

# *The Paradox Perspective of Tackling Organizational Ambidexterity: a Review*

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**Abstract:** Significant ambiguity remains in the literature regarding the analysis framework of organizational ambidexterity. This study unpacks this construct into one with two dimensions in term of the Balance Dimension of Ambidexterity (BD) and the Combined Dimension of Ambidexterity (CD). BD denotes to a firm's orientation to maintain a close relative balance between exploratory and exploitative activities, while CD corresponds to their combined magnitude. The study reasons that these dimensions are conceptually distinct, and rely on different causal mechanisms to enhance firm performance. A complete and thorough review of extant literature about organizational ambidexterity is carried out to find that over and above their independent effects, concurrent high levels of BD and CD yield synergistic benefits. These results indicate that managers in resource constrained contexts may benefit from a paradox perspective on managing trade-offs between exploration and exploitation demands, but for firms that have access to sufficient resources, the simultaneous pursuit of exploration and exploitation is both possible and desirable.

## 1. Introduction

The construct of organizational ambidexterity has attracted the growing attention of organizational theorists. The general agreement in this literature is that an ambidextrous firm is one that is capable of both exploiting existing competencies as well as exploring new opportunities, and also that achieving ambidexterity enables a firm to enhance its performance and competitiveness. However, beyond these points of consensus, there is some disagreement and considerable ambiguity regarding the nature of the ambidexterity construct.

When March (1991) first introduced the twin concepts of exploration and exploitation to the management literature, he argued that they should be viewed as two ends of a single continuum. In March's characterization, exploration and exploitation place inherently conflicting resource and organizational demands on the firm. In this view, trade-offs between exploration and exploitation are seen as unavoidable and organizational ambidexterity largely involves the management of these trade-offs in order to find the appropriate balance between the two. Others following in March's (1991) wake, similarly focus on the conflicting aspects of exploratory and exploitative orientations,

their competition for scarce resources and the desirability of achieving an appropriate balance between the two (e.g. Auh & Menguc, 2005; Smith & Tushman, 2005).

In this paper, we seek to bring greater conceptual clarity to the treatment of ambidexterity, and in doing so, provide a more solid base for future theorizing and for the interpretation of findings and discernment of implications for managers. We begin by reviewing the literature on ambidexterity noting that what researchers have termed organizational ambidexterity is actually comprised of two distinct but related dimensions—one pertaining to the balance between exploration and exploitation which we term as the “Balance Dimension of Ambidexterity” (BD), and the other pertaining to their combined magnitude which we term the “Combined Dimension of Ambidexterity” (CD). Recently, some researchers have begun to view ambidexterity as a blend of these two aspects to varying extents (e.g. Gibson & Birkinshaw, 2004; He & Wong, 2004), but these works have not explicitly distinguished them at the conceptual level, nor have they examined their inter-relationship, or their distinct causal mechanisms and differing contingencies with respect to firm performance.

Explanations on how organizations manage exploration–exploitation tensions can be broadly categorized into two streams: ambidexterity and punctuated equilibrium (Gupta et al., 2006). Punctuated equilibrium argues that organizations mitigate these tensions by temporally separating these activities (Adler et al., 2009). That is, exploration follows exploitation or vice versa. In contrast, the ambidexterity literature argues that organizations can do both of these learning activities simultaneously (Jansen et al., 2009; O’Reilly and Tushman, 2004). For high tech organizations, ambidexterity becomes more relevant since these organizations cannot temporally separate exploration and exploitation to remain competitive. In fact, recent studies find that ambidexterity leads to higher performance for high tech organizations (Auh and Menac, 2005).

## 2. Theory development

According to March (1991), exploitation pertains to the refinement of existing competencies, whereas exploration involves searching for new knowledge and opportunities. Both activities are seen as critical to a firm’s sustainable competitive advantage. Owing to the linked nature of the exploration and exploitation constructs, researchers have started using ambidexterity as an integral concept to denote a firm’s dual orientation with respect to exploration and exploitation (e.g. Gibson & Birkinshaw, 2004; He & Wong, 2004; O’Reilly & Tushman, 2004; Tushman & O’Reilly, 1996).

In line with this characterization, there exists a broad consensus among definitions of ambidexterity that it somehow relates to the simultaneous pursuit of exploration and exploitation. For instance, Tushman and O’Reilly define an ambidextrous organization as one that is “able to implement both incremental (i.e. exploitative) and revolutionary (i.e. exploratory) changes” (1996: 8). He and Wong suggest they are “capable of operating simultaneously to explore and exploit” (2004: 483). Smith and Tushman describe them as organizations designed such that they “can both explore and exploit” (2005: 524).

Beyond the broad consensus that ambidextrous organizations somehow engage in both exploration and exploitation, it is unclear from the above cited definitions the extent to which organizational ambidexterity involves a firm’s effort to increase the combined magnitude of both exploratory and exploitative activities, or to match the magnitude of the two types of activities. These two understandings are very distinct. While the former focuses on the absolute magnitude of a firm’s exploratory and exploitative activities, the latter considers their relative magnitude. He and Wong (2004) broke new ground by pointing out that these two differing interpretations of ambidexterity exist in the literature, but their focus was primarily on which measure to use to operationalize ambidexterity, rather than on the underlying conceptualization of ambidexterity.

In terms of theory development and management practice, such ambiguity in the treatment of the

ambidexterity construct has material implications. This is illustrated in Table 1, which depicts the level of exploratory and exploitative activities of two firms. Firm A has a score of 10 on exploration and on exploitation, while firm B has a score of 5 on both exploration and exploitation. Which of these firms is more ambidextrous? The answer to this question depends on how a researcher conceptualizes ambidexterity. If ambidexterity is conceptualized as the balancing of exploration and exploitation, Firm B is much more ambidextrous than Firm A. On the other hand, if ambidexterity is conceptualized as the combined magnitude of exploration and exploitation, the opposite conclusion is drawn and Firm A is seen to be significantly more ambidextrous than Firm B.

Senior managers in high tech organizations make frequent decisions about exploration and exploitation opportunities (Eisenhardt and Tabirizi, 1995). That is, senior managers need to decide if they should exploit existing processes/products or explore new processes/products. A relatively straightforward approach would be to decide if customer requirements can be best met by either improving existing products/processes or innovating new products/processes. However, in these environments customer preferences frequently change. As a result, the initial decisions about exploration or exploitation opportunities may be short-sighted. Senior managers need to make informed decisions that not only consider their customers' immediate needs, but also their long-term requirements. In these environments, there is also little overlap between current and future technology choices (e.g. disk drive versus flash drive; analog versus digital communication), which results in fewer opportunities to hedge against uncertainties). This dynamic can amplify the tension that surrounds exploration and exploitation decisions which may result in competency traps (Levinthal and March, 1993).

Thus, in recognizing the two differing ways to understand organizational ambidexterity that are established in the literature, we explicitly consider both in its conceptualization in order to capture a more complete picture of the construct. More particularly, we unpack the construct into one with two distinct dimensions, which we term as the Balance Dimension of Ambidexterity (BD) and the Combined Dimension of Ambidexterity (CD) respectively. Distinguishing between these two dimensions at the conceptual level and examining their relationship allows us to provide greater clarity to the construct, and also provides the basis for hypothesizing about and evaluating their independent and joint effects on firm performance in varying organizational and environmental contexts.

### 3. Discussion

At the outset of the paper, we noted and described the ambiguity that remains in the literature regarding the conceptualization of the organizational ambidexterity construct. On one hand, ambidexterity can be understood as relating to a close balance of exploitation and exploration, which is consistent with the perspective introduced by March (1991) that exploration and exploitation compete for resources. On the other hand, ambidexterity can also be viewed as relating to the combined magnitude of the two, corresponding to the alternative view that exploration and exploitation are orthogonal activities. We have noted that this lack of clarity has led to differing operationalization of the construct (He & Wong, 2004), which has made it difficult to compare results across studies and amass a core set of findings on which to build. Although some recent research on ambidexterity has, in varying ways, studied ambidexterity as a blend of both dimensions (Gibson & Birkinshaw, 2004; He & Wong, 2004; Lubatkin et al., 2006), none have theorized on how these two dimensions entail different organizational processes and contingencies as well as how they may be mutually supportive. To address these concerns, and create a clearer basis for future theorizing and the discernment of practical implications, we have explicitly conceptualized it as a construct comprised of two distinct but related dimensions—Balance

Dimension (BD) and Combined Dimension (CD)—corresponding to differing treatments of it in the literature.

In concluding, we note that this study's findings relate to an ongoing controversy in the literature regarding the ability of firms to profitably pursue high levels of both exploitation and exploration. March sees a tradeoff, or a zero-sum game, between exploration and exploitation, as "organizations make explicit and implicit choices between the two" (1991: 71). However, recently there is a growing camp in the literature that argues that exploration and exploitation processes are not necessarily in fundamental opposition and may actually be mutually enhancing (e.g. Gupta et al., 2006) and this perspective is supported by some empirical evidence relating to technological innovation (Beckman, 2006; Katila & Ahuja, 2002) and organizational learning (Baum, Li, & Usher, 2000).

The results reported here shed light on this ongoing debate and they provide a strong indication that resource availability plays a pivotal role in determining whether there exists a binding tradeoff necessitating a concern with finding an appropriate balance of exploitation and exploration. In this respect, we find that firms, which are relatively resource constrained due to their small size or scarce operating environments benefit the most from achieving a close balance of exploration and exploitation (i.e. high BD). Conversely, as noted above, among relatively small firms, high CD (i.e. high exploitation and exploration) is associated with lower performance.

The managerial cognition literature can help understand how managers deal with the strategic level tension in making exploration–exploitation decisions. According to this literature, managers use cognitive frames to resolve strategic contradictions when confronting ambiguities (Kaplan, 2008). Cognitive frames give structures that transform complex information from a dynamic environment into manageable data. It helps managers make sense of multifaceted information about exploration and exploitation opportunities that are collected both internally and externally (Smith and Tushman, 2005). Decision risk is a shared managerial ability to constantly evaluate risks when making strategic choices between exploration and exploitation competency. It allows senior managers make more mindful decisions by not oversimplifying the decision alternatives and continually recognizing the possibility of failure.

#### 4. Conclusion

Although there is general consensus about the relationship between ambidexterity and performance, few studies have looked at the antecedents that promote ambidexterity competency (Jansen et al., 2009). Even these limited studies do not recognize the multilevel nature of ambidexterity. In this paper, we build on and extend previous research on the conceptualization of organizational ambidexterity. In particular, we explicitly theorize about two distinct, but interrelated dimensions implied in the literature—the Balance Dimension (BD) and the Combined Dimension (CD). We describe the different underlying processes through which these two dimensions of ambidexterity contribute to firm performance, and highlight their synergistic effect with respect to performance. Our empirical tests on China based high-technology firms are strongly supportive of these theoretical arguments and also demonstrate that a firm's resource conditions differentially affect the performance consequences of these two dimensions. In doing so, this study brings greater conceptual clarity to the concept of organizational ambidexterity, and also makes the construct more useful and meaningful to practitioners.

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