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The Relationship between Organizational Structure and Organi- zational Ambidexterity

A Comparison between
Manufacturing and Service Firms

Foreword by Prof. Dr. Jens Leker



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RESEARCH

1 Introduction

1.1 Research Problem and Relevance of the Study

1.1.1 Organizational Structure and Organizational Ambidexterity

In strategic management and organizational theory, organizational effectiveness denotes the broadest domain of business performance.¹ Organizational effectiveness not only captures firm performance, but also “the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that [...] are broader than those simply associated with economic valuation”.²

Due to this holistic perspective on firm success, organizational effectiveness embraces multiple organizational goals with a conflicting nature. To achieve organizational effectiveness managers have to cater for the appropriate resolution of various performance-related trade-offs, such as between short-term profitability and long-term growth or strategic flexibility and operational efficiency. CAMERON, in this respect, points to the inherent paradoxical nature of organizational effectiveness and states that the construct can be understood in only a limited way without considering simultaneous contradictions. However, it is not the presence of mutually exclusive opposites that marks organizational effectiveness. It is the creative leaps, the flexibility and the unity that enable excellence. Only in the presence of creative tensions arising from paradoxical attributes, organizational effectiveness can be achieved.³

To subdivide the broad concept of organizational effectiveness into reasonable sub-categories, QUINN AND ROHRBAUGH present three value dimensions, i.e. control-flexibility, internal-external, and means-ends.⁴ The first value dimension, control-flexibility, refers to organizational structure, ranging from an emphasis on stability to an emphasis on flexibility.

¹ See Venkatraman and Vasudevan (1986), p. 803.

² See Richard, Devinney, Yip and Johnson (2009), p. 722

³ See Cameron (1986), p. 549.

⁴ See Quinn and Rohrbaugh, (1983) p. 369.

The second dimension, internal-external, is related to organizational focus. Here, the emphasis can vary from an internal, micro perspective on the people in the organization to an external, macro perspective on the organization itself. Finally, the third value dimension captures organizational means and ends, i.e. the spectrum from important processes to final outcomes.

Against this background, current research endeavors in strategic management and organizational theory are particularly interested in the role of organizational ambidexterity in explaining organizational effectiveness.⁵ Organizational ambidexterity denotes “a firm’s ability to simultaneously balance different activities in a trade-off situation”.⁶ While such trade-off situations may comprise different contradictory activities, such as alignment and adaptability⁷ or exploitation and exploration⁸, it is their simultaneous execution that signifies an ambidextrous organization. Thanks to organizational ambidexterity, firms are able to pursue multiple organizational goals with conflicting agendas and, in turn, achieve organizational effectiveness.

One of the first studies that explicitly elaborated on the close relationship between organizational ambidexterity and organizational effectiveness is GIBSON AND BIRKINSHAW.⁹ Within their study on contextual ambidexterity, i.e. the behavioral capacity to simultaneously demonstrate alignment and adaptability, they specifically build upon GHOSHAL AND BARTLETT’s framework for organizational effectiveness.¹⁰ In so doing, they suggest that contextual ambidexterity emerges when leaders establish a supportive organization context. Such a context is defined by a carefully selected set of systems and processes that collectively allow the meta-capabilities of alignment and adaptability to simultaneously flourish, and thereby enable organizational effectiveness.

Apart from providing this general definition for a supportive context, GIBSON AND BIRKINSHAW explicitly emphasize that ‘organizational context’ also embraces the

⁵ See, for example, Gibson and Birkinshaw (2004) or Raisch, Birkinshaw, Probst and Tushman (2009).

⁶ See Rothaermel and Alexandre (2009), p. 759.

⁷ See Gibson and Birkinshaw (2004).

⁸ See Simsek (2009).

⁹ See Gibson and Birkinshaw (2004).

¹⁰ See Gibson and Birkinshaw (2004), p. 210 as well as Ghoshal and Bartlett (1994).

‘structural context’.¹¹ A firm’s structural context - which likewise denotes an important value dimension of organizational effectiveness - labels “the establishment of administrative mechanisms that foster certain behaviors in employees”.¹² While centralization and formalization denote two commonly used administrative mechanisms¹³, their specific characteristics have to allow employees to “make their own judgments as to how to best divide their time between conflicting demands” to support organizational ambidexterity.¹⁴ Since administrative mechanisms, such as centralization and formalization, fundamentally influence the employees’ behavior and organizational ambidexterity manifests itself in the individual actions of employees throughout the firm, organizational structure can be characterized as an important antecedent to organizational ambidexterity. Therefore, one important intention of this study, as exhibited by the title, is to examine the influence of organizational structure on organizational ambidexterity.

To analyze this relationship in greater detail, I additionally incorporate a comparison between manufacturing and service firms. How this complementary analysis complements the relationship between organizational structure and organizational ambidexterity is explained in the following.

1.1.2 The Comparison between Manufacturing and Service Firms

The analysis of the relationship between organizational structure and organizational ambidexterity is at the core of this study. However, the appropriate organization of a firm’s administrative mechanisms is not only dependent on the desired employee behavior or certain performance objectives, but also on the context, in which such objectives are to be achieved. CALANTONE, GARCIA AND DRÖGE, in this respect, emphasize two appealing assumptions that accentuate the relevance of a contingency perspective with regard to structural decisions.¹⁵ They note that there is (1) neither a ‘best’ structure (2) nor any given

¹¹ See Raisch and Birkinshaw (2008), p. 399 as well as Gibson and Birkinshaw (2004), p. 212.

¹² See Gibson and Birkinshaw (2004), p. 212; Structural context and organizational structure are used synonymously in this study.

¹³ See, for example, Sivadas and Dwyer (2000), p. 34.

¹⁴ See Jansen, Tempelaar, Van Den Bosch and Volberda (2009), p. 808, as well as Gibson and Birkinshaw (2004), p.211.

¹⁵ See Calantone, Garcia and Dröge (2003), p. 92.

structure that will be equally effective under different environmental or firm-specific conditions.

When contingency theory is applied to structural decisions, the respective concept is referred to as structural contingency theory. Structural contingency theory of organizations posits that the success of a firm is dependent on the fit between organizational structure and internal and/or external contingencies.¹⁶ According to DONALDSON, structural contingency theory comprises three core elements: (1) the association between the contingency factor and organizational structure, (2) changes of the contingency factor cause changes in organizational structure, and (3) the fit between the contingency factor and organizational structure affects organizational effectiveness.¹⁷ In other words, the specific degree of centralization and formalization must fit with other aspects of the organization to enable organizational ambidexterity. If this fit is achieved, this organization can be marked as effective.

As indicated above, contingency factors can be categorized by means of internal and external aspects. While internal aspects, for example, embrace a firm's strategy or organizational idiosyncrasies, external aspects basically capture characteristics of a firm's immediate environment, such as competitive intensity or market uncertainty. In this study, I particularly focus on internal contingency factors and empirically examine the difference between manufacturing and service firms with regard to the relationship between organizational structure and organizational ambidexterity.

Although prior literature has started to research the ambidexterity phenomena within different contexts, such as manufacturing firm innovations,¹⁸ customer service teams,¹⁹ mutual fund firms,²⁰ or financial services units,²¹ this is the first study, to my knowledge, that analyzes the difference between manufacturing and service firms with regard to organizational ambidexterity.

¹⁶ See, for example, Lawrence and Lorsch (1967).

¹⁷ See Donaldson (2001), pp. 8-10.

¹⁸ See He and Wong (2004).

¹⁹ See Gilson, Mathieu, Shalley and Ruddy (2005).

²⁰ See Bontis, Crossan and Hulland (2002).

²¹ See Jansen, Van Den Bosch and Volberda (2006).

The motivation to take closer look at the distinction between manufacturing and service firms is threefold and basically grounded on DONALDSON's core elements of structural contingency theory.²² First, specific firm types are associated with certain organizational structures. Since prior literature has shown that organizational structures differ significantly with regard to manufacturing and service firms, it can reasonably be assumed that there is a causal relationship between firm type and organizational structure.²³ Second, changes in firm type cause changes in organizational structure. Although this study employs a binary distinction between manufacturing and service firms, organizations may lie on a manufacturing-service continuum in reality.²⁴ If firms move from pure manufacturing to pure service, they will adapt their organizational structure in accordance with the changing business activities. Since specific firm types are associated with certain organizational structures, I assume that changes in the ratio of manufacturing to service - represented by moving from one end of the manufacturing-service continuum to the other - are directly related to changes in organizational structure. Third, the fit between organizational structure and firm type is decisive for achieving organizational ambidexterity. Assuming that manufacturing and service firms differ significantly with regard to organizational structure and other characteristics, it is unlikely that there is one 'all-round' solution for administrative mechanisms that support organizational ambidexterity for both firm types. Therefore, I empirically examine the difference between manufacturing and service firms with regard to the relationship between organizational structure and organizational ambidexterity. Thereby, I define organizational effectiveness in this context as the appropriate configuration of administrative mechanisms that support organizational ambidexterity for a specific firm type.

1.2 Research Questions and Objective

In the preceding section, I have outlined the core concepts of this study, i.e. organizational structure, organizational ambidexterity and the distinction between manufacturing and service firms. Moreover, I have presented a short explanation of how these concepts interrelate and provided the reader with a first idea of how this study contributes to our current understanding

²² See Donaldson (2001), pp. 8-10.

²³ See, for example, Huber, Miller and Glick (1990), p. 16.

²⁴ This simplification is discussed in detail in section 9.1.

of organizational ambidexterity. In essence, this study is conducted to answer the following research question:

“What is the optimal structural configuration for organizational ambidexterity and to what extent is it contingent upon firm type?”

To answer this research question, this study employs a two-step approach. In the first step, I determine a structural configuration that generally supports organizational ambidexterity. Then, in a second step, I draw upon structural contingency theory and investigate to what extent this optimal structural configuration is dependent on firm type. Both steps are associated with a subordinated research question:

- (1) What is the optimal configuration of administrative systems to support organizational ambidexterity?
- (2) To what extent is this relationship contingent upon the distinction between manufacturing and service firms?

These overarching relationships are supplemented by more fine-grained approaches to organizational structure and organizational ambidexterity. Through refining these concepts, (1) one can determine the optimal configuration of administrative mechanisms for different types of organizational in greater detail, (2) particular changes in organizational structure can be located more precisely, (3) the identification and explanation of causal relationships is fundamentally enhanced, and (4) derived implications for both researchers and managers can be formulated more clearly.

With regard to the underlying administrative mechanisms of organizational structure, I draw upon BAUM AND WALLY and divide the two concepts of centralization and formalization into four sub-dimensions.²⁵ According to these scholars, centralization is defined as “the concentration of authority and power in a firm. The more centralized a firm, the less

²⁵ See Baum and Wally (2003).

widespread is decision-making power with regard to policy and task performance”.²⁶ Drawing upon this study, I subdivide centralization into two different types, covering the decisions of (1) strategic management and (2) operations management. Thereby I approach the degree of centralization from an inverse perspective and employ the two constructs of decentralization of strategic management and decentralization of operations management.

Formalized organization structures, on the other hand, “are characterized by explicitly articulated and written firm policies, job descriptions, organization charts, strategic and operational plans, and objective-setting systems. In highly formalized systems, little flexibility exists to determine who may decide or act or even how to decide or act”.²⁷ Since BAUM AND WALLY as well as ADLER AND BORYS emphasize the importance of formalizing routine activities, while leaving non-routines informalized for superior performance, I operationalize formalization by means of two separate constructs, i.e. formalization of routines and informalization of non-routines.²⁸

Additionally, this study also incorporates two alternative concepts of organizational ambidexterity, i.e. contextual ambidexterity and innovative ambidexterity. While contextual ambidexterity denotes a strategic orientation and relates to the behavioral capacity to simultaneously demonstrate alignment and adaptability,²⁹ innovative ambidexterity is the “ability to simultaneously pursue both incremental [exploitative] and discontinuous [exploratory] innovation”.³⁰ Contrasting other approaches to ambidexterity that are based on enabling mechanisms on the organizational level, such as temporal or spatial separation, contextual ambidexterity and innovative ambidexterity are simultaneously pursued within the same organizational unit.

Taken together, I empirically examine, which configuration of four administrative mechanisms (i.e. decentralization of strategic management, decentralization of operations management, formalization of routines and informalization of non-routines) is most conducive to support different types of organizational ambidexterity (i.e. contextual

²⁶ See Baum and Wally (2003), p. 1111.

²⁷ See Baum and Wally (2003), p. 1112.

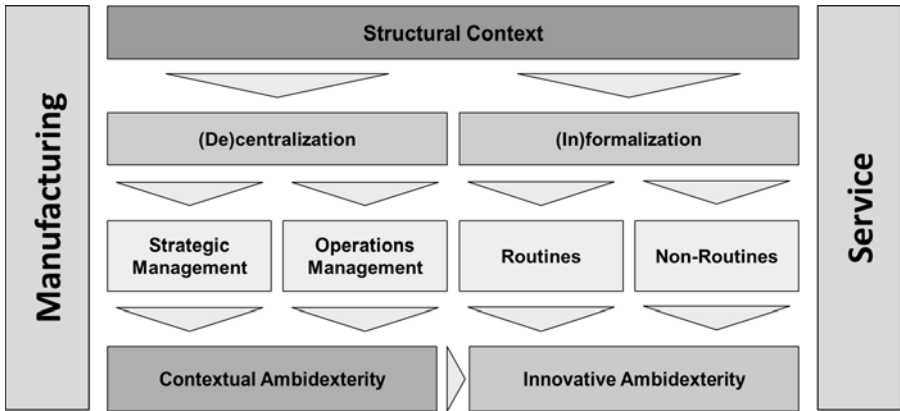
²⁸ See Baum and Wally (2003) as well as Adler and Borys (1996).

²⁹ See Gibson and Birkinshaw (2004), p. 211.

³⁰ See Tushman and O'Reilly (1996), p. 24.

ambidexterity and innovative ambidexterity) with regard to the distinction between manufacturing and service firms. The framework of this study is presented in Figure 1.

Figure 1: The framework of this study



The obtained results of this examination provide the potential to significantly improve our current understanding of organizational ambidexterity. This enhanced knowledge about the simultaneous pursuit of paradoxical activities is of particular value both researchers and practitioners. From a theoretical perspective, this study helps to clarify the concept of organizational ambidexterity and to identify appropriate antecedents. Apart from diverse conceptualizations and the proliferation of definitions, prior literature particularly criticizes that an overarching theory explaining organizational ambidexterity is still missing.³¹ Therefore, this study not only empirically examines the influence of organizational structure on organizational ambidexterity, but also presents a theoretical framework for organizational ambidexterity that synthesizes prior conceptualizations. Regarding practical implications, this study supports managers, decision-makers as well as experts in the implementation of administrative mechanisms that enable the simultaneous pursuit of paradoxical activities in different firm types. In so doing, it characterizes optimal configurations of organizational structure at the ends of the manufacturing-service continuum that promote different types of organizational ambidexterity.

³¹ See Gibson and Birkinshaw (2004), p. 212.

1.3 Outline of the Study

As presented by Figure 2, this study is divided into ten chapters. After having introduced the research problem, the associated research question and the study's objectives in the prior section, this abstract is to give a brief overview of the thesis' remaining chapters.

3 Organizational Ambidexterity

When examining the influence of various antecedents on organizational ambidexterity, it is crucial to develop a clear understanding of this emerging theoretical concept. Although current research endeavors have started to examine organizational ambidexterity in greater detail, they still criticize its ambiguity and nebulousity.

GIBSON AND BIRKINSHAW, for example, draw upon ADLER, GOLDOFTAS AND LEVINE and emphasize that “studies to date have not generated an overarching theory explaining ambidexterity”.⁶⁵ Likewise, SIMSEK states that organizational ambidexterity “remains an undertheorized, underconceptualized, and, therefore, poorly understood phenomenon”.⁶⁶ Or as put by GUPTA, SMITH AND SHALLEY: “although near consensus exists on the need for balance [between exploration and exploitation], there is considerably less clarity on how this balance can be achieved”.⁶⁷

To encounter these shortcomings, the intention of this section is to develop a coherent framework for ambidexterity on the organizational level. This framework helps to understand how prevalent types of organizational ambidexterity are related to each other and which constituting elements enable an appropriate categorization of different conceptualizations.

3.1 Prevalent Types of Ambidexterity

Prior literature emphasizes various conceptualizations of organizational ambidexterity. The most prevalent types of organizational ambidexterity are characterized in the following, i.e. contextual ambidexterity, innovative ambidexterity, structural ambidexterity and sequential ambidexterity.

⁶⁵ See Gibson and Birkinshaw (2004), p. 212 as well as Adler, Goldoftas and Levine (1999).

⁶⁶ See Simsek (2009), p. 598.

⁶⁷ See Gupta, Smith and Shalley (2006), p. 697.

3.1.1 Contextual Ambidexterity

Contextual ambidexterity was introduced by GIBSON AND BIRKINSHAW and refers to “the behavioral capacity to simultaneously demonstrate alignment and adaptability”.⁶⁸ Whereas alignment characterizes the coherence among activities within an organizational unit, adaptability relates to the ability to quickly reconfigure these activities in line with changes in the task environment. Contrasting other conceptualizations of organizational ambidexterity, which entail an “either/or” nature, contextual ambidexterity is grounded on the simultaneous pursuit of paradoxical agendas within a single organizational unit. This is what distinguishes contextual ambidexterity from structural ambidexterity and sequential ambidexterity. The latter require spatial and temporal separation mechanisms respectively to achieve ambidextrous firm behavior.

Organizational units equipped with contextual ambidexterity have established a supportive working context for employees that enable them “to make their own judgments about how to divide their time between conflicting demands for alignment and adaptability”.⁶⁹ Although contextual ambidexterity takes effect on the organizational level, it is shaped by employee behavior and “manifests itself in the specific actions of individuals throughout the organization”.⁷⁰ In this respect, BIRKINSHAW AND GIBSON propose that contextual ambidexterity can be defined as a collective strategic orientation that remains tacit as long it does not evoke explicit behaviors that put it into practice.⁷¹

Therefore, contextual ambidexterity can be considered as an antecedent to more performance-related types of organizational ambidexterity. One potential outcome variable in this context is innovative ambidexterity.

3.1.2 Innovative Ambidexterity

Following SIMSEK, innovative ambidexterity can be characterized as an ambidextrous outcome variable that captures “the organization’s actual exploration and exploitation

⁶⁸ See Gibson and Birkinshaw (2004), p. 209.

⁶⁹ See Gibson and Birkinshaw (2004), p. 210.

⁷⁰ See Gibson and Birkinshaw, (2004), p. 211.

⁷¹ See Birkinshaw and Gibson (2004), p. 50.

performance”.⁷² Innovative ambidexterity signifies the “ability to simultaneously pursue both incremental [exploitative] and discontinuous [exploratory] innovation” and shares several traits with contextual ambidexterity.⁷³ It is not (necessarily) dependent on separation mechanisms on the organizational level; it is based on ambidextrous behavior on lower levels and it can be conducted within one organizational unit. However, innovative ambidexterity differs from contextual ambidexterity in two important points. First innovative ambidexterity embraces a different trade-off that has to be resolved to be ambidextrous. Whereas contextual ambidexterity captures the simultaneous pursuit of alignment and adaptability, innovative ambidexterity refers to the ability to simultaneously develop incremental [exploitative] and discontinuous [exploratory] innovation. Therefore, innovative ambidexterity does not necessarily incorporate a direct relationship with the task environment and can be achieved on multiple levels, including organizational-, business unit-, team/group-, or individual level.⁷⁴ Second, contextual ambidexterity and innovative ambidexterity relate to different, but interrelated capability levels. More specifically, contextual ambidexterity can be considered as a meta-capability that enables and facilitates subordinate capabilities, such as innovative ambidexterity.⁷⁵

Apart from innovative ambidexterity, there are alternative types of ambidexterity, which are also complementary to contextual ambidexterity, but follow completely different principles. Whereas contextual ambidexterity and innovative ambidexterity can be achieved in one organizational unit and in one point in time, structural ambidexterity and sequential ambidexterity are dependent on particular enabling mechanisms. Whereas structural ambidexterity is achieved through the spatial separation of exploitative and exploratory units, sequential ambidexterity arises from temporal separation, i.e. dynamic cycles of exploitation and exploration.

3.1.3 Structural Ambidexterity

Although structural ambidexterity is often related to the core trade-off of innovative ambidexterity, i.e. exploratory vs. exploitative innovation, it is not resolved within one

⁷² See Simsek (2009), p. 602.

⁷³ See Tushman and O'Reilly (1996), p. 24.

⁷⁴ See, for example, Mom, Van Den Bosch, and Volberda (2009).

⁷⁵ See Gibson and Birkinshaw (2009), p. 210.

organizational unit. Structural ambidexterity is grounded on the spatial separation of organizational units, which are each equipped with one of the paradoxical activities. JANSEN, TEMPELAAR, VAN DEN BOSCH AND VOLBERDA, in this respect, refer to the enabling mechanisms of structural differentiation that precedes innovative ambidexterity.⁷⁶ Drawing upon LAWRENCE AND LORSCH, they define structural differentiation as “the state of segmentation of the organizational system into subsystems, each of which tends to develop particular attributes in relation to the requirements posed by its relevant external environment” and empirically confirm that this is one potential avenue to organizational ambidexterity.⁷⁷ Through structural differentiation, firms create “dual structures” that are separated by pragmatic boundaries. In this way, firms can benefit from different advantages. First, they ensure the coexistence of inconsistent and paradoxical exploratory and exploitative efforts at different locations.⁷⁸ Second, each organizational unit is configured to the specific needs of its task environment.⁷⁹ Third, spatially separated units are provided with a sense of freedom and ownership over specific work activities. This generates structural flexibility to adapt to local conflicting task environments.⁸⁰

Apart from structural ambidexterity, which is “an organizational design or form containing [...] separate structural subunits for exploration and exploitation”, ambidextrous behavior on the organizational level can also be accomplished by means of temporal separation.⁸¹ This type of organizational ambidexterity is referred to as sequential ambidexterity.⁸²

3.1.4 Sequential Ambidexterity

Contrasting structural ambidexterity, sequential ambidexterity implicates a dynamic perspective on the “either exploitative or exploratory” decision and is achieved through the enabling mechanism of temporal separation. Hereby, sequential ambidexterity arises from the

⁷⁶ See Jansen, Tempelaar, Van Den Bosch and Volberda (2009).

⁷⁷ See Jansen, Tempelaar, Van Den Bosch and Volberda (2009), p. 799 and Lawrence and Lorsch (1967), pp. 3-4.

⁷⁸ See Jansen, Tempelaar, Van Den Bosch and Volberda (2009), p. 799 and Carlile (2004).

⁷⁹ See Burns and Stalker (1961), Gibson and Birkinshaw (2004) or Lawrence and Lorsch (1967).

⁸⁰ See Jansen, Tempelaar, van den Bosch and Volberda (2009), p. 799.

⁸¹ See Simsek (2009), p. 602.

⁸² See, for example, Venkatraman, Lee and Iyer (2007).

dynamic, temporal sequencing of exploitation and exploration periods.⁸³ This perspective on sequential ambidexterity is supported by VENKATRAMAN, LEE AND IYER. Following BROWN AND EISENHARDT as well as ZOLLO AND WINTER, they refer to sequential ambidexterity as the ‘time-paced sequence of exploration and exploitation’ and state that this definition is consistent with the dynamic capabilities view.⁸⁴ This view requires an organization to have two temporal orientations, i.e. the present and the future, and to appropriate balance short-term performance and long-term survival.⁸⁵

Just as in case of structural ambidexterity, the effective pursuit of sequential ambidexterity requires firms to adapt organizational characteristics and architectures in accordance with exploitation and exploration. Therefore, sequential ambidexterity not only depends on a transformational capability that allows firms to switch between exploitative and exploratory tasks, but also an implementation capability that caters for an appropriate organizational context to make the most of each period.

However, it remains (at least) questionable if sequential ambidexterity really denotes a dedicated form of organizational ambidexterity. Although sequential ambidexterity is associated with a particular mechanism that allows firms to capitalize on both exploration and exploitation, it is the lack of simultaneity that challenges its qualification as a specific type of organizational ambidexterity. Since exploration and exploitation are accomplished over time and not simultaneously, sequential ambidexterity contradicts the definition of organizational ambidexterity employed in this study. Here, organizational ambidexterity is defined broadly as “a firm’s ability to simultaneously balance different activities in a trade-off situation”.⁸⁶

Notwithstanding, the intention of this study is to provide a theoretical framework based on the analysis of prevalent types of ambidexterity on the organizational level. Since sequential ambidexterity characterizes one potential avenue to successfully balance paradoxical activities, it provides the potential to understand how firms can remain ambidextrous over

⁸³ See Puranam, Singh and Zollo (2006), Raisch, Birkinshaw, Probst and Tushman (2009), Venkatraman, Lee and Iyer (2007).

⁸⁴ See Venkatraman, Lee and Iyer (2007), p. 8, Brown and Eisenhardt (1997) and Zollo and Winter (2002).

⁸⁵ See, for example, Brown and Eisenhardt (1997).

⁸⁶ See Rothaermel and Alexandre (2009), p. 759.

time. In particular, it is the dynamic dimension of sequential ambidexterity that may help to explain why organizational ambidexterity is often characterized as a dynamic capability.⁸⁷

3.2 Constituting Elements of Organizational Ambidexterity

Due to ambiguous conceptualizations and the lack of a clear understanding of organizational ambidexterity, one objective of this study is to present develop a framework that helps to categorize different types of organizational ambidexterity. This framework is grounded on the identification of constituting elements that enable an appropriate classification. These constituting elements, i.e. the level of ambidexterity, the core trade-off and enabling mechanisms, are presented in the following.

3.2.1 Level of Ambidexterity

In this study I adopt the organizational level as the unit of analysis as it helps to distinguish between different ambidexterity constructs, “such as structural ambidexterity [...] and contextual ambidexterity”.⁸⁸ However, if ambidexterity is achieved on the organizational level, it has several implications for lower levels within an organization, including business-unit-, team/group-, and individual levels. RAISCH, BIRKINSHAW, PROBST AND TUSHMAN, in this respect, point to the seminal importance of the interrelationship between different levels of an organization for ambidextrous firm behavior.⁸⁹ They state that “the tensions that ambidexterity creates are [often] resolved at the next organizational level down”.⁹⁰ This mechanism is akin to structural differentiation and enables different groups within a business unit to develop appropriate structures, cultures and internal environments to pursue dedicated activities, such as exploration or exploitation. Further developing this idea, structural differentiation can be applied top-down until the individual-level is reached. While it is still possible to split up groups within business units into smaller teams or even smaller teams into individual-level activities to pursue contradictory activities, single individuals have

⁸⁷ See, for example, Jansen, Tempelaar, Van Den Bosch and Volberda (2009) or Venkatraman, Lee and Iyer (2007).

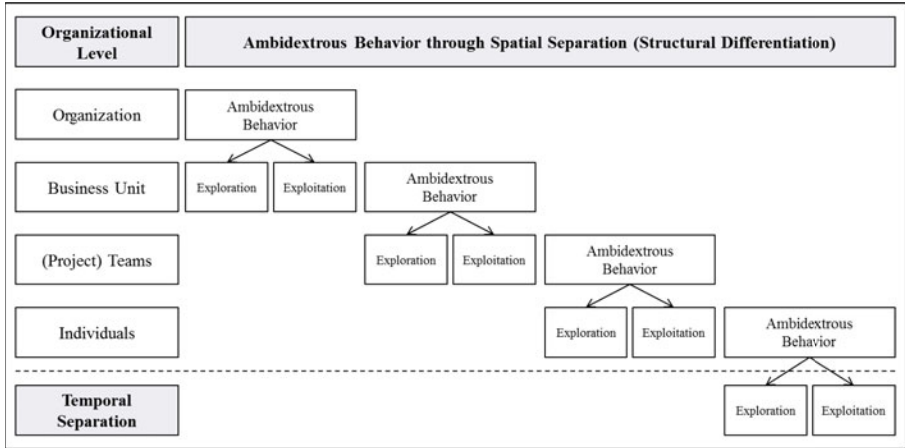
⁸⁸ See Simsek, (2009), p. 602 as well as Benner and Tushman (2003) and Gibson and Birkinshaw (2004).

⁸⁹ See Raisch, Birkinshaw, Probst and Tushman (2009).

⁹⁰ See Raisch, Birkinshaw, Probst and Tushman (2009), p. 687.

to decide on their own how to best divide their time between conflicting demands.⁹¹ Accordingly, individuals have to engage in dynamic cycles to pursue paradoxical activities. This logic is graphically exemplified by Figure 3.

Figure 3: Ambidextrous behavior through spatial separation



The importance of individual ambidexterity

As illustrated by Figure 3, the mechanism of spatial separation to achieve ambidexterity can be applied to any level of an organization until the individual level is reached. Here, individuals have to rely on their cognitive capabilities to dynamically switch between paradoxical activities best possible. However, this simplification neglects the general relevance of individuals for structural ambidexterity on any level within an organization. Although spatial separation reduces the complexity associated with the simultaneous pursuit of paradoxical activities, it is the responsibility of individuals to effectively initiate and implement this mechanism. They not only have to define an appropriate organizational structure that supports the simultaneous pursuit of paradoxical activities in spatially separated units, they also have to integrate and combine these activities to support (organizational) ambidexterity.⁹² Therefore, they have to be ambidextrous themselves and require the same

⁹¹ See Gibson and Birkinshaw (2004) or Jansen, Tempelaar, van den Bosch and Volberda (2009).

⁹² See Birkinshaw and Gibson (2004), p. 50.

cognitive capabilities as any individual that engages in dynamic cycles of paradoxical activities.

Contrasting structural ambidexterity, the importance of individuals is even higher for contextual ambidexterity. This type of ambidexterity can be described as an overall strategic direction, which provides a collective orientation and “manifests itself in the specific actions of individuals throughout the organization”.⁹³ Contextual ambidexterity is realized by the top managements’ efforts to create an appropriate organizational context, which, in turn, enables ambidextrous behavior on the individual level (i.e. individual ambidexterity). Hence, contextual ambidexterity skips the utilization of adjacent organizational levels through spatial separation and instead draws on individuals that “make their own judgments as to how to best divide their time between conflicting demands”.⁹⁴ Put differently, contextual ambidexterity is achieved through individual ambidexterity (at the top of the organization) that evokes individual ambidexterity (in the entire organization).

Based on this discussion, it can be reasonably argued that individual ambidexterity is one of the most important components of organizational ambidexterity. Especially, individuals at the top of an organization fundamentally contribute to the creation of organizational ambidexterity. Whereas some studies outline that individual ambidexterity at the top management level solely helps to create organizational ambidexterity⁹⁵, others consider organizational ambidexterity itself as a “senior team capability [that] may be a key discriminator between those firms that thrive as environments shift versus those that do not”.⁹⁶ However, both conceptualizations highlight individual ambidexterity at the top management team as the nucleus of organizational ambidexterity. Top managers create the internal context, in which organizational ambidexterity can evolve. They integrate specialized subunits that pursue paradoxical activities, cater for an appropriate fit with the environment and define an organizational structure that supports organizational ambidexterity.

⁹³ See Gibson and Birkinshaw (2004), p. 211.

⁹⁴ See Jansen, Tempelaar, Van Den Bosch and Volberda (2009), p. 808, as well as Gibson and Birkinshaw (2004), p.211.

⁹⁵ See Gibson and Birkinshaw (2004).

⁹⁶ See Rothaermel and Aleandre (2009), p. 776.

To describe individual ambidexterity in greater detail, BIRKINSHAW AND GIBSON emphasize four characteristic behaviors that collectively describe ambidextrous employees.⁹⁷ These ambidextrous individuals can be found on any hierarchical level of a firm, including CEOs, senior managers, line managers as well as front-line employees.

The first behavior refers to individuals that take the initiative and proactively pursue opportunities through departing from existing job routines and work tasks. They are open to new ideas as well as seek to find and apply new solutions to existing problems. To illustrate this ambidextrous behavior, BIRKINSHAW AND GIBSON give an example of a sales manager that discovered a new business opportunity for his company in a discussion with a large client. This sales manager worked for a large computer company and realized the client's need for a new software module that would have been completely new to the market. Instead of providing the client with an existing solution or passing the lead on the business development team, he autonomously started to work on a business case and, finally, received the permission to work full-time on the development of the software module.

The second ambidextrous behavior designates cooperative individuals that constantly look for opportunities to collaborate. Through combining their own capabilities and efforts with other people, these individuals are able to contribute to the success of the firm and simultaneously create new business opportunities. As an example, BIRKINSHAW AND GIBSON refer to a marketing manager that was appointed to support a newly acquired subsidiary. Due to the lack of contact with peers in other countries and insufficient assistance of the headquarter she decided to take the initiative. She began discussions with peers in other countries and, in this way, initiated the creation of country-spanning marketing forum.

Third, BIRKINSHAW AND GIBSON describe ambidextrous individuals as brokers that always try to build internal linkages. This behavior is exemplified by a Canadian plant manager of a large consumer products company that was on a routine visit to the head office. Here, he heard discussions about a \$ 10 million investment in a new manufacturing plant and started to gather some more detailed information on this project. After returning back to Canada, he talked to a regional manager and told him about this potential business. The

⁹⁷ See Birkinshaw and Gibson (2004), p. 49.

regional manager, in turn, asked for some support from the local government and ultimately won the \$ 10 million investment.

The fourth type of ambidextrous behavior marks multitaskers that are able to engage in different roles. Such individuals are rather generalists than experts and have the ability to effectively apply their broad knowledge to specific problems. To describe this behavior more precisely, BIRKINSHAW AND GIBSON illustrate the example of a French manager working for a major coffee and tea distributor. Although this manager was initially charged with improving the efficiency of a plant, he also started to look for new value-added services. To successfully balance the resulting trade-off, he spent four days a week on managing operations and one day on the development on a promising electronic module for a coffee vending machine. He catered for corporate funding, assigned subcontractors for the development and finally, pilot-tested the module in his own operations. After the new module had proven its applicability and technological superiority it was adopted by several operation managers in other countries.

The prior abstract clarified how organizational ambidexterity potentially affects other organizational levels and how dependent it is on individual ambidexterity. Although this study is particularly interested in organizational ambidexterity, the last section also illustrated that ambidexterity can be achieved on different levels within an organization, such as the organizational-, business-unit-, team-, project-, and/or the individual level. Notwithstanding, ambidextrous behavior on any organizational level is associated with several implications for other levels. Therefore, it is necessary (1) to determine on which level ambidexterity is to be achieved, (2) to identify organizational levels that contribute to and are affected by ambidextrous behavior and (3) to consider the relevance of individual ambidexterity for any organizational level. Accordingly, I refer to the level of ambidexterity as a constituting element.

3.2.2 Core Trade-Off

Organizational ambidexterity refers to the successful pursuit of contradictory activities on the organizational level. If a specific type of organizational ambidexterity is associated with the resolution of a particular trade-off, this trade-off is at the core of this type of organizational ambidexterity. Therefore, it is referred to as core-trade-off in the following.

The precise paradoxical activities and the resulting core trade-off are often poorly specified. Different trade-offs, such as exploitation/exploration or adaptability/alignment, are almost employed interchangeably although there are fundamental differences between the concepts. Summarizing prior literature with regard to different core trade-offs, SIMSEK, HEAVEY, VEIGA AND SOUDER note that organizational ambidexterity is situationally linked with the achievement of “both search and stability (RIVKIN AND SIGGELKOW), flexibility and efficiency (GOLDOFTAS AND LEVINE), search scope and depth (KATILA AND AHUJA), exploitative and explorative learning (KANG AND SNELL), alignment and adaptability (GIBSON AND BIRKINSHAW), incremental and discontinuous innovations (BENNER AND TUSHMAN; SMITH AND TUSHMAN), exploratory knowledge sharing and exploitative knowledge sharing (IM AND RAI) and pro-profit and pro-growth strategies (HAN)”.⁹⁸

While the resolution of all these incompatible activities might follow the principle of ambidexterity, I propose that situational specification is vital for a comprehensive understanding. The examples listed by SIMSEK, HEAVEY, VEIGA AND SOUDER fundamentally vary regarding different dimensions. The list and especially prior literature do not distinguish, for example, between strategic vs. operational trade-offs (e.g. pro-profit and pro-growth vs. exploratory and exploitative knowledge sharing), process- vs. outcome-related trade-offs (e.g. exploratory and exploitative learning vs. incremental and discontinuous innovations) or tacit vs. explicit trade-offs (e.g. adaptability and alignment vs. pro-growth and pro-profit strategies).

These examples of potential categories illustrate how diverse ambidexterity-related trade-offs can be. Since the specific nature of any trade-off is decisive for its resolution, I consider the core-trade-off as the second constituting element of organizational ambidexterity.

3.2.3 Enabling Mechanisms

The third constituting element is the enabling mechanism, which helps to realize ambidexterity. Drawing upon GUPTA, SMITH AND SHALLEY, the authors

⁹⁸ See Simsek, Heavey, Veiga and Souder (2009), p. 865 and Rivkin and Siggelkow (2003), Adler, Goldoftas and Levine (1999), Katila and Ahuja (2002), Kang and Snell (2009), Gibson and Birkinshaw (2004), Benner and Tushman (2003), Smith and Tushman (2005), Im and Rai (2008) and Han (2007).

VENKATRAMAN, LEE AND IYER note that the distinction between “ambidexterity (as the synchronous pursuit of both exploration and exploitation via loosely coupled and differentiated specialized entities) and punctuated equilibrium (cycling through periods of exploration and exploitation)” is highly relevant for a precise understanding of organizational ambidexterity.⁹⁹ Theoretically, this distinction relates to two enabling mechanisms on the organizational level that support ambidextrous firm behavior, i.e. spatial and temporal separation.¹⁰⁰ Based on the assumption that a firm is not capable of holistically and simultaneously conducting paradoxical activities on the organizational level, these enabling mechanisms support organizational ambidexterity and help to resolve trade-offs between paradoxical activities.

The first avenue to organizational ambidexterity is spatial separation. To manage trade-offs between conflicting activities, firms employ structurally differentiated subunits for paradoxical activities, such as exploration and exploitation. These subunits are held together by a common strategic agenda, overarching values, and targeted structural linking mechanisms to support the overall goal of the firm.¹⁰¹ If organizational ambidexterity is achieved through the organizational mechanisms of spatial separation it is referred to as structural ambidexterity. In case of structural ambidexterity, both paradoxical activities are pursued simultaneously, but in spatially separated units.

The decision to employ either an integrated or structurally differentiated approach to organizational ambidexterity is directly related to what RAISCH, BIRKINSHAW, PROBST AND TUSHMAN refer to as central tension of organizational ambidexterity. They emphasize that differentiation and integration denote complementary pathways to ambidexterity. Whereas differentiation relates to the “separation of exploitative and explorative activities into distinct organizational units”, integration refers to “the mechanisms that enable organizations to address exploitative and explorative activities within the same organizational unit”.¹⁰² Regarding the relationship between differentiation and integration, the authors emphasize that the two concepts are complementary, not alternative, mechanisms for achieving organizational effectiveness.

⁹⁹ See Venkatraman, Lee and Iyer (2007), p. 7 and Gupta, Smith and Shalley (2006).

¹⁰⁰ See Simsek, Heavey, Veiga and Souder (2009), p. 865.

¹⁰¹ See Simsek (2009), p. 599.

¹⁰² See Raisch, Birkinshaw, Probst and Tushman (2009), p. 686.

If firms do not strive for ambidextrous behavior within one point in time, but within one organizational unit, they also have the opportunity to separate paradoxical activities temporally. In this case, an organizational unit cycles through periods of paradoxical activities, such as exploration and exploitation, and, thus, achieves “sequential ambidexterity”.¹⁰³

To give an overview of prevalent ambidextrous approaches on the organizational level, Figure 4 categorizes structural ambidexterity, sequential ambidexterity, contextual ambidexterity and innovative ambidexterity by means of two dimensions: (1) spatial separation and (2) temporal separation. These mechanisms are associated with two fundamental questions, i.e. (1) are the two paradoxical activities pursued in one organizational unit or not and (2) are they conducted simultaneously or not. Although this conceptualization is closely related to SIMSEK, HEAVEY, VEIGA AND SOUDER’s typology of ambidexterity and also comprises the two separation mechanisms as constituting dimensions of the framework, I (1) solely focus on one organizational unit, i.e. the firm (2) adapted the specific definition of the two dimensions and (3) categorized prevalent types of ambidexterity.¹⁰⁴

¹⁰³ See, for example, Raisch, Birkinshaw, Probst and Tushman (2009), p. 688.

¹⁰⁴ See Simsek, Heavey, Veiga and Souder (2009), p. 868.

Figure 4: Enabling mechanisms of organizational ambidexterity

		No	Yes
Simultaneity of Paradoxical Activities?	Yes	<p>Paradoxical activities are simultaneously conducted by separate, specialized organizational units.</p> <ul style="list-style-type: none"> • Structural Ambidexterity 	<p>Paradoxical activities are simultaneously conducted by a single organizational unit.</p> <ul style="list-style-type: none"> • Contextual Ambidexterity • Innovative Ambidexterity
	No	<p>A single organizational unit conducts either exploration or exploitation activities.</p> <p>(No Ambidexterity)</p>	<p>Paradoxical activities are conducted sequentially by a single organizational unit.</p> <ul style="list-style-type: none"> • Sequential Ambidexterity

If firms seek to pursue paradoxical activities simultaneously and within one organizational unit, they neither employ spatial nor temporal separation mechanisms to achieve organizational ambidexterity. Instead, they create a supportive working context that encourages individual employees to make their own choices as to how they divide their time between paradoxical activities.¹⁰⁵ While an organizational context can be broadly defined as “the systems, processes, and beliefs that shape individual-level behaviors in an organization”, it closely related to other concepts, such as the structural context, organizational culture or organizational climate.¹⁰⁶ These concepts act as guiding frameworks that align individual and firm behavior and determine how individuals carry out their jobs.

Although each concept may denote an interesting research topic, this study particularly focuses on the structural context. The prior abstract shows how important the structural context is especially for contextual ambidexterity and innovative ambidexterity and, thus, why I particularly analyze the relationship between organizational structure and these two types of ambidexterity.

¹⁰⁵ See Gibson and Birkinshaw (2004), p. 221.

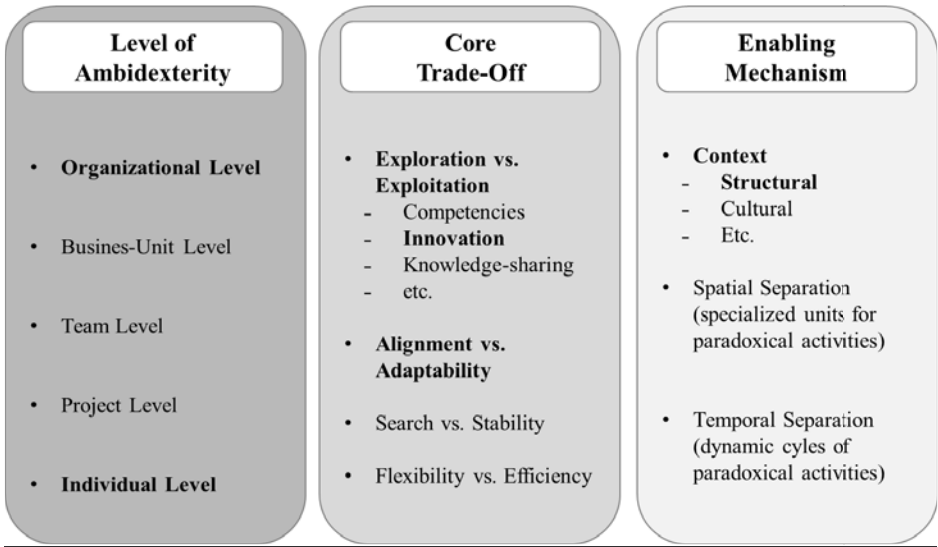
¹⁰⁶ See Gibson and Birkinshaw (2004), p. 212.

3.3 The Organizational Ambidexterity Framework

This section is to present the organizational ambidexterity framework, developed in section 3.2. As illustrated by Figure 5, the organizational ambidexterity framework contains three constituting elements, i.e. the level of ambidexterity, the core trade-off and enabling mechanisms (dimensions, which are of particular importance in this study, are marked by bold letters). Based on these elements it is possible to categorize different types of ambidexterity and to support a comprehensive understanding of this emerging research paradigm.

However, even if this framework also provides a promising starting point to think about new approaches of organizational ambidexterity, one has to make sure that the elements fit together. When taking a closer look at the different elements, it can reasonably be argued that not all paradoxical activities are combinable with all organizational mechanisms and levels of ambidexterity. While trade-offs, such as pro-profit/pro-growth strategies or search/stability might be usually linked with the organizational, strategic level, exploratory/exploitative knowledge-sharing or learning are rather dependent on individual, operational interactions and thus, probably associated with different organizational mechanisms. Whereas the former can be implemented by means of structurally separated units, it is almost impossible to restrict the type of knowledge-sharing or learning within those subunits.

Figure 5: The organizational ambidexterity framework



3.4 Organizational Ambidexterity and Dynamic Capabilities

3.4.1 The Theoretical Linkage

Although contextual ambidexterity and innovative ambidexterity do not arise from temporal separation on the organizational level, both types of organizational ambidexterity share an important trait with sequential ambidexterity. All three types of organizational ambidexterity contain a dynamic component, which embraces time-paced sequences of exploration and exploitation and fundamentally contributes to their very nature. Just as sequential ambidexterity requires temporal separation on the organizational level to come into existence, contextual ambidexterity and innovative ambidexterity draw on individuals who separate their time between conflicting demands. Through employing temporal separation on the individual level, these two types of ambidexterity achieve the simultaneous pursuit of paradoxical activities on the organizational level and, thus, differ significantly from sequential ambidexterity.

However, being based on time-paced sequences of exploration and exploitation potentially qualifies all three types of organizational ambidexterity as dynamic capabilities.¹⁰⁷ Dynamic capabilities refer to a “firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments”.¹⁰⁸ Another definition that combines dynamic capabilities with a firm’s routines is provided by EISENHARDT AND MARTIN. They refer to dynamic capabilities as “organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die”.¹⁰⁹ VENKATRAMAN, LEE AND IYER, then, draw upon ZOLLO AND WINTER and explain how these routines are theoretically linked to exploration and exploitation.¹¹⁰ From their perspective, dynamic capabilities can be defined as routines that are developed through a recursive and co-evolutionary relationship between exploration and exploitation. Since all three types of organizational ambidexterity, i.e. contextual ambidexterity, innovative ambidexterity and sequential ambidexterity, are grounded on this dynamic relationship between exploitation and exploration, I propose that they can be marked as dynamic capabilities.

This rationale is supported by prior literature. O’REILLY AND TUSHMAN, for example, propose that ambidexterity can only become a dynamic capability when managers are able to repeatedly and intentionally orchestrate resources over time.¹¹¹ Since dynamic capabilities entail static as well as dynamic elements, the appropriate composition of exploration and exploitation over various periods is crucial to transform organizational ambidexterity in a ‘full-blown’ dynamic capability.¹¹²

3.4.2 The ‘Organizational Ambidexterity and Dynamic Capability’

Framework

After having identified contextual ambidexterity, innovative ambidexterity and sequential ambidexterity as dynamic capabilities, it is reasonable to refine the matrix of enabling mechanisms presented in section 3.2.3. Instead of focusing on spatial separation and temporal

¹⁰⁷ See Venkatraman, Lee and Iyer (2007), p. 8.

¹⁰⁸ See Teece, Pisano and Shuen (1997), p. 517.

¹⁰⁹ See Eisenhardt and Martin (2000), p. 1107.

¹¹⁰ See Venkatraman, Lee and Iyer (2007), p. 8 as well as Zollo and Winter (2002).

¹¹¹ See O’Reilly and Tushman (2008).

¹¹² See Raisch and Birkinshaw (2008), p. 401.

separation, I will now employ (1) simultaneity and (2) dynamic cycles of paradoxical activities as constituting dimensions. This distinction is grounded on the theoretical proximity of the two dimensions with (1) organizational ambidexterity and (2) dynamic capabilities. Whereas simultaneity of paradoxical activities is, according to ROTHARMEL AND ALEXANDRE, a constituting element of organizational ambidexterity, dynamic cycles of paradoxical activities are, following VENKATRAMAN, LEE AND IYER, theoretically connected with dynamic capabilities.¹¹³ Therefore, I will explain in the following how each type of organizational ambidexterity fits into this new scheme, presented in Figure 6. After having characterized different types of ambidexterity by means of this new categorization, I will present an advanced framework that clarifies the relationship between organizational ambidexterity and dynamic capabilities.

Figure 6: The ‘organizational ambidexterity and dynamic capability’ framework

		Dynamic Cycles of Paradoxical Activities	
		No	Yes
Simultaneity of Paradoxical Activities	Yes	Organizational Ambidexterity	Organizational Ambidexterity & Dynamic Capability
	No	Neither Organizational Ambidexterity nor Dynamic Capability	Dynamic Capability

3.4.3 Contextual Ambidexterity

Contextual ambidexterity captures the simultaneous pursuit of paradoxical activities, i.e. adaptability and alignment on the organizational level. This is accomplished by creating a

¹¹³ See Venkatraman, Lee and Iyer (2007), p. 8 as well as Rothaermel and Alexandre (2009), p. 759.

supportive organizational context, which allows individuals to make their own choices as to how they divide their time between paradoxical activities.¹¹⁴ In other words, contextual ambidexterity is not only associated with the simultaneous pursuit but also with dynamic cycles of paradoxical activities. Accordingly, contextual ambidexterity fulfills the condition of both (1) organizational ambidexterity and (2) dynamic capabilities.

This categorization of contextual ambidexterity is supported by RAISCH, BIRKINSHAW, PROBST AND TUSHMAN.¹¹⁵ While presenting the tension between static and dynamic approaches to ambidexterity, they state that contextual ambidexterity comprises static as well as dynamic elements. By this means, they support the distinction between static elements that are realized on the organizational level, i.e. the simultaneous pursuit of adaptability and alignment, and dynamic elements on the individual level in the form of employees that “make their own judgments on how to best divide their time between the conflicting demands for alignment and adaptability”.

3.4.4 Innovative Ambidexterity

Innovative ambidexterity refers to the “ability to simultaneously pursue both incremental [exploitative] and discontinuous [exploratory] innovation”.¹¹⁶ Just as in case of contextual ambidexterity, this type of organizational ambidexterity is not (necessarily) dependent on separation mechanisms on the organizational level, it is based on ambidextrous behavior on lower levels and it can be conducted within one organizational unit. Through sharing these fundamental characteristics with contextual ambidexterity, innovative ambidexterity can be identified as (1) a specific type of organizational ambidexterity and (2) a dynamic capability.

3.4.5 Structural Ambidexterity

Structural ambidexterity is “an organizational design or form containing [...] separate structural subunits for exploration and exploitation”.¹¹⁷ Through structurally differentiated units, the organizational system is split into subsystems, which, in turn, tend to develop

¹¹⁴ See Gibson and Birkinshaw (2004), p. 221.

¹¹⁵ See Raisch, Birkinshaw, Probst and Tushman (2009), p. 689.

¹¹⁶ See Tushman and O'Reilly (1996), p. 24.

¹¹⁷ See Simsek (2009), p. 602.

particular attributes in relation to their external environment. In this way, it is possible to effectively and simultaneously pursue paradoxical activities within one organization.

However, if firms solely rely on structural differentiation, some researchers, at least, doubt that this configuration can be referred to as organizational ambidexterity. RAISCH, BIRKINSHAW, PROBST AND TUSHMAN, for example, refer to GILBERT and state that the coexistence of paradoxical activities in differentiated organizational units represents an important yet insufficient condition for organizational ambidexterity.¹¹⁸ They argue that real value can only be created when exploitation and exploration are recombined.¹¹⁹ Other scholars, such as ROTHARMEL AND ALEXANDRE, simply call for the simultaneous pursuit of paradoxical activities to realize organizational ambidexterity. They define organizational ambidexterity as “a firm’s ability to simultaneously balance different activities in a trade-off situation”.¹²⁰ Since this balance can be achieved by spatially separated units, structural ambidexterity can be marked as a dedicated type of organizational ambidexterity according to ROTHARMEL AND ALEXANDRE’s definition.

To clarify how these conceptualizations are interrelated, the dynamic-capability perspective denotes a promising starting point. Hereby, I propose that the trade-off between differentiation and integration is related to the one between static and dynamic approaches to organizational ambidexterity.

Structural ambidexterity denotes an approach to organizational ambidexterity that is at the end of a continuum. This approach is purely based on structural differentiation and free of any integration mechanisms. Through implementing a ‘dual structure’ firms are able to simultaneously pursue paradoxical activities in spatially separated units, which are almost independent of each other. This conceptualization corresponds to the definitions of organizational ambidexterity emphasized by ROTHARMEL AND ALEXANDRE and SIMSEK.¹²¹ In combination, these two definitions postulate the simultaneous pursuit of paradoxical activities in spatially separated units to achieve organizational ambidexterity.

¹¹⁸ See Raisch, Birkinshaw, Probst and Tushman (2009), p. 686 as well as Gilbert (2006).

¹¹⁹ See Eisenhardt and Martin (2000), O’Reilly and Tushman (2008) as well as Teece (2007).

¹²⁰ See Rothaermel and Alexandre (2009), p. 759.

¹²¹ Rothaermel and Alexandre (2009, p. 750) define organizational ambidexterity as “a firm’s ability to simultaneously balance different activities in a trade-off situation”, while Simsek (2009, p. 602) refers to

The question now is how additional integration mechanisms influence this conceptualization. In line with the notion that dynamic capabilities comprise static and dynamic elements, I propose that the combination of differentiation and integration mechanisms converts structural ambidexterity into a dynamic capability. RAISCH, BIRKINSHAW, PROBST AND TUSHMAN support this proposition and assert that “managing the differentiation-integration tensions is likely to be an important dynamic capability for creating and sustaining organizational ambidexterity”.¹²²

Through implementing additional integration mechanisms, spatially separated units have the possibility to exchange information, knowledge and various resources, such as employees. While employees fulfill only one specific task in purely differentiated units, integration mechanisms enable them to switch between the two “thought worlds”.¹²³ Although moving between exploitative and exploratory units necessitates certain cognitive capabilities, integration mechanisms allow employees to reveal ambidextrous behavior. If the boundaries between structurally differentiated units are partially pulled down and employees are equipped with sufficient authority, they can “make their own judgments as to how to best divide their time between conflicting demands” through moving back and forth.

Accordingly, integration mechanisms can be characterized as a means to convert structural ambidexterity into a dynamic capability. Integration mechanisms not only enable ambidextrous behavior on the individual level, they also support the creation of a mutually-benefiting relationship between exploratory and exploitative units. In this way, a recursive and co-evolutionary relationship between exploitation and exploration - just as in case of sequential ambidexterity - can result.

The rationale that integration mechanisms are necessary to turn structural ambidexterity into a dynamic capability is supported by JANSEN, TEMPELAAR, VAN DEN BOSCH AND VOLBERDA.¹²⁴ They analyze the mediating influence of various integration mechanisms on the relationship between structural differentiation and innovative ambidexterity. Their results

structural ambidexterity as “an organizational design or form containing [...] separate structural subunits for exploration and exploitation”.

¹²² See Raisch, Birkinshaw, Probst and Tushman (2009), p. 685.

¹²³ See Raisch, Birkinshaw, Probst and Tushman (2009), p. 687, Dougherty (1992) as well as Kostova and Zaheer (1999).

¹²⁴ See Jansen, Tempelaar, Volberda and Van Den Bosch (2009), p. 806.

show that although structural differentiation is positively associated with innovative ambidexterity, this relationship is fully mediated by contingency rewards, social integration mechanisms and cross-functional interfaces. Based on their findings, they conclude that “ambidextrous organizations require a dynamic capability that enables them to mobilize, coordinate, and integrate dispersed contradictory efforts, and to allocate, reallocate, combine, and recombine resources and assets across dispersed exploratory and exploitative units”.¹²⁵ This insight supports the assumption of this study that structural ambidexterity is not a dynamic capability as long as integration mechanisms are absent. Likewise, RAISCH AND BIRKINSHAW hint at the difficulty of achieving sustainable competitive advantage through structural ambidexterity. They argue that in case of structural ambidexterity “it appears unlikely that single designs (not even ambidextrous ones) provide the exhaustive steady-state functionality required to deal with the entire range of boundary conditions that an organization faces over time”.¹²⁶

Based on this discussion, structural ambidexterity can be classified as a specific type of organizational ambidexterity. However, it is not a dynamic capability without integration mechanisms and, thus, located in the upper left corner of the ‘organizational ambidexterity and dynamic capabilities’ matrix (see Figure 7).

3.4.6 Sequential Ambidexterity

Sequential ambidexterity arises from the dynamic, temporal sequencing of exploitation and exploration periods and can, thus, be identified as a dynamic capability.¹²⁷ While this classification is relatively precise, it remains unclear if sequential ambidexterity also denotes a dedicated type of organizational ambidexterity. Although sequential ambidexterity allows firms to capitalize on both exploration and exploitation, it is inconsistent with definition of organizational ambidexterity employed in this study. Here, organizational ambidexterity is

¹²⁵ See Jansen, Tempelaar, Volberda and Van Den Bosch (2009), p. 806.

¹²⁶ See Raisch and Birkinshaw (2008), p. 402.

¹²⁷ See Puranam, Singh and Zollo (2006), Raisch, Birkinshaw, Probst and Tushman (2009), Venkatraman, Lee and Iyer (2007), p. 8.

defined broadly as “a firm’s ability to simultaneously balance different activities in a trade-off situation”.¹²⁸

To clarify how sequential ambidexterity is related to other types of ambidexterity, the new framework has the potential for an appropriate categorization. Considering the two dimensions of the new framework, i.e. the (1) simultaneity and (2) dynamic cycles of paradoxical activities, only the latter dimension can be conclusively confirmed, whereas the former has to be denied. Thus, sequential ambidexterity denotes a dynamic capability but no dedicated type of organizational ambidexterity.

This classification is supported by prior literature. VENKATRAMAN, LEE AND IYER, for example, specifically distinguish between simultaneously and sequentially conducted types of ambidexterity.¹²⁹ While the former rather relates to a contemporaneous pursuit of paradoxical activities, the latter marks a special case of punctuated equilibrium. In this vein, GUPTA, SMITH AND SHALLEY, distinguish between ambidexterity (i.e., the synchronous pursuit of both exploration and exploitation via loosely coupled and differentiated specialized organizational units) and punctuated equilibrium (i.e., cycling through periods of exploration and exploitation). Although this distinction neglects contextual ambidexterity and innovative ambidexterity - as two types of organizational ambidexterity that are conducted within one organizational unit – it supports the distinction between the simultaneous and sequential pursuit of paradoxical activities.

The classification of all four prevalent types of ambidexterity, i.e. contextual ambidexterity, innovative ambidexterity, structural ambidexterity and sequential ambidexterity is presented in Figure 7. They are categorized by means of (1) organizational ambidexterity, (2) organizational ambidexterity and dynamic capability, (3) dynamic capability and (4) neither organizational ambidexterity nor dynamic capability.

¹²⁸ See Rothaermel and Alexandre (2009), p. 759.

¹²⁹ See Venkatraman, Lee and Iyer (2007), p. 8.