic legitimacy. Similarly, Jansen, Andriopoulos, and Tushman (2013) in a study of design firms over time found that the most successful firms initiated exploration and exploitation via structural ambidexterity, switched to contextual ambidexterity, and switched back to structural ambidexterity over time.

In their history of Hewlett-Packard, House and Price (2009) illustrated how each of these modes can promote exploration and exploitation. For example, the development of the laser printing business resulted from the discovery of an ink used for integrated circuits (contextual ambidexterity) followed by the establishment of a separate printing business (structural ambidexterity) that ultimately led to a firm-wide reorganization to better align with the personal computer business (sequential ambidexterity). Kauppila (2010), after carefully reviewing how a Finnish firm used all three modes of ambidexterity, concluded, "In reality, firms are likely to create ambidexterity through a combination of structural and contextual antecedents and at both organizational and interorganizational levels, rather than through any single organizational or interorganizational antecedent alone" (p. 284).

The reality is that organizations typically face a variety of competitive markets and that these will vary in the rates of exploration and exploitation required (Chen & Katila, 2008; Ramachandran & Lengnick-Hall, 2010; Rosenkopf & Nerkar, 2001). The different ways of achieving ambidexterity may be more or less useful contingent on the nature of the market faced. For example, a simultaneous approach may be more appropriate in dynamic markets where conditions are changing, while in more stable environments firms may be able to afford a sequential approach. Contextual ambidexterity within a business unit may promote the local innovation and change needed to continually adapt to small changes in the environment (e.g., Adler et al., 1999; Benner & Tushman, 2003). Realistically, it may be that time is a crucial contingent variable. It appears that structural ambidexterity is crucial in creating the context where incumbent firms can explore in the context of their existing strategy and history. However, once the exploratory units gain traction, firms may take advantage of this capability by switching into more integrated structures (O'Reilly et al., 2009).

THE FUTURE: ISSUES TO BE RESOLVED

The positive news is that in the past 15 years great progress has been made in elaborating the concept of organizational ambidexterity, documenting its effect on organizational outcomes, and beginning to identify antecedents and boundary conditions. The preponderance of evidence suggests that organizational ambidexterity, whether sequential, structural, or contextual, may, under the appropriate circumstances, be an effective way for organizations to deal with the challenges of exploitation and exploration. However, several ambiguities still exist that future research could productively clarify.

Definitional Issues

First, there still remains some confusion about what precisely the term "organizational ambidexterity" means. The generic use of organizational ambidexterity is vague and simply refers to the ability of a firm to do two things simultaneously (e.g., compete with different technologies or in different markets). A similar ambiguity exists in the meanings of "explore" and "exploit." In a simplistic sense, exploration might simply refer to actions taken to improve existing capabilities. However, they become important when they refer to how firms and managers deal with threats to firm survival. In our view, the long-term survival of the firm is the sine qua non of organizational ambidexterity. Ambidexterity is not simply about whether a firm can pursue efficiency and innovation or compete in multiple markets but about developing the capabilities necessary to compete in new markets and technologies that enable the firm to survive in the face of changed market conditions (O'Reilly & Tushman, 2008).

As the research base has broadened, ambidexterity has been applied to phenomena such as strategy, networks, new product development, technology, software development, intellectual capital, and other topics that, while interesting and impor-

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tant, may have little to do with the practical tensions involved in how managers and organizations deal with exploration and exploitation. The risk in applying the term so broadly is that the research moves away from the original phenomenon and loses its meaning. The term "ambidexterity" becomes a management Rorschach test in which one sees whatever one wants as researchers apply the term to phenomena that have little to do with the tensions in ensuring firm survival. We agree with Birkinshaw and Gupta (this issue) that there is a danger in simply "rebadging" existing phenomena as "ambidexterity."

Part of this potential confusion stems from the way ambidexterity has been measured. Many studies rely on Likert scales to define exploration and exploitation, with items assessing exploration such as "We frequently experiment with radical new ideas (or ways of doing things)" or "We use new, breakthrough technologies" and exploitation measured with items like "The emphasis is placed on improving efficiency" or "We frequently refine the provision of existing products and services" (e.g., Bierly & Daly, 2007; Gibson & Birkinshaw, 2004; He & Wong, 2004; Jansen, Van den Bosch, & Volberda, 2006). While the psychometric properties of these measures are well documented, the underlying meaning is often ambiguous. For instance, Jansen and colleagues have reported several studies using data from branch banks in which respondents indicated the extent to which their branch bank emphasized exploration or exploitation. Bierly and Daly (2007) reported similar data from a sample of small manufacturing firms. Although the studies are well done, it is difficult to know what "exploration" and "exploitation" mean in these contexts, especially when compared to studies in which exploration means using a new technology or business model. Is the "exploration" invoked when a firm like Kodak attempts to move into digital imaging or Smith Corona moves from typewriters to word processors the same as when a branch bank manager or small manufacturing plant manager indicates that they "explore"? When survey measures of ambidexterity are used as a dependent variable, the underlying meaning of the term will clearly vary widely by samples. Because of this, we run the risk of categorizing as exploration and exploitation potentially very different phenomena—and any findings may reflect the idiosyncratic nature of what exploration and exploitation mean in that particular context. And, if the underlying phenomena are different, it is likely that the antecedents and outcomes may also vary.

Similarly, there has been variation in how researchers operationalize ambidexterity, with some opting for separate measures of exploration and exploitation (e.g., Auh & Menguc, 2005), others using the sum or absolute difference of these (e.g., He & Wong, 2004), still others using the product of the two (e.g., Lubatkin et al., 2006), and still others arguing for a unidimensional or continuous measure (Lavie et al., 2010). If exploration and exploitation are separate constructs, then our perspective, consistent with Birkinshaw and Gupta (this issue), is that they should be measured as such. Interestingly, the meta-analysis by Junni and colleagues (this issue) helps to resolve this confusion. They find that separate measures are most strongly associated with performance and that continuous measures are largely unrelated.

In this regard, it is reassuring that the evidence for the effects of ambidexterity is so consistent across industries. But what ambidexterity actually implies may differ widely. The risk is that by using the same term to describe what are likely to be very different phenomena, we lose precision, and that may account for some of the confusion and conflicting findings we see in the empirical research. Although the original concept of organizational ambidexterity was used to characterize the tensions associated with exploration and exploitation, others (e.g., Gibson & Birkinshaw, 2004) have redefined it to include more general concepts such as "alignment" (e.g., "systems work coherently") and "adaptability" (e.g., "systems evolve rapidly"). Noting this confusion, Nosella and colleagues (2012) suggested that "the organizational ambidexterity literature has departed from the original definition of the construct as a capability for resolving tensions. . . . Future research may therefore benefit from a return to the construct's definition, which emphasizes the nature of ambidexterity as a capability" (p. 459). In their review, Raisch and Birkinshaw (2008) also noted that as the research has broadened, the initially focused debate has become less focused and more complex: "This has not only led to a lack of transparency in the vocabulary that is used but also, more critically, in respect of the different phenomena's specific effects" (p. 376). We agree and believe that if the term "organizational ambidexterity" continues to be used to describe highly disparate phenomena, our insights into how firms actually explore and exploit are likely to become less and less useful.

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Dynamic Capabilities

Although several theoretical frames have been used to explain organizational ambidexterity, from our perspective, the appropriate lens through which to view ambidexterity remains that of dynamic capabilities. Dynamic capabilities are defined as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece, Pisano, & Shuen, 1997, p. 516) or "the capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat et al., 2007, p. 1). We agree with Markides' (this issue) observation that the logic of ambidexterity helps resolve the differentiation versus cost dilemma in the business model literature. As such, dynamic capabilities, manifest in the decisions of senior managers, help an organization reallocate and reconfigure organizational skills and assets to permit the firm to both exploit existing competencies and to develop new ones (O'Reilly & Tushman, 2008; Taylor & Helfat, 2009). In this way, organizational ambidexterity (sequential, simultaneous, or contextual) is reflected in a complex set of decisions and routines that enable the organization to sense and seize new opportunities through the reallocation of organizational assets.

Future Research

Raisch, Birkinshaw, Probst, and Tushman's (2009) review of the ambidexterity research called for more research on boundary conditions, crossing levels of analysis and taking time into account (see also Birkinshaw and Gupta, this issue). As we have described above, the research on ambidexterity has largely attended to these issues. What remains less clear is the role of senior team and leadership behaviors in attending to the contradictory demands of exploration and exploitation. At a high level, research has shown that managing these tensions requires leaders who can balance the competing pressures of different organizational architectures. For instance, Jansen and colleagues (2009) found that transformational leadership was more likely to be associated with exploratory innovation, while transactional leadership was more associated with exploitative innovation. In a study of ambidexterity at the project level of analysis, Burton and colleagues (2012) found that the misalignment of leadership style and project type was more damaging for exploratory than exploitative projects; that is, exploratory projects with leaders who adopted a more mechanistic style suffered more than the opposite. Other studies linking leadership and ambidexterity have demonstrated that leadership practices can affect the success of exploration and exploitation (e.g., Alexiev, Jansen, Van den Bosch, & Volberda, 2010; Carmeli & Halevi, 2009; O'Reilly & Tushman, 2011).

While interesting, studies like these do not provide insight into how leaders actually manage the interfaces between exploration and exploitation. The essence of organizational ambidexterity is to be found in the ability of the organization to leverage existing assets and capabilities from the mature side of the business to gain competitive advantage in new areas. In an interesting study exploring how print newspapers adjusted to digital media, Gilbert (2005) found that the problem was not the allocation of sufficient resources (e.g., investment) but the failure of the organization to change the processes necessary to use these resources effectively. To be successful at ambidexterity, leaders must be able to orchestrate the allocation of resources between the old and new business domains. How they actually do this is seldom addressed in the research on ambidexterity but is at the core of the leadership challenge. What do the interfaces of the old and new need to look like? How can leaders manage the inevitable conflicts that arise? More qualitative and in-depth studies are required to answer these questions. For instance, in describing how the newspaper *USA Today* made the transition from print to web-based news, O'Reilly and Tushman (2004) outlined a series of steps that permitted first structural ambidexterity (separate newsrooms) followed by the construction of an interface to decide on the allocation of stories (daily editorial meetings) followed by a cascade of integration efforts (senior leadership communication, training, new incentives, allocation of resources) and, ultimately, an integrated newsroom. Clearly there are significant challenges to teams and firms attempting to hold paradoxical strategic intents (e.g., Smith & Lewis, 2011). Future research is needed to clarify how senior teams resolve these strategic challenges (Cao, Simsek, & Zhang, 2010; O'Reilly & Tushman, 2011).

It also appears that organizational culture and identity may be an important strategic capability in hosting ambidextrous designs over time (Chatman et al., 2013; Gioia, Patvardhan, Hamilton, & Corley, 2013; Schultz & Hernes, 2013). For example, Tripsas's (2013) research on Fuji and Polaroid's re-

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sponses to digital imaging found that Fuji's leadership team crafted a broad strategic intent that could embrace digital as well as analog capabilities. In contrast, even though Polaroid employed an ambidextrous design to accommodate a move into digital imaging, its original analog identity and strong culture around producing boxes rather than software undercut its ability to take advantage of its digital capabilities. These culture and identity issues are important both within the firm and with its larger community. For example, Benner (2010) described the resistance of security analysts to incumbent firms exploring new technologies in the photography and telephony industries. Said differently, the organizational culture that promotes a common identity and success in one domain may be misaligned when pursuing a new strategy. How can firms and their leaders promote new cultures and identities that accommodate exploration and exploitation (Schultz & Hernes, 2013)?

Another promising domain for ambidexterity research is to move from the firm (or corporation) as unit of analysis to the firm's larger ecosystem. As products and services become more modularizable and as communication costs decrease, the locus of innovation will increasingly shift to the community (e.g., Benkler, 2006; Von Hippel, 2005). If so, future work on exploration and exploitation will have to move from its current intra-firm and inter-firm focus to more awareness of the larger community. This shift will accentuate the need for research on leadership capabilities in leading across boundaries as well as identity issues that span the firm/community boundaries (Lakhani, Lifshitz-Assaf, & Tushman, 2013). Such pressures may require firms to adopt more hybrid organizational structures (e.g., Fjeldstad, Snow, Miles, & Lettl, 2012) and to legitimize these forms in institutional contexts (e.g., Adler et al., 2013; Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011).

CONCLUSION—A PERSONAL POINT OF VIEW

In 1991, Jim March noted that the fundamental tension at the heart of an enterprise's *long-term survival* (our italics) was to engage in sufficient exploitation to ensure its current viability and, at the same time, to engage in sufficient exploration to ensure its future success. In our view, organizational ambidexterity is about survival: how IBM moved from a maker of hardware to software to services (Tushman, O'Reilly, & Harreld, 2013), how HP moved from a maker of electronic instruments to minicomputers to printers—and is now failing at making the transition to services (House & Price, 2009), how the Hearst Corporation moved from a publisher of newspapers to a provider of data, or how Fuji moved from a maker of photographic film to a provider of fine chemicals. It is about why great companies like Polaroid, Kodak, and Smith Corona have failed to make these transitions (Danneels, 2011; Sull, 1999; Tripsas & Gavetti, 2000). This is a topic of both immense practical importance and great theoretical opportunity.

To make these transitions required these companies to simultaneously compete in mature businesses and to orchestrate firm assets to allow them to develop the requisite new capabilities to compete in new businesses. The full story about when and how they do this is still not clear and deserves more research. We know, for example, that new capabilities can be developed internally (O'Reilly et al., 2009) or through acquisitions (Phene et al., 2012). Some firms, Cisco for example, have been masterful at identifying new technologies and markets through acquisition but are comparatively poor at developing capabilities internally. Other firms have the opposite experience. Not all firms that attempt to be ambidextrous are successful. It would be useful to know what distinguishes among these.

We know far less about the appropriate timing for when ambidexterity is more or less useful. In the short term, ambidexterity is intrinsically inefficient in that it requires the duplication of efforts and the expenditure of resources on innovation, not all of which will be successful. When do the benefits of ambidexterity outweigh the costs? Finally, if the locus of innovation is increasingly moving outside incumbent firms, the demands for firms to explore and exploit are both accentuated and made more difficult. As the logic of open communities is fundamentally different from the traditional industrial logic, the ability to execute ambidextrous designs will be increased. Future research could usefully explore the impact of distributed innovation on incumbents.

In the past 15 years, the study of organizational ambidexterity has made useful strides in helping both researchers and managers understand how organizations can explore and exploit. Much of this research has met the test of rigor and relevance. While progress has been made, there remains much to do. The risk, however, is that as scholars use the term to apply to more and more disparate phenomena, the construct itself loses meaning. Our hope is

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that the future research on organizational ambidexterity will stay focused on the problem March identified and avoid devolving into a catch-all phrase applied to a smorgasbord of organizational topics.

REFERENCES

Adler, P., Goldoftas, B., & Levine, D. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science, 10*, 43–68.

Adler, P., Heckscher, C., & Grandy, J. (2013). *From clans to collaboration: Collaborative community as the basis of organizational ambidexterity* (Working Paper). Los Angeles, CA: University of Southern California.

Aldrich, H. (1999). *Organizations evolving.* London: Sage.

Alexiev, A. S., Jansen, J., Van den Bosch, F. A., & Volberda, H. W. (2010). Top management team advice seeking and exploratory innovation: The moderating role of TMT heterogeneity. *Journal of Management Studies, 47*, 1343–1364.

Auh, S., & Menguc, B. (2005). Balancing exploration and exploitation: The moderating role of competitive intensity. *Journal of Business Research, 58*, 1652–1661.

Benkler, Y. (2006). *The wealth of networks: How social production transforms markets and freedom.* New Haven: Yale University Press.

Benner, M. J. (2010). Security analysts and incumbent response to radical technological change: Evidence from digital photography and internet telephony. *Organization Science, 21*, 42–62.

Benner, M. J., & Tushman, M. L. (2002). Process management and technological innovation: A longitudinal study of the photography and paint industries. *Administrative Science Quarterly, 47*, 676–706.

Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration and process management: The productivity dilemma revisited. *Academy of Management Review, 28*, 238–256.

Bierly, P. E., & Daly, P. S. (2007). Alternative knowledge strategies, competitive environment, and organizational performance in small manufacturing firms. *Entrepreneurship: Theory and Practitioners, 31*, 493–516.

Birkinshaw, J., & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *Academy of Management Perspectives* (this issue).

Boumgarden, P., Nickerson, J., & Zenger, T. R. (2012). Sailing into the wind: Exploring the relationships among ambidexterity, vacillation and organizational performance. *Strategic Management Journal, 33*, 587–610.

Brown, S. L., & Eisenhardt, K. M. (1997). The art of continuous change: Linking complexity theory and time-based evolution in relentlessly shifting organizations. *Administrative Science Quarterly, 42*, 1–34.

Bryce, D. J., Dyer, J. H., & Furr, N. R. (2007, August). *Leaping to new markets: The performance consequences of core strategic change.* Paper presented at the annual meetings of the Academy of Management, Philadelphia.

Bueschgens, T., Bausch, A., & Balkin, D. B. (2010, August). *Organizational culture and climate: An integrative review.* Paper presented at the annual meetings of the Academy of Management, Montreal.

Burgers, J. H., Jansen, J. J. P., Van den Bosch, F. A., & Volberda, H. W. (2009). Structural differentiation and corporate venturing: The moderating role of formal and informal integration mechanisms. *Journal of Business Venturing, 24*, 206–220.

Burns, T., & Stalker, G. M. (1961). *The management of innovation.* London: Tavistock.

Burton, M. D., O'Reilly, C. A., & Bidwell, M. (2012, August). *Management systems for exploration and exploitation: The micro-foundations of organizational ambidexterity.* Paper presented at the annual meetings of the Academy of Management, Boston.

Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies and synergistic effects. *Organization Science, 20*, 781–796.

Cao, Q., Simsek, Z., & Zhang, H. (2010). Modeling the joint impact of the CEO and the TMT on organizational ambidexterity. *Journal of Management Studies, 47*, 1272–1296.

Carmeli, A., & Halevi, M. Y. (2009). How top management team behavioral integration and behavioral complexity enable organizational ambidexterity: The moderating role of contextual ambidexterity. *Leadership Quarterly, 20*, 207–218.

Caspin-Wagner, K., Ellis, S., & Tishler, A. (2012, August). *Balancing exploration and exploitation for firm's superior performance: The role of the environment.* Paper presented at the annual meetings of the Academy of Management, Boston.

Chandler, A. (1977). *The visible hand.* Cambridge, MA: Harvard University Press.

Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2013). *Organizational culture and performance in high technology firms: The effect of culture content and strength* (Working Paper). Berkeley, CA: Haas School of Business.

Chen, E. L., & Katila, R. (2008). Rival interpretations of balancing exploration and exploitation: Simultaneous or sequential? In S. Scott (Ed.), *Handbook of*

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technology and innovation management (pp. 197–214). New York: Wiley.

Cottrell, T., & Nault, B. R. (2004). Product variety and firm survival in the microcomputer software industry. *Strategic Management Journal, 25*, 1005–1025.

Danneels, E. (2011). Trying to become a different type of company: Dynamic capabilities at Smith Corona. *Strategic Management Journal, 32*, 1–31.

Danneels, E., Provera, B., & Verona, G. (2013). *De-institutionalizing organizational competence: Olivetti's transition from mechanical to electronic technology* (Working Paper). Milan: Management Department, Bocconi University.

Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. H. Kilmann, L. R. Pondy, & D. Slevin (Eds.), *The management of organization design: Strategies and implementation* (pp. 167–188). New York: North Holland.

Ebben, J. J., & Johnson, A. C. (2005). Efficiency, flexibility, or both? Evidence linking strategy to performance in small firms. *Strategic Management Journal, 26*, 1249–1259.

Eisenhardt, K. M., & Tabrizi, B. N. (1995). Accelerating adaptive processes: Product innovation in the global computer industry. *Administrative Science Quarterly, 40*, 84–110.

Fang, C., Lee, J., & Schilling, M. A. (2010). Balancing exploration and exploitation through structural design: The isolation of subgroups and organizational learning. *Organization Science, 21*, 625–642.

Fjeldstad, Ø. D., Snow, C. C., Miles, R. E., & Lettl, C. (2012). The architecture of collaboration. *Strategic Management Journal, 33*, 734–750.

Garaus, C., Mueller, B., Guettel, W., & Konlechner, S. (2012). *Balancing, fueling and linking exploration and exploitation: A closer look at the interplay of applied practices in an R&D focused organization* (Working Paper). Linz, Austria: Johannes Kepler University.

Geerts, A., Blindenbach-Driessen, F., & Gemmel, P. (2010, August). *Achieving a balance between exploration and exploitation in service firms: A longitudinal study.* Paper presented at the annual meetings of the Academy of Management, Montreal.

Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal, 47*, 209–226.

Gilbert, C. (2005). Unbundling the structure of inertia: Resource versus routine rigidity. *Academy of Management Journal, 48*, 741–763.

Gioia, D. A., Patvardhan, S. D., Hamilton, A. L., & Corley, K. G. (2013). Organizational identity formation and change. *Academy of Management Annals, 7*, 123–192.

Goosen, M. C., Bazzazian, N., & Phelps, C. (2012, August). *Consistently capricious: The performance effects of simultaneous and sequential ambidexterity.* Paper presented at the annual meetings of the Academy of Management, Boston.

Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. (2011). Institutional complexity and organizational responses. *Academy of Management Annals, 5*, 317–371.

Han, M., & Celly, N. (2008). Strategic ambidexterity and performance in international new ventures. *Canadian Journal of Administrative Sciences, 25*, 335–349.

Hargadon, A., & Sutton, R. I. (1997). Technology brokering and innovation in a product design firm. *Administrative Science Quarterly, 42*, 716–749.

Harreld, J. B., O'Reilly, C. A., & Tushman, M. L. (2007). Dynamic capabilities at IBM: Driving strategy into action. *California Management Review, 49*, 21–43.

He, Z., & Wong, P. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science, 15*, 481–494.

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. (2007). *Dynamic capabilities: Understanding strategic change in organizations.* Malden, MA: Blackwell Publishing.

Hensmans, M., & Johnson, G. (2007, August). *Can history be a dynamic capability? Traditions of imprinted dynamic capabilities of transformation.* Paper presented at the annual meetings of the Academy of Management, Philadelphia.

Hill, S. A., & Birkinshaw, J. (2012). Ambidexterity and survival in corporate venture units. *Journal of Management.*

Holmqvist, M. (2004). Experiential learning processes of exploitation and exploration within and between organizations: An empirical study of product development. *Organization Science, 15*, 70–81.

House, C. H., & Price, R. L. (2009). *The HP phenomenon: Innovation and business transformation.* Redwood City, CA: Stanford University Press.

Jansen, J. J. P., Andriopoulous, C., & Tushman, M. (2013). *Organizing for ambidexterity: Founding, developing and revitalizing dynamic capabilities over time* (Working Paper). Rotterdam, The Netherlands: Erasmus University.

Jansen, J. J. P., George, G., Van den Bosch, F. A., & Volberda, H. W. (2008). Senior team attributes and organizational ambidexterity: The moderating role of transformational leadership. *Journal of Management Studies, 45*, 982–1007.

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Jansen, J. J. P., Tempelaar, M. P., Van den Bosch, F. A., & Volberda, H. W. (2009). Structural differentiation and ambidexterity: The mediating role of integration mechanisms. *Organization Science, 20*, 797–811.

Jansen, J. J. P., Van den Bosch, F. A., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation and performance effects: Effects of organizational antecedents and environmental moderators. *Management Science, 52*, 1661–1674.

Jansen, J. J. P., Van den Bosch, F. A., & Volberda, H. (2005). Managing potential and realized absorptive capacity: How do organizational antecedents matter? *Academy of Management Journal, 48*, 999–1015.

Jansen, J. J. P., Vera, D., & Crossan, M. (2009). Strategic leadership for exploration and exploitation: The moderating role of environmental dynamism. *Leadership Quarterly, 20*, 5–18.

Junni, P., Sarala, R. M., Taras, V., & Tarba, S. Y. (2013). Organizational ambidexterity: A meta-analysis. *Academy of Management Perspectives* (this issue).

Kang, S.-C., & Snell, S. A. (2009). Intellectual capital architectures and ambidextrous learning: A framework for human resource management. *Journal of Management Studies, 46*, 65–92.

Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of Management Journal, 45*, 1183–1194.

Kauppila, O. P. (2010). Creating ambidexterity by integrating and balancing separate interorganizational partnerships. *Strategic Organization, 8*, 283–312.

Khazanchi, S., Lewis, M. W., & Boyer, K. K. (2007). Innovation-supportive culture: The impact of organizational values on process innovation. *Journal of Operations Management, 25*, 871–884.

Lai, H. C., & Weng, C. S. (2010, August). *How to manage organizational ambidexterity in the phase of technological discontinuity?* Paper presented at the annual meetings of the Academy of Management, Montreal.

Lakhani, K., Lifshitz-Assaf, H., & Tushman, M. (2013). Open innovation and organizational boundaries: Task decomposition, knowledge distribution, and the locus of innovation. In A. Grandori (Ed.), *Handbook of economic organization: Integrating economic and organizational theory* (pp. 355–382). Northampton, MA: Elgar.

Laplume, A. O., & Dass, P. (2012, August). *Exploration and exploitation for various stages of firm growth through diversification.* Paper presented at the annual meetings of the Academy of Management, Boston.

Lavie, D., Kang, J., & Rosenkopf, L. (2011). Balance within and across domains: The performance implications of exploration and exploitation in alliances. *Organization Science, 22*, 1517–1538.

Lavie, D., & Rosenkopf, L. (2006). Balancing exploration and exploitation in alliance formation. *Academy of Management Journal, 49*, 797–818.

Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *Academy of Management Annals, 4*, 109–155.

Lawrence, P. R., & Lorsch, J. W. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly, 12*, 1–47.

Lee, J., Lee, J., & Lee, H. (2003). Exploration and exploitation in the presence of network externalities. *Management Science, 49*, 553–570.

Lovas, B., & Ghoshal, S. (2000). Strategy as guided evolution. *Strategic Management Journal, 21*, 875–896.

Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small- to medium-sized firms: The pivotal role of TMT behavioral integration. *Journal of Management, 32*, 1–27.

March, J. (1991). Exploration and exploitation in organizational learning. *Organization Science, 2*, 71–87.

Markides, C. (2013). Business model innovation: What can the ambidexterity literature teach us? *Academy of Management Perspectives* (this issue).

Markides, C., & Charitou, C. (2004). Competing with dual business models: A contingency approach. *Academy of Management Executive, 18*, 22–36.

Martin, J. A., & Eisenhardt, K. M. (2010). Rewiring: Cross-business-unit collaborations in multibusiness organizations. *Academy of Management Journal, 53*, 285–301.

Masini, A., Zollo, M., & van Wassenhove, L. (2004). *Understanding exploration and exploitation in changing operating routines: The influence of industry and organizational traits* (Working Paper No. OTM 04-022). London: London Business School.

McGrath, R. (2001). Exploratory learning, innovative capacity, and managerial oversight. *Academy of Management Journal, 44*, 118–131.

Mitchell, W., & Singh, K. (1993). Death to the lethargic: Effects of expansion into new technical subfields on performance in a firm's base business. *Organization Science, 4*, 152–180.

Nemanich, L., & Vera, D. (2009). Transformational leadership and ambidexterity in the context of an acquisition. *Leadership Quarterly, 20*, 19–33.

Nickerson, J., & Zenger, T. (2002). Being efficiently fickle: A dynamic theory of organizational choice. *Organization Science, 13*, 547–566.

Nobeoka, K., & Cusumano, M. A. (1998). Multiproduct strategy and sales growth: The benefits of rapid de-

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sign transfer in new product development. *Strategic Management Journal, 18*, 169–186.

Nosella, A., Cantarello, S., & Filippini, R. (2012). The intellectual structure of organizational ambidexterity: A bibliometric investigation into the state of the art. *Strategic Organization, 10*, 450–465.

O'Reilly, C. A., Harreld, J. B., & Tushman, M. L. (2009). Organizational ambidexterity: IBM and emerging business opportunities. *California Management Review, 51*, 1–25.

O'Reilly, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review,* 74–83.

O'Reilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior, 28*, 185–206.

O'Reilly, C. A., & Tushman, M. L. (2011). Organizational ambidexterity in action: How managers explore and exploit. *California Management Review, 53*, 1–18.

Phene, A., Tallman, S., & Almeida, P. (2012). When do acquisitions facilitate technological exploration and exploitation? *Journal of Management, 38*, 753–783.

Piao, M. (2010). Thriving in the new: Implication of exploration on organizational longevity. *Journal of Management, 36*, 1529–1554.

Puranam, P., Singh, H., & Zollo, M. (2006). Organizing for innovation: Managing the coordination-autonomy dilemma in technology acquisitions. *Academy of Management Journal, 49*, 263–280.

Raisch, S. (2008). Balanced structures: Designing organizations for profitable growth. *Long Range Planning, 41*, 483–508.

Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management, 34*, 375–409.

Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science, 20*, 685–695.

Ramachandran, I., & Lengnick-Hall, C. A. (2010, August). *Multidimensional and dynamic ambidexterity configurations: Rethinking the question of balance.* Paper presented at the annual meetings of the Academy of Management, Montreal.

Rosenbloom, R. S. (2000). Leadership, capabilities, and technological change: The transformation of NCR in the electronic era. *Strategic Management Journal, 21*, 1083–1103.

Rosenkopf, L., & Nerkar, A. (2001). Beyond local search: Boundary-spanning, exploration, and impact in the optical disk industry. *Strategic Management Journal, 22*, 287–306.

Rothaermel, F. T., & Alexandre, M. T. (2009). Ambidexterity in technology sourcing: The moderating role of absorptive capacity. *Organization Science, 20*, 759–780.

Rothaermel, F. T., & Deeds, D. L. (2004). Exploration and exploitation alliances in biotechnology: A system of new product development. *Strategic Management Journal, 25*, 201–221.

Sarkees, M., & Hulland, J. (2009). Innovation and efficiency: Is it possible to have it all? *Business Horizons, 52*, 45–55.

Schultz, M., & Hernes, T. (2013). A temporal perspective on organizational identity. *Organization Science, 24*, 1–21.

Schulze, P., Heinemann, F., & Abedin, A. (2008, August). *Balancing exploitation and exploration: Organizational antecedents and performance effects of ambidexterity.* Best Paper, Proceedings of the Academy of Management, Anaheim.

Schumpeter, J. A. (1934). *The theory of economic development.* Cambridge, MA: Harvard University Press.

Sidhu, J., Volberda, H., & Commandeur, H. (2004). Exploring exploration orientation and its determinants: Some empirical evidence. *Journal of Management Studies, 41*, 913–932.

Siggelkow, N., & Levinthal, D. A. (2003). Temporarily divide to conquer: Centralized, decentralized, and reintegrated organizational approaches to exploration and adaptation. *Organization Science, 14*, 650–669.

Siggelkow, N., & Rivkin, J. (2005). Speed and search: Designing organizations for turbulence and complexity. *Organization Science, 16*, 101–122.

Simsek, Z., Heavey, C., Veiga, J. F., & Souder, D. (2009). A typology for aligning organizational ambidexterity's conceptualizations, antecedents, and outcomes. *Journal of Management Studies, 46*, 864–894.

Sine, W. D., Mitsuhashi, H., & Kirsch, D. A. (2006). Revisiting Burns and Stalker: Formal structure and new venture performance in emerging economic sectors. *Academy of Management Journal, 49*, 121–132.

Smith, W., Binns, A., & Tushman, M. (2010). Complex business models: Managing strategic paradoxes simultaneously. *Long Range Planning, 43*, 448–461.

Smith, W. K., & Lewis, M. W. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review, 36*, 381–403.

Smith, W. K., & Tushman, M. L. (2005). Managing strategic contradictions: A top management model for managing innovation streams. *Organization Science, 16*, 522–536.

Sull, D. N. (1999). The dynamics of standing still: Fire-

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stone Tire and Rubber and the radial revolution. *Business History Review, 73*, 430–464.

Taylor, A., & Helfat, C. E. (2009). Organizational linkages for surviving technological change: Complementary assets, middle management and ambidexterity. *Organization Science, 20*, 718–739.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*, 509–533.

Tempelaar, M. P., & Van De Vrande, V. (2012, August). *Dynamism, munificence, internal and external exploration-exploitation and their performance effects.* Paper presented at the annual meetings of the Academy of Management, Boston.

Thompson, J. D. (1967). *Organizations in action: Social sciences bases of administrative theory.* New York: McGraw-Hill.

Tripsas, M. (1997). Surviving radical technological change through dynamic capability: Evidence from the typesetter industry. *Industrial and Corporate Change, 6*, 341–377.

Tripsas, M. (2013). *Exploring the interaction between organizational identity and organizational design in technological transitions* (Working Paper). Chestnut Hill, MA: Boston College.

Tripsas, M., & Gavetti, G. (2000). Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic Management Journal, 21*, 1147–1161.

Turner, N., Swart, J., & Maylor, H. (2013). Mechanisms for managing ambidexterity: A review and research agenda. *International Journal of Management Reviews, 15*, 317–332.

Tushman, M. L., & O'Reilly, C. A. (1996). The ambidextrous organization: Managing evolutionary and revolutionary change. *California Management Review, 38*, 1–23.

Tushman, M. L., & O'Reilly, C. A. (2002). *Winning through innovation: A practical guide to leading organizational change and renewal.* Boston, MA: Harvard University Press.

Tushman, M. L., O'Reilly, C. A., & Harreld, J. B. (2013). *Leading strategic renewal: Proactive punctuated change through innovation streams and disciplined learning.* Paper presented at the Harvard Business School, May 9.

Tushman, M. L., & Romanelli, E. (1985). Organizational evolution: A metamorphosis model of convergence and reorientation. *Research in Organizational Behavior, 7*, 171–222.

Tushman, M. L., Smith, W. K., Wood, R., Westerman, G., & O'Reilly, C. A. (2010). Organizational designs and innovation streams. *Industrial and Corporate Change, 19*, 1331–1366.

Uotila, J., Maula, M., Keil, T., & Zhara, S. A. (2008). Exploration, exploitation and firm performance: An analysis of S&P 500 corporations. *Strategic Management Journal, 30*, 221–231.

Van Looy, B., Martens, T., & Debackere, K. (2005). Organizing for continuous innovation: On the sustainability of ambidextrous organizations. *Creativity and Innovation Management, 14*, 208–221.

Venkatraman, N., Lee, C.-H., & Iyer, B. (2006, August). *Strategic ambidexterity and sales growth: A longitudinal test in the software sector.* Paper presented at the annual meetings of the Academy of Management, Honolulu.

Von Hippel, E. (2005). *Democratizing innovation.* Cambridge, MA: MIT Press.

Wang, H., & Li, J. (2008). Untangling the effects of overexploration and overexploitation on organizational performance: The moderating role of organizational dynamism. *Journal of Management, 34*, 925–951.

Woodward, J. (1965). *Industrial organization: Theory and practice.* New York: Oxford University Press.

Yang, H., & Atuahene-Gima, K. (2007, August). *Ambidexterity in product innovation management: The direct and contingent effects on firm performance.* Paper presented at the annual meetings of the Academy of Management, Philadelphia.

Yu, G. J., & Khessina, O. (2012, August). *The role of exploration in firm survival in the worldwide optical library market, 1990–1998.* Paper presented at the annual meetings of the Academy of Management, Boston.

Zhiang, L., Yang, H., & Demirkan, I. (2007). The performance consequences of ambidexterity in strategic alliance formations: Empirical investigation and computational theorizing. *Management Science, 53*, 1645–1658.

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