Organizational Ambidexterity and Absorptive Capacity

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Abstract
This paper reviews existing literature on organizational ambidexterity and absorptive capacity. The major research streams of both theories are described and explained. The essay then combines both theories to a comprehensive theoretical lens. It is argued that both constructs strive for a balance between exploration and exploitation. However, organizational ambidexterity goes far beyond a pure knowledge orientation. It is then shown that realized absorptive capacity can lead to both, exploratory and exploitative innovation, since it allows companies to create and integrate new combinations of knowledge and exploit existing knowledge at the same time, thus fostering ambidexterity. Potential absorptive capacity, additionally, seems to positively moderate the relationship between realized absorptive capacity and exploratory innovation because it is associated with discovery and acquisition of new external knowledge, hence the fundament of exploration. Overall, the results illustrate that absorptive capacity can lead to ambidexterity what in return, opens room for future research.

Keywords: Ambidexterity, absorptive capacity, realized absorptive capacity, potential absorptive capacity, exploitation, exploration

Introduction
Organizational ambidexterity has gained momentum in research on organizations. Thus, the number of studies that refer to ambidexterity increased drastically in the past decade (Raisch, Birkinshaw, Probst & Tushman, 2009). Scholars argue that an organization is successful when it efficiently aligns the management of today’s business, while it simultaneously adapts to the rapidly changing environment (Raisch & Birkinshaw, 2008). Nevertheless, the skills required in undertaking exploitation and exploration are incompatible and therefore, achieving ambidexterity can be difficult and costly (March, 1991). Consequently, a variety of literatures has started to examine possible antecedents and organizational designs to overcome this problem. One stream of recent studies states that «the firm’s ability to identify, assimilate, and exploit knowledge from the environment » (Cohen & Levinthal, 1989, p. 569) can mitigate the tensions between exploration and exploitation. Hence, bringing together absorptive capacity and ambidexterity, two theories of high importance in organizational research, might help to resolve the tensions an ambidextrous organization will face.

The objective of this paper is twofold: First, consolidating existing research on ambidexterity and absorptive capacity and second, integrating both concept to a wider theoretical lens in drawing on similarities, differences and interconnections between both constructs. Thereby, the paper contributes to existing research in different ways. First, the paper provides an
overview of the state of the art in synthesizing existing research on ambidexterity and absorptive capacity. Second, it consolidates and combines two theories of interest. The combination of both theories helps to better understand and expand the concept of organizational ambidexterity. Finally, the literature review opens room for future research.

In order to achieve the objectives and to contribute to existing research the paper is structured as follows: First, the theoretical background is provided in which existing literature on ambidexterity, absorptive capacity and the integration of both is reviewed. Second, a discussion is provided in which the findings are discussed in regard to research and practice. Finally, the conclusion section summarizes the key findings.

Theoretical Background

Ambidexterity

Various organizational literatures state that a company is successful when it efficiently aligns the management of today’s business, while it simultaneously adapts to environmental changes (Duncan, 1976; Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008; Raisch, Birkinshaw, Probst & Tushman, 2009; Tushman & O’Reilly, 1996). For this phenomena, Duncan (1976) was the first using the term organizational ambidexterity. However, it is March (1991) who is seen as the catalyst for today’s interest in organizational ambidexterity, since he introduced the concept of exploration and exploitation which has gained momentum in research and practice (Raisch & Birkinshaw, 2008).

March (1991) proposes that the success of a business depends on a company’s ability to balance exploitation of existing competencies and exploration of new opportunities. While exploitation is referring to incremental innovation, the latter refers to radical innovation (Enkel, Heil, Hengstler & Wirth, 2016). However, both perspectives require fundamentally different mind-sets, infrastructures, cultures, processes and learning activities between which companies have to divide their attention and resources (March, 1991; Raisch & Birkinshaw, 2008; Tushman & O’Reilly, 1996). While exploitation includes terms such as “refinement, efficiency, selection or implementation”, exploration is associated with activities such as “search, variation, experimentation or discovery” (March, 1991, p. 71). Therefore, several scholars argue that there is a trade-off between aligning the organization to exploit existing competencies and exploring new ones (Raisch & Birkinsawh, 2008), since this requires incompatible skills and highly developed management competencies that might make today’s business obsolete (e.g. He & Wong, 2004; Miller & Friesen, 1986; Hannan & Freeman; according to Raisch & Birkinshaw, 2008).

However, even though scholars argue that it is difficult or even impossible to achieve simultaneous exploration and exploitation, three promising approaches have been identified and focused in literature to achieve organizational ambidexterity (Raisch & Birkinsaw, 2008).

First, it is suggested that organizations can create specific structures to mitigate the tensions between exploration and exploitation. Structural ambidexterity can be fostered by either spatial separation or parallel structures (Gibson & Birkinshaw, 2004). Spatial separation means to create separate business units that pursue either exploration or exploitation...
(Jansen, Tempelaar, Bosch & Volberdaand, 2009). These sub-units are held together through corporate culture, shared visions and strategies or management teams (Gibson & Birkinshaw, 2004). Parallel structures, in contrast, allow to address exploration and exploitation within a single business unit in creating secondary structures, for example project teams, in addition to primary structures which ensure efficiency, constancy and incremental change (Raisch & Birkinshaw, 2008).

Second, contextual solutions are suggested to achieve ambidexterity within an organization. While structural approaches separate exploitative and explorative activities, contextual ambidexterity is defined as the ability to address alignment and adaptation at the same time (Raisch & Birkinshaw, 2004) within the same business unit. Leaders are supposed to create a context that allows individuals to decide by themselves whether to invest their time and effort in explorative or exploitative activities (Raisch & Birkinshaw, 2008). Contextual factors which influence the behaviour of individuals include incentive systems, a shared vision or the balance of discipline, support and trust as attributes of the context (Raisch & Birkinshaw, 20014). It is argued that contextual ambidexterity is especially relevant at business unit level or for small to medium-sized businesses, since the lack of resources at this level makes it difficult to use a structural approach (Zimmermann, Raisch & Birkinshaw, 2016).

Finally, leadership based antecedents build the third stream in the literature as an approach to achieve ambidexterity in an organization. Several scholars argue that leadership processes are important to implement structural or contextual ambidexterity (Raisch & Birkinshaw, 2008). Jansen, George, Bosch and Volberda (2008) state that while transformational leadership is related to discovery, transactional leadership is more likely to be related with efficiency and incremental changes. Additionally, O'Reilly and Tushman (2013) place emphasis on the importance of leadership teams that balance the tensions between exploration and exploitation in managing the use of different resources for either alignment or adaptation.

In recent years, the theoretical work has been complemented through empirical studies examining the relationship between organizational ambidexterity and firm performance. It is argued that engaging in both exploitative and explorative processes is crucial for the long-term success of a company. A one-sided focus on exploitation might improve short-term performance (Raisch & Birkinshaw, 2008), but it can cause long-term difficulties when firms only incrementally improve their core competences, but do not adequately respond to environmental changes (Leonard-Barton, 1992). Studies which examine the relationship between organizational ambidexterity and firm performance show, however, mixed results. Some studies find positive relationships (e.g. Gibson & Birkinshaw, 2004; Lubatkin, Simsek, Ling & Veiga, 2006), whereas in some studies negative correlations are found (e.g. Atuahene-Gima, 2005). An overview is given by Junni, Sarala, Taras and Tarba (2013). Nevertheless, the meta-analysis (Junni et al., 2013) states a positive main effect of ambidexterity on firm performance what increases the importance for scholars and managers.

Absorptive Capacity
Beside ambidexterity, absorptive capacity has become one of the most important constructs in organizational research over the last twenty years
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(Lane, Koka & Pathak, 2006), since it enables companies to be dynamic and innovative in a rapidly changing environment (Todorova & Durisin, 2007).

Cohen and Levinthal (1989) originally introduced the term absorptive capacity as «the firm’s ability to identify, assimilate, and exploit knowledge from the environment » (p. 569) and emphasise the important role of R&D as an antecedent of absorptive capacity. Hence, they argue that investments in R&D do not only generate innovations, but also enhance a firm’s learning or absorptive capacity. One year later, Cohen and Levinthal (1990) redefine the construct as «the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends». In their paper, the authors provide three main aspects of absorptive capacity which help to better understand the construct. First, the ability to evaluate and utilise external knowledge (absorptive capacity) is dependent on prior and existing knowledge. Cohen and Levinthal (1990) argue that prior knowledge and existing learning experiences increase the ability to acquire new knowledge and at the same time, increase the ability to recall and apply it. Therefore, due to existing absorptive capacity in a specific domain, future knowledge identification and assimilation will be more efficient. Cohen and Levinthal (1990) consequently state that the development of absorptive capacity is «path-dependent» (p. 136). Second, a firm’s absorptive capacity is dependent on the absorptive capacities of its members. Therefore, an organizational absorptive capacity will develop with the investment in individual’s absorptive capacities. Finally, however, a firm’s absorptive capacity can not only be seen as the sum of its employee’s absorptive capacities. It needs to be considered how the knowledge is shared and exploited internally throughout the organization. Therefore, absorptive capacity refers not only to the acquisition and assimilation of knowledge, but also to the organization’s ability to exploit it (Cohen and Levinthal, 1990).

After more than a decade of research on absorptive capacity, Zahra and George (2002) propose a reconceptualization of the construct and suggest to distinguish between potential and realized absorptive capacity. The authors define absorptive capacity as «a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge» (Zahra & George, 2002, p. 186). Potential absorptive capacity refers to the first two dimensions of absorptive capacity: acquiring and assimilating external knowledge. While acquisition covers the capability of a firm to identify and acquire external knowledge in a continuous search process by which external environments are constantly monitored to recognise opportunities for the firm (Pedrosa, Välling & Boyd, 2013), assimilation refers to the firm’s processes that «allow to analyse, process, interpret and understand» (Zahra & George, 2002, p. 189) externally acquired knowledge. Compared to Cohen and Levinthal’s (1990) definition, potential absorptive capacity covers the ability of a firm to value, recognize and assimilate external knowledge, but not to exploit and apply it (Zahra & George, 2002). Realized absorptive capacity incorporates transformation and exploitation capabilities and reflects therefore the firm’s ability to use the knowledge that has been absorbed (Zahra & George, 2002). Transformation describes the capacity of a firm to combine the existing knowledge with newly absorbed knowledge, whereas exploitation as an organizational capability refers to the application and use of the assimilated and transformed knowledge (Zahra & George, 2002). Exploitation is therefore
based on the routines and processes in an organization that enable firms to «refine, extend, and leverage existing competencies or to create new ones by incorporating acquired and transformed knowledge into its operations» (Zahra & George, 2002, p. 190).

Beside theoretical work, scholars have examined the correlation between absorptive capacity and firm performance. Recent studies show positive correlations between absorptive capacity and business unit innovation as well as a business unit’s return on investment (Tsai, 2001); between potential absorptive capacity and innovation performance (Fosfuri & Tribó, 2008; Chen, Lin & Chang, 2009) or between absorptive capacity and return on sales as well as return on assets (Kostopoulos, Papalexandris, Papachroni & Ioannou, 2011). Moreover, recent studies illustrate that developing a firm’s knowledge base through external sources can increase its innovativeness (e.g. West & Bogers, 2014; Cohen & Caner, 2016; Leiponen & Helfat 2010). However, research still lacks in integrative and comprehensive examinations of financial measures of performance (Kostopoulos et al., 2011).

Absorptive Capacity and Ambidexterity: Similarities, Differences and Integration

Successful organizations are able to continuously maintain existing markets and technologies, while exploring new opportunities at the same time (O’Reilly & Tushman, 2004). Datta (2011) argues that being ambidextrous requires a firm to expand on their capacity to acquire and process knowledge, what refers to the definition of absorptive capacity. However, only a few scholars have examined the relationship between absorptive capacity and organizational ambidexterity so far.

Considering the definition of ambidexterity, firms become ambidextrous by simultaneously developing exploratory (radical) and exploitative (incremental) innovation (e.g. Gibson and Birkinshaw, 2004; He and Wong, 2004). This balance between continuity and change is also reflected in the definition of absorptive capacity (Raisch & Birkinshaw, 2008). Firms that only focus on acquisition and assimilation (potential absorptive capacity) of external knowledge will be able to renew their knowledge base, but at the same time, they may suffer from high acquisition costs for knowledge that is not applied, used or exploited (realized absorptive capacity) (Zahra & George, 2002). Contrariwise, organizations that only focus on exploiting existing knowledge may fall into a competence trap when core competences become core rigidities (Leonard-Barton, 1992) and may not be able to acquire new and external knowledge needed to address rapidly changing environments (Datta, 2011).

However, even though the two theories both emphasize the balance between efficiency and renewal, each construct covers a different issue in its very core. First, the main focus of absorptive capacity is on knowledge and organizational learning (Zahra & George, 2002). Ambidexterity, however, goes beyond a pure knowledge orientation and explores different approaches from several disciplines, such as learning theory, organizational design theory or different theories of leadership, that help to understand how a company can be efficient and flexible at the same time (Raisch & Birkinshaw, 2008). Second, exploration or exploitation from an ambidexterity perspective refers to two different innovation strategies which result in either radical or
incremental innovation as an outcome (Enkel, Heil, Hengstler & Wirth, 2016). Whereas from an absorptive capacity perspective, it refers to the balance between external knowledge acquisition on the one hand and knowledge transformation, refinement and application of existing and newly acquired knowledge on the other hand (Zahra & George, 2002). The focus of absorptive capacity, consequently, can be seen as more specific and narrow. Similar to Datta (2011), this leads to consider ambidexterity as the main construct in this paper. However, at this point, the integration of the two theories remains unclear. Only few studies have examined the relationship between absorptive capacity and ambidexterity so far (Jansen, 2005; Rothaermel & Alexandre, 2009; Datta, 2011; Enkel et al., 2016). Nevertheless, across the key works, a consistent pattern can be observed: Absorptive capacity allows organizations to achieve ambidexterity more efficiently and mitigates the tensions between exploration and exploitation (Rothaermel & Alexendre, 2009).

Jansen (2005) and Datta (2011) refer to Zahra and George’s (2002) definition and distinguish between the effect of potential and realized absorptive capacity on ambidexterity. They argue that realized absorptive capacity helps organizational units to incrementally improve existing products and processes what leads to exploitative innovations. At the same time, realized absorptive capacity also aims to develop and use newly acquired external knowledge what leads to exploratory innovations. Considering the initial definition of ambidexterity as the balance between exploration and exploitation and if realized absorptive capacity is positively associated with both, it can be suggested that realized absorptive capacity leads to ambidexterity (Datta, 2011). Moreover, Jansen (2005) specifies that potential absorptive capacity positively moderates the correlation between realized absorptive capacity and exploratory innovation. Thus, organizations that increase their potential absorptive capacity shift their focus to external knowledge acquisition and assimilation to renew the knowledge base within an organization what is associated with discovery (Jansen, 2005). In his study, Jansen (2005) finds empirical evidence to support these assumptions.

Enkel et al. (2016) examine the role of individual-level absorptive capacity on organizational ambidexterity. They argue that the ability of an individual to identify external knowledge contributes to both, exploratory and exploitative innovation. The study provides empirical evidence that external knowledge identification enables individuals to find new combinations of knowledge. These new combinations contribute to exploratory and exploitative innovation. Therefore, «individual identification efforts support firms in simultaneously pursuing exploration and exploitation, thus fostering organizational ambidexterity» (Enkel et al., 2016, p. 6).

Moreover, Rothaermel and Alexandre (2009) examine the role of ambidexterity in technology sourcing and link the pursuit of simultaneous exploration and exploitation of internal and external technology sourcing with firm performance. The authors find empirical evidence that a high level of absorptive capacity allows an organization to effectively balance the tensions between internal and external technology sourcing of known and new technology, thus absorptive capacity helps leveraging organizational ambidexterity.
Discussion
Summary
The initial objective of this paper was to review existing literature on organizational ambidexterity and absorptive capacity and to integrate both concept to a wider theoretical lens. Research shows that both, organizational ambidexterity and absorptive capacity, can lead to superior firm performance. Additionally, to achieve ambidexterity, scholars suggest three antecedents: Structural separation, contextual solutions and the use of specific leadership styles.

In recent studies, an integrated view on absorptive capacity and ambidexterity emerges and shows promising insights in how absorptive capacity can help organizations to mitigate the tensions between exploration and exploitation. Key works argue that a high level of absorptive capacity fosters the exploration and integration of completely new and external knowledge, what leads to exploratory innovation. At the same time, absorptive capacity supports the exploitation and refinement of existing knowledge what leads to exploitative innovations.

Theoretical and Practical Contribution
The results of the literature review contribute to existing literature in different ways. First, it refines the by Raisch and Birkinshaw (2008) suggested framework for understanding organizational ambidexterity research. The results suggest to additionally consider absorptive capacity as an antecedent or moderator for achieving ambidexterity. Even though structural separation seems to be a promising way to achieve ambidexterity (e.g. Jansen, 2005), the development of exploratory innovations within a business unit seems to be more complex than expected. Since exploratory units need to develop both, potential and realized absorptive capacity, tensions between exploration and exploitation will still exist. This requires a more complex design of systems and processes even in a single business unit. Second, the results on individual-level absorptive capacity reinforce the important role of individuals’ abilities in regard to the creation of organizational absorptive capacity on the one hand and in regard to triggering exploratory and exploitative innovation on the other hand. Finally, this literature review bridges two theories of interest what opens room for further research.

For managers, the literature review provides several implications. First, managers should strive for a balance between exploration and exploitation in building single business, in combining transformational (exploration) and transactional (exploitation) leadership styles or in providing the context that allows individuals to decide by themselves whether to invest their time and effort in explorative or exploitative activities. Second, managers should focus on the ability of individuals to acquire, assimilate and exploit internal and external knowledge, since individual-level absorptive capacity is closely related to exploitative and exploratory innovations. Finally, managers are suggested to differently address business units that pursue exploitative innovations from business units which pursue exploratory innovations. While for the first one, realized absorptive capacity seems to be more important, for exploratory innovation, organizations have to develop both, potential and realized absorptive capacity.
Further Research
Emerging studies on the relationship between absorptive capacity and ambidexterity open room for future research. Despite the fact that only few studies have provided empirical data, they mostly focus on only one industry (Enkel et. al, 2016; Jansen, 2005). A generalization for different industries is therefore uncertain. Future studies should therefore include companies from different sectors and industries. Additionally, the key works consider absorptive capacity either according to Cohen and Levinthal’s (1990) original definition (e.g. Enkel et al. 2016) or further distinguish between Zahra and George’s (2002) proposed potential and realized absorptive capacity. The comparability of the results is therefore limited. Further research could improve the theoretical model in providing empirical data in regard to both definitions and specify the results in trying to illustrate which part of absorptive capacity leads to which component of ambidexterity. Moreover, the study of Enkel et al. (2016) finds interesting effects of individual-level absorptive capacity on exploitative and exploratory innovation. However, even though individuals’ knowledge identification efforts seem to be important for exploitative and exploratory innovation, structural and contextual factors that trigger this behaviour remain unclear and need to be further researched. For example, the use of incentive systems or information technologies could be included in future studies.

Conclusion
This paper reviews existing literature on organizational ambidexterity and absorptive capacity and combines both theories to a more comprehensive theoretical lens. While both concepts are associated with superior firm performance, being ambidextrous can cause tensions between incompatible resources and activities needed for either exploration or exploitation. The results illustrate that a high level of absorptive capacity can mitigate these tensions between exploration and exploitation. Hence, the results enhance our understanding of ambidexterity.

References


