

**ACHIEVING ORGANIZATIONAL AMBIDEXTERITY  
IN SMES AND BUSINESS UNITS**

*Essays on managerial, relational, and structural mechanisms  
allowing the reconciliation of exploration and exploitation  
within one organizational domain*

**DISSERTATION**  
of the University of St. Gallen,  
School of Management,  
Economics, Law, Social Sciences  
and International Affairs  
to obtain the title of  
Doctor of Philosophy in Management

submitted by

**Martin Jäckel**

from  
Germany

Approved on the application of

**Prof. Dr. Peter Gomez**  
and  
**Prof. Dr. Sebastian Raisch**

Dissertation no. 4222

klartext, Göttingen 2013



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The University of St. Gallen, School of Management, Economics, Law, Social Sciences, and International Affairs hereby consents to the printing of the present dissertation, without hereby expressing any opinion on the views herein expressed.

St. Gallen, October 21, 2013

The President:

Prof. Dr. Thomas Bieger

*Meinen Eltern*



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(Please note that the figures and tables included in the management report are not reported here)

## ABSTRACT

**English.** This dissertation attempts to deepens research's and management practice's understanding of how firms, especially smaller organizational entities, can reconcile exploration and exploitation (i.e. achieve organizational ambidexterity) within one organizational domain. This is important because SMEs and business units are dependent on such integrative approaches to organizational ambidexterity as they usually lack the size, resources, and administrative systems to pursue structural differentiation. The dissertation revolves around two main aspects of integrative solutions discussed by prior scholars in the field: (1) the organizational context as the most prominent example of a mechanism leading to ambidexterity across an entire organization and (2) organizational structuring as a particularly difficult challenge in the integration of exploration and exploitation. These two aspects are discussed in three essays, two of which focus on the former and one on the latter aspect.

Regarding the organizational context, managerial and relational mechanisms are investigated which foster an organizational context characterized by performance and social elements. Such an ambidextrous context has been argued to facilitate the attainment of organizational ambidexterity across an entire organizational entity. Essay 1 therefore examines how leadership behavior, specifically the behavioral complexity of senior managers, affects organizational ambidexterity through the creation of an ambidextrous organizational context. Essay 2 analyzes how informal and formal, internal and external networks of organizations relate to the organizational context and thereby contribute to organizational ambidexterity. With regard to organizational structuring and ambidexterity, prior studies suggest that organizational structuring needs to be consistently targeted at either exploration or exploitation and thus cannot facilitate both. Essay 3 therefore investigates how inconsistent compensatory structuring strategies may enable the reconciliation of the fundamentally opposed structuring demands of exploration and exploitation within one organizational domain.

Additionally, this dissertation includes a management report which summarizes the two quantitative surveys conducted among German and Swiss SMEs and business units and thereby conveys tangible and actionable recommendations to management practice.



## ZUSAMMENFASSUNG

**Deutsch.** Diese Dissertation zielt darauf ab, der Wissenschaft und Praxis ein tieferes Verständnis davon zu vermitteln, wie insbesondere kleinere Unternehmen das Spannungsfeld zwischen Exploration und Exploitation innerhalb einer organisatorischen Einheit überwinden können (d.h. Ambidexterity erreichen können). Mittelständische Unternehmen und einzelne Unternehmenseinheiten sind auf solche integrativen Lösungen angewiesen, wenn sie Ambidexterity verfolgen möchten, da sie oft zu klein sind und nicht über die nötigen Ressourcen und Verwaltungssysteme verfügen, um eine differenzierende duale Struktur zu implementieren. Die Dissertation greift dabei zwei von der bisherigen Literatur als äußerst wichtig beschriebene Aspekte auf: (1) den Unternehmenskontext als das bekannteste Beispiel einer integrativen Lösung für das Erreichen von Ambidexterity und (2) Unternehmensstrukturierung als eine der größten Herausforderungen bei der Integration von Exploration und Exploitation. Diese beiden Aspekte werden in den drei dieser Dissertation zugrunde liegenden Aufsätzen diskutiert, wobei sich zwei Aufsätze mit dem ersten und ein Aufsatz mit dem zweiten Aspekt auseinandersetzen.

Bezüglich des Unternehmenskontexts werden Führungs- und Netzwerkmechanismen untersucht, die einen sowohl leistungs- als auch sozialorientierten Unternehmenskontext fördern. Dieser Unternehmenskontext wiederum ist in der Lage, Ambidexterity über eine gesamte Organisationseinheit hinweg zu erreichen. Der erste Aufsatz erforscht daher, wie sich komplexes Führungsverhalten von Top-Managern (namentlich „Behavioral Complexity“) über den Einfluss auf den Unternehmenskontext auf Ambidexterity auswirkt. Im zweiten Aufsatz wird analysiert, wie informelle und formelle Netzwerke innerhalb und außerhalb des Unternehmens mit dem Unternehmenskontext zusammenhängen und so zu Ambidexterity beitragen können. Bezüglich der Unternehmensstruktur deuten bisherige Studien an, dass sie entweder konsistent auf Exploration oder konsistent auf Exploitation ausgerichtet sein muss und somit nicht beide Aktivitäten gleichzeitig fördern kann. Der dritte Aufsatz untersucht daher, wie Unternehmensstrukturen (genauer gesagt, inkonsistente kompensatorische Unternehmensstrukturen) die entgegengesetzten strukturellen Anforderungen von Exploration und Exploitation möglicherweise doch in Einklang bringen können.

Die aus diesen drei Aufsätzen und aus unserer Umfrage unter Mittelständlern und Geschäftseinheiten resultierenden konkreten Handlungsempfehlungen werden zudem in einem zusammenfassenden Ergebnisbericht für die Praxis festgehalten.



*“The relationship between innovation and efficiency is complex. Some of the evidence we received suggested they were in conflict with the effect that, in the current economic climate, innovation would be driven out by the need to save money...”*

Science and Technology Committee, 2011  
Houses of Parliament, UK

## 1. INTRODUCTION

### Relevance of the Topic

In times of rising economic uncertainty, as observable in the recent financial and fiscal crises or the economic crisis at the beginning of the millennium, *profitable growth* becomes particularly important for organizations (Gomez, Rigall, & Raisch, 2007; Probst & Raisch, 2005). Growth, however, requires transformation, innovation, and exploration of new ideas, whereas profitability is rather based on stabilization, efficiency, and exploitation of existing capabilities. Consequently, these two strategic objectives live in conflict with each other and are often seen as mutually exclusive with one driving out the other. In times of crisis, innovation often suffers from efficiency-driven activities, while efficiency is of less concern in times of economic booms and prosperity. Successful organizations, however, are able to be both innovative and efficient at all times (Raisch & Birkinshaw, 2008). They explore the growth platforms which will secure their future and simultaneously exploit existing opportunities which ensure their profitability today and provide the funds required to invest into the future. Although seemingly contradictory, growth and profitability and their underlying activities of exploration and exploitation thus are inseparably interlinked and equally crucial for an organization's long-term success.

Smaller organizational entities such as business units or small to medium-sized enterprises (SMEs), however, might be especially affected or even endangered by this trade-off. This is because they often focus and rely on only one business area or one business model, are too small to cushion short-term downturns, or (particularly in the

case of SMEs) are often bound by strong traditions. Furthermore, in contrast to larger firms or corporations, they usually cannot structurally separate exploration and exploitation into distinct organizational units – an approach which has traditionally been propagated by management and practice – as they usually lack the size, resources, and administrative systems for such structural differentiation (Lubatkin, Simsek, Ling, & Veiga, 2006). Instead, they must find integrative approaches to reconcile exploration and exploitation. Thus a central issue that business units and SMEs alike must resolve involves finding ways to balance high levels of exploration and exploitation across their entire organizational domain to grow profitably in the long-run.

In this dissertation, I therefore explore three different integrative mechanisms through which business units and/or SMEs can reconcile growth and profitability, innovation and efficiency, or exploration and exploitation (the latter being the terms we will usually employ in the following) within their organizations. First, however, I will introduce the reader to the theoretical background of my dissertation, situating my research and briefly reviewing existing literature on this topic, as well as its general research outline, its empirical basis, and its overarching structure.

## **Theoretical Background**

### **Situating the research**

Academia has referred to the ability of organizations to reconcile and pursue in parallel the two opposing activities of exploration and exploitation as ‘organizational ambidexterity’ (Duncan, 1976; Raisch & Birkinshaw, 2008). Herein, the word ‘ambidexterity’ is derived from Latin and means ‘right on both sides’ and was already used in the Middle Ages to describe the skill of humans to use both hands with equally high talent or ‘dexterity’ (Simsek, 2009). Although the term in this context was for the first time used by Duncan (1976), it has been March’s (1991) article on exploration and exploitation in organizational learning which has spurred today’s great attention of management research to this concept. The body of literature on the ‘ambidextrous organization’ has grown steadily ever since (Raisch & Birkinshaw, 2008; Lavie, Stettner, & Tushman, 2010).

The underlying idea is that an organization pursues exploration and exploitation activities between which it allocates its attention and resources. The ambidexterity premise further argues that the joint pursuit of exploration and exploitation enhances



performance by enabling an organization to be innovative and flexible without losing the advantages of efficiency and stability (Simsek, 2009). Prior research has confirmed such positive performance effects on the business unit level (e.g., Gibson & Birkinshaw, 2004; Jansen, Simsek, & Cao, 2012) and the firm level (e.g., He & Wong, 2004; Lubatkin et al., 2006). The problem, however, is that exploration and exploitation aim at fundamentally different outcomes and require fundamentally different structures, processes, and attitudes (March, 1991; Tushman & O'Reilly, 1996).

Exploitation tasks seek alignment, refinement, efficiency, selection, and implementation and demand rather mechanistic organizations characterized by centralized structures with tight coordination, controls, and processes to minimize variability and maximize efficiency (March, 1991; Benner & Tushman, 2003; Lavie & Rosenkopf, 2006). Exploration, in contrast, strives for exactly the opposite, i.e. adaptability, search, variation, experimentation, and discovery and requires rather organic, decentralized structures with loose cultures and less formalized processes. This seemingly irreconcilable tension led earlier research to the conclusion that excelling at both activities simultaneously is not possible.

Later studies, however, proposed structural differentiation as a mechanism to reconcile exploration and exploitation – an approach referred to as ‘structural ambidexterity’ (e.g., Tushman & O'Reilly, 1996; Benner & Tushman, 2003; Raisch & Birkinshaw, 2008). By creating dual structures with physically separated organizational units which either focus on exploration or exploitation, activities in each unit are shielded against each other and allow each unit to be consistently aligned with the needs of its task environment (Benner & Tushman, 2003; Raisch, 2008). Structural differentiation, however, is tied to a string of coordination and re-integration challenges requiring a high level of top management attention, a large resource base, and complex administrative systems (Lavie et al., 2010; Simsek, 2009). Therefore, although a viable approach for larger firms or corporations, structural ambidexterity usually is not a practicable approach for smaller organizational entities such as business units or SMEs (Gibson & Birkinshaw, 2004; Lubatkin et al., 2006).

Business units or SMEs rather depend on harmonic or integrative approaches which enable them to reconcile exploration and exploitation across their entire organizational domain (Lubatkin et al., 2006; Simsek, Heavey, Veiga, & Souder, 2009). Such

integrative approaches have recently shifted more and more into the focus of management research underscoring their relevance for both academia and management practice (Jansen et al., 2012). In this dissertation I therefore follow this line of research and extend management research's understanding of these integrative approaches to organizational ambidexterity. In particular, I focus on two specific aspects discussed by prior researchers:

- (1) The probably most prominent example of an integrative approach to organizational ambidexterity: the reconciliation of exploration and exploitation through the establishment of a supportive organizational context (Gibson & Birkinshaw, 2004).
- (2) The probably most difficult challenge in the integration of exploration and exploitation: the reconciliation of their diametrically opposed structuring demands within one organizational structure (Jansen, van den Bosch, & Volberda, 2006).

In the following I will briefly touch upon each of these aspects in more detail to derive the research gaps we aim to close.

### **Organizational context and ambidexterity**

Contextual ambidexterity denotes the behavioral capacity to simultaneously demonstrate exploration and exploitation across an entire organizational entity, e.g., a business unit or SME (Gibson & Birkinshaw, 2004). In their conceptualization of contextual ambidexterity, Gibson and Birkinshaw (2004) build on the organization-context literature. Here organizational context refers to the systems, processes, and beliefs which shape individual-level behavior in an organization (Ghoshal & Bartlett, 1994). It thus is a higher-level attribute of an organization as a whole and reflects a combination of the closely related concepts of structural context, organizational culture or organizational climate (Gibson & Birkinshaw, 2004). Gibson and Birkinshaw (2004) further adopt Ghoshal and Bartlett's (1994) description of a high-performance organizational context as an interaction of the interdependent behavior framing attributes of discipline, stretch, trust, and support. In their study, Gibson and Birkinshaw (2004) describe the first two attributes, discipline and stretch, as constituting a 'performance management context', whereas the latter two, trust and support, constitute the 'social context'.

Contextual ambidexterity emerges when an organizational unit simultaneously develops an organizational context characterized by high levels of all of these attributes or, in other words, establishes both a performance management and social context. This is because such an ‘ambidextrous’ context, on the one hand, induces employees to voluntarily meet performance standards and even strive for more ambitious, stretching goals (Lavie et al., 2010; Simsek, 2009). On the other hand, it ensures that this takes place within a cooperative work environment characterized by mutual support and commitment, a collective identity, and shared ambitions. This combination of behaviors, attitudes, and framing conditions in turn enables and encourages individuals to effectively decide on their own how to divide their time between exploration and exploitation tasks. In this, every individual delivers value through, for example, serving existing customers or implementing routine tasks and at the same time being on the lookout for changes in the task environments and new business opportunities and experimenting with non-routine tasks. The organizational context thus shapes individual and collective behaviors that in turn shape the capacity for organizational ambidexterity.

Despite its compelling theoretical foundation and its immediate relevance for both ambidexterity research and management practice, research on contextual ambidexterity, particularly its drivers, remains scarce. Gibson and Birkinshaw’s (2004) study naturally was setting the stage for all consequent research on this concept, being the first to develop the concept of contextual ambidexterity and showing that contextually ambidextrous business units actually are able to realize performance gains (such positive effects of contextual ambidexterity were also found by other scholars (cf. Simsek et al., 2009)). Nevertheless, following Gibson and Birkinshaw’s (2004) study, the concept of contextual ambidexterity has not been substantially extended. More specifically, studies which further investigated contextual ambidexterity usually viewed the organizational context as exogenously given (e.g., Carmeli & Halevi, 2009; Simsek, 2009). An ambidextrous organizational context, however, does not develop by chance and by itself, but depends on various drivers within an organization (Ghoshal & Bartlett, 1994). Therefore, it is important for both academia and practice to understand how organizations can pro-actively foster such an ambidextrous context. Yet, research today still lacks this understanding of the drivers of an ambidextrous organizational context (Research Gap 1).

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### **Organizational structuring and ambidexterity**

As mentioned above, the organizational context – as a higher-level attribute of an organization as a whole – also encompasses, next to the concepts of organizational culture and climate, the structural context (Gibson & Birkinshaw, 2004). Given the different focus of their study, Gibson and Birkinshaw (2004) do not explore in detail how this structural context needs to be configured within the overall organizational context to reconcile exploration and exploitation. Organizational structuring, however, is an important driver of individual behaviors and activities within an organization as it determines the ground rules within which these take place and regulates and limits the effect they can have on an organization (Dalton, Todor, Spendolini, Fielding, & Porter, 1980). In light of the opposing structuring demands of exploration and exploitation mentioned earlier, it therefore is highly intriguing to deeper analyze the organizational structuring strategies of firms pursuing integrative approaches to ambidexterity.

Prior research suggests that firms need to align their structuring strategies around three major dimensions of organizational structuring: i) centralization, ii) formalization, and iii) specialization (Reimann, 1974; Sathe, 1978; Walton, 1981). Centralization reflects the extent to which decision making authority is distributed throughout the organization, formalization reflects the degree to which written rules, procedures, or contracts govern processes and activities within the organization, and (functional) specialization accounts for the division of labor within an organization (Fredrickson, 1986). Together these three dimensions are often used to differentiate between more or less structured organizations. In this, organizations are expected to consistently align the three dimensions in either highly structured (sometimes also called mechanistic or bureaucratic) ways characterized by high degrees of centralization, formalization, and specialization or in less structured (sometimes also called organic) ways which result in decentralized, informal, and less specialized structures (Sine, Mitsuhashi, & Kirsch, 2006; Bunderson & Boumgarden, 2010).

Highly structured organizations are expected to be adequate for efficient organizations operating in stable environments and aiming at the exploitation of existing competencies (Randolph & Dess, 1984; Lavie & Rosenkopf, 2006; Sine et al., 2006; Lavie et al., 2010). Less structured organizations, in contrast, are better adapted to dynamic environments as they are more flexible and thus better able to explore innovative non-routine tasks requiring creativity and variation (Randolph & Dess, 1984; Lavie & Rosenkopf, 2006; Sine et al., 2006; Raisch, Birkinshaw, Probst, &

Tushman, 2009). As expected, organizational structuring thus sets the frame for the pursuit of exploration and exploitation, but seemingly it can only be targeted at either the one or the other. This raises the question, which structuring choices organizations need to make to reconcile exploration and exploitation.

Despite this intriguing and crucial question, research on structuring strategies enabling the reconciliation of exploration and exploitation remains scarce. Structural ambidexterity does not provide a satisfactory solution, because the opposing structuring demands of exploration and exploitation are avoided by structural differentiation and not truly reconciled. Organizations such as SMEs, however, require such truly reconciling structuring strategies which enable them to set up their entire organization for both exploration and exploitation. Prior studies which investigated the effect of selected organizational structuring dimensions on exploration and exploitation within one organizational domain could also not provide a solution to this issue. Jansen and colleagues (2006), for example, found that centralization was negatively related to exploration, while formalization positively affected exploitation. This confirmed the above explained assumption that organizational structuring can indeed only be targeted at either exploration or exploitation, but not at both. Consequently, ambidexterity research today still lacks a theoretical understanding of the optimal organizational structuring of organizations depending on integrative approaches to organizational ambidexterity (Research Gap 2).

## **Research Outline**

### **Research model**

From the above discussion it thus becomes clear that we need a better theoretical (and practical!) understanding of (1) how firms can foster an ambidextrous organizational context to achieve contextual ambidexterity and (2) how firms can reconcile the opposing structuring demands of exploration and exploitation across one organizational domain. Regarding the former, previous research has provided indications and speculations about such potential drivers of an ambidextrous organizational context (cf. Gibson & Birkinshaw, 2004; Jansen et al., 2006). Specifically, prior studies suggest that leadership and networks may contribute to the achievement of contextual ambidexterity. Gibson and Birkinshaw (2004) themselves suggest that senior management plays a pivotal role in fostering contextual ambidexterity, as they put in place the systems, processes, and beliefs that allow

ambidextrous contexts to emerge. They propagate a more systematic examination of such *(1a) managerial mechanisms* in future research on contextual ambidexterity, but understandably do not do so themselves in their paper. Jansen and colleagues' (2006) findings indicate that informal social relations positively relate to exploration and exploitation within one single organizational unit. They further suggest that organizational networks might lead to the buildup of contextual ambidexterity and call for future investigations of *(1b) relational mechanisms* as drivers of contextual ambidexterity. Regarding organizational structuring, prior literature points to the importance of adopting a holistic modular perspective on organizational structuring which allows for inconsistent compensatory structuring strategies. Findings of prior studies indicate that such compensatory structuring strategies might enable the pursuit of contradictory strategic objectives and thus encourage a deeper analysis of such *(2) structural mechanisms* in the context of organizational ambidexterity.

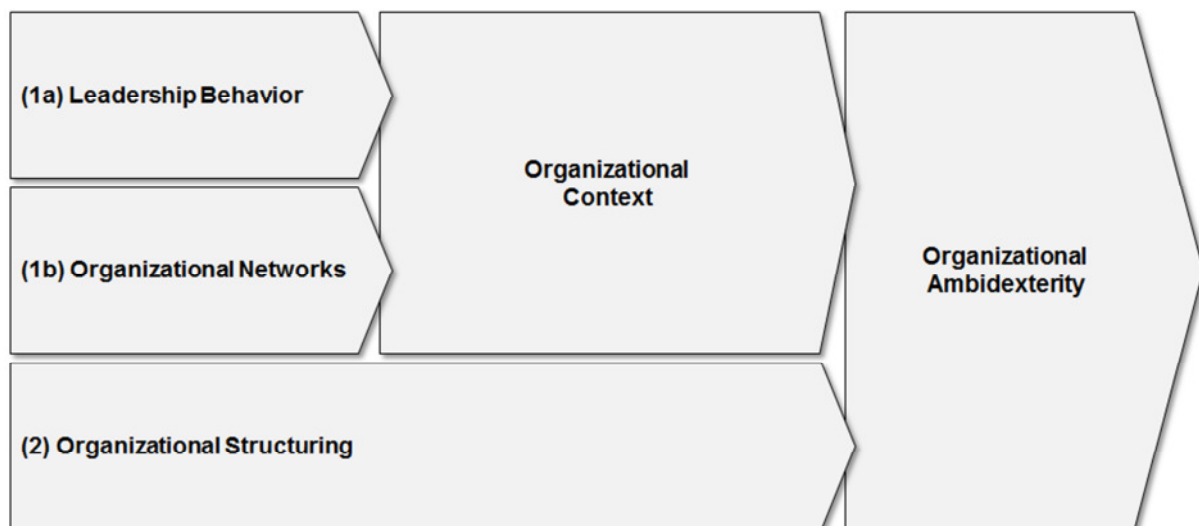


Figure 1: Conceptual framework of the dissertation

I therefore address the two previously identified research gaps by proposing a comprehensive conceptual framework of how these managerial, relational, and structural mechanisms facilitate the reconciliation of exploration and exploitation within one single organizational entity. While the former two aim at research gap 1 and are expected to achieve this reconciliation through their influence on the organizational context, the latter (although being a constituent part of the organizational context, too) aims at research gap 2 and is expected to directly impact exploration and exploitation. More specifically, my dissertation proposes and tests a model of how (1a) leadership behavior and (1b) organizational networks foster organizational ambidexterity in business units and/or SMEs through their influence on the organizational context and (2) how organizational structuring which inconsistently

combines the three dimensions of centralization, formalization, and specialization directly facilitates organizational ambidexterity in SMEs (see Figure 1). These three mechanisms are analyzed in detail in the three essays which form the heart of this dissertation and which are briefly introduced in the following chapter.

### **Overview of essays and their theoretical contributions**

This dissertation is based on three essays which all provide their unique contribution to research by exploring and testing the mechanisms described in the previous chapter. But also as a whole these essays constitute a contribution to literature, specifically to the literature on integrative approaches to the reconciliation of exploration and exploitation.

The first essay investigates the relationship between leadership behavior and contextual ambidexterity. In this, it draws upon the leadership literature which has developed the concept of behavioral complexity to describe a manager's capability to perform multiple opposing leadership roles and behaviors as appropriate or necessary (Denison, Hooijberg, & Quinn, 1995). Such behavioral complexity has been related to contextual ambidexterity in prior studies (e.g., Gibson & Birkinshaw, 2004; Carmeli & Halevi, 2009) and the essay therefore proposes and tests a model that links behavioral complexity to organizational ambidexterity through the organizational context. The findings contribute to a better understanding of how managers can pro-actively foster an ambidextrous context, how ambidextrous abilities on the individual level (behavioral complexity) and on the firm or unit level (ambidextrous context) are interrelated, and how the governance setting (i.e. SME vs. business unit setting) may influence this relationship.

In my second essay, I investigate the effect of informal and formal networks within and across firm boundaries on the attainment of contextual ambidexterity. Drawing upon prior research which links organizational relations to contextual ambidexterity (e.g., Jansen et al., 2006; Simsek, 2009), I test a moderated mediated relationship between simple but established network constructs and organizational ambidexterity. This way, the essay is able to contribute to a better understanding of the underlying mechanism which explains the positive relationship between connectedness and ambidexterity identified in prior studies. Moreover, it sheds light on the interdependency of internal and external relations and provides a more differentiated

view on the effectiveness of informal and formal organizational relations in a firm's pursuit of contextual ambidexterity.

Last but not least, the third essay reexamines the relationship between organizational structuring and organizational ambidexterity from a holistic modular perspective. Drawing upon prior research on modular structuring choices (e.g., Reimann, 1974; Olson, Slater, & Hult, 2005), it investigates how centralization, formalization, and specialization can be combined outside the traditional mechanistic-organic dichotomy to reconcile the opposing structuring demands of exploration and exploitation. The essay's main contribution is that it shows how organizational structuring can not only be an effective way to differentiate exploration and exploitation, but how it can actually be used to resolve the trade-off between the two activities by reconciling their structuring demands across the three structuring dimensions.

Taken together, these three essays thus contribute to the central theme of my dissertation by improving researchers' theoretical understanding of the mechanisms which enable organizations depending on integrative approaches to ambidexterity, such as business units or SMEs, to reconcile exploration and exploitation across their entire organizational domain. In this, the organizational context represents the leitmotif of all three essays. Essay 1 and essay 2 explicitly test drivers of an ambidextrous organizational context and explore their interrelations, while essay 3 investigates a constituent part of the organizational context, the structural context, in more detail. Overall, this dissertation herewith thus resembles another important jigsaw piece on the way to an overarching theory of the ambidextrous organization.

### **Contributions to management practice**

Bringing light into the 'black box' of how to develop the capabilities to simultaneously pursue high levels of exploration and exploitation within one organizational domain is equally imperative for management practice. As mentioned above, smaller organizations such as business units and SMEs are dependent on such integrative approaches to ambidexterity and at the same time are especially endangered by the exploration-exploitation trade-off. Accordingly, providing them with concrete mechanisms and actionable recommendations how to achieve organizational ambidexterity is of high value for them. This dissertation therefore includes a management report which summarizes the key empirical findings, derives their practical implications and translates them into concrete and actionable measures.



This management report is primarily addressed to the participants of our survey, but of course equally relevant for all interested organizations and executives. After providing the audience with a brief overview of the background of the study, we present simple statistics (frequencies, descriptives, correlations, and basic plots) to illustrate the relationships between innovation and efficiency, the organizational context, leadership behaviors, organizational networks, and organizational structuring. Illustrating the relevance of this dissertation's topic, for example, results indicate that the vast majority of the study's participants regard innovation and efficiency as nearly equally important, but not all manage to reconcile the two. To help them achieve this reconciliation, the report concludes with a list of particularly interesting action items which organizations can implement to attain organizational ambidexterity.

### **Empirical Setting**

The empirical findings of this dissertation are based on two large scale surveys amongst senior executives in Germany and Switzerland. In this we follow typical existing quantitative studies on ambidexterity in business units or SMEs (e.g., Gibson & Birkinshaw, 2004; Lubatkin et al., 2006; Cegarra-Navarro & Dewhurst, 2007; Jansen et al., 2012). The first survey was conducted amongst manufacturing SMEs in Germany, while the second survey was aimed at current and past participants of the Senior Management Program (SMP) of the University of St. Gallen. Both surveys used identical questionnaires only slightly adapted to the respective empirical setting (see Appendix).

The basis of our first survey was a total of 1,079 manufacturing SMEs in Germany which had been identified via the Hoppenstedt firm database. For this purpose, as there is no generally accepted definition of an SME, we followed extant research which typically defines SMEs as firms with 500 or fewer employees (Arend, 2006; Lubatkin et al., 2006). This is in line with the definition of the American Small Business Administration (Lu & Beamish, 2001). We sent the CEO of each SME an email with a cover letter explaining our research project and our five-page questionnaire. A total of 190 SMEs participated in our survey (18% response rate). The participants of our second survey were identified in cooperation with the Senior Management Program directors. We were able to identify 234 executive students who had participated in the program from 2001-2012. After a first announcement by the program director,

questionnaires were distributed to all potential participants. 109 executive students participated in the study (47% response rate).

## Overall Structure

This dissertation is composed of this introduction, three essays which analyze the above discussed mechanisms, a management report summarizing its empirical findings, and a short conclusion. As the management report is addressed to survey participants who usually are more comfortable in reading German, the report is written in German. The structure of my dissertation is illustrated in Figure 2.

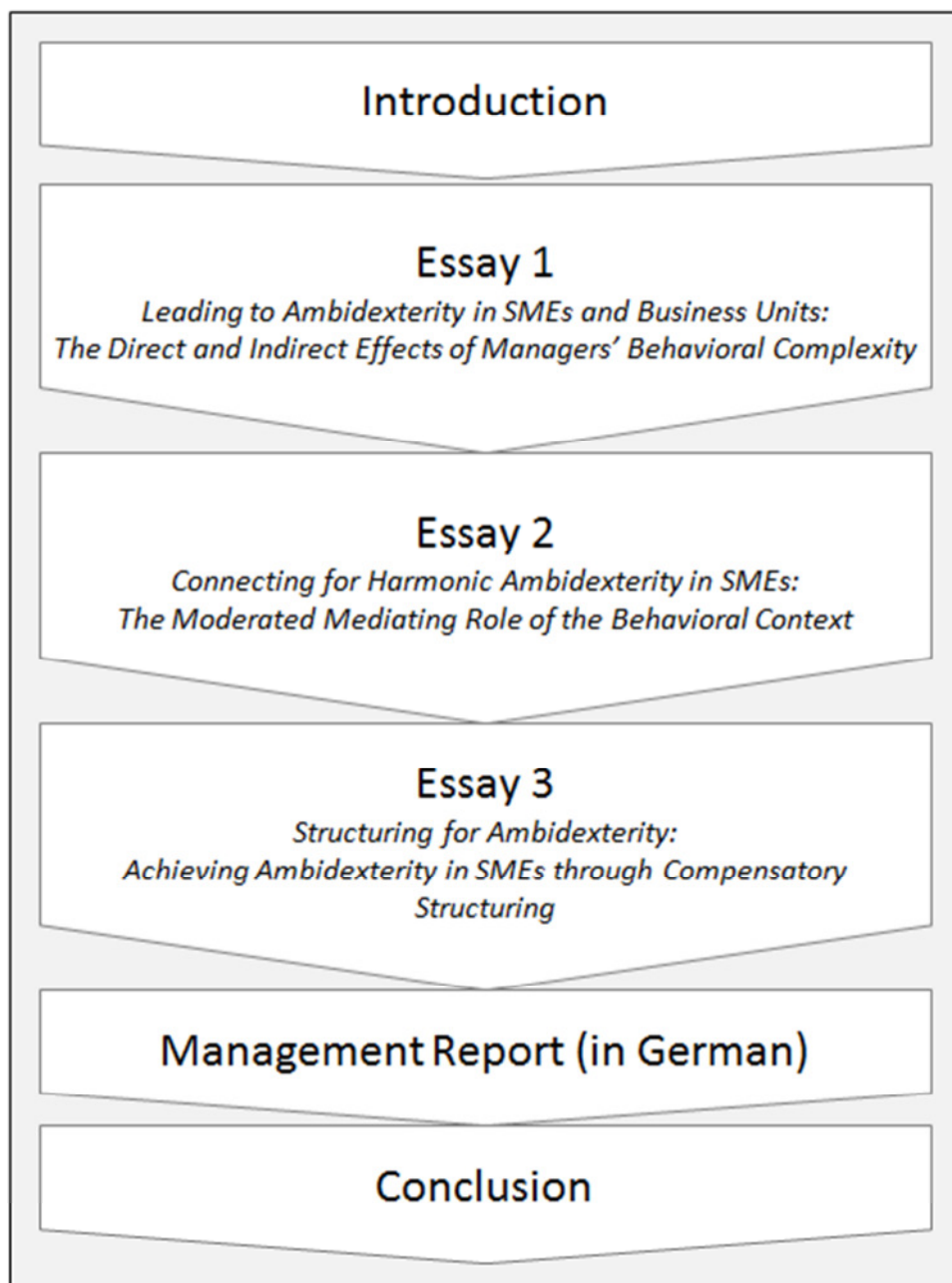


Figure 2: Overall structure of the dissertation

## **2. LEADING TO AMBIDEXTERITY IN SMES AND BUSINESS UNITS: THE DIRECT AND INDIRECT EFFECTS OF MANAGERS' BEHAVIORAL COMPLEXITY**

### **Abstract**

This article reconciles some of the differing perspectives on how leadership characteristics contribute to an organizational unit's ability to become ambidextrous. While some researchers suggest that behaviorally complex managers reconcile the opposing forces of exploration and exploitation directly, others propose that they foster both activities indirectly by framing an ambidextrous behavioral context. We hypothesize that these direct and indirect processes are not independent alternatives, but are interrelated. Based on two samples, we find that SMEs' managers affect unit-level ambidexterity directly and indirectly, while those of larger corporations' business units only have an indirect effect. Our study extends and reconciles the literature on managerial and contextual ambidexterity, as well as that on individual-level and unit-level ambidexterity. Further, we spur future research on how different types of organizational units may require different paths to ambidexterity.

### **Acknowledgement**

This essay has been co-authored by Alexander Zimmermann and earlier versions have been accepted and presented at several peer-reviewed conferences including the 2013 SMS Lake Geneva Special Conference and the 2013 AOM Annual Meeting. The authors wish to thank, in particular, Gilbert Probst and Sebastian Raisch for their valuable feedback on earlier versions of this paper.

## Introduction

Prior research largely agrees that leaders should strive to develop organizational ambidexterity, i.e. an organization's ability to pursue the two opposing activities of exploration and exploitation simultaneously, as it entails sustainable, superior performance (Raisch & Birkinshaw, 2008). Traditionally, top managers were advised to establish and coordinate structurally differentiated explorative and exploitative units to develop organizational ambidexterity (e.g., Tushman & O'Reilly, 1996). More recently, however, research has suggested that such structural differentiation might not be the best approach (Gibson & Birkinshaw, 2004).

Particularly business units in larger corporations and small to medium-sized enterprises (SMEs) face severe challenges when implementing structural differentiation, as they usually lack the size, resources, and administrative systems to accommodate such distinct units (Lubatkin, Simsek, Ling, & Veiga, 2006). Consequently, integrative solutions, which allow the harmonious and simultaneous pursuit of exploration and exploitation within a single organizational unit (Simsek, Heavey, Veiga, & Souder, 2009), are believed to be more sustainable ambidexterity models (Gibson & Birkinshaw, 2004). This applies to business units (Gibson & Birkinshaw, 2004) and SMEs in which the corporate and unit levels usually merge into one (Lefebvre, Mason, & Lefebvre, 1997; Lubatkin et al., 2006; Bierly & Daly, 2007). Researchers have discussed the contextual and managerial mechanisms that allow exploration and exploitation to be reconciled within a single organizational unit, i.e. 'unit-level ambidexterity' (cf. Jansen, Simsek, & Cao, 2012; Simsek et al., 2009; Raisch, Birkinshaw, Probst, & Tushman, 2009).

Studies on contextual antecedents of ambidexterity argue that a unit's behavioral context may enable and encourage front-line individuals to decide for themselves how to best divide their attention and resources between exploration and exploitation (Gibson & Birkinshaw, 2004). In this, they define behavioral context as the systems, processes, and beliefs which shape individual-level behavior in an organization and thus as a higher-level attribute of an organization as a whole reflecting a combination of the closely related concepts of structural context, organizational culture, or organizational climate (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004). Prior studies argue that if this behavioral context is characterized by both performance management and social elements (i.e. discipline, stretch, support, and trust), contextual ambidexterity will emerge. Thus, a central issue that SMEs and business units must

resolve involves establishing and nurturing such an ‘ambidextrous behavioral context’ to achieve unit-level ambidexterity.

To that end, scholars have repeatedly emphasized the role of leadership and called for research ‘on the ways leaders shape and influence the behavioral context’ (Carmeli & Waldman, 2010: 385). More specifically, prior studies on contextual ambidexterity acknowledge that unit managers may actually play an important role in framing an ambidextrous behavioral context (e.g., Gibson & Birkinshaw, 2004). Yet, they do not formally explore and test the role of managerial characteristics as a driver of contextual ambidexterity and little is known specifically about how managers can build an ambidextrous behavioral context. Understanding this, however, is important as it will – by explaining the contextual mechanism underlying this relationship – enhance our theoretical understanding with regard to how managers can foster unit-level ambidexterity.

Similarly but approaching this from another angle, studies on managerial antecedents of ambidexterity suggest that managers’ characteristics are direct antecedents of unit-level ambidexterity, but likewise do not explore the behavioral context as the mechanism which may explain this relationship (e.g., Lubatkin et al., 2006; Jansen, George, van den Bosch, & Volberda, 2008; Jansen, Vera, & Crossan, 2009). While some of these studies do refer to the term contextual ambidexterity (e.g., Jansen et al., 2009), their arguments imply that managers shape unit-level exploration and exploitation processes directly. Without ruling out this direct relationship, it nevertheless is crucial to account for the behavioral context when studying the influence of managerial characteristics on unit-level ambidexterity because it may, as discussed above, be an important mechanism which explains how this relationship functions.

Summarizing, prior research has provided important theoretical insights suggesting that managerial characteristics may either have an indirect effect or a direct effect on reconciling exploration and exploitation within a single organizational unit. These indirect and direct effects have, so far, been discussed as alternative, independent paths to unit-level ambidexterity. We argue that a more integrated perspective is required, in order to improve our theoretical understanding of how individual managers shape unit-level ambidexterity. Jointly investigating managerial and contextual antecedents of ambidexterity allows us to study how they are interrelated and interact to reconcile

exploration and exploitation. Specifically, in doing so our study integrates and thereby extends previous research which so far has focused on either the one or the other; it explores the mechanisms by which managers' characteristics lead to unit-level ambidexterity and at the same time sheds light on the drivers of an ambidextrous behavioral context. Further, we answer both Raisch and Birkinshaw's (2008) call for more research on the interrelations of different antecedents in the pursuit of ambidexterity as well as Gibson and Birkinshaw's (2004) call for research on how managers can build ambidextrous behavioral contexts.

Accordingly, we in this paper aim to gain insights into how managers' characteristics contribute directly and/or indirectly to ambidexterity in a single organizational unit by creating an ambidextrous behavioral context. To address this question, we build on behavioral complexity theory, in particular the work of Denison, Hooijberg, and Quinn (1995). Behavioral complexity refers to a manager's ability to perform multiple opposing leadership roles and behaviors as appropriate or necessary (Denison et al., 1995; Lawrence, Lenk, & Quinn, 2009). It has been suggested that this ability is either directly (e.g., Carmeli & Halevi, 2009) or indirectly related to ambidexterity through the behavioral context (e.g., Gibson & Birkinshaw, 2004). Our theoretical model thus links behavioral complexity, behavioral context, and unit-level ambidexterity with behavioral context mediating the relationship between the first and the latter.

To test our model, we collected two quantitative data sets – one comprising 179 SMEs and the other 93 business units of larger corporations. We thus follow Lubatkin and colleagues' (2006) call to compare the effect of managerial characteristics on ambidexterity in SMEs and business units, which both face the same competitive pressure to integrate exploration and exploitation. In the SME context, we find that managers' behavioral complexity has both a direct and indirect effect on ambidexterity. Interestingly, in the business unit context, our data only shows an indirect effect, suggesting that behaviorally complex managers only contribute to unit-level ambidexterity by creating an ambidextrous behavioral context.

Our findings allow us to contribute to theory on unit-level ambidexterity in three important ways: First, our data suggests that managerial and contextual antecedents to ambidexterity are not as distinct as previously assumed. This helps us to shed additional light on how managers' characteristics become effective in an organization. At the same time, we contribute a better understanding of managers' role in

reconciling an ambidextrous context's performance management and social elements. Second, we show that ambidextrous abilities on the individual level (behavioral complexity) and on the unit level (ambidextrous behavioral context) are interdependent. Specifically, our results demonstrate that an ambidextrous behavioral context is both an outcome of ambidexterity at the manager level as well as an antecedent of ambidexterity at the unit level. This is important, as prior ambidexterity research has been largely focused on a single level of analysis. Finally, our study points to the influence that SMEs' and business units' distinct governance has on managers' ability to directly shape unit-level behavior such as exploration and exploitation. This allows us to spur future research on how different types of organizational units may require different paths to ambidexterity.

This paper proceeds as follows: First, we provide an overview of prior theory on contextual and managerial mechanisms to achieve ambidexterity. Second, we develop our theoretical model and the underlying hypotheses. Third, we provide insights into our methodological considerations and our data collection effort. Finally, we present our study's results, its theoretical contributions, and avenues for future research.

## **Theoretical Background**

The term 'organizational ambidexterity' was initially used by Duncan (1976), but it was March's (1991) much cited landmark article that initiated the current management research on this topic. Ambidexterity refers to the ability to reconcile the internal tensions and conflicting demands of exploration and exploitation in order to achieve superior performance in the long run (Raisch & Birkinshaw, 2008).

Prior research has identified two principle ways to achieve this reconciliation: structural differentiation or harmonic integration within a single organizational unit (Simsek et al., 2009). Structural ambidexterity refers to setting up structurally separated organizational units which either focus on exploration or exploitation (e.g., Benner & Tushman, 2003; Tushman & O'Reilly, 1996). Conversely, harmonic ambidexterity denotes the capacity to simultaneously demonstrate exploration and exploitation on the unit-level (Simsek et al., 2009).

Gibson and Birkinshaw (2004) found that a harmonic integration of exploration and exploitation is positively related to business unit performance. They further argued that this might be the more sustainable model of organizational ambidexterity, as the costs of coordinating and integrating structurally separated units are avoided. Subsequently,

the ability to combine exploration and exploitation within a single organizational unit was found to improve financial performance (Jansen et al., 2012), stakeholder satisfaction, innovativeness, and relationship building (cf. Simsek et al., 2009). Similarly, in the context of SMEs, researchers found that balancing exploration and exploitation across an entire SME is an adequate approach to ambidexterity and affects performance positively (Bierly & Daly, 2007; Cegarra-Navarro & Dewhurst, 2007; Lubatkin et al., 2006). Summarizing, research generally agrees that harmonic unit-level ambidexterity causes positive performance effects in business units and SMEs. Scholars have discussed multiple antecedents of unit-level ambidexterity, most of which relate either to the behavioral context or the managerial characteristics (cf. Simsek et al., 2009).

### **Behavioral context and ambidexterity**

In their conceptualization of contextual ambidexterity, Gibson and Birkinshaw (2004) adopt Ghoshal and Bartlett's (1994) concept of a high-performance organizational context. They argue that a behavioral context characterized by both a performance context (discipline, stretch) and a social context (trust, support) enables and encourages individuals to effectively decide for themselves how to best divide their time between explorative and exploitative tasks. Their discipline, which is created through, for example, clear performance standards and open feedback, stimulates individuals to voluntarily strive to meet expectations. Stretch, on the other hand, drives individuals to exceed expectations and to pursue more, rather than less, ambitious goals. It requires the development of a shared ambition, collective identity, and the individuals' tasks to have a personal meaning for them. Trust allows individuals to rely on one another's commitment and is related to fair and participative decision making and competence. Finally, support may be induced through resource sharing and larger degrees of freedom, and leads individuals to assist others.

If the behavioral context was dominated by social elements, a 'country club atmosphere' (Gibson & Birkinshaw, 2004: 213) would emerge. New ideas would be pursued and experimented with, but efforts would lack a concise and consistent goal and the required commitment to execute and deliver the aspired results. In a purely performance oriented context, on the other hand, individuals would execute smoothly but without inspiration and passion likely leading to 'burn-out'. The organization would become a unidirectional steamroller slanted towards execution and implementation. Only if both performance management and social context together



constitute a unit's behavioral context, implementation and execution as well as innovation and experimentation can simultaneously be pursued leading to unit-level ambidexterity. In this, the performance management context encourages all individuals to deliver value by, for example, meeting and exceeding the performance goals when serving existing customers, or by implementing routine tasks. At the same time, the social context provides a supportive and trusting environment in which individuals can, for example, explore new business opportunities, or experiment with non-routine tasks without fearing immediate retribution for failure (Gibson & Birkinshaw, 2004).

Summarizing, contextual ambidexterity is achieved by carefully building a set of systems and processes that collectively cultivate a performance management and a social context, which, in combination, allow for the simultaneous pursuit of exploration and exploitation. Despite these important insights, it still remains largely unexplored how firms actually manage to build such an 'ambidextrous behavioral context' to achieve unit-level ambidexterity. Gibson and Birkinshaw (2004) suggested that managers' behavioral complexity may play a pivotal role in the creation of contextual ambidexterity, because managers create the systems, processes, and beliefs that may allow ambidextrous contexts to emerge. However, prior research did not explore the role of managerial characteristics as a driver of contextual ambidexterity further.

### **Managerial characteristics and ambidexterity**

Leadership research has long promoted the idea that managers should have 'the ability to hold two opposing ideas in mind at the same time and still be capable to retain the ability to function' (Carmeli & Halevi, 2009: 209). In line with this, scholars largely agree that effective managers should possess the cognitive complexity to handle paradox, contradiction, and complexity in their environment (Denison et al., 1995; Lewis, Welsh, Dehler, & Green, 2002). Furthermore, Denison and colleagues (1995) argue that such cognitive complexity should be extended to a behavioral complexity, a concept which connotes action as well as cognition. Consequently, behavioral complexity is not only an individual manager's ability to conceive multiple ambiguous and contradictory forces, including the simultaneous presence of opposites, but also his or her adequate response to these by performing multiple and opposing leadership roles and behaviors. This behavioral repertoire includes the leadership behaviors 'control,' 'compete,' 'create,' and 'collaborate' (Cameron, Quinn, & DeGraff, 2006).

Research on behavioral complexity has shown that managers, who reconcile opposing behaviors well, are more effective than those focusing on a single behavior (cf. Hooijberg, Hunt, & Dodge, 1997; Hart & Quinn, 1993; Lewis et al., 2002; Lawrence et al., 2009). This effectiveness might stem from the ability to stimulate new efforts while maintaining existing routines (Lawrence et al., 2009), which requires effective leaders to ‘be loose and tight, creative and routine, and formal and informal’ (Denison et al., 1995: 526).

Prior research started combining theory on behavioral complexity and organizational ambidexterity. Lewis and colleagues (2002) find that successful product development requires managers to reconcile the tension between innovation and efficiency by exhibiting a blend of different, to some degree opposing, project management styles. Organizational actors therefore need to assume both a ‘leader’ and a ‘manager’ role in order to explore and exploit (Lawrence et al., 2009). In line with this, Vera and Crossan (2004) propose that in order to successfully foster organizational learning, the most effective managers need to be ambidextrous in that they should be able to perform different leadership roles involving both transformational and transactional leadership elements. Accordingly, Jansen and colleagues (2009) find that managers, who combine both transformational and transactional leadership styles, may indeed be able to balance exploration and exploitation. Finally, Carmeli and Halevi (2009) propose a conceptual model that links behavioral complexity directly to organizational ambidexterity. They argue that a behaviorally complex top management team (TMT) is more likely to make balanced strategic decisions, as they are better able to conceive and act on the paradoxes and contradictions inherent to the exploration-exploitation tension.

Research on managerial characteristics and ambidexterity thus largely assumes that managers shape unit-level exploration and exploitation processes directly. However, some researchers comment on the behavioral context’s potential role. Carmeli and Halevi (2009) conceptualize the behavioral context as an independent moderator of the relationship between behavioral complexity and organizational ambidexterity. Further, Jansen and colleagues (2009) suggest that the relationship between leadership styles and contextual ambidexterity is a promising area for future research. However, to our knowledge, no prior research tested or theoretically explored the potential, intermediate role of the behavioral context.

In summary, there are two alternative perspectives in prior theory. Scholars in the field of contextual ambidexterity emphasize the relationship between the behavioral context and unit-level ambidexterity. Nevertheless, they acknowledge that managers may play a role in framing an ambidextrous behavioral context. Conversely, research on managerial characteristics argues that behaviorally complex managers affect unit-level ambidexterity directly through their immediate actions. In this study, we integrate these two alternative perspectives and test both the direct and indirect effects of managers' behavioral complexity on unit-level ambidexterity (please see Figure 3). The underlying hypotheses are subsequently developed in more detail.

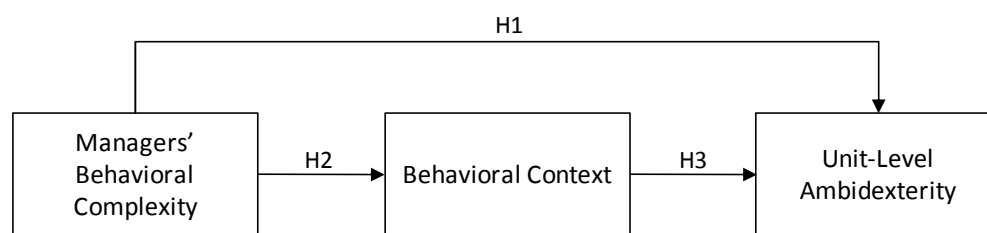


Figure 3: Hypothesized mediation model

## Theoretical Model

Leadership theories argue that managers shape the actions of individuals in their organizational units directly (cf. Boal & Hooijberg, 2000). Accordingly, they directly affect unit-level behavior through interactions with their immediate reports and by cascading strategic decisions to the organization (Jansen et al., 2009; Carmeli & Halevi, 2009). These decisions determine resource allocations and business activities, such as new product development projects, investments in efficiency-increasing automation technologies, and marketing strategies (Lubatkin et al., 2006). Such decisions thus directly shape a unit's exploration and exploitation processes.

Two distinct processes allow behaviorally complex managers to reconcile exploration and exploitation in decision-making – differentiation and integration (Carmeli & Halevi, 2009; Smith & Tushman, 2005; Satish, 1997). Differentiation refers to the process of dividing cognitive space into two or more bipolar dimensions, while integration reintegrates these differentiated dimensions to produce an outcome that takes the joint demands of each dimension into account (Satish, 1997). Behaviorally complex managers' decisions therefore i) recognize the different values and demands of exploration and exploitation, which, for example, results in the

division of resources between the innovative products and the existing products to allow both to be pursued without impeding the other; and ii) realize the opportunities, linkages, and synergies that might arise from the integration of explorative and exploitative activities (Carmeli & Halevi, 2009).

Consequently, as they not only possess the cognitive complexity to recognize and handle the opposing forces in their strategic action space, but also the ability to reconcile them (Denison et al., 1995), behaviorally complex managers are able to make balanced decisions that account for both exploration and exploitation (Carmeli & Halevi, 2009). Behaviorally complex managers will, for example, fund innovative and creative ventures targeted at exploring new technologies and ways to satisfy customers and at the same time initiate programs to fine-tune and increase the reliability of the existing offering to keep existing customers satisfied. Such decisions directly determine unit-level exploration and exploitation processes and business units led by behaviorally complex managers are therefore more likely to simultaneously pursue exploration and exploitation.

In line with this, Rosing, Frese, and Bausch (2011), as well as Mom, van den Bosch, and Volberda (2009) view behavioral complexity as an important ability of ambidextrous managers, whose behavior and decisions combine exploration and exploitation-related activities. Summarizing, we therefore argue that behaviorally complex managers' decisions may directly shape unit-level ambidexterity.

*Hypothesis 1: The higher a manager's degree of behavioral complexity, the higher the degree of unit-level ambidexterity.*

Besides directly influencing employee behavior, managers are expected to create the systems, processes, and beliefs that constitute the organizations' behavioral context (Ghoshal & Bartlett, 1994; Gibson & Birkinshaw, 2004; Jansen et al., 2009; Carmeli & Waldman, 2010). Their role in the creation of the behavioral context has also been stressed in other theoretical domains, such as the organizational culture literature, which argues that, managers influence the character of the organizational context through their deliberate actions, as well as their unintended behaviors (e.g., Tsui, Zhang, Wang, Xin, & Wu, 2006). With regard to the context-framing activities, authors distinguish between major strategic organizational actions on the macro level (e.g., the introduction of new incentive systems or the implementation of more effective management systems) and far more routine, seemingly minor, actions and

behaviors on the micro level (e.g., setting up of a benchmarking process or a meeting schedule, human resource-related policies regarding the hiring and filling of positions, the character of redundancy and promotion procedures, and managers' work attitude, commitment, and beliefs about what is right or wrong) (Ghoshal & Bartlett, 1994; Dickson, Smith, Grojean, & Ehrhart, 2001; Jung, Chow, & Wu, 2003). Thereby managers serve as role models and their actions and behavior are salient examples of how to behave (e.g., Carmeli & Waldman, 2010; Jansen et al., 2009; Carmeli & Halevi, 2009; Gibson & Birkinshaw, 2004). Such personal identification with managers' beliefs and the internalization of the objectives and cultural elements, as well as the institutionalization of expected behaviors in the unit's systems and processes shape a context that values and rewards routine and/or creative performance (Jung et al., 2003; Boal & Hooijberg, 2000; Yukl, 1999; Ghoshal & Bartlett, 1994).

Behaviorally complex managers are expected to create a behavioral context that values and rewards both creative and routine performance, as they are able to hold in mind and differentiate between multiple opposing ideas (Satish, 1997). The cognitive complexity required to embrace paradox, contradiction, and complexity in their environment is reflected in managers' values, perspectives, and personal beliefs, which become part of the behavioral context (Jung et al., 2003). In addition, behaviorally complex managers' daily actions and general behavior will also display looseness and tightness, creativity and routine, and formality and ease (Denison et al., 1995). This ability to switch easily between leadership behaviors (e.g., distant, participative control, and close, directive control) fosters discipline, motivation, and creativity (Lewis et al., 2002). Furthermore, it exemplifies the reconciliation of paradox, creating a context that encourages employees to adjust their behavior and successfully reconcile such tensions themselves. Behaviorally complex managers may therefore, for example, support creativity by ensuring a supportive work environment which tolerates benevolent failure (Jung et al., 2003), while, in parallel, inculcating a strong orientation towards the attainment of the organization's formal goals (Koene, Vogelaar, & Soeters, 2002).

Gibson and Birkinshaw (2004: 223) suggest that behavioral complex managers are likely to transcend 'the either / or of performance management and social context.' Accordingly, we summarize the theoretical arguments presented above by proposing that managers, who can combine different leadership styles, may build an ambidextrous behavioral context that reunites discipline, stretch, support, and trust.

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*Hypothesis 2: The higher a manager's degree of behavioral complexity, the more the behavioral context is characterized by both a performance management context and a social context.*

Ghoshal and Bartlett (1994) argued that the behavioral context influences the actions of all those within the company. Accordingly, we finally hypothesize that an ambidextrous behavioral context mediates the relationship between the managers' behavioral complexity and unit-level ambidexterity. As discussed above, behaviorally complex managers may be assumed to directly influence their unit's exploration and exploitation activities. At the same time, behavioral complexity may enable them to build an ambidextrous behavioral context characterized by both performance management and social elements.

Such an ambidextrous behavioral context facilitates the simultaneous pursuit of both exploration and exploitation, i.e. it fosters unit-level ambidexterity (Gibson & Birkinshaw, 2004). Gibson and Birkinshaw (2004: 210) further argue that 'superior business-unit performance is not achieved primarily through charismatic leadership. ... Rather, it is achieved by building a carefully selected set of systems and processes that collectively define a context that allows the meta-capabilities of alignment and adaptability to simultaneously flourish'. So according to Gibson and Birkinshaw (2004), it is primarily through the creation of a behavioral context reconciling performance management and social elements that behaviorally complex managers are able to foster ambidexterity (and ultimately performance). Summarizing this argument, behaviorally complex managers thus build ambidextrous behavioral contexts which in turn, as explained in the theoretical background, enable and encourage individuals to optimally divide their time between exploration and exploitation and thereby achieve unit-level ambidexterity.

Consequently, we suggest that the behavioral context's effect on the ability to reconcile exploration and exploitation mediates the positive effect that managers' behavioral complexity has on unit-level ambidexterity. Prior studies on the impact of leadership on organizational outcomes have already provided evidence that contextual elements, such as a learning culture (e.g., Nemanich & Vera, 2009), or the organizational climate (e.g., Jung et al., 2003; Pirola-Merlo et al., 2002), can have such a mediating effect.

*Hypothesis 3: A behavioral context characterized by both a performance management context and a social context mediates the relationship between a manager's degree of behavioral complexity and the unit-level's degree of ambidexterity.*

This theoretical model is contingent on the boundary condition that ambidexterity needs to be strived for at the unit level. This applies to fully integrated business units (e.g., Gibson & Birkinshaw, 2004) and SMEs which face the same competitive pressure to integrate exploration and exploitation (Bierly & Daly, 2007; Cegarra-Navarro & Dewhurst, 2007; Lubatkin et al., 2006). Consequently, our model does not apply to firms pursuing structural ambidexterity (e.g., Tushman & O'Reilly, 1996).

## **Methods**

To test our model, we conducted a large scale survey of two samples of managers and employees of central European SMEs and business units. We thus follow prior quantitative research on behavioral complexity (e.g., Denison et al., 1995; Lawrence et al., 2009) and unit-level ambidexterity (e.g., Gibson & Birkinshaw, 2004; Lubatkin et al., 2006; Jansen et al., 2012). Furthermore, we answer Lubatkin and colleagues' (2006) call to compare managerial characteristics' effects in SMEs and business units.

Since behavioral complexity is an individual-level construct (Denison et al., 1995; Lawrence et al., 2009), our study focuses on the role that an individual unit manager (SME CEO or business unit head) plays. CEOs usually play a dominant role in the SME context (Miller & Toulouse, 1986; Lefebvre et al., 1997; Lubatkin et al., 2006) and in many SMEs the TMT practically comprises just one person – the CEO (Brunninge, Nordqvist, & Wiklund, 2007). The role of a business unit head is comparable to that of an SME's CEO, as business unit heads usually 'have considerable autonomy, and sometimes are even bestowed such titles as president...or even CEO of their respective business units' (Finkelstein & Hambrick, 1996: 8).

### **Sampling**

**Sample 1.** With regard to the SME sample, we used the Hoppenstedt firm database to identify 1,079 Central European SMEs. We relied on the American Small Business Administration's (SBA) established general definition of SMEs as firms with 500 or fewer employees (Arend, 2006; Lubatkin et al., 2006; Lu & Beamish, 2001). Besides the five-page questionnaire, we sent the CEO of each SME an email with a cover letter

explaining our research project. The importance of their participation was emphasized, their confidentiality was ensured, and we offered an eventual summary report of our findings. A total of 190 completed questionnaires (18%) were returned, which compares well with similar studies in the field (cf. Sidhu, Commandeur, & Volberda, 2007; Simsek, Veiga, & Lubatkin, 2007). We eliminated 11 questionnaires due to missing data to reach a final sample of 179 complete questionnaires. To test for non-response bias, we examined the differences between the respondents and the non-respondents with regard to size. In addition, we tested for differences between the late and early respondents regarding all model variables (Simsek et al., 2007). There was no indication of non-response or late-response bias.

**Sample 2.** The business unit sample comprised 234 current and past participants of an executive education program targeted at business unit heads of large Central European corporations. We thus followed various previous studies with participants from executive (MBA) teaching programs (e.g., Cowan, 1990; Schneider & De Meyer, 1991; Van Dyne, Graham, & Dienesch, 1994; Wong, De Sanctis, & Staudenmayer, 2007; Sosik & Dinger, 2007; Lawrence et al., 2009; Briscoe, Hoobler, & Byle, 2010). The limitations of this sampling approach are discussed at the end of this paper. Following the same approach as in sample 1, we obtained questionnaires from 109 business unit heads (47%) of which we had to eliminate 16 due to incomplete questionnaires. Here, too, no non-response or late-response bias was detected.

**Single-informant bias.** Prior studies suggest that business unit heads and SME CEOs play both strategic and day-to-day operational roles in their organizations and are thus knowledgeable regarding their employees' behavioral context, as well as their exploration and exploitation activities (e.g., Simsek et al., 2007; Bierly & Daly, 2007; Cegarra-Navarro & Dewhurst, 2007; Jansen et al., 2008; Jansen et al., 2012). Similarly, managerial characteristics have been surveyed amongst business unit heads and SME CEOs (Lawrence et al., 2009; Miller & Toulouse, 1986; Gupta & Govindarajan, 1984). Still, many studies have additionally surveyed other respondents (e.g., subordinates or operational-level managers) to rule out single-informant bias (e.g., Lawrence et al., 2009; Lubatkin et al., 2006; Jansen, van den Bosch, & Volberda, 2006; Jansen et al., 2012).

Accordingly, we asked our primary respondents in both samples to nominate a second respondent (subordinates with operational responsibility) who we contacted separately with an identical questionnaire. This way we were able to obtain additional



questionnaires from 55 SMEs (sample 1) and 39 business units (sample 2), which compare well with the respective full samples in terms of the model and control variables. Using these additional responses, we were able to calculate the inter-rater agreement with regard to all model variables ( $r_{wg}$ ; James, Demaree, & Wolf, 1993). The average inter-rater agreement was well above the threshold value of 0.6 (Glick, 1985) for all the model variables, indicating no potential problems with single-informant bias (Jansen et al., 2012). For the subsequent analyses we therefore used the responses of our primary respondents (i.e. SME CEOs and business unit heads). In addition, since common method bias is often a concern in studies relying on single respondents, we followed prior studies and took several steps, described in Appendix A, to mitigate, detect, and control for this bias and found no evidence for it (Simsek et al., 2007).

### **Measures**

The scales and items were all established and based on prior studies in the field. All the constructs were measured using multi-item scales with seven-point Likert-style responses ranging from ‘I totally disagree’ to ‘I totally agree.’ The methodology literature on survey research was used to design, structure, and program our questionnaire (e.g., Dillman, Smyth, & Christian, 2008; Baruch & Holtom, 2008; Bednar & Westphal, 2006). First, we developed a draft of the questionnaire, which six fellow researchers pre-tested. They were familiar with the topic and had a good understanding of the underlying theory. Following these first pre-tests, the revised questionnaire was distributed to six CEOs of Central European SMEs, who were asked to comment on the structure, clarity, and design as a final pre-test. We received highly encouraging feedback regarding the questionnaire design and the relevance of our study.

***Unit-level ambidexterity.*** To measure the dependent variable, we followed the established two-step approach of extant ambidexterity research and constructed two separate scales for exploration and exploitation (e.g., Gibson & Birkinshaw, 2004; Lubatkin et al., 2006; Jansen et al., 2008; Jansen et al., 2012). These scales were based on those by Lubatkin and colleagues (2006). Each measure consisted of six items with which the respondents had to rate their unit’s explorative or exploitative orientation over the previous three years. Principal component factor analysis by means of varimax rotation, however, revealed a two-factor structure for each measure in both

samples. In addition, the reliability of the exploitation scale was below 0.7 in both samples.

A re-examination of the measures showed that in both samples the exploration items loaded on a factor reflecting exploration through innovation and creativity (four items) and on a factor reflecting exploration through entering new markets and customers (two items). Similarly, the exploitation items loaded on a factor representing exploitation through implementation and execution of routine tasks (four items) and on a factor representing exploitation through efficiency gains (two items). In both cases, the first factor more accurately represented the actual construct we aimed to measure following the definition of March (1991) and others. In line with prior studies, we therefore dropped the low loading and reliability decreasing items in each scale (Scott, Gibbons, & Coughlan, 2010; Piccolo & Colquitt, 2006; Janssen, 2001; Skarlicki, Folger, & Tesluk, 1999; Pillai, Schriesheim, & Williams, 1999; Busenitz, 1996; Peterson, 1994). To ensure that our findings were not affected by this deletion, we additionally replicated our models using the original full scales. Results were largely consistent adding to our confidence in the adapted measures employed.

After elimination of the two items in each scale our measures reported adequate reliabilities for the exploration scale ( $\alpha = 0.83$  for sample 1;  $\alpha = 0.81$  for sample 2), as well as for the exploitation scale ( $\alpha = 0.73$  for sample 1;  $\alpha = 0.77$  for sample 2). We then calculated the inter-rater agreement ( $r_{wg}$ ; James et al., 1993) of the firms and business units for which we had additional responses from an operational-level subordinate. For sample 1 and 2, the average inter-rater agreement regarding the exploration scale was 0.83 and 0.77, and 0.86 and 0.82 for the exploitation scale. This suggests adequate agreement (Jansen et al., 2012; Glick, 1985). The final measure thus comprised two four-item scales (see Appendix B). In a second step, we then followed previous research, which assumes that exploration and exploitation are orthogonal and non-substitutable, and combined both scales by multiplication into one measure for unit-level ambidexterity (Gibson & Birkinshaw, 2004; Jansen et al., 2008; Jansen et al., 2012). In addition, following prior studies in the field we replicated our analyses with an additive and subtractive conceptualization of the ambidexterity measure as well as an alternative ambidexterity measure based on the alignment and adaptability scales suggested by Gibson and Birkinshaw (2004) (Lubatkin et al., 2006; Jansen et al., 2012). Results stayed largely consistent.

**Behavioral Context.** We operationalized the behavioral context on the basis of Gibson and Birkinshaw's (2004) original paper on contextual ambidexterity. Again, the measure consisted of two scales – one for the performance management context and one for the social context – which were combined by multiplication into one behavioral context measure, as they need to be considered holistically and are non-substitutable (Gibson & Birkinshaw, 2004). Also here we tested alternative conceptualizations and results stayed largely consistent. The original scales consisted of seven items reflecting the performance management context and nine items reflecting the social context. The scale for the social context was reliable ( $\alpha = 0.85$  for sample 1;  $\alpha = 0.88$  for sample 2), comparing well with Gibson and Birkinshaw's (2004) measure. The performance management scale, however, again needed to be reduced to reach adequate reliability.

Re-examination of the scale revealed that two items reflecting the setting of aggressive and follow up of aggressive goals did not fit into the overall scale. Following factor and reliability analyses and in line with prior studies, these two items were therefore eliminated (Scott et al., 2010; Piccolo & Colquitt, 2006; Janssen, 2001; Skarlicki et al., 1999; Pillai et al., 1999; Busenitz, 1996; Peterson, 1994). The adapted scale still showed a weak but acceptable reliability of  $\alpha = 0.71$  for sample 1 and  $\alpha = 0.67$  for sample 2. But again, results also remained largely consistent when employing the original full scales.

We calculated the inter-rater agreement of the firms and business units that had returned an additional questionnaire. The average  $r_{wg}$  score of the social context was 0.81 (sample 1) and 0.86 (sample 2), while that of the performance management context was 0.80 (sample 1) and 0.83 (sample 2), thus suggesting adequate agreement (Jansen et al., 2012; Glick, 1985). Please refer to the Appendix B for our final scales.

**Behavioral Complexity.** We used Lawrence and colleagues' (2009) 36-item instrument to measure behavioral complexity. They extended and improved the original 16-item measure developed by Denison and colleagues (1995). Each behavioral category (collaborate, control, create, and compete) was measured with a nine-item scale reflecting the leadership behavior inherent to the respective category. The reliability scores of the four scales were high in both samples (between 0.82 and 0.92), comparing well with Lawrence and colleagues' (2009) results.

Again we calculated the inter-rater agreement of those firms and business units for which we had two questionnaires in our data set. The average inter-rater agreement was well above the cut-off value of 0.6 (Glick, 1985) for all scales in both samples, suggesting adequate agreement (Jansen et al., 2012). Please refer to the Appendix B for the final scales. To arrive at a score for behavioral complexity, we multiplied all four behavioral categories, following the same logic as described for unit-level ambidexterity and the behavioral context (cf. Gibson & Birkinshaw, 2004; Jansen et al., 2008). Results, however, were again largely consistent when using an additive term to calculate a score for behavioral complexity.

**Control Variables.** The control variables were also adopted from prior literature. We accounted for *connectedness*, as it has been found to influence unit-level ambidexterity (Jansen et al., 2006; Jansen et al., 2009; Mom et al. 2009). Similarly, Jansen and colleagues (2006) argue that structural characteristics may have an effect on ambidexterity, and we thus controlled for *centralization*, *formalization*, and *specialization* in our analyses. We further controlled for *size* (number of employees) and *age*, which have been related to inertia, flexibility, resource availability, and the possible development of routines to deal with complex situations (cf. Lubatkin et al., 2006; Jansen et al., 2006; Jansen et al., 2012). In addition, we included controls for *client focus* (private clients vs. business clients), as they determine the kind of markets and product ranges (Jansen et al., 2006). Furthermore, managers' experience could play an important role in dealing with complexity in the environment (Mom et al., 2009). We therefore controlled for managers' *age*, *tenure*, and *tenure in the current position* to capture their level of experience (Jansen et al., 2008; Mom et al., 2009). Another determinant of a manager's capabilities is his or her education; consequently, we controlled for level of *education* (Mom et al., 2009). We also controlled for *environmental dynamism*, which has been found to influence explorative and exploitative activities (cf. Jansen et al., 2008; Mom et al., 2009; Jansen et al., 2012).

Table 1: Means, standard deviations, and correlations

SAMPLE 1:

Variable	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Unit-level Ambidexterity	29.13	9.42	1														
2 Behavioral Context	24.99	7.95	.525**	1													
3 Behavioral Complexity	902.01	372.59	.487**	.614**	1												
4 Connectedness	4.56	.85	.404**	.658**	.499**	1											
5 Formalization	4.24	1.31	.034	.165*	.315**	.276**	1										
6 Centralization	2.95	1.20	-.156*	-.292**	-.006	-.147*	.238**	1									
7 Specialization	5.08	.94	.224**	.329**	.414**	.304**	.478**	.127	1								
8 Size	164.87	112.29	.045	.035	.069	.024	.039	.149*	.231**	1							
9 Age	49.18	40.44	.126	.044	.167*	.035	.000	.113	.175*	.273**	1						
10 Client Focus	1.92	.26	.094	.114	.145*	.017	.018	-.075	.063	.048	-.108	1					
11 Manager Age	51.01	8.15	.100	.182*	.235**	.072	.082	-.009	.157*	.072	.047	.045	1				
12 Tenure	14.45	10.86	.220**	.228**	.201**	.160*	-.020	-.129	.044	.014	.132	.026	.501**	1			
13 Tenure in Current Position	9.88	8.11	.182*	.194**	.167*	.112	-.067	-.123	.012	-.002	.099	.017	.529**	.779**	1		
14 Education	3.01	.64	-.051	-.096	-.092	-.031	-.056	.095	.044	.018	.048	-.014	.032	-.0193**	-.090	1	
15 Environmental Dynamism	5.23	1.27	.235**	.055	.325**	.110	.094	.077	.105	.051	.049	.082	.128	-.021	.025	.040	1

SAMPLE 2:

Variable	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Unit-level Ambidexterity	26.95	9.58	1														
2 Behavioral Context	22.85	8.26	.597**	1													
3 Behavioral Complexity	762.84	414.42	.567**	.638**	1												
4 Connectedness	4.63	.78	.404**	.626**	.527**	1											
5 Formalization	4.91	1.13	.039	.130	.283**	.221*	1										
6 Centralization	3.03	1.25	-.219*	-.514**	-.407**	-.403**	.021	1									
7 Specialization	5.09	.90	.096	.206*	.280**	.227*	.482**	-.091	1								
8 Size	1003.40	1865.32	-.100	-.087	-.031	.009	-.008	-.091	-.058	1							
9 Age	59.01	53.55	-.041	.010	.063	-.019	.242*	-.068	.092	.137	1						
10 Client Focus	1.60	.49	.129	-.116	-.055	-.081	-.085	.175	.075	-.101	-.138	1					
11 Manager Age	49.10	5.82	.067	.158	.185	.177	.201*	-.098	.197	.145	.102	.076	1				
12 Tenure	11.45	8.83	.090	.231*	.222*	.255*	.112	-.213*	.115	.276**	.199	-.069	.330**	1			
13 Tenure in Current Position	5.57	4.11	.047	.177	.218*	.199	.140	-.334**	.240*	.026	.190	-.064	.352**	.521**	1		
14 Education	2.78	.68	-.108	-.077	-.142	.009	-.146	-.029	-.175	.164	-.279**	-.100	-.041	-.048	-.078	1	
18 Environmental Dynamism	5.33	1.38	.243*	.121	.360**	.083	.210*	-.252*	.172	.064	.200	-.270**	.051	.072	.128	-.217*	1

\*\* p < 0.01

\* p < 0.05

## Analyses and Results

Table 1 presents the descriptive statistics and correlations of all the model variables. Table 2 shows the results of the hierarchical regression analyses with model 0, the baseline model, containing only the control variables. Model 1 adds the effect of behavioral complexity on unit-level ambidexterity. In model 2, we include both behavioral complexity and behavioral context as predictors of unit-level ambidexterity. Finally, model 3 shows the effect of behavioral complexity on the ambidextrous behavioral context.

We followed prior studies and calculated the variance inflation factors (VIFs) to identify potential problems with multicollinearity (e.g., Mom et al., 2009; Jansen et al., 2008). All the VIFs are between 1.1 and 2.8 in both samples, i.e. far below the threshold value of 10 (Neter, Wasserman, & Kutner, 1990). The VIFs of our main variables in model 2 are 2.2 and 2.2 (behavioral complexity) and 2.6 and 2.6 (behavioral context) in sample 1 and sample 2, respectively. These results indicate that multicollinearity does not seem to be a problem in our models (cf. Mom et al., 2009).

***Test of Direct Effects.*** Hypothesis 1 posits that managers' behavioral complexity is positively related to unit-level ambidexterity. Model 1 shows that the coefficient for behavioral complexity was positive and significant with regard to both samples ( $\beta = 0.34$ ,  $p < 0.001$  for sample 1;  $\beta = 0.46$ ,  $p < 0.001$  for sample 2). Hypothesis 1 is therefore supported with regard to both samples. According to hypothesis 2, behavioral complexity also has a positive effect on the ambidextrous behavioral context. As can be seen from model 3, hypothesis 2 is also supported with regard to both samples ( $\beta = 0.40$ ,  $p < 0.001$  for sample 1;  $\beta = 0.42$ ,  $p < 0.001$  for sample 2).

***Test of Mediating Effects.*** Hypothesis 3 further predicts a mediated relationship between behavioral complexity and unit-level ambidexterity, with the behavioral context as the mediator. We followed Baron and Kenny's (1986) approach to test for a mediation effect. The first step is to show that there is a relationship between the independent variable (behavioral complexity) and the dependent variable (unit-level ambidexterity). Hypothesis 1 in model 1 above supports this. Second, the independent variable should influence the mediator (ambidextrous behavioral context) – this too is supported by means of hypothesis 2 in model 3 above. The third condition is that in the full model (i.e. with both the independent variable and the mediator as predictors), the mediator should have a significant effect on the dependent variable. Model 2

shows that the coefficient of an ambidextrous behavioral context is positive and significant ( $\beta = 0.34$ ,  $p < 0.001$  for sample 1;  $\beta = 0.56$ ,  $p < 0.001$  for sample 2). If, finally, the coefficient for the independent variable becomes insignificant in the full model, full or perfect mediation is indicated (Baron & Kenny, 1986). Regarding the last condition, however, Baron and Kenny (1986) envisage a continuum. If the coefficient is not insignificant (i.e. there is no full or perfect mediation), but the effect is less than in the unmediated model, partial mediation can be assumed (Baron & Kenny, 1986). With regard to sample 1 (SMEs), model 2 provides evidence of such partial mediation, as the coefficient of behavioral complexity decreases but remains significant, although on a lower level ( $\beta = 0.20$ ,  $p < 0.05$ ). With regard to sample 2 (business units), full or perfect mediation is indicated as the effect of behavioral complexity becomes insignificant and decreases ( $\beta = 0.22$ , n.s.). Thus hypothesis 3 is supported for sample 2, while it is only partially supported with regard to sample 1.

In addition, we tested the statistical significance of behavioral complexity's indirect effect on unit-level ambidexterity via behavioral context by using the unmodified Sobel test (Sobel, 1982; MacKinnon, Warsi, & Dwyer, 1995). The results were, however, constant when we used the modifications in keeping with Baron and Kenny (1986) or Goodman (1960). The test statistic of sample 1 was 3.22 ( $p < 0.01$ ) and that of sample 2 was 3.01 ( $p < 0.01$ ). Furthermore, we tested the indirect effect with bootstrapping (Bollen & Stine, 1990; Shrout & Bolger, 2002; Preacher & Hayes, 2008). Zero did not lie in any of the 95 percent confidence intervals of sample 1 and sample 2. The results of the Sobel tests, as well as of the bootstrapping both indicate that the indirect effects were significant (Baron & Kenny, 1986).

***Common method bias and robustness of models.*** As previously mentioned, we describe in Appendix A the findings from the steps we took to mitigate, detect, and control for common method bias. In addition, we tested the robustness of our models by replicating our models with alternative dependent variables, with measures based on the original full scales including all items (i.e. before item deletion following our factor and reliability analyses as described in the measures section), with responses from multiple sources to validate our single-source findings, and by performing two-stage least squares regressions (Simsek et al., 2007). These tests, which are also described in more detail in Appendix A, suggest that our core findings are robust.

<b>SAMPLE 1:</b>				
Variable	Model 0: Unit-level Ambidexterity	Model 1: Unit-level Ambidexterity	Model 2: Unit-level Ambidexterity	Model 3: Ambidextrous Behavioral Context
<b>Model variables</b>				
Behavioral Context			.34***	
Behavioral Complexity		.34***	.20*	.40***
<b>Control variables</b>				
Connectedness	.34***	.21**	.07	0.41***
Formalization	-.11	-.14	-.12	-.06
Centralization	-.09	-.10	-.02	-0.21***
Specialization	.14	.08	.04	.11
Size	-.04	-.02	-.03	.01
Age	.07	.03	.04	-.04
Client Focus	.05	.02	.01	.03
Manager Age	-.07	-.11	-.12	.05
Tenure	.17	.16	.17	-.02
Tenure in Current Position	.03	.02	.01	.04
Education	.02	.06	.07	-.05
Environmental Dynamism	.17*	.10	.14*	-0.11*
<b>Model Summary</b>				
R <sup>2</sup>	.26	.33	.37	.62
Adjusted R <sup>2</sup>	.21	.28	.32	.59
ANOVA F	4.93***	6.19***	6.96***	20.47***
<b>SAMPLE 2:</b>				
<b>Model variables</b>				
Behavioral Context			.56***	
Behavioral Complexity		.46***	.22	.42***
<b>Control variables</b>				
Connectedness	.42***	.24*	.08	.30**
Formalization	-.14	-.17	-.16	-.01
Centralization	-.02	.07	.22*	-.27**
Specialization	.01	-.02	-.03	.01
Size	-.11	-.07	-.01	-.11
Age	-.02	-.01	.00	-.02
Client Focus	.22*	.19*	.24**	-.09
Manager Age	.01	-.01	-.04	.06
Tenure	.06	.02	-.02	.07
Tenure in Current Position	-.07	-.06	.00	-.11
Education	-.11	-.07	-.05	-.04
Environmental Dynamism	.27*	.16	.23**	-.14
<b>Model Summary</b>				
R <sup>2</sup>	.32	.44	.53	.61
Adjusted R <sup>2</sup>	.19	.32	.43	.55
ANOVA F	2.89**	4.45***	6.68***	9.54***

Note: standardized regression coefficients are reported

\*\*\* p < .001

\*\* p < .01

\* p < .05

Table 2: Results of regression analysis

## Discussion

Since Gibson and Birkinshaw's (2004) article on contextual ambidexterity, interest in the effects, nature, and drivers of a reconciliation of exploration and exploitation within a single organizational unit has increased steadily (Jansen et al., 2012). While research has provided very relevant insights into the contextual and managerial antecedents of unit-level ambidexterity, our theoretical understanding of the relationship between the two is still limited. We therefore developed and tested a model of how the behavioral complexity of managers leads – directly and indirectly through the creation of an ambidextrous behavioral context – to unit-level ambidexterity. Thereby, we complement and contribute to prior research in three ways.



First, this paper empirically tests the role of individual managers in achieving unit-level ambidexterity. It thus answers the call by Jansen and colleagues (2009) to investigate the effect of a manager's ability to blend different leadership styles on ambidexterity. Similarly, it answers Gibson and Birkinshaw's (2004) call to systematically investigate if and how managers' behaviors help create contextual ambidexterity. Prior research has regarded managerial characteristics as either indirectly supporting unit-level ambidexterity or directly influencing it (cf. Raisch & Birkinshaw, 2008). Our findings confirm both mechanisms. However, our study is the first to show that they are not alternatives, but may occur simultaneously. Our data indicates that managers can shape unit-level explorative and exploitative activities through their behavior and, at the same time, build the systems and processes to further foster an ambidextrous behavioral context for their employees. This has novel implications for both contextual and managerial ambidexterity theory. Given the pivotal role of managerial characteristics in shaping the behavioral context, we argue that contextual ambidexterity can hardly be conceptualized independently of the managerial forces behind it. Accordingly, future research should be encouraged in this area to build on our findings and broaden our theoretical understanding of the drivers that allow reconciling performance management and social elements in a unit's behavioral context. In the same vein, managerial ambidexterity theory's assumption that managers' characteristics have a direct effect on unit-level ambidexterity only tells one side of the story. This line of research could gain much explanatory power if more attention were paid to the question of how managers – beyond their immediate actions – become effective in their organization; they could, for example, build an ambidextrous behavioral context for all their employees.

Second, we provide evidence of the potential interrelations of individual-level and unit-level ambidexterity. On the individual level, the positive effects of ambidextrous managers have long been suggested in ambidexterity and leadership research (e.g., Tushman & O'Reilly, 1996; Smith & Tushman, 2005; Rosing et al., 2011). So far, however, the ambidexterity of individual managers (Mom et al., 2009) and ambidexterity on the unit level (Gibson & Birkinshaw, 2004) have been treated as independent means of reconciling the conflicting demands of exploration and exploitation. Conversely, our findings show that ambidextrous abilities on the individual level (behavioral complexity) and unit level (behavioral context) are interdependent. If an individual manager has the ability to reconcile exploration and

exploitation in his or her values, beliefs, and behavior, this person appears also better able to develop a unit-level behavioral context that allows all employees to better decide for themselves how to best divide their attention and resources between the two activities. Thus an ambidextrous behavioral context is both an outcome of ambidexterity at the manager level and at the same time a contextual antecedent of ambidexterity at the unit level. For a more comprehensive analysis of the effectiveness of ambidextrous managers, future research may extend our study and investigate how individual-level behavioral complexity interacts with the structural antecedents of ambidexterity on the unit level.

Our third contribution relates to the influence of governance on the effectiveness of different types of ambidexterity. We found that contextual antecedents allow for reconciling exploration and exploitation in both SMEs and business units, while we also observed a significant direct effect of managerial antecedents in SMEs. This phenomenon may be explained by the different governance forms of SMEs and business units. The governance forms may potentially impact the direct effect that managerial characteristics have on a unit's ability to reconcile exploration and exploitation. Even though unit-level managers may be involved in the strategy process by championing and synthesizing activities, the resulting business unit strategy will also reflect the corporate-level strategic directives strongly (Floyd & Lane, 2000). Accordingly, corporate-level top management often drives the resource allocation process directly (e.g., Schendel & Hofer, 1979; Adner & Helfat, 2003). Conversely, in SMEs, the corporate and unit levels usually merge into one (Lefebvre *et al.*, 1997). Accordingly, SME managers appear to have a much stronger direct effect on ambidexterity in the sense that unit-level outcomes reflect their individual characteristics, behavior, and preferences. This finding has important implications for future research on unit-level ambidexterity and organizational ambidexterity in general.

Over the past decade, we have strived to develop an ever more fine-grained understanding of different paths to reconcile exploration and exploitation. Today, scholars increasingly advocate a consolidation of the field of ambidexterity research. Our study is a modest first step in this direction, as we provide evidence that the effectiveness of different paths to ambidexterity may depend on the type of organization or unit under study. We strongly encourage scholars to further investigate

the conditions under which different mechanisms foster the ability to reconcile exploration and exploitation.

Our findings are equally relevant for managerial practice. In the current competitive environment, SMEs and business units are particularly affected or even endangered by the exploration-exploitation trade-off (cf. Bierly & Daly, 2007). Accordingly, it is vital for managers of these units to develop a better understanding of how they can contribute to reconciling the two activities. It might be counterintuitive for some that managers may primarily (in SMEs) or solely (in business units) affect ambidexterity by framing an ambidextrous behavioral context that allows all employees to decide for themselves how to divide their attention between exploration and exploitation. This suggests a shift in managers' activity focus from direct engagement and decision making towards context-building and role modeling.

We are aware of this study's various limitations and regard them as promising areas for future research. First, while acknowledging the direct and indirect influence of managers' behavioral complexity on unit-level behavior, we do not explore the capabilities required from those on the lower hierarchical levels in detail. Further research into the role of individual employees' behavior and capabilities could be a fruitful extension of this study. Second, the present paper focuses on the role of a single manager. However, Lubatkin and colleagues (2006), for example, find that top management team processes in SMEs affect ambidexterity. Similarly, Jansen and colleagues (2008) find that senior team attributes, such as social integration, contingency awards, and shared vision, influence the organizational ambidexterity of a large financial services firm's branches. Future research could investigate how individual-level characteristics, for example, the behavioral complexity of CEOs, interact with top management team characteristics and processes in the pursuit of unit-level ambidexterity. Third, our study has a cross-sectional nature, although the benefits of ambidexterity may also reside in its long-term effects (Raisch et al., 2009). We therefore strongly encourage longitudinal studies to verify and extend our findings. Finally, using the participants of an executive teaching program as the basis for sample 2 has some limitations. Although we follow various prior studies by using them (e.g., Briscoe et al., 2010; Sosik & Dinger, 2007; Tsui et al., 2006; Cowan, 1990), the results may not be generalizable to other executives (Cowan, 1990). Taking part in such a program might, for example, alter the leadership characteristics due to knowledge gained in the program. We thus strongly encourage future research to test our findings

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in a more diverse sample. Such research might also reveal the influence of such programs on leadership qualities and the effects they have (Cowan, 1990; Sosik & Dinger, 2007).

## **Conclusion**

As the reconciliation of exploration and exploitation within a single organizational domain, unit-level ambidexterity has become increasingly relevant in academic research and managerial practice. Our study sheds light on the question whether and how managers' individual characteristics play a direct or an indirect role in achieving such unit-level ambidexterity. Furthermore, the study emphasizes the key role of a unit's internal behavioral context. We hope that this paper sparks further interest in the drivers of an ambidextrous behavioral context. We also suggest that developing a better understanding of how ambidexterity emerges might require studying the type of unit or organization in which this happens in greater depth.

## Appendix A

### Addressing common method bias

The testing of our hypothesized model requires a large sample of firms and we therefore primarily relied on the responses of the 179 SME CEOs and 93 business unit heads. In this, we followed prior studies in the field who argue that CEOs and business unit heads are knowledgeable respondents with regards to our model variables (e.g., Simsek et al., 2007; Bierly & Daly, 2007; Cegarra-Navarro & Dewhurst, 2007; Jansen et al., 2008; Jansen et al., 2012; Lawrence et al., 2009; Miller & Toulouse, 1986; Gupta & Govindarajan, 1984). Still, in studies relying on single respondent survey data, common method bias often is a big concern.

To *mitigate* potential biasing effects, we carefully constructed all survey items and used pre-tested, established multidimensional constructs (Simsek et al., 2007; Nell & Ambos, 2013). Furthermore, our questionnaire design aimed at avoiding consistency motif and social desirability, e.g., the respondents were guaranteed confidentiality and anonymity, we emphasized that there were no right or wrong answers, and the independent and dependent variables were surveyed in separated sections (Chang, van Witteloostuijn, & Eden, 2010; Nell & Ambos, 2013). In addition, we placed some items which were irrelevant for this paper within the survey between the dependent and independent variables (including covariates) ‘to decouple the responses to the different questions and to establish methodological separation of our constructs’ (Nell & Ambos, 2013: 8). Finally, our model integrates perceptual data, objective data (e.g., age, tenure, education) and secondary data (e.g., size) (Nell & Ambos, 2013). All these mitigating measures lessen the likelihood of a common method bias.

To *detect* common method bias, we followed prior studies and performed several tests (namely, Harman’s single-factor test and confirmatory factor analysis (CFA)) (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Simsek et al., 2007; Nell & Ambos, 2013). If common method bias was a serious issue in our study, a dominant single factor would explain the majority of the covariance in the dependent and independent variables. Principal component analysis revealed that the first factor accounts for less than 15 percent of the variance in both samples, thus not negating but limiting concerns about the potential common method bias (Podsakoff & Organ, 1986; Sidhu et al., 2007; Im & Rai, 2008; Zhao & Anand, 2009; Mom et al., 2009; Nell & Ambos, 2013). We then used CFA to more sophisticatedly test the hypothesis that a single

factor accounts for all the variance in our data by comparing our measurement model to a one-factor, three-factor, and five-factor model structure (Simsek et al., 2007). This involved different combinations of our variables (e.g., to test the five-factor model we combined all behavioral categories into one single latent factor). The goodness-of-fit indices indicated a poorer fit of these models compared to our hypothesized measurement model, in particular also for the single-factor model, ‘which suggests that biasing from common method variance is unlikely’ (Simsek et al., 2007: 1419). Significant chi-square reductions were also clear evidence of the hypothesized model outperforming all other configurations in terms of discriminant validity (Simsek et al., 2007).

Additionally, to more directly *control* for common method bias, we used the data from the additional respondents which we were able to collect from 55 SMEs and 39 business units (Simsek et al., 2007; Nell & Ambos, 2013). First, as mentioned in the measures section, inter-rater reliability was high for all model variables corroborating our primary informants’ responses (Simsek et al., 2007; Nell & Ambos, 2013). Second, to establish comparability between these subsamples and the overall samples, we replicated models 1-3 for the two subsamples but using only the primary informant’s responses (Simsek et al., 2007). Results were largely consistent in direction and magnitude with the results for the overall samples. Then we conducted the same tests for the subsamples but using data from multiple sources; that is we used primary respondent data for the independent and secondary respondent data for the dependent variables (Simsek et al., 2007). In addition, we replicated these tests with averaged data from both respondents and data from secondary respondents only. Results of these tests were largely consistent with regard to our hypotheses.

Moreover, although not overly complex, a mediating model is not ‘likely to be part of the individual raters’ cognitive maps’ (Chang et al., 2010: 180). Finding strong support for mediation despite the potential influence of common method bias in the data set should rather be taken as strong evidence that these mediation effects actually exist (Nell & Ambos, 2013). Thus in sum, although we cannot rule out the potential for common method bias, we are confident that it is not of major concern in our study.

### **Addressing endogeneity and robustness of models**

We used two additional methods to test the robustness of our findings. First, we used an alternative dependent variable and replicated our findings with subsamples of

our overall sample and second, we used two-stage least squares regression (Simsek et al., 2007).

As mentioned before, using alternative conceptualization of our dependent and independent variables yielded largely consistent results. More interestingly, we also used an alternative measure for ambidexterity which was based on the alignment and adaptability scales employed by Gibson and Birkinshaw (2004). ‘Alignment refers to coherence among all the patterns of activities in the business unit; they are working together toward the same goals. Adaptability refers to the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment’ (Gibson & Birkinshaw, 2004: 209). Replicating our regressions with this alternative measure yielded largely consistent results. Moreover, this alternative measure was significantly correlated with the exploration and exploitation based measure we used, providing further confidence in our findings (Simsek et al., 2007).

Finally, to determine whether our estimates suffer from simultaneity and endogeneity, we replicated our findings by performing two-stage least square regression (2SLS) using instrumental variables (Simsek et al., 2007). We focused these tests on the relation of our independent variable (behavioral complexity) with the dependent variable (behavioral context, unit-level ambidexterity) as the direction of the relationship between behavioral context and unit-level ambidexterity has effectually been demonstrated by Gibson and Birkinshaw (2004). In each 2SLS run we used exogenous and objective instrumental variables such as tenure, tenure in current position – identified by theorizing and exploratory regressions – to replace behavioral complexity (Simsek et al., 2007; Brush, Dangol, & O’Brien, 2012). 2SLS regressions produced largely consistent results with the results we report in Table 2, suggesting that behavioral complexity was not endogenous and we can rely on our ordinary least squares results reported here (Brush et al., 2012; Brouthers & Dikova, 2010; Marcel, 2009; Simsek et al., 2007).

## Appendix B

### Measures and items

The questions were administered with a seven-point Likert-type scale anchored by 1 = 'I totally disagree' and 7 = 'I totally agree.' Reliabilities for each scale are reported in parentheses regarding sample 1 and sample 2.

Measure	Items	Reference
Exploitation ( $\alpha = 0.73$ ; $\alpha = 0.77$ )	i) Constantly surveying existing customers' satisfaction ii) Continuous improvement of product reliability iii) Fine-tuning of existing offering to keep current customers satisfied iv) Penetrating more deeply into existing customer base v) Increase in automation in operations (deleted) vi) Commitment to lower cost (deleted)	Lubatkin <i>et al.</i> (2006)
Exploration ( $\alpha = 0.83$ ; $\alpha = 0.81$ )	i) Search for novel ideas / thinking outside the box ii) Success is based on ability to explore new technologies iii) Creation of innovative products or services iv) Looking for creative ways to satisfy customers v) Venturing into new market segments (deleted) vi) Targeting new customer groups (deleted)	Lubatkin <i>et al.</i> (2006)
Performance Context ( $\alpha = 0.71$ ; $\alpha = 0.67$ )	i) Issue creative challenges to people, instead of narrowly defining tasks ii) Be more focused on getting the job done well than on getting promoted iii) Hold people accountable for their performance iv) Use appraisal feedback to improve performance v) Make a point of stretching people vi) Set challenging / aggressive goals (deleted) vii) Reward or punish based on rigorous measurement of business performance against goals (deleted)	Gibson & Birkinshaw (2004)
Social Context ( $\alpha = 0.85$ ; $\alpha = 0.88$ )	i) Devote considerable effort to developing subordinates ii) Give everyone sufficient authority to do their jobs well iii) Push decisions down to the lowest appropriate level iv) Give ready access to information that others need v) Work hard to develop the capabilities needed to execute the overall strategy/vision vi) Base decisions on facts and analysis, not politics vii) Treat failure (in a good effort) as a learning opportunity, not something to be ashamed of viii) Be willing and able to take prudent risks ix) Set realistic goals	Gibson & Birkinshaw (2004)



Measure	Items	Reference
Collaborate ( $\alpha = 0.82$ ; $\alpha = 0.92$ )	<ul style="list-style-type: none"> <li>i) Making it legitimate to contribute opinions</li> <li>ii) Employing participative decision making</li> <li>iii) Maintaining an open climate for discussion</li> <li>iv) Encouraging career development</li> <li>v) Seeing that everyone has a development plan</li> <li>vi) Coaching people on career issues</li> <li>vii) Being aware of when people are burning out</li> <li>viii) Encouraging people to have work/life balance</li> <li>ix) Recognizing feelings</li> </ul>	Lawrence <i>et al.</i> (2009)
Compete ( $\alpha = 0.82$ ; $\alpha = 0.85$ )	<ul style="list-style-type: none"> <li>i) Emphasizing the need to compete</li> <li>ii) Developing a competitive focus</li> <li>iii) Insisting on beating outside competitors</li> <li>iv) Showing an appetite for hard work</li> <li>v) Modeling an intense work effort</li> <li>vi) Demonstrating full exertion on the job</li> <li>vii) Getting work done quicker in the unit</li> <li>viii) Producing faster unit outcomes</li> <li>ix) Providing fast responses to emerging issues</li> </ul>	Lawrence <i>et al.</i> (2009)
Create ( $\alpha = 0.85$ ; $\alpha = 0.88$ )	<ul style="list-style-type: none"> <li>i) Meeting with customers to discuss their needs</li> <li>ii) Identifying the changing needs of the customer</li> <li>iii) Anticipating what the customer will want next</li> <li>iv) Initiating bold projects</li> <li>v) Starting ambitious programs</li> <li>vi) Launching important new efforts</li> <li>vii) Inspiring direct reports to be creative</li> <li>viii) Encouraging direct reports to try new things</li> <li>ix) Getting unit members to exceed traditional performance patterns</li> </ul>	Lawrence <i>et al.</i> (2009)
Control ( $\alpha = 0.85$ ; $\alpha = 0.88$ )	<ul style="list-style-type: none"> <li>i) Seeing that corporate procedures are understood</li> <li>ii) Insuring that company policies are known</li> <li>iii) Making sure formal guidelines are clear to people</li> <li>iv) Emphasizing the need for accuracy in work efforts</li> <li>v) Expecting people to get the details of their work right</li> <li>vi) Emphasizing accuracy in work efforts</li> <li>vii) Providing tight project management</li> <li>viii) Keeping projects under control</li> <li>ix) Closely managing projects</li> </ul>	Lawrence <i>et al.</i> (2009)

### **3. CONNECTING FOR HARMONIC AMBIDEXTERITY IN SMES: THE MODERATED MEDIATING ROLE OF THE BEHAVIORAL CONTEXT**

#### **Abstract**

Harmonic ambidexterity, the ability to reconcile exploration and exploitation across an entire organizational entity, has been found to benefit SME performance. Prior research suggests that such harmonic ambidexterity can be achieved through contextual mechanisms that may be behavioral (i.e. behavioral context) or relational (i.e. connectedness). However, we lack a theoretical understanding of how these two mechanisms are related and interact in the reconciliation of exploration and exploitation. Based on a quantitative study of 184 SMEs, we find that the relationship between formal and informal internal connectedness and harmonic ambidexterity is fully mediated by the behavioral context. Further, this relationship is moderated by informal external connectedness. Our findings extend prior ambidexterity theory in drawing a more comprehensive and differentiated picture of how formal and informal, internal and external connectedness, together with the behavioral context, may affect the simultaneous pursuit of exploration and exploitation.

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## Introduction

Prior research suggests that ambidextrous firms or units, which are equally dexterous at the contradictory activities of exploration and exploitation (Simsek, 2009), ultimately outperform those focusing on only one of these activities (e.g., Gibson & Birkinshaw, 2004; He & Wong, 2004; Lubatkin, Simsek, Ling, & Veiga, 2006; Jansen, Simsek, & Cao, 2012). To overcome the tension between exploration and exploitation, earlier studies have proposed structural differentiation of explorative and exploitative units, i.e. structural ambidexterity (e.g., Tushman & O'Reilly, 1996). More recent studies, however, increasingly investigate mechanisms allowing the harmonious and simultaneous pursuit of exploration and exploitation across an entire organizational entity such as a business unit or small to medium-sized enterprise (SME), i.e. harmonic ambidexterity (Simsek, Heavey, Veiga, & Souder, 2009). They argue that this might be a more sustainable ambidexterity model (Gibson & Birkinshaw, 2004).

Prior studies have identified the behavioral context as an effective mechanism to develop such harmonic ambidexterity (Gibson & Birkinshaw, 2004). This is because an ambidextrous behavioral context (i.e. a behavioral context characterized by interaction between performance management and social elements) enables and encourages front-line individuals to decide for themselves how to optimally divide their attention and resources between exploration and exploitation (Gibson & Birkinshaw, 2004). Independent and beyond the behavioral context, researchers have also investigated and tested alternative structural mechanisms (i.e. connectedness, centralization, formalization) to achieve harmonic ambidexterity (Jansen, van den Bosch, & Volberda, 2006). Of these only internal connectedness was found to have a positive effect on both exploration and exploitation within a single organizational unit.

Interestingly, recent research proposed that internal connectedness and the behavioral context may be no alternatives, but interrelated paths to ambidexterity (Jansen, Tempelaar, van den Bosch, & Volberda, 2009). Yet, research so far lacks an understanding of how these two mechanisms interact in reconciling exploration and exploitation across an entire organizational entity. The purpose of this study thus is to examine how the relationships between connectedness, the behavioral context, and harmonic ambidexterity function. Such an improved understanding is important, as prior theory points out that behavioral and structural elements are complementary

elements of an organizational context (Birkinshaw, 1999) and can be expected to be somehow interdependent (Moran, 2005), requiring a more integrative perspective.

Additionally, researchers also point to the role of external connectedness in fostering ambidexterity (Simsek, 2009). However, research on the effect of external connectedness on ambidexterity (e.g., Rothaermel, 2001; Lavie & Rosenkopf, 2006; Im & Rai, 2008) has so far not accounted for a potential interaction with internal structural and behavioral mechanisms. In order to obtain a comprehensive understanding of the interrelated role of connectedness and the behavioral context in the pursuit of harmonic ambidexterity, it appears necessary to account for both internal and external connectedness (cf. Jansen, George, van den Bosch, & Volberda, 2008) along their formal and informal dimensions (e.g., Jansen et al., 2009; Mom, van den Bosch, & Volberda, 2009).

Summarizing, while ambidexterity research has so far investigated connectedness (internal/external and informal/formal) and the behavioral context as independent, alternative paths to harmonic ambidexterity, we argue that they, although distinct, might actually be intertwined. Based on prior theory, we hypothesize that internal connectedness frames to some extent an ambidextrous behavioral context, which explains its positive effect on ambidexterity found in earlier studies. Furthermore, we propose that external connectedness reinforces the relationship between the so created behavioral context and harmonic ambidexterity by injecting external knowledge into the organization. Our theoretical model consequently includes the behavioral context as a mediator between internal connectedness and harmonic ambidexterity as well as external connectedness as a moderator of this mediated relationship.

We test this model with a sample of 184 SMEs. They are especially dependent on harmonic approaches to ambidexterity as they usually lack the size, resources, and administrative systems to implement structural ambidexterity (Lubatkin et al., 2006). We find that the positive effect of internal connectedness on harmonic ambidexterity is fully mediated by the behavioral context. Although informal connectedness seems to be more important in explaining the behavioral context, the indirect effect is highly significant for both formal and informal connectedness. Additionally, our findings support the theorized moderating effect of informal external connectedness for the relationship between behavioral context and harmonic ambidexterity. In contrast, formal external connectedness does not moderate this relationship, but rather seems to directly foster harmonic ambidexterity.

Our findings allow us to contribute to ambidexterity research in multiple ways. First, by including the behavioral context as a mediator, we gain a better understanding of the underlying mechanism explaining the relationship between internal connectedness and ambidexterity. Internal connectedness may indeed contribute to the reconciliation of exploration and exploitation within a single organizational entity; however, not directly but only indirectly through fostering an ambidextrous behavioral context. Additionally, we provide insights about the complementary character of internal and external connectedness. While the former helps developing an ambidextrous behavioral context, the latter reinforces such a context's effect on both exploration and exploitation. Finally, we provide evidence for the distinct roles of formal and informal external connectedness in the pursuit of ambidexterity. Our findings thus extend prior ambidexterity research in drawing a more comprehensive and differentiated picture of how organizational connectedness may affect harmonic ambidexterity.

We discuss our findings' theoretical implications in more detail at the end of this paper. First, however, we briefly present our study's theoretical background as the basis for the subsequent development of our theoretical model and the underlying hypotheses. Afterwards, we introduce our methodological considerations and provide details on our data collection effort. Finally, we present our study's results, its theoretical contributions, and avenues for future research.

### **Theoretical Background**

Introduced by Duncan (1976), the term organizational ambidexterity refers to the ability of organizations to reconcile the internal tensions and conflicting demands of exploration and exploitation (Raisch & Birkinshaw, 2008). These tensions arise, as exploration and exploitation aim at two fundamentally different outcomes: variation and creativity on the one hand and continuity and efficiency on the other (March, 1991; Tushman & O'Reilly, 1996). The ambidexterity premise argues that the joint pursuit of exploration and exploitation enhances performance by enabling an organization to be innovative and flexible without losing the advantages of efficiency and stability (Simsek, 2009). Prior research has confirmed such positive performance effects on the business unit level (Gibson & Birkinshaw, 2004; Jansen et al., 2012) and the firm level (e.g., He & Wong, 2004; Lubatkin et al., 2006).

Earlier research suggested that exploration and exploitation may only co-occur, if they are pursued in distinct, structurally separated organizational domains (e.g., Tushman & O'Reilly, 1996). More recently, researchers have increasingly argued for harmonic ambidexterity, i.e. harmoniously reconciling the two activities' conflicting demands within a single, independent organizational unit such as a business unit or SME (Simsek et al., 2009). They suggest that this might be a more sustainable model of ambidexterity as the costs of coordinating and integrating structurally separated units are avoided (Gibson & Birkinshaw, 2004). Consequently, studies have investigated various organizational mechanisms to develop such harmonic ambidexterity. Of these, only the behavioral context (Gibson & Birkinshaw, 2004) and internal connectedness (Jansen et al., 2006) appear to be able to effectively reconcile exploration and exploitation.

#### **Behavioral context and ambidexterity**

Gibson and Birkinshaw (2004) argue that the capacity to simultaneously pursue exploration and exploitation across an entire organizational entity may stem from an ambidextrous behavioral context that allows all employees to decide for themselves how to divide their attention and resources between the two activities. They adopt Ghoshal and Bartlett's (1994) description of a high-performance organizational context as an interaction of the interdependent behavior framing attributes of discipline, stretch, support, and trust. In their study, Gibson and Birkinshaw (2004) describe the first two attributes as constituting a 'performance management context', whereas the latter two constitute the 'social context'. Harmonic ambidexterity emerges when an organization simultaneously develops a behavioral context characterized by high levels of all of these attributes or, in other words, establishes both a performance management and social context. However, prior research on the drivers that allow establishing such an ambidextrous behavioral context is relatively scarce.

#### **Internal connectedness and ambidexterity**

Independent and beyond the role of the behavioral context, research suggests that internal connectedness, i.e. the intra-firm relationships between actors within a firm (Tsai & Ghoshal, 1998), may also facilitate reconciling exploration and exploitation. Its positive effect on ambidexterity has primarily been linked to its role in facilitating knowledge processes as well as its influence on individual behavior and attitudes (Jansen et al., 2006 and 2009). In these ways, connectedness of managers might increase their ability to act ambidextrous (Mom et al., 2009) or connectedness among

members within a unit might foster both exploration and exploitation in that unit (Jansen et al., 2006). Furthermore, organizational linkages within a firm, for example, might facilitate the introduction of new technologies (exploration) while providing access to and utilizing preexisting complementary capabilities (exploitation) (Taylor & Helfat, 2009). Connectedness within a firm accordingly has also been found to foster ambidexterity (Jansen et al., 2009). Yet, albeit these unanimous findings on various levels of analysis, research so far has not investigated the underlying mechanisms responsible for this effect in further detail.

### **The supportive role of behavioral context and external relationships**

Prior studies, however, indicate that this relationship between internal connectedness and ambidexterity may be related to the behavioral context as well as external connectedness. More specifically, it has been proposed that the observed positive effect might be due to the creation of an ambidextrous behavioral context (Jansen et al., 2009). Consequently, in the following we theorize on and test the behavioral context's potential mediating role in the relationship between internal connectedness and ambidexterity. With regard to external connectedness, conceptual models propose that external connectedness and the internal behavioral context may interact and reinforce each other's positive effect on ambidexterity (Simsek, 2009). This is because, the former provide access to external knowledge and resources, while the latter allows leveraging these benefits. So far, however, research has not accounted for the interaction of the behavioral context and external connectedness. Therefore we further hypothesize that the mediated relationship between internal connectedness and harmonic ambidexterity is positively moderated by external connectedness.

### **Theoretical Model**

In the following, we first develop hypotheses on the mediating role of behavioral context in the relationship between internal connectedness and ambidexterity. Second, we elaborate on the moderation of this mediated relationship by external connectedness. In our model, we distinguish between the effects of formal and informal internal and external connectedness, as suggested by prior studies on ambidexterity and social capital (e.g., Brass, Galaskiewicz, Greve, & Tsai, 2004; Easterby-Smith, Lyles, & Tsang, 2008; Jansen et al., 2008; Mom et al., 2009; Jansen et al., 2009). Please see Figure 4 for an overview of our theoretical model.

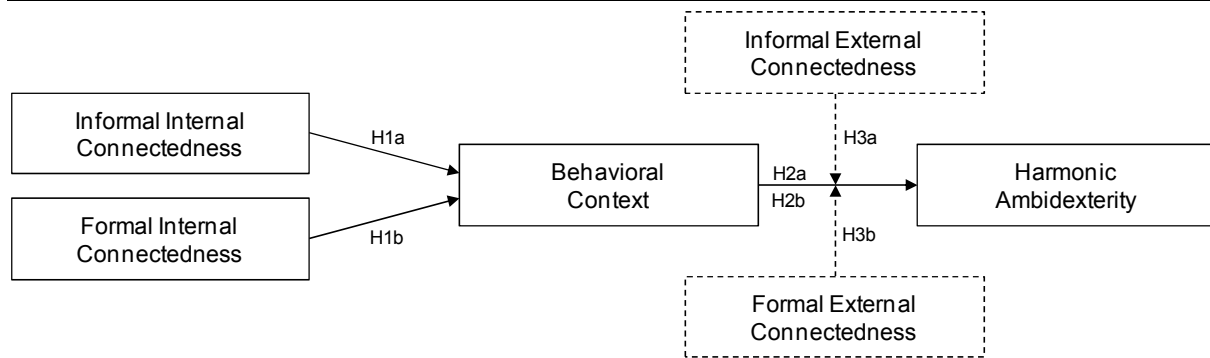


Figure 4: Hypothesized model

### Internal connectedness and the behavioral context

Prior research argues that internal connectedness may influence the behavioral context. Moran (2005), for example, suggests that internal networks generate normative, symbolic, and cultural structures that affect employee behavior. In the following, we propose that strong internal connectedness fosters an ambidextrous behavioral context, marked by performance management (discipline and stretch) and social elements (support and trust).

**Informal Internal Connectedness.** Extant theory suggests that informal internal connectedness, i.e. voluntary social interactions and relations between actors within an organization, fosters a performance management context, as it facilitates the in-depth permeation of clear and consistent standards, norms, and expectations throughout the organization, thus reducing deviant behavior (Moran, 2005; Jansen et al., 2006). The level of conflict regarding goals, standards, and procedures is reduced, while commitment and discipline are enhanced (Lechner, Frankenberger, & Floyd, 2010; Jansen et al., 2009). In addition, visibility is increased, which allows for more effective mutual control and consistency in sanctions (Lechner et al., 2010; Moran, 2005; Inkpen & Tsang, 2005). A high degree of informal internal connectedness further fosters open and honest communication, improving both quality and frequency of feedback. Besides these discipline-enhancing effects, stretch is also positively affected by higher degrees of informal internal connectedness. High degrees of internal connectedness lead to group or collective identity and actors are likely to share a collective orientation towards the pursuit of common goals (Moran, 2005; Tsai & Ghoshal, 1998). These common goals again are an expression of an underlying shared vision, which is developed through frequent social interactions (Tsai & Ghoshal, 1998). In the same vein, connectedness provides individuals with a context in which they believe and an understanding of how their efforts are an integral part of a



collective plan. Consequently, they develop personal meaning and commitment, which offers them a rationale for engaging in extraordinary behavior and deferring personal interests in favor of the collective (Leana & Van Buren, 1999).

Simultaneously, high degrees of informal internal connectedness foster a social context. Trust is not only an independent dimension of social capital, but also a result of social interaction and connectedness (Tsai & Ghoshal, 1998). It emerges as actors become more connected to each other and interact on a frequent basis (Inkpen & Tsang, 2005; Jansen et al., 2006; Lechner et al., 2010). Increased levels of visibility and reduced levels of conflict further enhance trust in transparent and fair processes, such as promotion or redundancy decisions. Furthermore, informal connectedness increases actors' motivation to combine efforts and reduces the likelihood of opportunistic behavior (Mom et al., 2009). As a result, cooperation and collaboration between actors and mutual support becomes more likely (Adler & Kwon, 2002; Jansen et al., 2006; Lechner et al., 2010). Densely connected actors readily provide each other access to needed resources, share information and advice, and engage in collaborative problem solving (Tsai & Ghoshal, 1998; Hansen, Podolny, & Pfeffer, 2001). Finally, due to the increased emphasis on collective identity and action, there is a shift from formal control and monitoring mechanisms to the informal mechanisms such as cooperation, guidance, and mutual trust (Leana & Van Buren, 1999). Accordingly, we argue that higher degrees of informal internal connectedness facilitate the establishment of a behavioral context characterized by both performance management and social elements.

***Formal Internal Connectedness.*** Formal internal connectedness, in contrast, refers to cross-functional interfaces such as job rotation, liaison personnel, or interdisciplinary task forces and work groups (Jansen et al., 2009). Such formal connectedness creates a performance management context by, for example, overcoming disagreements and building mutual understanding (Jansen et al., 2009). Thereby, conflict and equivocality regarding goals, standards, and procedures is reduced (Daft & Lengel, 1986). Regular appraisal sessions and formal feedback cycles further enhance discipline (Ghoshal & Bartlett, 1994). Similarly, formal connectedness allows different actors to reach a common frame of reference and develop a shared ambition (Jansen et al., 2009). In cross-functional interfaces, a group feeling may develop, while motivation and commitment of actors is increased (Mom et al., 2009). Furthermore, personal meaning and commitment to the task at hand are also enhanced

(Adler, Goldoftas, & Levine, 1999). Formal internal connectedness is thus likely to enhance discipline and stretch and create a performance management context.

At the same time, formal internal connectedness will also positively influence the emergence of a social context. As actors interact, discuss, and cooperate in joint project teams or interdisciplinary work groups, trust between the actors emerges (Adler et al., 1999; Mom et al., 2009). Formal meeting schedules break horizontal and vertical barriers by bringing together people from different parts and levels of an organization and create a feeling of involvement, which fosters trust (Ghoshal & Bartlett, 1994). This ‘critical contextual factor...creates a supportive context for managers with different backgrounds to cooperate and learn from each other’ (Mom et al., 2009: 815). Actors are pulled out of their isolation and their motivation and commitment to combine efforts, collaboratively solve problems, and make joint decisions is increased. Furthermore, participation in cross-functional interfaces improves employees’ skills to effectively handle and resolve conflicts, fostering mutual support in the organization (Mom et al., 2009). Accordingly, we argue that next to informal internal connectedness, formal internal connectedness also facilitates the establishment of an ambidextrous behavioral context.

*Hypothesis 1: The degree of a) informal internal connectedness and b) formal internal connectedness is positively associated with a behavioral context characterized by both performance management and social elements.*

### **The mediating role of the behavioral context**

Prior ambidexterity research has suggested that internal connectedness may directly affect harmonic ambidexterity within a single organizational unit (e.g., Jansen et al., 2006). Based on the argumentation above, we suggest that its hypothesized positive influence on the behavioral context explains this effect, i.e. that the behavioral context actually mediates the relationship between internal connectedness and harmonic ambidexterity.

As explained in hypotheses 1a) and 1b) internal connectedness is expected to shape a behavioral context characterized by interaction between performance management and social elements. Such a context in turn allows for the reconciliation of exploration and exploitation across an entire organizational unit (Gibson & Birkinshaw, 2004). This is because an ambidextrous behavioral context, on the one hand, induces

employees to voluntarily meet performance standards and even strive for more ambitious, stretching goals (Lavie, Stettner, & Tushman, 2010; Simsek, 2009). On the other hand, it ensures that this takes place within a cooperative work environment characterized by mutual support and commitment, a collective identity and shared ambitions. This combination of behaviors, attitudes, and framing conditions in turn enables and encourages individuals to effectively decide on their own how to divide their time between explorative and exploitative tasks (Raisch, Birkinshaw, Probst, & Tushman, 2009). In this, every individual delivers value through, for example, serving existing customers or implementing routine tasks and, at the same time, being on the lookout for changes in the task environments and new business opportunities, experimenting with non-routine tasks. Accordingly, we argue that the relationship between informal and formal internal connectedness and harmonic ambidexterity is fully mediated by the behavioral context:

*Hypothesis 2: A behavioral context characterized by both performance management and social elements mediates the relationship between a) informal internal connectedness and b) formal internal connectedness and harmonic ambidexterity.*

### **The moderating role of external connectedness**

Unlike internal connectedness, we do not expect external relationships to have an impact on an organization's internal behavioral context. Instead, we follow Simsek's (2009) suggestion and argue that external connectedness and the behavioral context reinforce each other in a firm's pursuit of ambidexterity. External connectedness refers to a firm's relationships with external actors, such as customers, suppliers, investors, associations, and the like (Yli-Renko, Autio, & Sapienza, 2001). These external relations connect formerly unconnected actors and thus knowledge sources (Cohen & Levinthal, 1990). Such fresh knowledge residing outside the firm can be of explorative or exploitative character. External relations allow for the tapping into broad and diverse knowledge sources departing from a firm's existing knowledge base, but also for the deepening and complimenting of existing knowledge (Inkpen & Tsang, 2005; Yli-Renko et al., 2001). Extant research accordingly finds that external knowledge acquisition is an important factor for both exploration and exploitation within a firm (Gupta, Smith, & Shalley, 2006).

***Informal External Connectedness.*** Informal external connectedness is based on social interactions between employees of different firms in the context of socializing activities, such as joint sport or leisure activities or social events (Easterby-Smith et al., 2008). They act as superior conduits of knowledge flows and enhance informal and intimate mutual knowledge exchange (Easterby-Smith et al., 2008; Molina-Morales & Martínez-Fernández, 2009). This is because they are characterized by trust, empathy, and reciprocity, which enable the transfer of ‘thick’ information, even between competitors (Uzzi, 1996; Ingram & Roberts, 2000). Accordingly, recent studies emphasize the opportunities for acquiring and recombining diverse knowledge sources through extensive informal external networks (e.g., Sammarra & Biggiero, 2008; Molina-Morales & Martínez-Fernández, 2009). Informal external connectedness, however, does not only offer diverse knowledge increasing the breadth or renewing a firm’s knowledge base, but also provides access to related and complimentary knowledge, deepening and improving a firm’s existing knowledge base (Yli-Renko et al., 2001; Inkpen & Tsang, 2005; Sammarra & Biggiero, 2008). Summarizing, informal external connectedness appears to make available different knowledge types required for both exploration and exploitation.

***Formal External Connectedness.*** Whereas informal external relations rely on social interactions, mechanisms to establish formal external connectedness include, for example, formal strategic alliances, trainings of customer or supplier employees, personnel transfers to partner organizations, or joint project teams (Easterby-Smith et al., 2008). Such formal inter-firm relations usually are defined for a certain instrumental purpose (Bell & Zaheer, 2007). Accordingly, extant research has argued that formal inter-firm relations such as strategic alliances can serve either explorative or exploitative purposes (e.g. Koza & Lewin, 1998; Lin Yang, & Demirkan, 2007). Formal external relationships can be designed to offer access to new knowledge and help actors obtain and combine novel and fresh ideas (Inkpen & Tsang, 2005). In line with this, extant literature has found that formal external relations are a locus of novel knowledge creation (cf. Brass et al., 2004). On the other hand, prior research also points to the potential of formal external linkages in providing access to related and complimentary knowledge outside the organization (Taylor & Helfat, 2009). For example, formal alliances may also provide opportunities to acquire and generate redeployable knowledge such as specific technical and market information (Inkpen & Tsang, 2005) or joint benchmarking projects may enable the adoption of best practices

and alternative approaches to typical problems (cf. Mann, Samson, & Dow, 1998). Formal external connectedness thus seems to be able to facilitate the exchange of knowledge, which can be used to fine-tune or improve existing processes and products as well as to generate novel and innovative discoveries (Im & Rai, 2008; Lin et al., 2007).

Summarizing, extant research generally confirms that formal and informal external connectedness may provide access to both diverse and complementary knowledge sources (Samarra & Biggiero, 2008; Inkpen & Tsang, 2005). Injecting such ‘ambidextrous’ knowledge into an organization with a behavioral context reconciling performance management and social elements is likely to boost the ability of individuals to simultaneously explore and exploit. While an ambidextrous behavioral context provides them with a demanding but also supportive environment, facilitating exploration and exploitation (Gibson & Birkinshaw, 2004), they can only make full use of this context when equipped with the adequate knowledge fueling both of these activities and vice versa (Simsek, 2009). Explorative and exploitative knowledge inflows from outside the organization are also likely to enhance the ability of individuals to optimally allocate their time between exploration and exploitation within an ambidextrous behavioral context. We thus argue that the positive effect of the behavioral context on harmonic ambidexterity will be positively moderated by informal and formal external connectedness.

*Hypothesis 3: a) Informal external connectedness and b) formal external connectedness positively moderate the relationship between a behavioral context characterized by both performance management and social elements and harmonic ambidexterity.*

It is important to note that our model is contingent on the following boundary conditions. Our hypotheses are based on the assumption that harmonic ambidexterity is sought within a single, independent organizational entity (Simsek et al., 2009) and not achieved through structural differentiation of explorative and exploitative units (e.g., Tushman & O’Reilly, 1996). This is the case for SMEs that face the competitive pressure to integrate exploration and exploitation (Simsek et al., 2009), while they lack the resources and systems to accommodate multiple organizational units with distinct objectives (Lubatkin et al., 2006; Bierly & Daly, 2007). Additionally, the respective

organizational entity needs to be able to engage in both intra-firm and inter-firm relations. This is again the case in SMEs, which are small enough to develop close internal connectedness, while being able to directly connect across firm boundaries as they are not embedded in a surrounding corporate context. Based on these theoretical considerations, we decided to test our model with a broad sample of SMEs. Our detailed methodological approach is described in the subsequent section.

## **Methods**

### **Sampling**

Following prior quantitative ambidexterity research (e.g., Lubatkin et al., 2006), our sample is based on a large scale survey of German manufacturing SMEs. Using data from the Hoppenstedt firm database, we were able to identify and contact 1,079 SMEs across Germany. We relied on the American Small Business Administration's (SBA) established general definition of SMEs as firms with 500 or fewer employees (Arend, 2006; Lubatkin et al., 2006; Lu & Beamish, 2001). We contacted the CEO of each SME by sending him or her an email that explained our research project, emphasized the importance of participation, ensured confidentiality and anonymity, and offered a summary report of our findings. Attached to this email was our five page questionnaire. In total, we were able to obtain 190 completed questionnaires (18%), which compares well with similar studies in the field (Sidhu, Commandeur, & Volberda, 2007). We eliminated 6 questionnaires due to missing data to reach a final sample of 184 complete questionnaires. We tested for potential non-response bias by examining the differences between respondents and non-respondents with regard to size and industry sector. Additionally, we used our model variables to test for potential late-response bias. These tests did not detect any non-response nor late-response biases.

We expect SME CEOs to be especially knowledgeable about their firms' internal and external connectedness as they usually are engaged in their firms' day-to-day internal and external processes as well as overall strategic activities (Lubatkin et al., 2006; Lefebvre, Mason, & Lefebvre, 1997). Exploration and exploitation activities of firms likewise have been surveyed amongst SMEs' CEOs in prior studies (e.g., Lubatkin et al., 2006; Bierly & Daly, 2007). As SME CEOs in particular are close to their firms' daily operations, we also expect them to be knowledgeable about their firms' behavioral context.

Nevertheless, we followed previous research's example and collected additional questionnaires from a second respondent with operational responsibility (e.g., Lubatkin et al., 2006; Jansen et al., 2006; Jansen et al., 2012). We were able to obtain additional questionnaires for 55 SMEs, which compared well to our full sample in terms of model and control variables. This allowed us to calculate inter-rater agreement ( $r_{wg}$ ; James, Demaree, & Wolf, 1993). Average inter-rater agreement was well above the threshold value of 0.6 (Glick, 1985) for all model variables indicating no potential problems with single-informant bias (Jansen et al., 2012). We therefore felt comfortable using the data our primary respondents, the SMEs' CEOs, had provided.

### Measures

We used established multi-item measures from the ambidexterity literature, based on seven-point Likert-style scales ranging from 'I totally disagree' to 'I totally agree'. To design, structure, and program our questionnaire, we relied on familiar literature on survey research (e.g., Dillman, Smyth, & Christian, 2008; Baruch & Holtom, 2008; Bednar & Westphal, 2006). Our first draft of the questionnaire was pre-tested by six fellow researchers that were both familiar with the topic and the underlying theory. As a final pre-test, we asked six CEOs of German SMEs (not included in the final sample) to comment on the structure, clarity, and design of the revised questionnaire. Their feedback was highly encouraging regarding the questionnaire design and the relevance of our study.

***Harmonic Ambidexterity.*** We followed extant ambidexterity research and measured our dependent variable as the multiplicative interaction of two separate exploration and exploitation scales (e.g., Gibson & Birkinshaw, 2004; Jansen et al., 2008; Jansen et al., 2012). We adapted the scales used by Lubatkin and colleagues (2006), which each consisted of six items measuring a SME's explorative or exploitative orientation during the three previous years. Principal component factor analysis using varimax rotation, however, revealed a two-factor structure for each measure. In addition, reliability was below 0.7 for the exploitation scale. Elimination of two items in each scale resulted in adequate reliabilities for the exploration scale ( $\alpha = 0.83$ ) and for the exploitation scale ( $\alpha = 0.73$ ). Furthermore, the remaining items of the modified scales each loaded on a single factor, having eigenvalues of 2.65 for exploration and 2.26 for exploitation, while accounting for 66% and 57% of the variance. Average inter-rater agreement ( $r_{wg}$ ; James et al., 1993) was 0.83 for the exploration scale and 0.86 for the

exploitation scale, suggesting adequate agreement (Jansen et al., 2012; Glick, 1985). Our final measure thus consisted of two four item scales (see Appendix), which were combined into a multiplicative interaction term.

**Behavioral Context.** Our mediator variable was measured based on Gibson & Birkinshaw (2004). We adopted their scales for the performance management context and for the social context. The performance management context was measured with a seven-item scale, while the scale for social context consisted of nine items. The scale for social context was reliable ( $\alpha = 0.85$ ) comparing well with Gibson and Birkinshaw's (2004) measure. To reach adequate reliability, however, we again needed to eliminate two items from the performance management scale. This elimination resulted in a reliability of  $\alpha = 0.71$  with all items loading on one factor with eigenvalues of 2.36, accounting for 47% of variance. The average  $r_{wg}$  score for the social context was 0.81 and for the performance management context 0.80 suggesting adequate agreement (Jansen et al., 2012; Glick, 1985). The Appendix provides an overview of the final scales. We further followed Gibson & Birkinshaw (2004) and calculated the multiplicative interaction between social and performance management context to arrive at a measure for an ambidextrous behavioral context.

**Internal Connectedness.** We adapted the measure of Jansen and colleagues (2006 and 2009) to measure informal internal connectedness. Their original scale consisted of five items of which we had to drop two items due to inadequate reliabilities. The final scale thus comprised three items (see Appendix) and was reliable ( $\alpha = 0.70$ ). All items loaded on a single factor with an eigenvalue of 1.90 accounting for 63% of variance. Average inter-rater agreement was 0.83 suggesting adequate agreement (Jansen et al., 2012; Glick, 1985). To measure formal internal connectedness, we used the five-item scale proposed by Jansen and colleagues (2009). The scale was reliable ( $\alpha = 0.71$ ) and all factors loaded on a single factor with an eigenvalue of 2.35 accounting for 47% of variance. Average inter-rater agreement was 0.74, also suggesting adequate agreement (Jansen et al., 2012; Glick, 1985).

**External Connectedness.** Informal external connectedness was measured based on the work of Molina-Morales and Martínez-Fernández (2009), who measured inter-firm informal social interaction. The scale consisted of four items (see Appendix) and was reliable ( $\alpha = 0.80$ ). Factor analysis showed that all items loaded on one factor with an eigenvalue of 2.52 accounting for 63% of variance. A comparison of responses from the CEO and operational subordinates yielded average inter-rater agreement of 0.69,



which is still above the cut-off value of 0.6 proposed by Glick (1985) suggesting adequate agreement (Jansen et al., 2012). To measure formal external connectedness, we adapted the measure of Jansen and colleagues (2009) to fit the inter-firm context. The five item scale (see Appendix) proved to be highly reliable ( $\alpha = 0.81$ ) with all items loading on a single factor with an eigenvalue of 2.85 accounting for 57% of variance. Average inter-rater agreement was 0.65, again suggesting adequate agreement (Glick, 1985; Jansen et al., 2012).

**Control Variables.** Control variables were also adopted from prior literature. Jansen and colleagues (2006) found that, in addition to connectedness, structural characteristics have an effect on exploration and exploitation. Thus we controlled for *centralization*, *formalization*, and *specialization* in our analyses. We further controlled for firm *size* and *age*, which have been related to inertia, flexibility, resource availability, and the possible development of routines to deal with complex situations (cf. Lubatkin et al., 2006; Jansen et al., 2006; Jansen et al., 2012). In addition, we included a control for *client focus* (private clients vs. business clients), as they determine the kind of markets and product ranges (Jansen et al., 2006). Furthermore, we controlled for externalities such as *environmental dynamism* and *industry*, which have been found to influence explorative and exploitative activities (cf. Lubatkin et al., 2006; Jansen et al., 2008; Mom et al., 2009; Jansen et al., 2012). We ran additional regressions accounting for individual-level controls such as managers' leadership capabilities, age, tenure, or education. Our results were not affected significantly and we decided to report our regression results including only organizational-level variables.

## Analyses and Results

The descriptive statistics and correlations are presented in Table 3. The results of the hierarchical regression analyses are included in Table 4. We ran a baseline model (model 1) to test the effect of our control variables on harmonic ambidexterity in the absence of our main predictors. We added our independent variables to the regression in model 2 and behavioral context in model 3. Models 4 and 5 further contain the interaction of informal and formal external connectedness with the behavioral context, respectively, while model 6 tests these simultaneously. The effect of our independent variables on behavioral context was tested with model 7.

# Variable	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Harmonic Ambidexterity	29.13	9.42	1												
2 Behavioral Context	24.99	7.95	.525**	1											
3 Informal Internal Connectedness	5.39	.96	.354**	.611**	1										
4 Informal External Connectedness	4.88	1.14	.232**	.360**	.293**	1									
5 Formal Internal Connectedness	4.07	1.10	.313**	.493**	.237**	.259**	1								
6 Formal External Connectedness	3.66	1.51	.224**	.225**	.085	.298**	.235**	1							
7 Formalization	4.24	1.31	.034	.165*	.060	.050	.308**	.040	1						
8 Centralization	2.95	1.20	-.156*	-.292**	-.269**	-.206**	-.040	-.008	.238**	1					
9 Specialization	5.08	.94	.224**	.329**	.209**	.064	.264**	.129	.478**	.127	1				
10 Firm Size	164.87	112.29	.045	.035	-.020	.002	.039	.079	.039	.149*	.231**	1			
11 Firm Age	49.18	40.44	.126	.044	-.004	.017	.046	.023	.000	.113	.175*	.273**	1		
12 Client Focus	1.92	.26	.094	.114	.098	.027	-.031	.125	.018	-.075	.063	.048	-.108	1	
13 Environmental Dynamism	5.23	1.27	.235**	.055	.036	.106	.116	.056	.094	.077	.105	.051	.049	.082	1

Note: industry dummies included

\*\* p < .01, \* p < .05

Table 3: Means, Standard Deviations, and Correlations

We calculated variance inflation factors (VIFs) to identify potential problems with multicollinearity (cf. Jansen et al., 2009; Mom et al., 2009). Multicollinearity, however, does not seem to be a problem as the maximum VIF within the models was 2.5, i.e. far below the threshold value of 10 (Neter, Wasserman, & Kutner, 1990). As common method variance often is a concern in studies relying on single respondents, we followed prior research (e.g., Sidhu et al., 2007; Zhao & Anand, 2009; Mom et al., 2009) and conducted Harman's single factor test to address this worry as advised by Podsakoff and Organ (1986). If common method variance was a serious issue of our study, we would expect a single factor to explain the majority of the covariance in the dependent and independent variables. Principal component analysis revealed that the first factor accounts for only 11% of the variance, not negating but limiting concerns about potential common method variance (Im & Rai, 2008; Sidhu et al., 2007; Zhao & Anand, 2009). According to Chang, van Witteloostuijn, and Eden (2010) two remedies further limit concerns about potential common method variance in our study: questionnaire design (e.g., respondents were assured of the study's confidentiality and anonymity, that there are no right or wrong answers, and independent and dependent variables were surveyed in separated sections) and model specification (i.e. a complex mediation and moderation model is not likely to be part of the respondents' cognitive maps). Last but not least, inter-rater reliability was high which further alleviates concerns about potential CMV.

Variable	Model 1: Harmonic Ambidexterity	Model 2: Harmonic Ambidexterity	Model 3: Harmonic Ambidexterity	Model 4: Harmonic Ambidexterity	Model 5: Harmonic Ambidexterity	Model 6: Harmonic Ambidexterity	Model 7: Ambidextrous Behavioral Context
<b>Model variables</b>							
Behavioral Context			.40***	.37***	.41***	.37***	
Informal External Connectedness		.00	-.03	-.05	-.02	-.04	.06
Formal External Connectedness		.15*	.12 <sup>†</sup>	.12 <sup>†</sup>	.10	.11	.08
Informal Internal Connectedness		.22**	.05	.06	.05	.06	.43***
Formal Internal Connectedness		.21**	.08	.12	.08	.12	.33***
(Informal External Connectedness * Behavioral Context)				.13*		.12 <sup>†</sup>	
(Formal External Connectedness * Behavioral Context)					.06	.04	
<b>Control variables</b>							
Formalization	-.06	-.12	-.12	-.12	-.12	-.12	.00
Centralization	-.19*	-.08	-.01	-.03	-.02	-.03	-.17**
Specialization	.28**	.17*	.11	.13 <sup>†</sup>	.11	.13	.16*
Firm Size	-.08	-.09	-.08	-.09	-.07	-.08	-.01
Firm Age	.15 <sup>†</sup>	.15*	.14*	.14*	.14*	.14*	.02
Client Focus	.05	.04	.03	.03	.03	.03	.03
Environmental Dynamism	.22**	.19**	.19**	.18**	.19**	.19**	-.01
<b>Model Summary</b>							
R <sup>2</sup>	.20	.32	.39	.41	.39	.41	.59
ΔR <sup>2</sup>	.20***	.12***	.07***	.02*	.00	.02 <sup>†</sup>	.59***
Adjusted R <sup>2</sup>	.12	.24	.31	.32	.31	.32	.54
ANOVA F	2.57**	3.88***	4.93***	4.97***	4.74***	4.75***	11.53***

Note: standardized regression coefficients are reported; industry dummies included

\*\*\* p < .001

\*\* p < .01

\* p < .05

<sup>†</sup> p < .1

Table 4: Results of Regression Analysis

**Test of Hypotheses.** Hypothesis 1 predicts that a) informal and b) formal internal connectedness will positively influence a behavioral context characterized by performance management and social elements. Both hypothesis 1a) and 1b) are supported by the results of model 7 which show positive and significant coefficients for informal ( $\beta = 0.43$ ,  $p < 0.001$ ) and formal ( $\beta = 0.33$ ,  $p < 0.001$ ) internal connectedness. To test for mediation, we follow Baron and Kenny (1986). We have shown in model 7 that the independent variables positively influence the mediator, i.e. behavioral context. At the same time, the independent variables need to have a positive effect on the dependent variable, i.e. harmonic ambidexterity, when the mediator is omitted. Model 2 confirms this effect as the coefficients for informal ( $\beta = 0.22$ ,  $p < 0.01$ ) and formal ( $\beta = 0.21$ ,  $p < 0.01$ ) internal connectedness are positive and significant. This effect, however, decreases and becomes insignificant (informal:  $\beta = 0.05$ , n.s.; formal:  $\beta = 0.08$ , n.s.) when we include the mediator variable into the model (model 3), while the mediator itself has a positive and significant influence on the dependent variable ( $\beta = 0.40$ ,  $p < 0.001$ ). Thus full mediation is indicated by our results.

To test the statistical significance of these indirect effects of internal connectedness on ambidexterity, we used the unmodified Sobel-test (Sobel, 1982; MacKinnon, Warsi, & Dwyer, 1995) – these results were robust against the modifications proposed by Baron and Kenny (1986) or Goodman (1960). Test statistics were 3.66 ( $p < 0.001$ ) for informal and 3.33 ( $p < 0.001$ ) for formal internal connectedness. Furthermore, we

tested the indirect effect with bootstrapping (Bollen & Stine, 1990; Shrout & Bolger, 2002; Preacher & Hayes, 2008). Zero did not lie in any of the 95% confidence intervals, which were between 0.82 (0.58) and 2.70 (1.96) for informal (formal) internal connectedness. Results of the Sobel-test as well as bootstrapping thus both indicate that the indirect effects were significant and thus support our hypothesis 2a) and 2b) (Baron & Kenny, 1986).

Hypotheses 3a) and 3b) posit that informal and formal external connectedness positively moderate the relationship between behavioral context and harmonic ambidexterity. Model 4 shows that the interaction term between behavioral context and informal external connectedness has a positive and significant influence on ambidexterity and that the change in  $R^2$  is significant ( $R^2$  change = 0.02,  $\beta = 0.13$ ,  $p < 0.05$ ) (cf. Baron & Kenny, 1986). This effect is illustrated in Figure 5. The interaction effect of formal external connectedness and behavioral context on ambidexterity in model 5, however, is not significant ( $R^2$  change = 0.00,  $\beta = 0.06$ , n.s.). Instead, we find a positive and weak, but still significant direct effect on ambidexterity for formal external connectedness ( $\beta = 0.12$ ,  $p < 0.1$ ) in the unmoderated model 3 (cf. Sidhu et al., 2007; Lechner et al., 2010). The moderation effect of informal external connectedness remains significant when including both interaction terms simultaneously into the model (model 6), although the significance drops to the 10% level (cf. Sidhu et al., 2007; Lechner et al., 2010).

Thus our results indicate that informal external connectedness positively moderates the relationship between the behavioral context and harmonic ambidexterity, supporting hypothesis 3a), while hypothesis 3b) is not supported. When the strength of an indirect effect depends on the level of a moderator variable (e.g., the moderator affects the influence of a mediator on the dependent variable), prior research speaks of moderated mediation (Preacher, Rucker, & Hayes, 2007; James & Brett, 1984). To assess these conditional indirect effects, Preacher and colleagues (2007) propose a bootstrapping approach to generate confidence intervals (i.e. similar to the assessment of unconditional indirect effects) for different values of the moderator and the Johnson-Neyman technique. Zero did not lie in any of the 95% confidence intervals and the indirect effect was found to be significant at  $p < 0.05$  for any value of informal external connectedness above 2.8 on a 7-point Likert scale. These test results indicate a highly significant moderated mediation effect (Preacher et al., 2007).

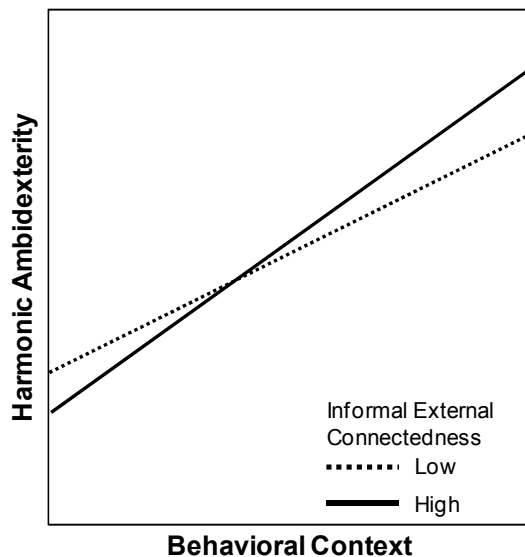


Figure 5: Moderating Effect of Informal External Connectedness

**Post Hoc Analyses.** Our results thus interestingly indicate that both formal and informal external connectedness positively affect harmonic ambidexterity, the former directly and the latter in interaction with the behavioral context. Similarly, although via the behavioral context, internal connectedness also positively influences ambidexterity. We conducted post hoc analyses to compare the importance of internal and external connectedness in explaining ambidexterity. To do so we compared the restricted models containing either internal or external informal and formal connectedness with the model including both (model 2). This procedure is consistent with procedures used by prior research to determine the relative importance of one set of variables over the other (Hansen & Wernerfelt, 1989; Kotha & Nair, 1995; Jansen et al., 2006). Figure 6 shows the result of this comparison. By dropping either set of variables from the full model, we can see that F-tests indicate significant differences in explained variance (Hansen & Wernerfelt, 1989). Specifically, results show that the restricted model containing only internal informal and formal connectedness is a significant improvement ( $\Delta F = 12.49$ ,  $p = 0.000$ ) over the base model (model 1). Similarly, the restricted model including external informal and formal connectedness significantly adds to explained variance ( $\Delta F = 5.01$ ,  $p = 0.008$ ). The full model (model 2) in turn is a significant improvement over the restricted ‘external’ model ( $\Delta F = 9.49$ ,  $p = 0.000$ ), while this is not so much the case for the ‘internal’ model ( $\Delta F = 2.32$ ,  $p = 0.101$ ). This implies that the relative effects of internal connectedness are stronger than those of external connectedness (cf. Hansen & Wernerfelt, 1989; Kotha & Nair, 1995; Jansen et al., 2006).

We followed the same approach to compare the importance of informal and formal internal connectedness in explaining the behavioral context (Figure 7). The results show that both restricted models are significant improvements over the base model (informal:  $\Delta F = 56.05$ ,  $p = 0.000$ ; formal:  $\Delta F = 30.22$ ,  $p = 0.000$ ). The full model (model 7) also is a significant improvement over both restricted models (informal:  $\Delta F = 29.47$ ,  $p = 0.000$ ; formal:  $\Delta F = 55.080$ ,  $p = 0.000$ ). At either level, however, informal connectedness explains more variance than formal connectedness (cf. Hansen & Wernerfelt, 1989).

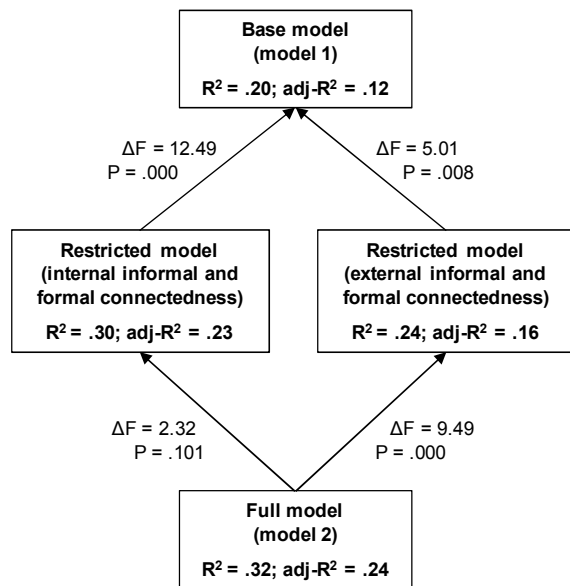


Figure 6: Variance Decomposition Model – Internal vs. External Connectedness on Harmonic Ambidexterity

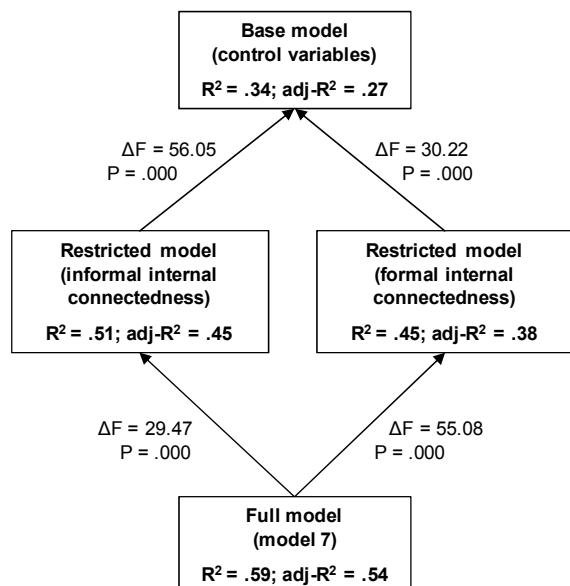


Figure 7: Variance Decomposition Model – Informal vs. Formal Internal Connectedness on Behavioral Context

## Discussion

Prior studies suggest that internal connectedness can facilitate the reconciliation of exploration and exploitation at the individual (e.g., Mom et al, 2009), unit (e.g., Jansen et al., 2006), or firm-level of analysis (e.g., Jansen et al., 2009). By accounting for the mediating role of an ambidextrous behavioral context in our model, we aimed at explaining how this relationship functions in the pursuit of harmonic ambidexterity within a single organizational unit. Furthermore, by including external connectedness as a moderator of this mediated relationship, we aimed at drawing a more comprehensive picture of how the different types of connectedness and the behavioral context are interrelated. Our findings correspondingly indicate that an ambidextrous behavioral context fully mediates the positive effect of internal connectedness on harmonic ambidexterity. Interestingly, this mediation effect is moderated only by informal external connectedness, while formal external connectedness appears to directly relate to ambidexterity. These findings contribute to ambidexterity research in multiple ways.

First, our results provide evidence of how internal and external connectedness relate to the behavioral context and its effectiveness. Since Gibson and Birkinshaw's (2004) article, the interest in the effects of harmonic ambidexterity within single organizational units has increased steadily (Jansen et al., 2012). While research has thus provided very relevant insights into the effects and contingencies of such harmonic unit-level ambidexterity, our theoretical understanding is still limited with regard to how a performance management and a social context can actually be reconciled and under which conditions they become effective in a firm's pursuit of ambidexterity. Our study shows that internal connectedness shapes such an ambidextrous behavioral context, while informal external connectedness reinforces its effect on harmonic ambidexterity. Based on these findings, we strongly encourage future research to study additional drivers of an ambidextrous behavioral context as well as moderating factors that improve or impede such a behavioral context's effectiveness for ambidexterity.

Second, prior research has independently studied the effects of internal (e.g., Jansen et al., 2006) and external (e.g., Lin et al., 2007) connectedness on ambidexterity and generally found positive relationships. We followed the suggestion by Mom and colleagues (2009) as well as Jansen and colleagues (2008) to combine internal and

external connectedness into a single model, which allows us to compare and contrast their distinct effects on ambidexterity. While our findings are aligned with prior research in the sense that we find positive independent relationships for both types of connectedness, we extend prior research by additionally providing evidence for their complementary character. Internal connectedness creates a favorable behavioral context, enabling individuals to optimally allocate their time between exploration and exploitation, while informal external connectedness injects novel and complementary knowledge into this context, fueling both exploration and exploitation activities. How does this change our theoretical models of ambidexterity? Previous empirical research has provided a very important basis for our understanding of distinct antecedents of ambidexterity. Subsequently, recent review articles have provided frames of reference, combining these antecedents into more integrated models (e.g., Raisch & Birkinshaw, 2008). As a logical next step, we need to empirically test the interaction effects of multiple antecedents to ambidexterity. Our study is a modest first step into this direction, showing that multiple antecedents can have a higher impact on ambidexterity than the sum of their individual effects. We thus strongly encourage future research to study additional complementing antecedents to internal and external connectedness.

Third, prior research has mostly emphasized the role of formal inter-firm relationships (cf. Ingram & Roberts, 2000) and argued that they can facilitate ambidexterity (e.g., Im & Rai, 2008; Lin et al., 2007; Lavie & Rosenkopf, 2006; Rothaermel, 2001). While our study provides evidence that such formal networks may indeed foster exploration and exploitation, our results also show that informal inter-firm relationships appear especially effective in interaction with an ambidextrous behavioral context. Opposed to formal external relations, they often do not serve a distinct purpose and information benefits might be more vague and subtle, but also ‘thicker’ (Bell & Zaheer, 2007; Ingram & Roberts, 2000; Uzzi, 1996). Thus, adequate characteristics or mechanisms may be required which enable individuals to deal with such informal ambiguous knowledge. We correspondingly provide evidence that, in contrast to formal external relations, informal external networks need to interact with an ambidextrous behavioral context, in which individuals can make optimal use of informal knowledge inflows to affect ambidexterity. We strongly encourage future research to find out more about both the antecedents and consequences of such informal external relationships and the conditions under which they become effective



for a firm's path to ambidexterity. Such a purpose might strongly benefit from closer collaboration of ambidexterity and social capital scholars.

Our findings are equally relevant for managerial practice. In the current competitive environment, overcoming the exploration-exploitation trade-off might be of special importance for SMEs. Compared to larger firms or business units of larger firms, they lack the resources to cushion downturns or failures of innovation (Bierly & Daly, 2007). Accordingly, it is vital for SMEs to develop a better understanding of how they can reconcile exploration and exploitation. While many SMEs nowadays rely on external relationships to secure both explorative and exploitative knowledge inflows, our post-hoc analyses suggest that they should be more attentive to the internal networks that allow developing an ambidextrous behavioral context to make use of such knowledge. In this, managers may rely on formal means such as joint project teams or interdisciplinary work groups. However, even more importantly, they should support the building of informal internal networks that appear to have the strongest effect on a SME's ability to develop both a performance management and social context and become ambidextrous.

We are aware of several limitations of this study that we understand as promising areas for future research. While referring to existing social capital research on how organizational relations enable knowledge exchange, we do not investigate knowledge flows as such within our model. Differentiating between knowledge broadening and deepening effects of organizational relations and relating such constructs to ambidexterity would shed further light on the role of knowledge flows in the relationship between organizational relations and ambidexterity. Similarly, we do not differentiate between explorative and exploitative networks of relationships (e.g., Koza & Lewin, 1998). Future research could add this distinction to our model to gain a more fine-grained understanding of networks' effects on ambidexterity. Focusing on the effects of single networks on exploration and exploitation within an organization would further extend this study. Next to SMEs, harmonic ambidexterity is of particular importance in business units of large corporations (Simsek et al., 2009; Lubatkin et al., 2006). Thus it remains an interesting empirical question, to which extent our findings generalize to the business unit level.

Last but not least, we do not employ advanced sociometric methods of social network research, but rely on established measures of connectedness in the innovation

and ambidexterity literatures. Both social capital and ambidexterity research would benefit greatly from a study identifying specific social capital configurations, which combine seemingly conflicting elements to achieve ambidexterity. Tiwana (2008), for example, finds that bridging ties and strong ties complement each other in achieving ambidexterity in project alliances. Future research could extend his and our findings to intra-firm or inter-firm networks' effects on a firm's level of ambidexterity.

## **Conclusion**

Our study combined the effects of internal and external as well as formal and informal connectedness on ambidexterity. In this we were able to provide evidence for the distinct roles and effects of different connectedness types, but also for their complementary character. We hope that our work may spark additional interest in studying the interaction of different antecedents to ambidexterity in general and the role of networks in particular.

## Appendix

### Measures and Items

The questions were administered with a seven-point Likert-type scale anchored by 1 = 'I totally disagree' and 7 = 'I totally agree'. Reliabilities for each scale are reported in parentheses.

Measure	Items	Reference
Exploitation ( $\alpha = .73$ )	i) Constantly surveying existing customers' satisfaction ii) Continuous improvement of product reliability iii) Fine-tuning of existing offering to keep current customers satisfied iv) Penetrating more deeply into existing customer base	Lubatkin et al., 2006
Exploration ( $\alpha = .83$ )	i) Search for novel ideas / thinking outside the box ii) Success is based on ability to explore new technologies iii) Creation of innovative products or services iv) Looking for creative ways to satisfy customers	Lubatkin et al., 2006
Performance Context ( $\alpha = .71$ )	i) Issue creative challenges to people, instead of narrowly defining tasks ii) Be more focused on getting the job done well than on getting promoted iii) Hold people accountable for their performance iv) Use appraisal feedback to improve performance v) Make a point of stretching people	Gibson & Birkinshaw, 2004
Social Context ( $\alpha = .85$ )	i) Devote considerable effort to developing subordinates ii) Give everyone sufficient authority to do their jobs well iii) Push decisions down to the lowest appropriate level iv) Give ready access to information that others need v) Work hard to develop the capabilities needed to execute the overall strategy/vision vi) Base decisions on facts and analysis, not politics vii) Treat failure (in a good effort) as a learning opportunity, not something to be ashamed of viii) Be willing and able to take prudent risks ix) Set realistic goals	Gibson & Birkinshaw, 2004

Measure	Items	Reference
Informal Internal Connectedness ( $\alpha = .70$ )	<ul style="list-style-type: none"> <li>i) In this firm, employees from different departments feel comfortable calling each other when the need arises</li> <li>ii) People around here are quite accessible to each other</li> <li>iii) In this firm, it is easy to talk with virtually anyone you need to, regardless of rank or position</li> </ul>	Jansen et al., 2009; Jansen et al., 2006
Formal Internal Connectedness ( $\alpha = .71$ )	<ul style="list-style-type: none"> <li>i) Employees are regularly rotated between jobs in our firm</li> <li>ii) There is regular talk about possibilities for collaboration between employees and functions</li> <li>iii) Our firm coordinates information sharing between employees through a knowledge network</li> <li>iv) We have cross-functional teams to exchange knowledge between functions / departments</li> <li>v) Our organization uses temporary workgroups for collaboration between employees and functions on a regular basis</li> </ul>	Jansen et al., 2009
Informal External Connectedness ( $\alpha = .80$ )	<ul style="list-style-type: none"> <li>i) Employees from your company spend a considerable amount of time on social occasions with people from other firms</li> <li>ii) There is an informal network among customers, suppliers and competitors</li> <li>iii) You talk to an external contact person very often (more than once per week)</li> <li>iv) You feel comfortable talking to the contact person responsible for getting you the information that allowed your company's performance to be improved</li> </ul>	Molina-Morales & Martínez-Fernández, 2009
Formal External Connectedness ( $\alpha = .81$ )	<ul style="list-style-type: none"> <li>i) Employees of our firm are regularly dispatched to other firms</li> <li>ii) There is regular talk about possibilities for collaboration with other firms</li> <li>iii) There is a knowledge network which coordinates information sharing between firms</li> <li>iv) We have project teams composed of employees from different firms which jointly work on projects and exchange knowledge between firms</li> <li>v) Our firm engages in temporary workgroups for collaboration between firms on a regular basis</li> </ul>	Adapted from Jansen et al., 2009

## **4. STRUCTURING FOR AMBIDEXTERITY: ACHIEVING AMBIDEXTERITY IN SMES THROUGH COMPENSATORY STRUCTURING**

### **Abstract**

Recently, ambidexterity research has increasingly focused on integrative approaches which reconcile exploration and exploitation across an entire organizational entity. Exploration and exploitation, however, require fundamentally distinct organizational structures. While exploitation benefits from mechanistic structuring, exploration demands organic structuring. What kind of structuring facilitates both activities, however, so far remains unclear. Adopting a holistic modular perspective on organizational structuring, we find that compensatory structuring – the seemingly inconsistent combination of centralization, formalization, and specialization – is able to foster organizational ambidexterity. Our post hoc analyses, however, further reveal that compensatory structuring does not unanimously entail higher ambidexterity levels, but that research has to differentiate between more and less effective compensatory structuring strategies. Our findings extend prior ambidexterity theory in drawing a more comprehensive because holistic picture of how organizational structuring may simultaneously foster exploration and exploitation.

### **Acknowledgement**

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## Introduction

Organizational ambidexterity, a firm's ability to simultaneously pursue exploration and exploitation, has been related to superior long-term performance (Raisch & Birkinshaw, 2008). Exploration and exploitation, however, aim at conflicting outcomes and require fundamentally different organizational structures. Whereas exploration seeks experimentation, innovation, and creativity and therefore requires relatively small, informal, and decentralized organic structures, exploitation aims at refinement, implementation, and efficiency within larger, more formal, and centralized mechanistic organizations (March, 1991; Benner & Tushman, 2003; Lavie & Rosenkopf, 2006). To overcome these tensions, earlier studies have proposed structural differentiation of explorative and exploitative units, i.e. structural ambidexterity (e.g., Tushman & O'Reilly, 1996). Within each of these physically separated units, the organizational structuring is consistently aligned to meet their respective strategic objectives (O'Reilly & Tushman, 2008; Benner & Tushman, 2003).

Complementing the structural ambidexterity perspective, however, some scholars have suggested that certain organizational entities such as small to medium-sized enterprises (SMEs) may lack the size, resources, and administrative systems to accommodate distinctly oriented units (Lubatkin, Simsek, Ling, & Veiga, 2006). In such cases, integrative solutions reconciling exploration and exploitation within an entire organizational entity are needed and have increasingly been in focus of recent ambidexterity research (Jansen, Simsek, & Cao, 2012). Pioneering this sub-line of ambidexterity research, Gibson and Birkinshaw (2004) demonstrated that ambidexterity can actually be achieved within a single organizational entity by establishing a supportive organizational context. Being a higher-level attribute of an organization as a whole, this organizational context also encompasses (next to climate and cultural elements) the structural context. How in detail this structural context needs to be configured and is able to reconcile the conflicting structuring demands of exploration and exploitation mentioned above, however, remained unclear.

Subsequent studies, which have investigated the effect of selected organizational structuring dimensions (i.e. centralization and formalization) on exploration and exploitation within a single organizational entity, could also not answer this question (Jansen, van den Bosch, & Volberda, 2006). Specifically, they found that centralization negatively affects exploration and formalization positively influences

exploitation and thus confirmed that exploitation requires mechanistic and exploration organic structures; more importantly, however, these findings further advocated the assumption of earlier ambidexterity research that the organizational structuring of a single organizational entity can indeed only be targeted at either exploration or exploitation. Thus a crucial but seemingly irresolvable issue that organizations such as SMEs still face involves structuring their organization in a way that facilitates both, i.e. leads to organizational ambidexterity.

To identify potential solutions for this issue, we build on the literature on organizational structuring which, unlike research on structural ambidexterity, suggests that its three dimensions (centralization, formalization, and specialization) do not need to be consistently aligned in organic or mechanistic ways. Instead, scholars suggest that there are multiple optimal positions in this three-dimensional structure space (Reimann, 1974). Effective firms can, for example, be relatively decentralized, but simultaneously formalized, and specialized. Subsequently, studies have assumed a similar structural modularity to explain the ideal structuring of, for example, marketing organizations (e.g., Walker & Ruekert, 1987; Vorhies & Morgan, 2003; Olson, Slater, & Hult, 2005). They suggest that high levels of one dimension can compensate for low levels of the other two and in combination are able to meet the requirements of contradictory strategic orientations. In the following, we will thus refer to this combination of seemingly inconsistent structuring elements as compensatory structuring.

So far, ambidexterity research has not adopted this modular perspective when investigating the effects of organizational structuring, but studied the effect of each structuring dimension on exploration and exploitation independent from the other dimensions. In this study, on the other hand, we examine holistic compensatory structuring strategies which allow the reconciliation of the conflicting structuring demands of exploration and exploitation across all three dimensions of organizational structuring. This is important as it may provide an answer to the crucial issue of how to structure an entire organization such as a SME simultaneously for exploration and exploitation. Thereby this study thus adds to our theoretical understanding of how organizational structuring can, in contrast to prior assumptions in ambidexterity research, actually foster organizational ambidexterity. Specifically, in doing so our study integrates and extends prior research on organizational structuring and structural ambidexterity; it transcends the traditional, more simplistic ‘mechanistic vs. organic’

view on organizational structuring in the context of exploration and exploitation and thereby sheds light on alternative structuring strategies for organizations such as SMEs who pursue integrative approaches to organizational ambidexterity.

Accordingly, we in this study explore and test how compensatory structuring may foster ambidexterity within an entire organization. We test our hypothesis with a sample of 190 SMEs as these are especially dependent on integrative, entity-wide approaches to organizational ambidexterity (Lubatkin et al., 2006). Furthermore, SMEs' structuring decisions usually are independent from an overall corporate context and therefore enable an unbiased test of the hypothesized effects. Our findings support the hypothesis that compensatory structuring has a positive effect on organizational ambidexterity. Moreover, post-hoc analyses reveal that not all compensatory structuring strategies are equally effective, but rather that (1) decentralized but formal and specialized, (2) informal but specialized and centralized, and (3) specialized but informal and decentralized structures are associated with higher levels of organizational ambidexterity.

These insights may contribute to ambidexterity theory in three ways. First, our results suggest that organizational structuring is not only an effective mechanism to differentiate exploration and exploitation, but that it can also be deployed to reconcile both activities in a single organizational domain by reconciling their conflicting structuring demands across the three dimensions of organizational structuring. Second, we provide insights regarding which structuring strategies seem more and which strategies seem less effective for the pursuit of organizational ambidexterity. Finally, our study may promote a more differentiated view on organizational structuring, which accounts for the possibility and acknowledges the benefits of inconsistent structuring decisions. At the same time, management practice benefits from very concrete results regarding the optimal structuring configurations for organizational ambidexterity; results which, of course, can and should be validated and extended in different empirical settings by future research.

We discuss our findings' theoretical and managerial implications in some more detail at the end of this paper. First, however, we briefly develop our theoretical basis and the underlying hypothesis. Afterwards, we provide methodological details on our data collection efforts and analyses and present our study's results. Finally, we will discuss its theoretical and managerial contributions, its limitations, and potential avenues for future research.



## Theory and Hypothesis

### Dimensions of organizational structuring

‘Organization structure may be considered the anatomy of the organization, providing a foundation within which the organization functions’ (Dalton, Todor, Spendolini, Fielding, & Porter, 1980: 49). More specifically, organizational structure fulfills two important functions which guide individual behavior and thereby organizational outcomes: on the one hand, it regulates and limits the effect individuals can have on an organization and, on the other hand, it sets the frame and determines the ground rules within which decisions are made and activities are carried out within organizations (Dalton et al., 1980). In this context, organizational researchers typically have differentiated between ‘structural’ and ‘structuring’ dimensions of organizational structure (Child, 1974). The structural characteristics of an organization refer to its physical layout as it can be seen, for example, on an organizational chart (Dalton et al., 1980). It sets the scene in which behavior occurs and activities take place. Structuring, on the other hand, refers to the mechanisms (e.g., decision processes, policies, guidelines) installed within the organization that prescribe and limit behavior and activities. As we investigate the influence of structure on behavior and activities (i.e. exploration and exploitation), we in the further course of this paper focus on the latter.

Researchers have identified three independent dimensions of organizational structuring which are unanimously considered to be essential in understanding the functioning of organizations: i) centralization, ii) formalization, and iii) specialization (Reimann, 1974; Sathe, 1978; Dalton et al., 1980; Walton, 1981). Centralization refers to the extent to which decision making authority is distributed throughout the organization (Fredrickson, 1986; Dalton et al., 1980). One person making every decision is one extreme of centralization, while the minimum degree of centralization (i.e. decentralization) exists if decision making authority is exercised equally by all members of the organization (Dalton et al., 1980). Formalization reflects the degree to which written rules, procedures, or contracts govern processes and activities within the organization (Jansen et al., 2006; Bunderson & Boumgarden, 2010; Fredrickson, 1986). It specifies how, where, and by whom activities are to be carried out, e.g., in process, role, job descriptions (Fredrickson, 1986). Finally, (functional) specialization accounts for the division of labor within an organization (Sathe, 1978). In specialized

organizations, individuals focus on narrower as opposed to broader sets of tasks (Sine, Mitsuhashi, & Kirsch, 2006).

Together these three dimensions are often used to distinguish between mechanistic and organic organizations. Mechanistic (sometimes also called bureaucratic or highly structured) organizations can be characterized as rather centralized, formalized, and specialized (Sine et al., 2006; Bunderson & Boumgarden, 2010). They are expected to frame an adequate context for efficient organizations operating in stable environments and aiming at the exploitation of existing competencies (Randolph & Dess, 1984; Lavie & Rosenkopf, 2006; Sine et al., 2006; Lavie, Stettner, & Tushman, 2010). Organic or less structured organizations, in contrast, can be described as being decentralized, informal, and less specialized (Sine et al., 2006; Bunderson & Boumgarden, 2010). They are better adapted to dynamic environments as they are more flexible and thus better able to explore innovative non-routine tasks requiring creativity and variation (Randolph & Dess, 1984; Lavie & Rosenkopf, 2006; Sine et al., 2006; Raisch, Birkinshaw, Probst, & Tushman, 2009). Organizational structuring thus sets the frame for the pursuit of exploration and exploitation which underlie the concept of organizational ambidexterity.

#### **Structuring demands of organizational ambidexterity**

The word ‘ambidexterity’ is derived from Latin and refers to the skill of humans to use both hands with equal talent, i.e. ‘dexterity’ (Simsek, 2009). Duncan (1976) was the first to use the term ‘organizational ambidexterity’ which refers to an organization’s ability to be equally dexterous at creating (exploration) and implementing (exploitation) innovations. It was March’s (1991) seminal article on exploration and exploitation in organizational learning, however, that led to the current interest of management research in this topic. He and subsequently others find that firms which simultaneously pursue exploration and exploitation (i.e. are ambidextrous) perform better in the long-run than firms focusing on the one or the other (e.g., He & Wong, 2004; Gibson & Birkinshaw, 2004). The problem, however, is that the two activities are aiming at contradictory outcomes requiring fundamentally different structures (Raisch & Birkinshaw, 2008).

Exploitation tasks seek alignment, refinement, efficiency, selection, and implementation while exploratory tasks strive for exactly the opposite, i.e. adaptability, search, variation, experimentation, and discovery (March, 1991). According to these contradictory orientations and as explained in the previous section,

exploitation thus demands rather mechanistic organizations characterized by centralized structures with tight coordination, controls, and processes to minimize variability and maximize efficiency (Benner & Tushman, 2003; Lavie & Rosenkopf, 2006). Exploration, in contrast, requires rather organic, decentralized structures with loose cultures and less formalized processes. These seemingly insurmountable opposing extremes led earlier research to the conclusion that excelling at both activities simultaneously is illusionary.

Later studies, however, proposed structural differentiation as a means to reconcile this conflict – an approach referred to as ‘structural ambidexterity’ (e.g., Tushman & O’Reilly, 1996; Benner & Tushman, 2003; Raisch & Birkinshaw, 2008). By setting up structurally separated organizational units which either focus on exploration or exploitation, activities are shielded against each other and allow each unit’s organizational structuring to still be consistently aligned with the needs of its task environment (Benner & Tushman, 2003; Raisch, 2008). Although an evidentially effective mechanism to achieve ambidexterity, structural ambidexterity therefore in principle still confirms the previously assumed irreconcilability of exploration and exploitation and their respective structuring demands within one organizational domain.

Structural separation further comes along with a string of coordination and re-integration challenges demanding a great deal of top management, the firm’s resource base, and its administrative systems (Lavie et al., 2010; Simsek, 2009). Thus, in general, structural ambidexterity is rather suited for larger firms or corporations than smaller organizational entities such as SMEs (Lubatkin et al., 2006). Here, harmonic or integrative approaches appear more adequate which reconcile exploration and exploitation within an entire organizational entity and thereby lead to success (Bierly & Daly, 2007; Cegarra-Navarro & Dewhurst, 2007; Lubatkin et al., 2006; Simsek, Heavey, Veiga, & Souder, 2009). The most prominent example of such an integrative approach is the reconciliation of exploration and exploitation through the establishment of a supportive organizational context which allows each individual in the organization to optimally divide his or her time between exploration and exploitation (Gibson & Birkinshaw, 2004). In this, organizational context was interestingly defined as a higher level attribute of an organization as a whole which, next to climate and cultural elements, also encompasses the structural context. How this structural context and the corresponding structuring dimensions need to be

configured within such a supportive overarching organizational context in order to reconcile the conflicting structuring demands of exploration and exploitation across the organization as a whole, however, was not investigated in further detail.

Subsequent studies which investigated the effect of selected organizational structuring dimensions did also not provide an answer to this question. Jansen and colleagues (2006) investigated how centralization and formalization influence exploration and exploitation and found that centralization was negatively related to exploration, while formalization positively affected exploitation. They thereby confirmed prior studies and theory which suggests that a mechanistic organizational structure may severely constrain creativity and innovation, while an organic structure may cause inefficiencies and squandering and that organizations which are somewhere in between are 'stuck in the middle' and lose the benefits of both (Jansen et al., 2006; Adler, Goldoftas, & Levine, 1999). Their findings therefore again suggest that organizational structuring can indeed only be targeted at either exploration or exploitation. Consequently, ambidexterity research still lacks a detailed understanding of the optimal organizational structuring of organizations depending on integrative approaches to organizational ambidexterity.

The seemingly irresolvable dilemma that organizations such as SMEs (in contrast to larger corporations) therefore continue to face when pursuing organizational ambidexterity is, which organizational structuring choices they should make to enable and encourage both exploration and exploitation across their entire organizational domain. We argue that, in contrast to prior ambidexterity research which examined the individual effects of centralization or formalization on exploration or exploitation, organizations pursuing integrative approaches to ambidexterity need to adopt holistic compensatory structuring strategies. This way they can reconcile the conflicting structuring demands of exploration and exploitation simultaneously across the three dimensions of organizational structuring (centralization, formalization, and specialization). We ground this argument in research on organizational structure which has previously suggested such a holistic modular perspective on organizational structuring.

#### **Compensatory structuring and organizational ambidexterity**

In contrast to the traditional differentiation between mechanistic and organic organizations, Reimann (1974) proposed a three-dimensional 'structure space' with the dimensions centralization, formalization, and specialization (see Figure 8) in which

various positions – each reflecting a different combination of the three dimensions – were found to be optimal. Effective firms could, for example, be relatively decentralized, formalized, and specialized or alternatively relatively centralized, formalized, but not specialized (Reimann, 1974). This finding suggests that the three dimensions of organizational structuring do not always need to be aligned in either a mechanistic or organic way, but that there are numerous ways in which successful organizations can be structured.

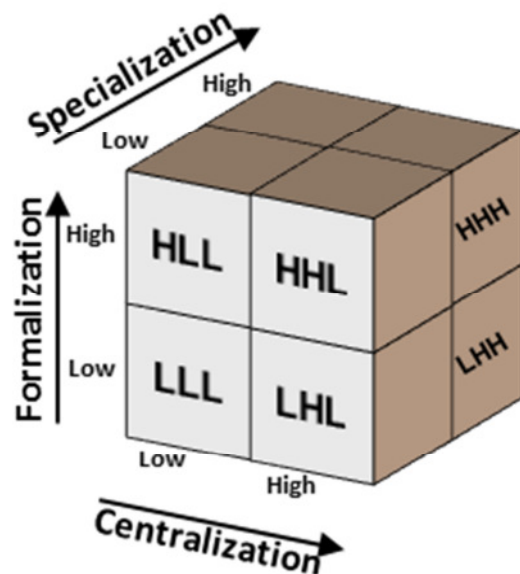


Figure 8: The structure space

Subsequent research has adopted this holistic modular view on organizational structuring and found that by combining inconsistent or even polar specifications of the three structuring dimensions, the organizational structuring of, for example, marketing organizations can be optimized for their respective strategic objectives (Walker & Ruekert, 1987; Vorhies & Morgan, 2003; Olson et al., 2005). These findings suggest that in order to pursue somehow contradictory strategic objectives, organizations need to make inconsistent and thereby compensatory structuring decisions through which some structuring dimensions may compensate for the shortcomings of the other dimensions. The benefits of decentralized structures, for example, can compensate for the shortcomings of formalization and specialization (and vice versa). In similar ways, compensatory structuring thus may actually provide an adequate structuring mechanism for simultaneously pursuing exploration and exploitation within a single organizational domain as we explain in the following.

Simplifying, we assume that each dimension can be described as having either a high or a low value resulting in a total of eight possible permutations (compare Figure 8). The traditional mechanistic (organic) configurations are reflected by consistent combinations of high (low) levels of all three dimensions (Bunderson & Boumgarden, 2010; Sine et al., 2006). Returning to the example above, one possible compensatory combination could be a decentralized but formalized and specialized structure. Here, decentralization would enhance innovation and adaptiveness (Walker & Ruekert, 1987). This is because decisions can be made with fewer consultations and by those with highest proximity to the market, resulting in quick and innovative responses to unique and emergent opportunities in the market (Olson et al., 2005; Walker & Ruekert, 1987). ‘However, a decentralized organization does not necessarily imply an informal organization’ (Olson et al., 2005: 54). Instead, formal policies and rules can compensate for the lack of control inherent to decentralized structures and guide these decision makers at lower ranks with respect to how to react to certain issues without stifling their flexibility (Olson et al., 2005). If these in addition are specialists, the risk of adverse or unprofessional behaviors is further reduced ensuring attention to operational details and the correct execution of routine tasks. Decentralization thus fosters creativity and experimentation which is simultaneously complemented by control and task orientation through formalization and specialization. The counterpart to this type of compensatory structuring would be an informal and unspecialized but centralized structure. In this case, informal and unspecialized structures allow for the non-routine processes, flexibility, and diversity required for idea generation, experimentation, and creative market responses, while centralization makes up for the lack of control and task orientation as it allows management to closely monitor operational details, tightly control processes, and intervene in case of profligacy. We refer to these first two types of inconsistency as *centralization-driven compensatory structuring*, as low or high levels of centralization compensate for high or low levels of the other two dimensions, respectively.

*Formalization-driven compensatory structuring* accordingly describes formal but decentralized and unspecialized or informal but centralized and specialized structures. In the former case, formal guidelines and process descriptions compensate for the lack of control in decentralized structures which in turn allow for market-oriented decisions – these market-oriented decisions are, in addition, enriched by the creativity and diversity of unspecialized structures. In the latter case, centralization provides control

and specialization ensures sufficient task orientation, while informal structures provide individuals with flexibility and allow deviations from routines. In a similar manner, *specialization-driven compensatory structuring* refers to combinations in which low or high levels of specialization compensate for high or low levels of centralization and formalization, respectively. In the first case, centralized and formalized structures allow tight control over new market opportunities identified and minimize error in activities performed by generalists (Vorhies & Morgan, 2003). At the same time, generalists frequently look beyond their own task environment, explore and connect unrelated ideas, and bring diversity and flexibility to the organization enabling innovation and creativity despite a rather rigid organizational frame (Pierce & Delbecq, 1977; Sine et al., 2006). In the opposite case, task orientation and professionalism of specialists compensate for the lack of control and guidance in decentralized and informal structures.

By the nature of permutation, these types sometimes differ only with regard to one dimension and might seem redundant or even contradictory, but each can be effective in its specific way. Which type(s) of compensatory structuring is appropriate for a specific organization may depend on various contingencies such as risk or knowledge intensity of a business which we discuss in some more detail at the end of this paper. All types, however, have in common that one dimension compensates for the concurrent shortcomings of the other two dimensions and thereby should be able to reconcile exploration and exploitation in their respective setting. Thus we expect that organizations which achieve high levels of ambidexterity in general have inconsistent and therefore compensatory structuring mechanisms in place which enable them to do so.

*Hypothesis 1: Higher levels of compensatory structuring, defined as the degree of complementary inconsistency in organizational structuring, is positively associated with organizational ambidexterity.*

This hypothesis is contingent on the following boundary conditions. Primarily, our hypothesis is based on the assumption that organizational ambidexterity is sought within a single, independent organizational entity and not achieved through structural differentiation of explorative and exploitative units (i.e. structural ambidexterity). This is the case for SMEs which face the competitive pressure to integrate exploration and

exploitation (Simsek et al., 2009), while they lack the resources and systems to accommodate multiple organizational units with distinct objectives (Lubatkin et al., 2006; Bierly & Daly, 2007). Additionally, the respective organizational entity should be able to independently design its structuring dimensions. This is again the case in SMEs as they are not embedded in a surrounding corporate context potentially influencing structuring decisions. Based on these theoretical considerations, we decided that a broad sample of SMEs is ideally suited to test our hypothesis. Our methodological approach is described in the subsequent section.

## Methods

### Data collection

**Sampling.** To test our hypothesis, we followed prior quantitative ambidexterity research (e.g., Lubatkin et al., 2006) and conducted a large scale survey of German manufacturing SMEs. Using the Hoppenstedt firm database and relying on the American Small Business Administration's (SBA) established general definition of SMEs as firms with 500 or fewer employees (Arend, 2006; Lubatkin et al., 2006; Lu & Beamish, 2001), we were able to identify and contact 1,079 manufacturing SMEs across Germany. We send the CEO of each SME an email which included a cover letter explaining our research project and a five page questionnaire. In the email, cover letter, and questionnaire we emphasized that all responses would be treated confidentially and anonymously, that there are no right or wrong answers, and that a summary report would be offered to all participants at the end of the project. We received a total of 190 questionnaires (18%), which compares well with similar studies in the field (Sidhu, Commandeur, & Volberda, 2007; Simsek, Veiga, & Lubatkin, 2007). We tested for potential non-response bias by examining the differences between respondents and non-respondents with regard to size and industry sector. There was no indication of non-response bias. Additionally, in order to validate the absence of non-response bias, we tested for differences between the late and early respondents regarding all model variables (Simsek et al., 2007). We did not find signs of late-response bias which confirmed that non-response bias was not of concern in our study.

**Single-informant bias.** Prior studies suggest that SME CEOs play both strategic and day-to-day operational roles in their organizations and can thus be considered knowledgeable regarding their organizations' structures as well as their exploration and exploitation activities (e.g., Simsek et al., 2007; Bierly & Daly, 2007; Cegarra-



Navarro & Dewhurst, 2007). Still, other studies have additionally surveyed a second respondent (e.g., subordinates or operational-level managers) per firm to rule out single-informant bias (e.g., Lubatkin et al., 2006; Jansen et al., 2006; Jansen et al., 2012). Accordingly, we asked the CEO of each SME to nominate a second respondent (subordinates with operational responsibility) who we contacted separately with an identical questionnaire. This way we were able to obtain additional questionnaires from 55 SMEs which compare well with the full sample in terms of the model and control variables. We were able to use these additional responses to calculate the inter-rater agreement with regard to all model variables ( $r_{wg}$ ; James, Demaree, & Wolf, 1993). The average inter-rater agreement was well above the threshold value of 0.6 (Glick, 1985) for all the model variables, indicating no potential problems with single-informant bias (Jansen et al., 2012). For the subsequent hypothesis testing we therefore felt comfortable using the responses of the primary respondents, i.e. the SMEs' CEOs. In addition, since common method bias is often a concern in studies relying on single respondents, we followed prior studies and took several steps, described later in this paper, to mitigate, detect, and control for this bias and found no evidence for it (Simsek et al., 2007).

### Measures

We used established multi-item constructs measured with seven-point Likert-style scales ranging from 'I totally disagree' to 'I totally agree.' To design, structure, and program our questionnaire, we relied on familiar literature on survey research (e.g., Dillman, Smyth, & Christian, 2008; Baruch & Holtom, 2008; Bednar & Westphal, 2006). First, we developed a draft of the questionnaire, which six fellow researchers pre-tested. They were familiar with the topic and had a good understanding of the underlying theory. Following these first pre-tests, the revised questionnaire was distributed to six CEOs of German SMEs (not included in the final sample), who were asked to comment on the structure, clarity, and design as a final pre-test. All feedback was highly encouraging regarding the questionnaire design and the relevance of our study.

**Organizational ambidexterity.** To measure organizational ambidexterity, we relied on the established two-step approach suggested by prior ambidexterity research and employed two separate scales for exploration and exploitation (e.g., Gibson & Birkinshaw, 2004; Lubatkin et al., 2006; Jansen, George, van den Bosch, & Volberda, 2008; Jansen et al., 2012). We adapted Lubatkin and colleagues' (2006) scales which

each consisted of six items with which the respondents had to rate their SME's explorative or exploitative orientation over the previous three years. Principal component factor analysis by means of varimax rotation, however, resulted in a two-factor structure for each scale. Furthermore, the reliability of the exploitation scale was rather low ( $\alpha = 0.64$ ).

A re-examination of the factor structure revealed that the exploration items loaded on one factor reflecting exploration through innovation and creativity (four items) and on a second factor reflecting exploration through addressing new markets and customers (two items). Similarly, the exploitation items loaded on two factors representing exploitation through implementation and execution of routine tasks (four items) and exploitation through efficiency gains (two items). Following the definition of March (1991) and others, we agreed that the respective first factors more accurately represented the actual construct we wanted to capture and therefore, in line with prior studies, decided to drop the low loading and reliability decreasing items pertaining to the respective second factors in each scale (Scott, Gibbons, & Coughlan, 2010; Piccolo & Colquitt, 2006; Janssen, 2001; Skarlicki, Folger, & Tesluk, 1999; Pillai, Schriesheim, & Williams, 1999; Busenitz, 1996; Peterson, 1994). To ensure that our findings were not affected by this deletion, we additionally replicated our models using the original full scales. Results were largely consistent adding to our confidence in the adapted measures.

After elimination of the two items in each scale, our measures reported adequate reliabilities for the exploration scale ( $\alpha = 0.83$ ) and the exploitation scale ( $\alpha = 0.73$ ). We then calculated the inter-rater agreement ( $r_{wg}$ ; James et al., 1993) between the CEOs and their operational-level subordinates for the 55 SMEs which had returned two questionnaires. The average inter-rater agreement regarding the exploration and exploitation scales was 0.83 and 0.86, respectively. This suggests a high level of agreement (Jansen et al., 2012; Glick, 1985). The final measure thus comprised two four-item scales (see Appendix).

In a second step, assuming that exploration and exploitation are orthogonal and non-substitutable, we then followed previous research and combined both scales by multiplication into one measure for organizational ambidexterity (Gibson & Birkinshaw, 2004; Jansen et al., 2008; Jansen et al., 2012). In addition, following prior studies in the field we replicated our analyses with an additive conceptualization of the

ambidexterity measure (Lubatkin et al., 2006; Jansen et al., 2012). Results stayed largely consistent.

**Compensatory structuring.** We operationalized *centralization* and *formalization* based on Jansen and colleagues' (2006) five item scales. *Specialization* was measured with a five item scale adapted from Vorhies and Morgan (2003). Centralization measured the extent to which decision making authority is distributed throughout the organization, formalization the extent to which tasks and activities are guided by written rules and policies, and specialization the division of labor and the extent to which tasks required specialist knowledge. Reliabilities were good for centralization ( $\alpha = 0.83$ ) and formalization ( $\alpha = 0.77$ ), while only satisfactory for specialization ( $\alpha = 0.68$ ). To further validate these scales, we again calculated inter-rater agreement scores ( $r_{wg}$ ; James et al., 1993) for the 55 SMEs which had returned two questionnaires. Average inter-rater agreement was 0.70 for centralization, 0.73 for formalization, and 0.84 for specialization indicating adequate to high levels of agreement far above the threshold value of 0.6 suggested by earlier studies (Jansen et al., 2012; Glick, 1985). For a detailed list of the items employed, please refer to the Appendix.

To arrive at a measure for *compensatory structuring* we calculated the cumulated absolute differences between the scores of the three structuring dimensions according to the following formula  $\sum_{1-z}(|X - Y|)$  (cf. Bobko & Schwartz, 1984) which translates into  $|C - F| + |C - S| + |F - S|$ . C stands for the centralization score, F for the formalization score, and S for the specialization score. The formula provides low values for combinations with consistent scores and high values for combinations with inconsistent scores across the three structuring dimensions. As compensatory structuring per definition reflects the degree of inconsistency in organizational structuring, this combination of centralization, formalization, and specialization into one compensatory structuring score appropriately represents what we aim to measure. As explained later in more detail, we additionally replicated our analysis with an alternative absolute structure measure based on Bunderson and Boumgarden (2010). Results confirmed our later reported findings.

**Control Variables.** The control variables were also adopted from prior literature. We controlled for *connectedness*, as prior studies have found that it positively influences organizational ambidexterity (Jansen et al., 2006). Furthermore, a firm's *size* (number of employees) and *age* have been related to inertia, flexibility, resource

availability, and the possible development of routines to deal with complex situations and we therefore accounted for them in our model (Lubatkin et al., 2006; Jansen et al., 2006; Jansen et al., 2012). The kind of markets and product ranges of a firm often depend on the kind of clients a firm serves (private clients vs. business clients) and we thus controlled for the *client focus* of the firms in our sample (Jansen et al., 2006). We also controlled for *environmental dynamism*, which has been found to influence explorative and exploitative activities, and *industry* sector (Lubatkin et al., 2006; Jansen et al., 2008; Jansen et al., 2012). As we focus on the firm-level of analysis, we in our model did not account for individual-level controls.

Variable	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10
1 Organizational Ambidexterity	29.13	9.42	1									
2 Compensatory structuring	5.08	2.25	.208**	1								
3 Formalization	4.24	1.31	.03	.05	1							
4 Centralization	2.95	1.20	-.156*	-.633**	.238**	1						
5 Specialization	5.08	.94	.224**	.398**	.478**	.13	1					
6 Connectedness	4.56	.85	.404**	.201**	.276**	-.147*	.304**	1				
7 Size	164.87	112.29	.04	.03	.04	.149*	.231**	.02	1			
8 Age	49.18	40.44	.13	.01	.00	.11	.175*	.04	.273**	1		
9 Client Focus	1.92	.26	.09	.03	.02	-.07	.06	.02	.05	-.11	1	
10 Environmental Dynamism	5.23	1.27	.235**	.02	.09	.08	.10	.11	.05	.05	.08	1

Note: industry dummies included

\*\* p < 0.01

\* p < 0.05

Table 5: Means, standard deviations, and correlations

## Analyses and Results

### Test of hypothesis

The descriptive statistics and correlations of all the model variables are presented in Table 5. There was a significant positive relationship between compensatory structuring and organizational ambidexterity. Bearing in mind the rather complex compensatory structuring formula, this is particularly noteworthy. Essentially, this indicates that modular structuring strategies are related to organizational ambidexterity. Connectedness, besides being strongly and positively related to organizational ambidexterity as suggested by earlier research (e.g., Jansen et al., 2006), interestingly also has a significant and positive relationship with compensatory structuring; prior research has rather associated connectedness with informal organic structures (Tsai, 2002).

Results of the regression analyses are shown in Table 6. Model 0 is the baseline model containing only the control variables. In model 1 we add the effect of compensatory structuring on organizational ambidexterity. We calculated variance inflation factors (VIFs) to identify potential problems with multicollinearity (Jansen et

al., 2009; Mom, van den Bosch, & Volberda, 2009). Multicollinearity, however, does not seem to be a problem as the maximum VIF within the models was 1.51 and the VIF for compensatory structuring was 1.01, i.e. far below the threshold value of 10 (Neter, Wasserman, & Kutner, 1990).

We tested our hypothesis with ordinary least squares (OLS) regression. Hypothesis 1 predicts that compensatory structuring (that is, the inconsistency between centralization, formalization, and specialization measured in terms of their cumulated absolute differences) will positively influence organizational ambidexterity. As Table 6 shows, the coefficient of compensatory structuring in model 1 is positive and significant ( $\beta = .14$ ,  $p < .05$ ). Therefore hypothesis 1 can be supported.

Variable	Model 0: Organizational Ambidexterity	Model 1: Organizational Ambidexterity
<i>Model variables</i>		
Compensatory Structuring		.14*
<i>Control variables</i>		
Connectedness	.40***	.37***
Size	-.06	-.06
Age	.17*	.17*
Client Focus	.07	.07
Environmental Dynamism	.18**	.19**
<i>Model Summary</i>		
R <sup>2</sup>	.26	.28
$\Delta R^2$	.26***	.02*
Adjusted R <sup>2</sup>	.20	.21
ANOVA F	4.21***	4.30***

Note: standardized regression coefficients are reported; industry dummies included

\*\*\*p < .001, \*\*p < .01, \*p < .05

Table 6: Results of regression analysis

### Post-hoc analysis

To further verify our finding and gain insights into which kind of compensatory structuring is causing the significant effect we could observe in our regression, we conducted a post-hoc analysis. Figure 9 graphically plots the position of all SMEs which participated in our study. As we can see, most SMEs concentrate around a diagonal from the lower left front area (organic, low levels of all dimensions) to the upper right back area (mechanistic, high levels of all dimensions). At the same time, however, there are quite a few SMEs who deviate from this diagonal into areas with rather inconsistent scores across the three dimensions, i.e. SMEs with compensatory structuring configurations. To increase the interpretability of Figure 9, we returned to our previously assumed high vs. low dichotomy and transformed the scores of all three dimension into either a 'high' (=2) or 'low' (=1) value (with the median as the cut-off point) for each SME. We then plotted the distribution in the same three dimensional

structure space (bubble size represents the number of SMEs in each area). Figure 10 confirms our first interpretation of Figure 9 by clearly showing that all types of compensatory structuring can be found in our sample.

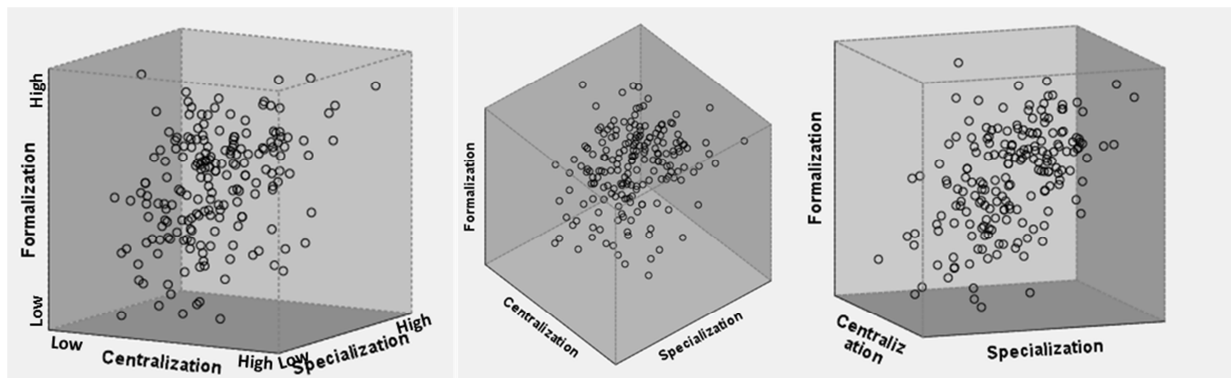


Figure 9: 3D plot of the structure space for the SME sample (from 3 perspectives)

This suggested the possibility of identifying and comparing distinct groups or clusters in our sample which could provide us with further insights on how compensatory structuring was working. We therefore conducted a cluster analysis, i.e. we tried to group our SMEs such that the variance with regards to our structuring dimensions within groups was minimized while variance between groups was maximized (Ketchen & Shook, 1996). As ‘research has shown that this procedure increases validity of solutions’ (Ketchen & Shook, 1996: 446), we used the two-step clustering approach to identify several models of which the eight-group model provided the best fit.

Group 1 and 2 consisted of 43 and 36 SMEs which did not pursue compensatory structuring strategies, but were characterized by organic and mechanistic structures, respectively. Group 3 consisted of 26 SMEs with a low value of centralization but high values of formalization and specialization, while group 4 consisted of 26 SMEs with a high value of centralization and low values of formalization and specialization (i.e., group 3 and 4 pursued centralization-driven compensatory structuring strategies). Group 5 comprised 19 SMEs characterized by a high value of specialization and low values of formalization and centralization, while group 6 included 14 SMEs with a low value of specialization and high values of formalization and centralization (i.e., group 5 and 6 represented specialization-driven compensatory structures). Finally, group 7 consisted of 16 SMEs with a high value of formalization and low values of centralization and specialization, whereas group 8 comprised 10 SMEs with a low value of formalization and high values of centralization and specialization (i.e., group

7 and 8 pursued formalization-driven compensatory structuring strategies). Please refer to Table 7 for an overview of all groups.

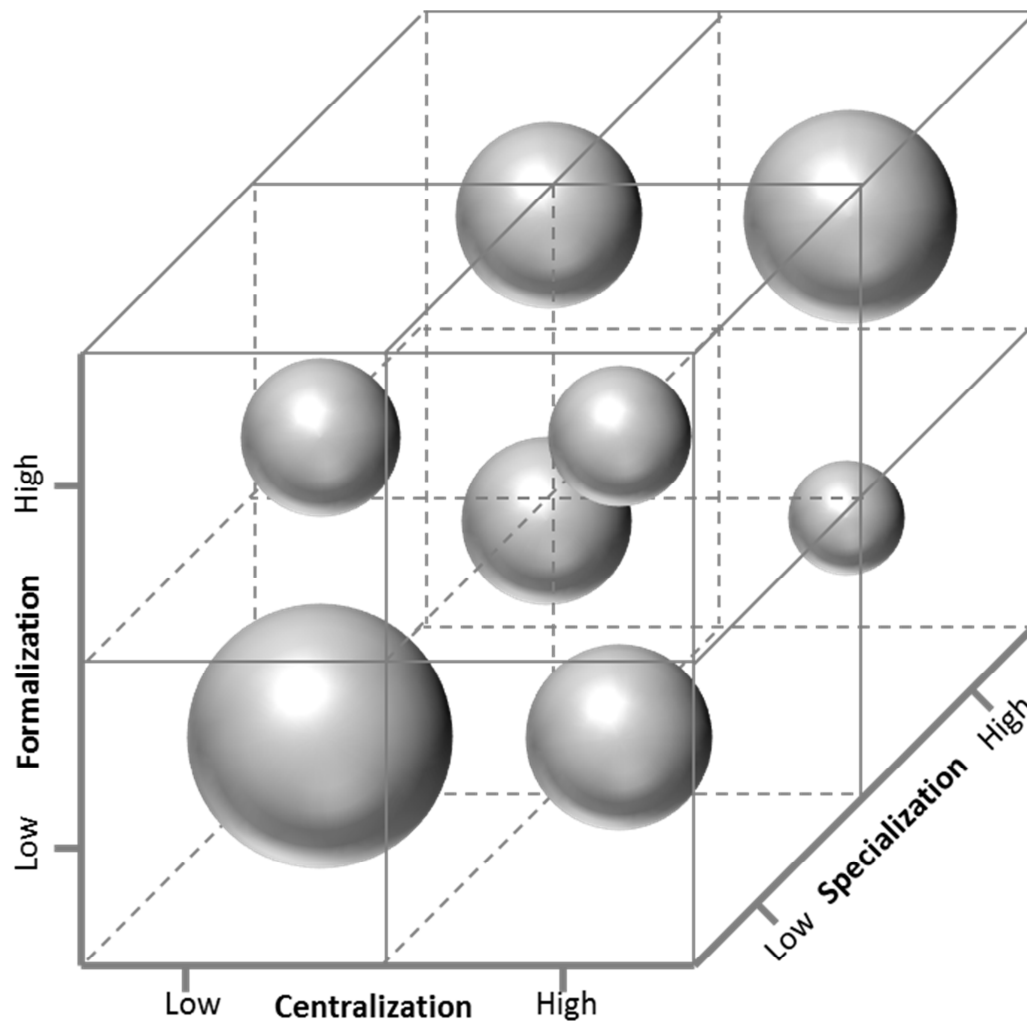


Figure 10: Distribution of SMEs within the structure space (bubble size = number of SMEs)

The ANOVA F-test was weakly significant ( $F = 1.87$ ;  $p < 0.1$ ) which allowed us to reject the null hypothesis that all eight groups had the same ambidexterity level. Repeating the ANOVA F-test with the seven-group model which combined group 1 and 2 (i.e. all SMEs not pursuing compensatory structuring strategies were grouped into one cluster; model fit again was very high) increased the significance of the F-value ( $F = 2.19$ ;  $p < 0.05$ ) confirming the first ANOVA F-test. Interestingly, however, not all the SMEs pursuing compensatory structuring strategies scored higher on organizational ambidexterity than the SMEs with organic (group 1; 29.04) or mechanistic (group 2; 29.16) structures. Instead, each of our previously defined compensatory structuring strategies (i.e. centralization-, formalization-, and specialization-driven compensatory structuring) only functioned in one direction. Of the two centralization-driven compensatory structuring strategies, only the strategy in

which decentralization compensates formalization and specialization was associated with a higher ambidexterity score (group 3; 33.75), while the compensation of informal and unspecialized structures through centralization yielded relatively lower ambidexterity scores (group 4; 26.41). Similarly, specialization-driven compensatory structuring was only successful in the case that specialization compensated for decentralized and informal structures (group 5; 31.06) and not for the opposite case (group 6; 26.24). In the same way, formalization-driven compensatory structuring, on the one hand, entailed the lowest ambidexterity score of all groups for formalized but decentralized and unspecialized structures (group 7; 25.71), but on the other hand appeared effective for the case that informal structures compensated for centralized and specialized structures (group 8; 30.72).

Group	Number of SMEs	Centralization	Formalization	Specialization	Mean Organizational Ambidexterity
Group 1: Organic structuring	43	Low	Low	Low	29.04
Group 2: Mechanistic structuring	36	High	High	High	29.16
Group 3: Centralization-driven compensatory structuring (decentralized but formal and specialized)	26	Low	High	High	33.75
Group 4: Centralization-driven compensatory structuring (centralized but informal and unspecialized)	26	High	Low	Low	26.41
Group 5: Specialization-driven compensatory structuring (specialized but informal and decentralized)	19	Low	Low	High	31.06
Group 6: Specialization-driven compensatory structuring (unspecialized but formal and centralized)	14	High	High	Low	26.24
Group 7: Formalization-driven compensatory structuring (formal but unspecialized and decentralized)	16	Low	High	Low	25.71
Group 8: Formalization-driven compensatory structuring (informal but specialized and centralized)	10	High	Low	High	30.72

Table 7: Results of post-hoc cluster analysis

While these results only partially confirm our hypothesized positive effect of compensatory structuring on organizational ambidexterity, they provide us with a valuable because more differentiated view on the effectiveness of the compensatory structuring strategies proposed previously in this paper. All three compensatory structuring strategies can be effective; however, this effect cannot be observed unanimously, but only for one subtype of each compensatory structuring strategy. Specifically, (1) decentralization can compensate for formalization and specialization, (2) informal structures can compensate for centralization and specialization, and (3) specialization in turn can compensate for decentralized and informal structures; but in each case the exact opposite structuring does not seem to be successful. Comparing



these three subtypes, we also see that the first subtype (group 3) seems most effective, followed by the third subtype (group 5) and the second subtype (group 8). Even more interesting, however, is that all three successful subtypes are characterized by high levels of specialization. We will discuss the implications of this finding at the end of this paper.

#### **Common method bias and robustness of our model**

The testing of our hypothesis required a large sample of firms and we therefore primarily relied on the responses of the SME CEOs. In this, we followed prior studies in the field who argue that CEOs are knowledgeable respondents with regards to the processes and structures within their organizations (e.g., Simsek et al., 2007; Bierly & Daly, 2007; Cegarra-Navarro & Dewhurst, 2007; Miller & Toulouse, 1986). Still, in studies relying on single respondent survey data, common method bias often is a big concern. We therefore took several steps, as mentioned before, to mitigate, detect, and control for common method bias.

To *mitigate* potential biasing effects, we carefully constructed all survey items and used pre-tested, established multidimensional constructs (Simsek et al., 2007; Nell & Ambos, 2013). Furthermore, our questionnaire was designed to avoid consistency motif and social desirability, e.g., confidentiality and anonymity were guaranteed, it was emphasized that there were no right or wrong answers, and the independent and dependent variables were surveyed in separated sections (Chang, van Witteloostuijn, & Eden, 2010; Nell & Ambos, 2013). ‘To decouple the responses to the different questions and to establish methodological separation of our constructs’ (Nell & Ambos, 2013: 8), we additionally placed some items which were irrelevant for this paper between the dependent and independent variables (including covariates) within the survey. Finally, our model integrates perceptual data, objective data (e.g., age, client focus) and secondary data (e.g., industry, size) (Nell & Ambos, 2013). All these mitigating measures lessen the likelihood of a common method bias.

To *detect* common method bias, we followed prior studies and performed several tests (namely, Harman’s single-factor test and confirmatory factor analysis (CFA)) (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Simsek et al., 2007; Nell & Ambos, 2013). If common method bias was a serious issue in our study, a dominant single factor would explain the majority of the covariance in the dependent and independent variables. Principal component analysis revealed that the first factor accounts for less

than 12% of the variance, thus not negating but limiting concerns about potential common method bias (Podsakoff & Organ, 1986; Sidhu et al., 2007; Im & Rai, 2008; Zhao & Anand, 2009; Mom et al., 2009; Nell & Ambos, 2013). We then used CFA to more sophisticatedly test the hypothesis that a single factor accounts for all the variance in our data by comparing our measurement model to one-factor, two-factor, and three-factor models which we obtained by combining our variables in different ways, e.g., to test the three-factor model we combined all structuring variables into one single latent factor (Simsek et al., 2007). The goodness-of-fit indices indicated a poorer fit of these models compared to our hypothesized measurement model, in particular for the single-factor model, ‘which suggests that biasing from common method variance is unlikely’ (Simsek et al., 2007: 1419). Significant chi-square reductions were also clear evidence of the hypothesized model outperforming all other configurations in terms of discriminant validity (Simsek et al., 2007).

Furthermore, we used the data from the additional respondents which we were able to collect from 55 SMEs to more directly *control* for common method bias (Simsek et al., 2007; Nell & Ambos, 2013). As mentioned, inter-rater reliability was high for all model variables corroborating our primary informants’ responses (Simsek et al., 2007; Nell & Ambos, 2013). In addition, we replicated our regression analysis using data from multiple sources; that is we used primary respondent data for the independent and secondary respondent data for all other model variables (Simsek et al., 2007). The regression results were largely consistent with the results reported earlier.

Moreover, although not overly complex, compensatory structuring measured as the absolute difference between the three structuring dimension is not ‘likely to be part of the individual raters’ cognitive maps’ (Chang et al., 2010: 180). Finding a significant influence of compensatory structuring on organizational ambidexterity despite the potential influence of common method bias in the data set should therefore rather be taken as strong evidence that this effect actually exists (Nell & Ambos, 2013). Summarizing, although we cannot rule out the potential for common method bias, we are confident that it is not of major concern in our study.

Last but not least, we tested the robustness of our findings by adding additional controls and by replicating our analysis with an alternative conceptualization of our dependent and independent variables (Simsek et al., 2007; Klarner & Raisch, 2013). First, we controlled for an alternative measure of connectedness which only accounted for informal relations within firms (Jansen et al., 2006). The results were largely

consistent. Second, we controlled for organizational context (Gibson & Birkinshaw, 2004) which as expected rendered the effect of compensatory structuring insignificant. This effect can be explained by the fact that the organizational context ‘reflects a combination of the structural context, culture, and climate...and is considered an objective, higher-level attribute of the unit as a whole’ (Gibson & Birkinshaw, 2004: 213). Thus the explanatory power of organizational structuring is naturally absorbed when introducing a higher-level construct such as organizational context into the regression. Third, as mentioned before, we used an alternative, additive conceptualization of organizational ambidexterity (Lubatkin et al., 2006) and replicated our analysis. The results were very similar to our estimations with the multiplicative ambidexterity term. More interestingly, we finally replicated our analysis with a measure which combined all three structuring dimensions to reflect the overall level of structure within an organization (Bunderson & Boumgarden, 2010). This measure produced high scores for highly structured, mechanistic organizations and low scores for less structured, organic organizations. Regression analysis revealed a curvilinear (inverted U-shape) relationship indicating that neither organic nor mechanistic organizations facilitate organizational ambidexterity, but intermediate levels of our structure measure. Although this analysis does not reveal what kind of ‘intermediate structures’ is required, it confirms our findings as compensatory structuring would in that conceptualization lead to exactly such intermediate structure ratings.

## **Discussion**

In this paper we have developed a theoretical framework relating the three dimensions of organizational structuring, i.e. centralization, formalization, and specialization, to organizational ambidexterity. More specifically, our results show that compensatory structuring (i.e. the combination of seemingly inconsistent structuring elements to foster different strategic orientations) is able to reconcile exploration and exploitation across an entire organizational entity, i.e. lead to organizational ambidexterity. Based on these findings, we contribute to ambidexterity research in three ways.

First, our findings suggest that organizational structuring can be an effective integrative mechanism to achieve organizational ambidexterity within a single organizational domain. This is important, as prior research has regarded structuring

rather as a mechanism to differentiate explorative and exploitative activities (e.g., Jansen et al., 2006; Tushman & O'Reilly, 1996) than as a means to reconcile their conflicting structuring demands. Our study, in contrast, shows that compensatory structuring may integrate mechanistic and organic attributes of organizational structuring that in combination contribute to the achievement of organizational ambidexterity. This is because by introducing a holistic modular perspective on organizational structuring into ambidexterity research, we are able to show how organizations can reconcile the conflicting structuring demands of exploration and exploitation across the three different dimensions of organizational structuring. Prior research has rather adopted an atomistic view and analyzed each dimension independent from the other dimensions which naturally confirmed the established view that each structuring dimension can only facilitate one of the two activities. Only in their combination and within holistic compensatory structuring strategies, however, the three dimensions of organizational structuring can compensate each other and effectively contribute to organizational ambidexterity. Summarizing, our findings thus integrate and extend prior research on structural ambidexterity as well as integrative approaches to ambidexterity (e.g., contextual ambidexterity) which so far has not accounted for the ability of organizational structuring to foster ambidexterity within a single organizational domain. We encourage future research to investigate whether similar mechanisms also function in business units of larger corporations, which face similar pressures to integrate exploration and exploitation, but may be constrained by their corporate context (Lubatkin et al., 2006).

Second, our theory suggests that there are different structuring paths which organizations can follow to facilitate organizational ambidexterity. This 'equifinality', however, is not confirmed by our findings. Our post hoc analyses rather show that the three proposed compensatory structuring strategies, defined by the compensating dimension, each only work in one direction. Centralization-driven compensatory structuring only seems effective in the case of (1) decentralized but formal and specialized structures, while centralization does not seem to be able to compensate for informal and unspecialized structures. Similarly, (2) informal organizations are able to compensate for centralization and specialization and (3) specialization in turn is able to compensate for decentralized and informal structures; but the two exact opposite configurations do not increase ambidexterity. Interestingly, we find that all the three

effective compensatory configurations are characterized by high levels of specialization.

It thus seems that the division of labor and a focus on rather narrow sets of tasks are a must-have in any successful compensatory structuring strategy. An explanation of this effect could be that the lack of control or detailed rules must in either case be compensated by task orientation and professionalism to ensure that activities go into the right direction. This compensatory effect can be reinforced by either (1) formalization or (2) centralization without stifling creativity or flexibility enabled through the respective third dimension, but it is also strong enough to compensate for a (3) lack of both centralized control and formal rules. Our finding thus implies that SMEs should build their compensatory structuring strategies around specialized structures and combine these with (1) decentralized but formal, (2) informal but centralized, or (3) informal and decentralized structures – specialized structures, however, should not be combined with centralized and formal structures as such mechanistic structures rather inhibit than foster organizational ambidexterity. As this study is the first to explore the relationship between specialization and organizational ambidexterity and because our findings are somewhat surprising given that they propose specialization as a necessary (but not sufficient) condition for organizational ambidexterity, we encourage future research to investigate the role of specialization in the pursuit of organizational ambidexterity in further detail.

Furthermore, which of the three effective compensatory structuring paths to choose, may depend on external or internal contingencies. A high-risk business, for example, might require quite formalized processes minimizing error and specialists who know exactly what they are doing (Vorhies & Morgan, 2003), so that decentralized structures need to be built around formalization and specialization to enable quick and flexible responses to emerging opportunities in a dynamic market. Conversely, some knowledge-intensive businesses may have a need for high degrees of specialization (to recognize and make full use of the knowledge) and centralization (to tightly control and coordinate the use of valuable knowledge) that can be compensated through more informal structures which allow experimentation and creative re-combinations of such knowledge (Pierce & Delbecq, 1977). Structural requirements might further differ substantially by life cycle stage of an organization (Sine et al, 2006). In the scope of this study, however, we were not able to explore each compensatory structuring strategy in detail and test potential contingencies. Therefore we strongly encourage

future research to study the different paths of compensatory structuring and the external or internal contingencies under which certain compensatory structuring strategies appear more or less appropriate to reconcile exploration and exploitation.

Third, by proposing compensatory structuring as a means to achieve ambidexterity, we promote a more differentiated view on organizational structuring decisions, replacing the traditional dichotomy prevailing in organizational theory. So far, researchers have argued that firms need to choose between the two polarities of mechanistic and organic structures and should avoid being ‘stuck in the middle’ by choosing intermediate levels of organizational structuring (Adler et al., 1999). Our paper suggests that an inconsistent combination of distinct mechanistic and organic structuring elements might entail benefits for organizations as they allow dealing with paradoxical strategic requirements. Thus we show how traditionally ill-regarded combinations of structuring mechanisms can in fact help firms to take up an outperforming position and solve ‘the paradox of administration’ (Thompson, 1967).

Last but not least, management practice benefits from very concrete results regarding the optimal structuring configurations for organizational ambidexterity in SMEs. SMEs are especially dependent on mechanisms which allow them to reconcile exploration and exploitation across their entire organization. While management research so far has not provided them with an answer regarding the optimal structuring strategy for this purpose, our study suggests three concrete structuring strategies by which SMEs might be able to achieve organizational ambidexterity across their entire organization.

## Appendix

### Measures and items

The questions were administered with a seven-point Likert-type scale anchored by 1 = 'I totally disagree' and 7 = 'I totally agree.' Reliabilities for each scale are reported in parentheses regarding sample 1 and sample 2.

Measure	Items	Reference
Exploitation ( $\alpha = 0.73$ )	i) Constantly surveying existing customers' satisfaction ii) Continuous improvement of product reliability iii) Fine-tuning of existing offering to keep current customers satisfied iv) Penetrating more deeply into existing customer base v) Increase in automation in operations (deleted) vi) Commitment to lower cost (deleted)	Lubatkin et al. (2006)
Exploration ( $\alpha = 0.83$ )	i) Search for novel ideas / thinking outside the box ii) Success is based on ability to explore new technologies iii) Creation of innovative products or services iv) Looking for creative ways to satisfy customers v) Venturing into new market segments (deleted) vi) Targeting new customer groups (deleted)	Lubatkin et al. (2006)
Centralization ( $\alpha = 0.83$ )	i) There can be little action taken here until a supervisor approves a decision ii) A person who wants to make his own decisions would be quickly discouraged iii) Even small matters have to be referred to someone higher up for a final decision iv) Firm employees need to ask their supervisor before they do almost anything v) Most decisions people make here have to have their supervisor's approval	Jansen et al. (2006)
Formalization ( $\alpha = 0.77$ )	i) Whatever situation arises, written procedures are available for dealing with it ii) Rules and procedures occupy a central place in our firm iii) Written records are kept of everyone's performance iv) Employees in our firm are hardly checked for rule violations (reversed) v) Written job descriptions are formulated for positions at all levels in the firm	Jansen et al. (2006)
Specialization ( $\alpha = 0.68$ )	i) Functions / tasks in this firm are performed by specialized employees fully dedicated to these function / tasks ii) Standardized training procedures exist for each function / task iii) Employees in this firm have very specific functional job responsibilities iv) Most employees have jobs that require special functional skills v) Written position descriptions are provided to functional specialists	Vorhies & Morgan (2003)

## **5. MANAGEMENT REPORT: INNOVATION BY FLEXIBILITY? EFFICIENCY BY STRAIGHTNESS? SUCCESS REQUIRES BOTH!**

### **Abstract**

Profitable growth requires organizations to be innovative and efficient at the same time. Growth is created through innovation and secures the success in the future, while profitability is based on efficiency in today's operations and ensures that organizations earn money. Although equally important and interdependent, innovation and efficiency are in conflict with each other as they are based on fundamentally opposed activities and processes. Innovation requires flexibility, creativity, and experimentation, whereas efficiency is based on straightness, routines, and implementation. To find out how firms cope with these contradictions and manage to reconcile innovation and efficiency, we conducted two large scale surveys amongst German and Swiss SMEs and business units. This management report summarizes the empirical results and translates them into concrete and actionable recommendations. Firms and business units can use these recommendations to pro-actively reconcile innovation and efficiency in their organization to ensure sustainable and profitable growth in the long run. As the primary audience of this management report is either Swiss or German, the report is written in the German language.





**Innovation durch Flexibilität?**

**Effizienz durch Geradlinigkeit?**

**Erfolg basiert zumeist auf Beidem!**

*Ansätze zur gleichzeitigen Förderung von Innovation und Effizienz  
als Grundlage für den langfristigen Erfolg von Unternehmen*

*Eine empirische Studie unter Mittelständlern und Großunternehmen im deutschsprachigen Raum*

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## VORWORT

Gerade in der heutigen Zeit, geprägt durch wirtschaftliche Unsicherheiten aber auch enorme Wachstumspotenziale, ist eine nachhaltige *Balance zwischen Effizienz- und Innovationsstreben* ein wichtiger Erfolgsfaktor jeder Unternehmensstrategie. Ein langfristiges, profitables Wachstum erfordert, dass diese – größtenteils auf Gegensätzen beruhenden Aktivitäten – gleichzeitig und gleichermaßen verfolgt werden. Patentrezepte dafür gibt es nicht und insbesondere für kleinere organisatorische Einheiten (wie z.B. mittelständische Unternehmen oder einzelne Unternehmenseinheiten großer Konzerne) sind bisher nur wenige Ansätze bekannt, die Ihnen dies ermöglichen.

Die organisatorische Trennung kreativer, innovativer Einheiten von der auf das bestehende, effizienzgetriebene Kerngeschäft ausgerichteten Hauptorganisation ist innerhalb mittelständischer Unternehmen oder einzelner Unternehmenseinheiten aufgrund der Größen-, Ressourcen-, und Systemeinschränkungen oft nicht umsetzbar. Stattdessen scheinen in diesen Fällen *integrative Ansätze* geeigneter, die innovations- und effizienzgetriebene Aktivitäten nicht trennen, sondern über eine gesamte Organisationseinheit hinweg in Einklang bringen.

Bisherige Studien haben gezeigt, dass der *Unternehmenskontext* (definiert durch Unternehmenskultur und -klima des Unternehmens bzw. der Unternehmenseinheit) dabei eine tragende Rolle spielt. Ist dieser Kontext sowohl durch leistungs- als auch sozialorientierte Aspekte wie Disziplin, Motivation, Vertrauen und Kooperation geprägt, ermöglicht er es allen Mitarbeitern und damit der gesamten Organisation, den Arbeitseinsatz optimal auf kreative, innovationsfördernde und routinierte, effizienzsteigernde Aktivitäten aufzuteilen.

Um die praktische Relevanz dieser Erkenntnisse zu steigern, haben wir in dieser Studie *drei konkrete Ansatzpunkte* untersucht, über die Unternehmen pro-aktiv und gezielt

einen solchen Kontext schaffen und fördern können:

1. Führungsverhalten
2. Unternehmensnetzwerke
3. Unternehmensstruktur

Unsere Studienergebnisse zeigen, dass sich über diese Stellhebel in der Tat ein sowohl leistungs- als auch sozialorientierter Kontext und dadurch auch eine gesunde Balance zwischen Innovation und Effizienz schaffen lässt. Dies wirkt sich wiederum positiv auf den Unternehmenserfolg aus.

Diese Erkenntnisse basieren auf einer *Umfrage* unter 190 mittelständischen Unternehmen aus der deutschen verarbeitenden Industrie sowie 97 (teils ehemaligen) Teilnehmern des Senior Management-Programms der Universität St. Gallen. Die Studie wurde im Rahmen eines Forschungs- und Dissertationsprojekts des Centers for Organizational Excellence der Universität St. Gallen ([www.clvs.unisg.ch/CORE](http://www.clvs.unisg.ch/CORE)) im ersten Halbjahr 2012 durchgeführt. Bei allen Teilnehmern und Unterstützern dieser Studie möchten wir uns an dieser Stelle noch einmal ganz herzlich bedanken.



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## EXECUTIVE SUMMARY

Um langfristige Wachstumspotenziale zu erschließen, die eine erfolgreiche Zukunft sicherstellen, sind Unternehmen auf Innovationen angewiesen. Gleichzeitig müssen sie in der Lage sein, bereits bestehende Potenziale effizient zu nutzen, um heute profitabel zu sein und den Grundstein für zukünftigen Erfolg zu legen. Nur Unternehmen die die Fähigkeit haben, sowohl innovativ als auch effizient zu agieren, werden langfristig Erfolg haben. Innovation und Effizienz basieren jedoch auf gegensätzlichen Aktivitäten, Einstellungen und Strukturen – Innovationen basieren auf Experimenten, Kreativität und Flexibilität, während Effizienz Routinen, Klarheit und starre Prozesse benötigt. Während größere Unternehmen diesen Widerspruch zum Beispiel durch duale Strukturen umgehen können, sind kleinere Unternehmen oder Unternehmenseinheiten auf integrative Lösungen angewiesen. Diese Studie beschäftigt sich mit der Frage, wie solch eine integrative Lösung aussehen kann und welche Mechanismen zur Verfügung stehen müssen, um diese Lösung umsetzen zu können. Insgesamt wurden dazu knapp 300 Mittelständler und Unternehmenseinheiten befragt.

Unsere Studienergebnisse zeigen, dass die Umfrageteilnehmer die hier beschriebene gleichzeitige Abhängigkeit von Innovation und Effizienz zum Großteil erkannt haben und beides als gleich wichtig für ihr Unternehmen einstufen. Trotz der widersprüchlichen Anforderungen von Innovation und Effizienz schaffen es zudem viele von ihnen, gleichzeitig ein hohes Maß an Innovations- und Effizienzstreben zu vereinen. Tatsächlich sind es genau diese Unternehmen, die auch überdurchschnittlich erfolgreich am Markt auftreten. Der oben erläuterte theoretische Zusammenhang scheint also der Realität zu entsprechen.

Basierend auf aktuellen Erkenntnissen aus Wissenschaft und Praxis untersuchten wir daraufhin den Einfluss eines gleichermaßen

durch leistungsbezogene und soziale Elemente geprägten Unternehmenskontexts. Solch ein Unternehmenskontext, so wird argumentiert, fördert eine optimale Verteilung der Ressourcen und Aktivitäten auf Innovation und Effizienz. Auch dieser theoretische Zusammenhang spiegelt sich in unseren Umfrageergebnissen wider. Unternehmen, die durch einen besonders ausgeprägten leistungs- und sozialorientierten Unternehmenskontext charakterisiert sind, zeigen sich eher in der Lage, einen hohen Grad an Innovation und Effizienz zu vereinen.

Um mögliche Mechanismen zu identifizieren, mit denen Unternehmen solch einen Kontext aufbauen können, analysierten wir zunächst den Einfluss von Führungsverhalten. Unsere Ergebnisse zeigen, dass partizipatives und die Mitarbeiterentwicklung förderndes sowie zu Kreativität und Veränderung aufrufendes Verhalten der Geschäftsführung, aber auch ein auf Kontrolle, Genauigkeit und zügige Aufgabenerledigung abstellendes Verhalten solch einen Kontext fördert. Die Kombination dieser verschiedenen, teils im Widerspruch stehenden Führungsmechanismen wirkt dabei besonders positiv auf den Kontext. Es lässt sich also festhalten, dass Führungskräfte durch solch ein *komplexes Führungsverhalten* in der Lage zu sein scheinen, einen gleichzeitig leistungs- sowie sozialorientierten Unternehmenskontext zu errichten.

In einem zweiten Schritt untersuchten wir den Einfluss von internen und externen, formellen und informellen Unternehmensnetzwerken auf den Unternehmenskontext. Die Ergebnisse unserer Analysen zeigen, dass *interne Netzwerke* eine besonders positive Wirkung auf den Unternehmenskontext haben, während externe Netzwerke einen vergleichsweise schwachen Zusammenhang aufweisen. Informelle interne Netzwerkmechanismen zielen dabei auf eine möglichst unkomplizierte Kommunikation im gesamten Unternehmen sowie ein kollegiales Miteinander ab, während formelle interne Netzwerkmechanismen

insbesondere auf einem internen Wissensnetzwerk und Möglichkeiten zur funktionsübergreifenden Zusammenarbeit zwischen Mitarbeitern basieren. Dabei kann für informelle interne Netzwerke ein stärkerer positiver Zusammenhang beobachtet werden als für formelle interne Netzwerke.

Zuletzt analysierten wir den Einfluss der Unternehmensstruktur auf den Kontext. Unsere Untersuchungen zeigen, dass formalisierte und spezialisierte Strukturen positiv mit einem gleichzeitig leistungs- und sozialorientierten Unternehmenskontext zusammenhängen, während zentralisierte Strukturen dagegen einen stark negativen Zusammenhang aufweisen. Dies führt uns zu

der Schlussfolgerung, dass *inkonsistente Unternehmensstrukturen* von Nöten sind, also Strukturen die sowohl mechanistische als auch organische Strukturelemente kombinieren, um Leistungs- und Sozialorientierung gleichermaßen zu fördern. In unserer Studie scheinen insbesondere dezentralisierte, aber gleichzeitig formalisierte und spezialisierte Strukturen, einen positiven Einfluss auf den Unternehmenskontext zu haben. Unternehmen sollten ihren Mitarbeitern also ein relativ hohes Maß an Entscheidungsfreiheit bieten, aber deren Kompetenz durch ein hohes Maß an Spezialisierung sicherstellen und die Aktivitäten durch schriftliche Tätigkeits- und Jobbeschreibungen sowie Leistungsnachweise kontrollieren.



# 1. EINLEITUNG

## 1.1 Hintergrund der Studie

Schon lange ist der Begriff „Ambidexterity“ fester Bestandteil der Management-Forschung. Übersetzt ins Deutsche bedeutet er „Beidhändigkeit“ und beschreibt (im wirtschaftswissenschaftlichen Kontext) die Fähigkeit eines Unternehmens, gleichzeitig und gleichermaßen innovations- und effizienzorientiert agieren zu können. Diese Fähigkeit ist ein kritischer Erfolgsfaktor, denn nur wer über Innovationen neue Wachstumspotenziale erschließt und gleichzeitig die bestehenden Potenziale möglichst produktiv ausnutzt, kann langfristig am Markt bestehen.

Innovation	Effizienz
<b>Unternehmerische Ausrichtung:</b> <ul style="list-style-type: none"><li>• Schaffen von Freiräumen für neue Ideen</li><li>• Klares Bekenntnis zu Innovation, z.B. in Form von Investitionen</li><li>• Aufbau neuer Fähigkeiten</li></ul>	<b>Unternehmerische Ausrichtung:</b> <ul style="list-style-type: none"><li>• Genaues Ausführen der Vorgaben</li><li>• Stetige Optimierung operativer Abläufe</li><li>• Optimale Nutzung der vorhandenen Ressourcen</li></ul>
<b>Organisatorische Implikationen:</b> <ul style="list-style-type: none"><li>• Kleinere, organischere Organisation</li><li>• Dezentralisierte Strukturen</li><li>• Flexible, informelle Prozesse</li></ul>	<b>Organisatorische Implikationen:</b> <ul style="list-style-type: none"><li>• Größere, mechanistischere Organisation</li><li>• Zentralisierte Strukturen</li><li>• Starre, formalisierte Prozesse</li></ul>

Abbildung 1: Innovation vs. Effizienz

Diese sowie weitere Wechselwirkungen und Abhängigkeiten zwischen Innovation und Effizienz sind den meisten Managern bekannt, die Widersprüche und Gegensätze (vgl. **Abbildung 1**) zwischen beiden Aktivitäten vielfach auch – jedoch welche Fähigkeiten und Maßnahmen nötig sind, um diese Gegensätze erfolgreich zu überwinden und beide Aktivitäten in Einklang zu bringen, ist weitestgehend unbekannt.

### 1.1.1 Strukturelle Trennung von Innovation und Effizienz

Ein prominenter Ansatz, in Wissenschaft und Praxis, basiert auf einer differenzierenden, dualen Organisationsstruktur. Bei diesem als „Strukturelle Ambidexterity“ bekannten Ansatz werden innovative Einheiten (also kreative, flexible Einheiten) von der auf das Kerngeschäft fokussierten Hauptorganisation organisatorisch getrennt (vgl. **Abbildung 2**).

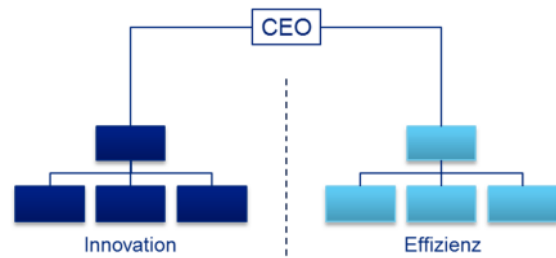


Abbildung 2: Strukturelle Ambidexerität

So können diese eher kleineren und auf langfristige Ergebnisse ausgerichteten Einheiten mit ihren Ideen experimentieren, neuartige (teilweise sogar im Wettbewerb zu bisherigen Produkten stehende) Konzepte entwickeln und Innovationen auf den Markt bringen, ohne vom oft steifen und auf kurzfristige Leistungssteigerungen und Effizienz ausgerichteten Korsett der Hauptorganisation eingeschnürt zu werden. Gleiches gilt natürlich umgekehrt: die Trennung schützt die reibungslos und effizient ablaufenden Routinen und Prozesse der Hauptorganisation vor kurzfristig ineffizienten und teilweise experimentellen Aktivitäten der innovativen Einheit.

Beide Teile der Organisation können sich auf diese Weise voll und ganz auf ihre jeweilige Spezialisierung (Innovation bzw. Effizienz) konzentrieren. Die nicht ganz triviale Aufgabe der Koordination und Zusammenführung der Ergebnisse liegt dabei in der Verantwortung des Managements. Gerade aufgrund der organisatorischen Trennung und diesem damit verbundenen Koordinationsaufwand, erfordert dieser Ansatz jedoch auch ein hohes Maß an finanziellen und personellen Ressourcen sowie die Unterstützung durch umfassende administrative Systeme – Anforderungen die in erster Linie von größeren Unternehmen erfüllt werden können.

Als Beispiele können hier dementsprechend die an der Entwicklung von wasserstoffgetriebenen Fahrzeugen arbeitende Einheit von Mercedes Benz oder zu ihren Anfangszeiten auch die Nespresso-Einheit von Nestlé genannt werden.

### 1.1.2 Integration von Innovation und Effizienz über den Unternehmenskontext

Für kleinere und mittlere Unternehmen (KMU) aus dem Mittelstand oder einzelne Unternehmenseinheiten stellt solch eine differenzierende Organisationsstruktur jedoch in der Regel kein geeignetes Mittel zur gleichzeitigen Verfolgung von Innovation und Effizienz dar. Stattdessen erscheinen hier integrative Ansätze sinnvoller, die eine Balance zwischen Innovation und Effizienz über eine gesamte Einheit hinweg unter möglichst geringem Ressourceneinsatz und möglichst niedrigen Systemanforderungen ermöglichen. In diesem Zusammenhang steht seit einiger Zeit der Unternehmenskontext im Fokus von Wissenschaft und Praxis. Dieser wird durch die Unternehmenskultur und das Unternehmensklima definiert und spiegelt die kollektiven Überzeugungen, Vorstellungen und Arbeitseinstellungen innerhalb des Unternehmens wider. Der Kontext kann sich dabei entweder auf ein Unternehmen oder auf einzelne Unternehmenseinheiten beziehen.

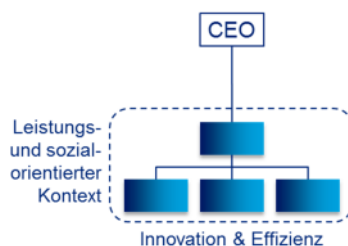


Abbildung 3: Kontextuelle Ambidexerity

Erkenntnisse aus Wissenschaft und Praxis lassen vermuten, dass ein sowohl durch leistungsbezogene (Disziplin, Motivation) als auch soziale (Vertrauen, Unterstützung) Elemente geprägter Kontext, das gleichzeitige Streben nach Innovation und Effizienz fördert. Begründet wird dies dadurch, dass solch ein Kontext alle Mitarbeiter in die Lage versetzt und dazu ermutigt, ihren Arbeitseinsatz selbst optimal auf kreative, innovationsfördernde sowie routinierte, effizienzsteigernde Aktivitäten aufzuteilen. Dieser Ansatz wird dementsprechend auch als „Kontextuelle Ambidexerity“ (vgl. [Abbildung 3](#)) bezeichnet.

Bei näherer Betrachtung wird dieser wahrlich theoretisch angehauchte Ansatz etwas greifbarer. Ist Disziplin ein integraler Bestandteil der kollektiven Überzeugungen, Vorstellungen und Arbeitseinstellungen, streben Mitarbeiter automatisch nach der Erfüllung der explizit aber auch implizit gesetzten Erwartungen und Ziele. Gemeinsam mit einer herausragenden Motivation veranlasst dies Mitarbeiter dazu, Bestleistungen abliefern bzw. diese übertreffen zu wollen. Würde der Kontext jedoch nur auf diese beiden Elemente abstellen, käme es schnell zum Verschleiß (engl. „Burn-out“) und zur Desillusionierung unter den Mitarbeitern. Vertrauen und gegenseitige Unterstützung geben den Mitarbeitern wiederum das Gefühl, fair behandelt zu werden und sich aufeinander verlassen zu können. Alleine würde dies jedoch meist zu einer Art betrieblichen „Kuschelgruppe“ führen, in der keine Ziele geschweige denn Bestmarken erreicht werden.

Herrscht hingegen eine Balance zwischen Disziplin, Motivation, Vertrauen und Unterstützung (vgl. [Abbildung 4](#)), werden Mitarbeiter dazu veranlasst, gemeinsam und in einer vertrauensvollen Atmosphäre Bestleistungen abzurufen und so danach zu streben, die gesteckten Ziele zu erreichen bzw. zu übertreffen. Mitarbeiter übernehmen jetzt Verantwortung, sehen in ihrem Streben Sinn und verfolgen eine gemeinsame Vision. Fehlschläge werden dabei als Lernprozess solange akzeptiert, wie sie den Zielen und den vorgegebenen Regeln folgen und Erfolge werden auf eine faire und gerechte Art und Weise belohnt und honoriert.

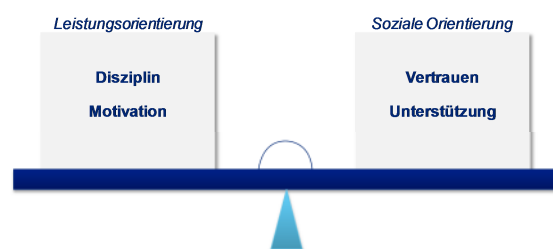


Abbildung 4: Ausgeglichener Unternehmenskontext

Dass der Unternehmenskontext eine wichtige Rolle für den Erfolg spielt, zeigt auch das Beispiel der mittelständischen abat Gruppe. Dem Mittelständler mit 250 Mitarbeitern sind die Unternehmenskultur und das „Wir-Gefühl“ in der Firma besonders wichtig. Gleichzeitig legen die Vorstände aber auch großen Wert auf Zahlen und klare Ziele. Eine transparente und regelmäßige Kommunikation auf allen Unternehmensebenen in Form eines wöchentlichen Newsletters ist ein Mittel, um diese Unternehmenskultur und das starke interne Unternehmensnetzwerk zu fördern.

Ziel dieser Studie ist es, die positive Wirkung eines gleichzeitig leistungs- und sozialorientierten Kontexts näher zu untersuchen sowie konkrete Ansätze zu identifizieren, mit denen solch ein Kontext geschaffen werden kann. Da auch in der Praxis die Bedeutung solch eines Kontexts immer häufiger erkannt wird, erhoffen wir uns dadurch praxisrelevante Erkenntnisse zu gewinnen, die es insbesondere Mittelständlern und Unternehmenseinheiten größerer Konzerne erlauben, über gezielte Maßnahmen einen sowohl innovations- als auch effizienzfördernden Unternehmenskontext zu entwickeln.

Im Folgenden werden wir dazu kurz die Teilnehmerstruktur unserer Studie vorstellen, um dann die Ergebnisse der Studie im Detail zu präsentieren und zu diskutieren. Unsere Kontaktdaten für etwaige Fragen, Anmerkungen oder Feedback finden Sie am Ende dieser Studie.

## 1.2 Ansatz und Teilnehmer der Umfrage

Die Daten für diese Studie haben wir mittels einer Umfrage unter (1) mittelständischen Unternehmen der deutschen verarbeitenden Industrie und (2) aktuellen und ehemaligen Teilnehmern des Senior Management-Programms (SMP) der Universität St. Gallen erhoben. Beide Stichproben erhielten dafür im

ersten Halbjahr 2012 den gleichen Fragebogen (leicht angepasst auf den jeweiligen Kontext).

Der Fragebogen wurde basierend auf einem etablierten Fragenkatalog der Management-Forschung entwickelt und anschließend im Rahmen eines Pre-Tests mit sechs mittelständischen Unternehmen nochmals überarbeitet und angepasst. Er umfasst Fragen zu:

- A. Innovation und Effizienz im Unternehmen
- B. Unternehmenskontext, -netzwerken und -strukturen
- C. Führungsverhalten
- D. Unternehmenseigenschaften

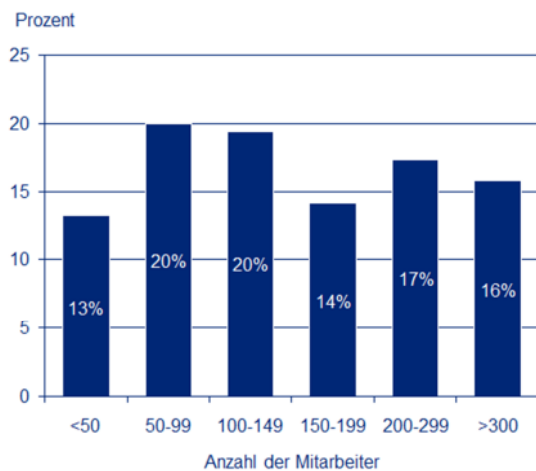
Als Rückantwortmöglichkeiten wurde angeboten, eine schriftliche Version per Post oder Fax, eine PDF-Version per Email oder eine Online-Version per Online-Tool einzureichen. Zudem wurden mit einigen Teilnehmern auch Telefoninterviews durchgeführt, um die quantitativen Ergebnisse durch qualitative Anhaltspunkte validieren, untermauern und vertiefen zu können.

### 1.2.1 Umfrage im deutschen Mittelstand

Mit Hilfe eines Auszuges aus der Hoppenstedt Firmen- und Bilanzdatenbank wurden ca. 1.100 mittelständische Unternehmen der deutschen verarbeitenden Industrie identifiziert. Maßgebend hierfür war die in der Hoppenstedt Datenbank angegebene Mitarbeiterzahl (weniger als 500 Mitarbeiter) sowie die Zuordnung zum Branchencode WZ2008 C (Verarbeitendes Gewerbe). Damit folgen wir der KMU-Definition (Mitarbeiterzahl) des Instituts für Mittelstandsforschung (IfM) Bonn, das KMUs mit einer Mitarbeiterzahl von unter 500 definiert. Die Studie konzentriert sich zudem auf das verarbeitende Gewerbe, um eine möglichst große, aber dennoch homogene Stichprobe zu erhalten, für die der Zielkonflikt zwischen Innovation und Effizienz von hoher Relevanz ist. Insgesamt nahmen 190 Mittelständler (Rücklaufquote: 18%) an



unserer Studie teil, deren Größenverteilung in **Abbildung 5** dargestellt ist.



**Abbildung 5: Mitarbeiterzahl der befragten Unternehmen (KMU)**

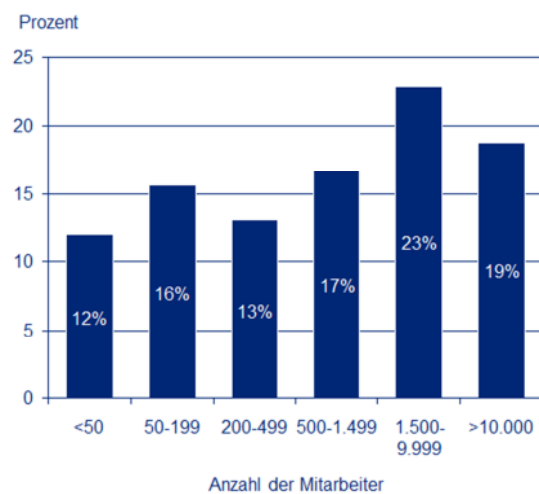
Der Fragebogen wurde jeweils von einem Vertreter der Geschäftsführung des Unternehmens ausgefüllt. Für 55 Unternehmen waren wir zudem in der Lage, einen (manchmal auch mehrere) zusätzlichen Fragebogen von einem weiteren Mitarbeiter des Unternehmens einzuholen. Dieser diente zur Validierung der Antworten der Geschäftsführung. Generell konnte eine sehr hohe Übereinstimmung der Angaben beobachtet werden. Die hier berichteten Ergebnisse basieren daher in erster Linie auf den Angaben der Geschäftsführung.

### 1.2.2 Umfrage im Senior Management Programm der Universität St. Gallen

Die Teilnehmer der zweiten Umfrage waren aktuelle oder ehemalige Teilnehmer des Senior Management Programms (SMP) der Universität St. Gallen ([www.ifb.unisg.ch/senior-management-programm](http://www.ifb.unisg.ch/senior-management-programm)). Das SMP richtet sich an obere Führungskräfte und Unternehmer/innen in ganz Europa und vermittelt Anregungen für die Ausrichtung komplexer Firmen oder Institutionen, für die Führung anderer Führungskräfte und für die persönliche Entwicklung und Karriere. Die Tatsache, dass das SMP neben Führungskräften aus mittelständischen Unternehmen vor allem auch Unternehmens-

Geschäfts-, Bereichs- und Regionalleiter/innen größerer Unternehmen anspricht, macht den Vergleich zwischen den beiden Umfragen besonders interessant und relevant, da Unterschiede zwischen KMUs und größeren Unternehmen so aufgezeigt werden können.

Insgesamt wurden über die von der SMP-Leitung zur Verfügung gestellten Teilnehmer-Listen 234 Kontakte identifiziert, von denen 109 Kontakte (Rücklaufquote: 47%) an der Umfrage teilnahmen. Um den Vergleich zwischen beiden Umfragen so deutlich wie möglich zu machen, schlossen wir für die hier berichteten Ergebnisse im Nachhinein 12 mittelständische Unternehmen aus, so dass die finale SMP-Stichprobe in erster Linie aus 97 Geschäftseinheiten und Abteilungen größerer Unternehmen oder Institutionen bestand. Die Größenverteilung der Unternehmen ist in **Abbildung 6** dargestellt.



**Abbildung 6: Mitarbeiterzahl der befragten Unternehmen (SMP)**

Auch hier konnten wir für 39 Einheiten einen zusätzlichen Fragebogen von einem weiteren Mitarbeiter aus der jeweiligen Einheit einholen, um die Angaben der SMP-Teilnehmer zu validieren. Die Übereinstimmung der Angaben war erneut sehr hoch, so dass für die hier vorgestellten Analysen in erster Linie die Daten unserer Primärkontakte verwendet werden konnten.

## 2. INNOVATION UND EFFIZIENZ

### 2.1 Bedeutung für das Unternehmen

Einleitend wurden die Teilnehmer der Studie gefragt, wie wichtig sie Innovation und Effizienz für ihr Unternehmen oder ihre Einheit einschätzen (vgl. [Abbildung 7](#)). 57% der Mittelständler sehen beide Aktivitäten als gleich wichtig an. Nur ein kleiner Teil weist Effizienz (9%) oder Innovation (3%) eine deutlich höhere Bedeutung zu. Die Verteilung unter den SMP-Teilnehmern gestaltet sich sehr ähnlich, wobei hier nur 42% der Meinung sind, dass beide Aktivitäten wirklich gleich wichtig sind. Aber auch hier werden Effizienz und Innovation von fast 90% der Teilnehmer als zumindest nahezu gleich wichtig angesehen. Diese Ergebnisse verdeutlichen, dass sich sowohl Mittelständler als auch größere Unternehmen durchaus der Tatsache bewusst sind, dass sowohl Innovation als auch Effizienz wichtig für ihren Erfolg sind. Im Folgenden möchten wir dies anhand einiger Analysen weiter belegen.

### 2.2 Zusammenspiel von Innovation und Effizienz

Obwohl die meisten Umfrageteilnehmer beide Aktivitäten als gleich wichtig ansehen, steht nachwievor die Frage im Raum, ob sie beide

Aktivitäten auch gleichermaßen verfolgen. Wie anfangs erläutert, stehen innovative oder kreative Aktivitäten oftmals im Widerspruch zu effizienten und geradlinigen Aktivitäten. Erstere benötigen Flexibilität, Variation und Experimentierfreudigkeit in den Prozessen und Strukturen eines Unternehmens, während letztere auf klare Vorgaben, standardisierte Arbeitsabläufe und starre Routinen angewiesen sind. Es ist also nicht selbstverständlich, dass Unternehmen oder Einheiten beide Aktivitäten in Einklang bringen können.

Daher haben wir unsere Teilnehmer gefragt, inwiefern ihr Unternehmen oder ihre Einheit in den letzten drei Jahren nach Effizienz, Zuverlässigkeit, Verbesserung oder Kundenzufriedenheit gestrebt hat. Gleichzeitig fragten wir, inwiefern in den letzten drei Jahren Innovationen, kreative Lösungen und neue Kunden- und Marktsegmente im Fokus standen. Die aggregierte Auswertung dieser Fragestellung zeigt, dass die meisten Unternehmen in der Tat ein relativ hohes Maß sowohl an Innovations- als auch an Effizienzstreben aufweisen. Dies haben wir in [Abbildung 8](#) und [Abbildung 9](#) dargestellt.

Wie wichtig sind Innovation und Effizienz für Ihr Unternehmen?

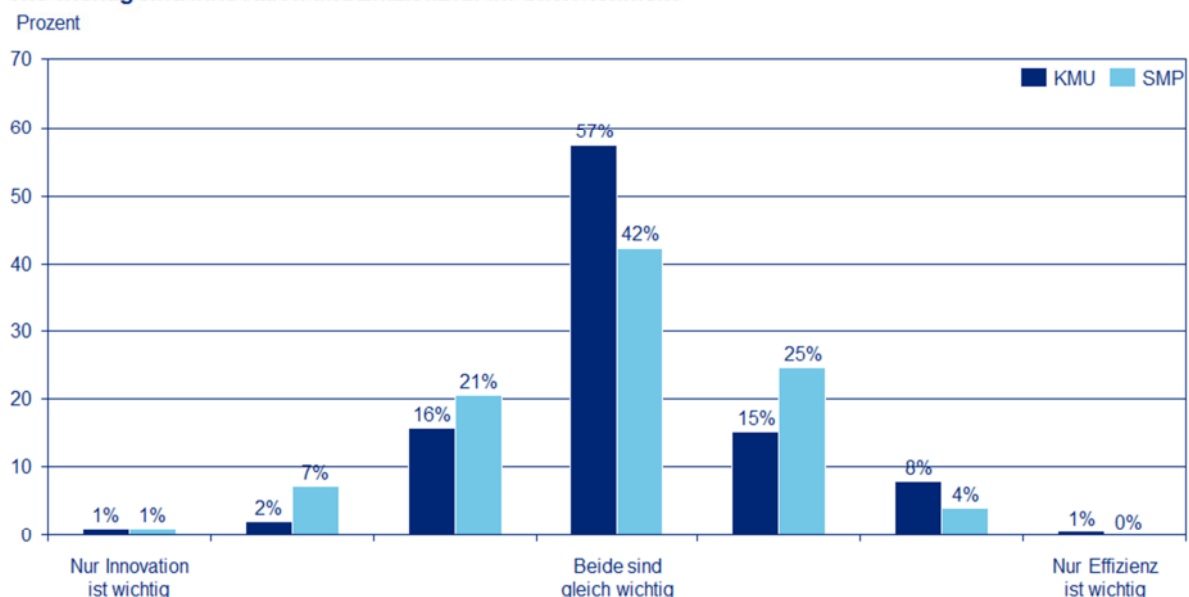


Abbildung 7: Wichtigkeit von Innovation und Effizienz für das Unternehmen

Interessanterweise zeigt sich jedoch auch, dass unter beiden Teilnehmergruppen Effizienz doch etwas schwerer zu wiegen scheint. Betrachtet man die Diagonale, die eine perfekte Balance zwischen Innovations- und Effizienzstreben darstellt, liegen die meisten Unternehmen oder Einheiten links von ihr. Kostensenkungen und die tiefgreifende Bearbeitung bestehender Kundensegmente mit verbesserten Produkten standen daher in den letzten drei Jahren tendenziell im Vordergrund, während unsichere Innovationen sowie die Expansion in neue Märkte etwas in den Hintergrund rückten. Angesichts der von Unsicherheit geprägten europäischen Wirtschaftslage in den Jahren 2008-2011 ist dies nachvollziehbar und spiegelt auch das heute vorherrschende Bild in der europäischen Wirtschaft wider – obwohl die deutsche Wirtschaft in den letzten Jahren einen Aufschwung erlebt hat, der das Gewicht eher wieder zu Gunsten des Innovations- bzw. Expansionsstrebens verschoben haben sollte. Auch wenn dies theoretisch anmutet und teilweise nur schwer umsetzbar ist, sollten Unternehmen jedoch auch in den heutigen Zeiten Innovationen und Expansion nicht vernachlässigen. Dass dies zu Erfolg führt, zeigen wir im nächsten Kapitel.

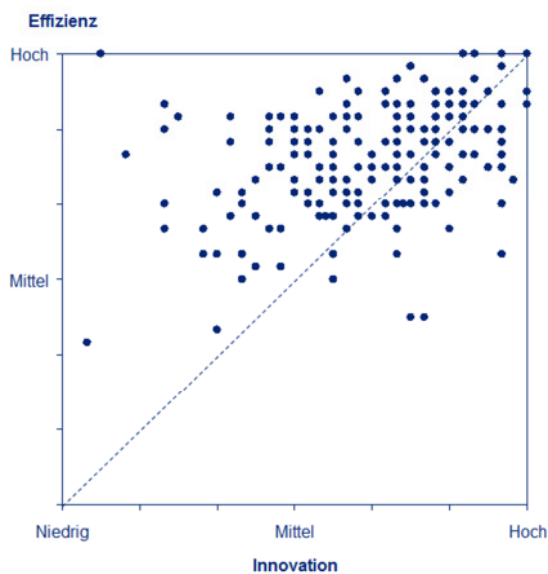


Abbildung 8: Zusammenspiel von Innovation und Effizienz (KMU)

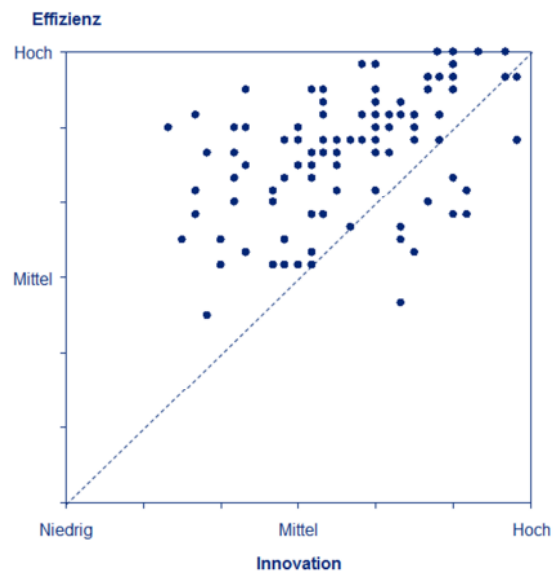


Abbildung 9: Zusammenspiel von Innovation und Effizienz (SMP)

### 2.3 Innovation plus Effizienz gleich Erfolg

Die Fähigkeit eines Unternehmens, gleichzeitig und gleichermaßen innovations- und effizienzorientiert agieren zu können, ist ein kritischer Erfolgsfaktor für Unternehmen, die langfristig erfolgreich am Markt bestehen wollen. Durch Flexibilität, Kreativität und Innovationen kann auf Marktveränderungen reagiert werden und können neue, langfristige Wachstumspotenziale erschlossen werden. Gleichzeitig ist es aber auch notwendig, das Kerngeschäft von heute möglichst effizient und produktiv zu betreiben, da hier wiederum das Geld für Investitionen in der Zukunft verdient wird. Nur wer dieses Spannungsfeld, dieses Wechselspiel, diese wahre Symbiose aus Wachstum und Ertrag, langfristigen Investitionen und kurzfristigen Profitabilitätssteigerungen, Zukunft und Gegenwart oder Innovation und Effizienz versteht und beherrscht, wird daher nachhaltigen Erfolg verbuchen können – so die Theorie!

Daher haben wir in unserer Studie auch untersucht, ob Unternehmen oder Einheiten, die sich in den letzten drei Jahren durch besonders starkes Innovations- sowie Effizienzstreben auszeichneten, tatsächlich

erfolgreicher waren, als Unternehmen oder Einheiten die dies zu einem geringeren Maße taten. Dafür integrierten wir die beiden Skalen für Innovations- und Effizienzstreben in einem einheitlichen „Ambidexterity-Maß“, welches wiedergibt, inwiefern in den letzten drei Jahren gleichzeitig und gleichermaßen innovations- und effizienzorientiert agiert worden war. Um Erfolg zu messen, baten wir die Teilnehmer darum, den Erfolg ihres Unternehmens oder ihrer Einheit über die letzten drei Jahre im Vergleich zu den Hauptwettbewerbern entlang der Dimensionen Umsatzwachstum, Wachstum der Kundenbasis, Gewinn und Umsatzrendite sowie allgemeiner Erfolg einzuschätzen.

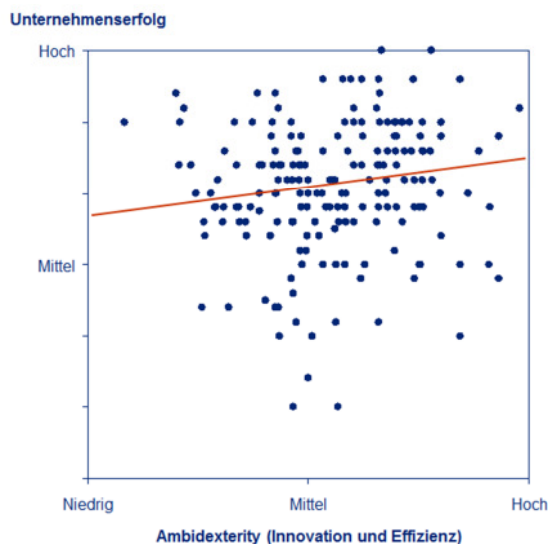
Die Ergebnisse zeigen deutlich, dass Unternehmen oder Einheiten, die ein starkes Innovationsstreben mit überdurchschnittlichem Effizienzstreben verbinden können (also ein hohes Maß an „Ambidexterity“ aufweisen), erfolgreicher sind als Unternehmen oder Einheiten mit geringeren „Ambidexterity-Werten“ (vgl. [Abbildung 10](#) und [Abbildung 11](#)). Unsere Studie bestätigt somit die schon zuvor betonte und auch von den meisten Teilnehmern der Studie erkannte Wichtigkeit

des gleichzeitigen Strebens nach hohen Maßen an Innovation und Effizienz.

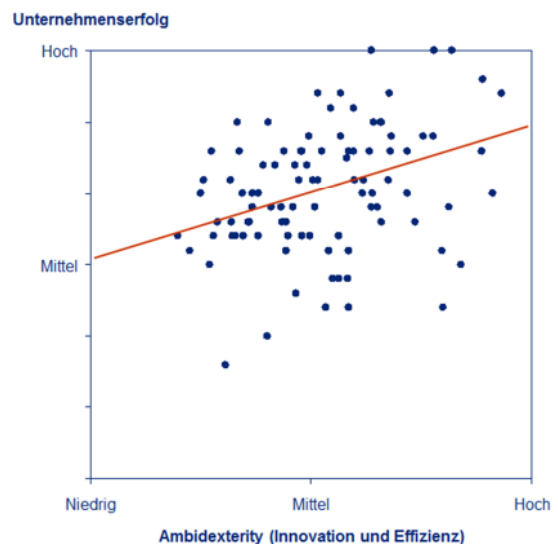
**Zwischenfazit:**

- Der Mehrheit der Unternehmen oder Einheiten sind Innovation und Effizienz gleich wichtig
- Die meisten Unternehmen oder Einheiten agieren gleichzeitig innovations- und effizienzorientiert, dabei dominiert aber tendenziell das Streben nach Effizienz
- Die Unternehmen oder Einheiten, die besonders hohe Maße an Innovations- und Effizienzstreben vereinen können, sind am erfolgreichsten

In den folgenden Kapiteln möchten wir nun darauf eingehen, wie Innovation und Effizienz innerhalb eines Unternehmens in Einklang gebracht werden können.



**Abbildung 10: Ambidexterity und Erfolg (KMU)**



**Abbildung 11: Ambidexterity und Erfolg (SMP)**

### 3. DIE ROLLE DES UNTERNEHMENSKONTEXTS

#### 3.1 Leistungsbezogene und soziale Elemente des Unternehmenskontexts

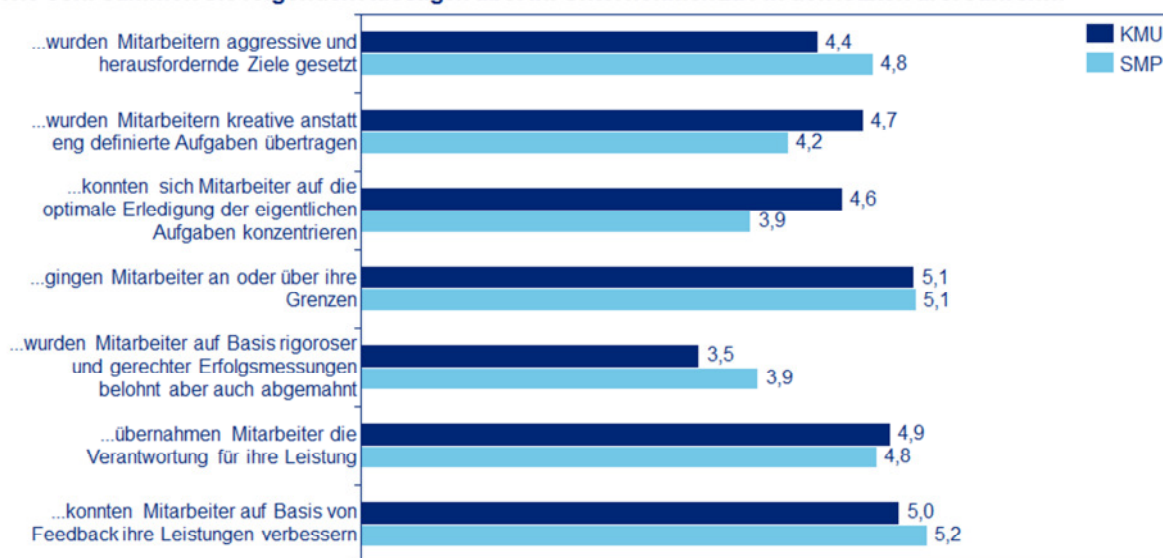
Als ein wichtiger Treiber von Innovation und Effizienz gilt der Unternehmenskontext. Er spiegelt die kollektiven Überzeugungen, Vorstellungen und Arbeitseinstellungen innerhalb eines Unternehmens oder einer seiner Einheiten wider und hat so einen maßgeblichen Einfluss auf die Aktivitäten jedes einzelnen Mitarbeiters. Wie zu Beginn erklärt, haben bisherige Studien gezeigt, dass ein sowohl durch leistungsbezogene als auch soziale Elemente geprägter Kontext, den Zielkonflikt zwischen Innovation und Effizienz lösen kann. Er ermutigt und unterstützt Mitarbeiter dabei, neben ihren auf Effizienz und Zielerreichung ausgerichteten Routineaktivitäten, neue Ideen zu generieren und mit diesen zu experimentieren.

Aufgrund dieser wichtigen Rolle des Unternehmenskontexts haben wir unsere Umfrageteilnehmer gebeten, den Unternehmenskontext in ihrem Unternehmen oder ihrer Einheit zu bewerten. **Abbildung 12** und **Abbildung 13** zeigen die durchschnittlichen Ausprägungen der einzelnen Fragen pro Umfrage. Der durchschnittliche Leistungskontext der Mittelständler und der

SMP-Teilnehmer ist insbesondere dadurch gekennzeichnet, dass Mitarbeiter an oder über ihre Grenzen gehen, sich aufgrund von Feedback stetig verbessern und die Verantwortung für ihre Leistung übernehmen, während der durchschnittliche Sozialkontext durch das Setzen von realistischen Zielen, Fehlertoleranz und genügend Freiraum zur optimalen Aufgabenerledigung charakterisiert ist. Der soziale Kontext der Einheiten der SMP-Teilnehmer ist zudem insbesondere durch hohe Investitionen in die Entwicklung von Mitarbeitern geprägt.

Interessant ist, dass der Leistungskontext über alle einzelnen Aspekte hinweg in beiden Stichproben insgesamt ähnlich stark ausgeprägt ist. Der Sozialkontext in den mittelständischen Unternehmen war hingegen bezüglich fast jedes Aspekts stärker ausgeprägt als in den Unternehmenseinheiten der SMP-Teilnehmer. Dies lässt sich eventuell durch die tendenziell höhere Intimität in mittelständischen Unternehmen erklären, die einzelnen Mitarbeitern mehr Autorität und Gestaltungsspielraum gestattet und zu weniger politisch motivierten Entscheidungen, höherer Fehlertoleranz und Risikobereitschaft sowie realistischeren Zielsetzungen führt.

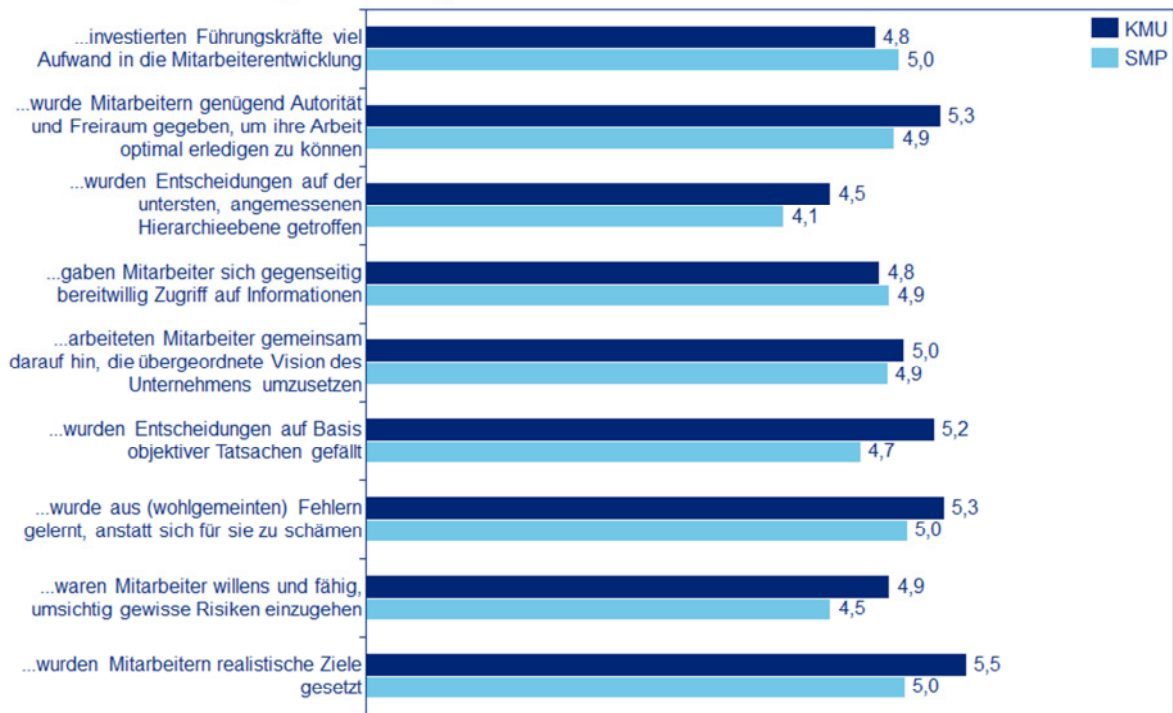
Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 12: Durchschnittliche Ausprägung des Leistungskontexts

**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...**



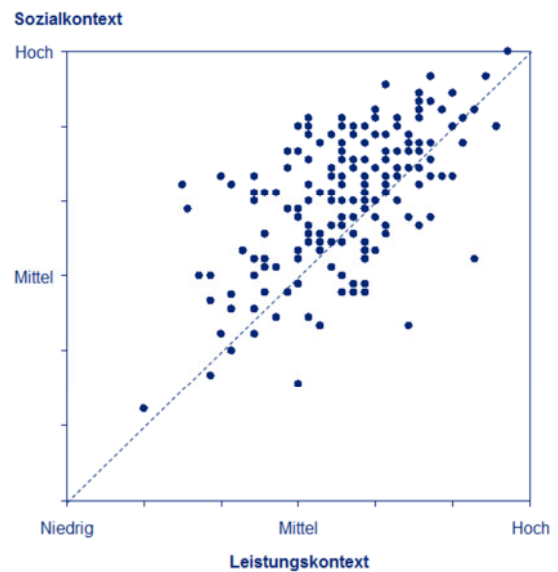
Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

**Abbildung 13: Durchschnittliche Ausprägung des Sozialkontexts**

Da aber nur Unternehmen und Einheiten, die sowohl leistungs- als auch sozialorientierte Elemente des Unternehmenskontexts vereinen, das Spannungsfeld zwischen Innovation und Effizienz überwinden können, untersuchten wir zusätzlich, inwiefern die Unternehmen oder Einheiten unserer Umfrageteilnehmer diese Elemente vereinen konnten. **Abbildung 14** und **Abbildung 15** zeigen, dass sich die meisten Mittelständler und Einheiten in der Tat eng um die Diagonale konzentrieren, die eine perfekte Balance aus Leistungs- und Sozialorientierung darstellt.

Anhand dieser Graphen sieht man zudem noch einmal deutlich die stärkere Ausprägung des Sozialkontexts unter Mittelständlern, die tendenziell eher links der Diagonalen liegen, während die SMP-Teilnehmer gleichmäßiger um die Diagonale verteilt sind. Wichtiger jedoch ist, dass eine Vielzahl an Mittelständlern und Einheiten auch überdurchschnittlich hohe Werte beider Elemente vereinen können (rechte obere

Quadranten der Graphen). Dementsprechend untersuchten wir im Folgenden, inwiefern diese auch tatsächlich in der Lage sind, Innovations- und Effizienzstreben in Einklang zu bringen.



**Abbildung 14: Zusammenspiel von Leistungs- und Sozialkontext (KMU)**

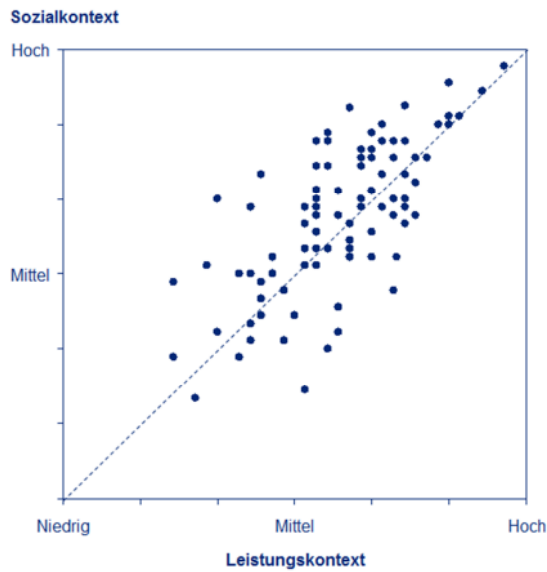


Abbildung 15: Zusammenspiel von Leistungs- und Sozialkontext (SMP)

### 3.2 Einfluss des Unternehmenskontexts auf Innovation und Effizienz

Um ein einheitliches Maß zur Darstellung des Unternehmenskontexts zu erhalten, kombinierten wir die beiden Skalen für den Leistungskontext und den Sozialkontext. Dieses Maß gibt somit an, inwiefern der Unternehmenskontext in den letzten drei Jahren gleichzeitig durch einen ausgeprägten Leistungs- und Sozialkontext gekennzeichnet war. Der Grad zu dem die Unternehmen und Einheiten Innovation und Effizienz vereinen konnten, wurde über das in Kapitel 2.3 erläuterte „Ambidexterity-Maß“ dargestellt.

Wie **Abbildung 16** und **Abbildung 17** zeigen, sind Unternehmen und Einheiten, die relativ hohe Maße an Leistungs- und Sozialorientierung im Unternehmenskontext vereinen, tatsächlich auch eher in der Lage hohe Werte von „Ambidexterity“ zu erreichen. Unsere Studie bestätigt daher den bereits Eingangs erläuterten positiven Effekt eines sowohl leistungs- als auch sozialorientierten Unternehmenskontexts auf das gleichzeitige Streben nach Innovation und Effizienz. Die in Kapitel 2 erläuterten Ergebnisse einbeziehend, kann also folgender Zusammenhang vermutet

werden: Unternehmen oder Einheiten, die leistungs- und sozialorientierte Elemente in ihrem Unternehmenskontext vereinen können, sind eher in der Lage gleichzeitig und gleichermaßen nach Innovation und Effizienz zu streben und können dadurch langfristig erfolgreicher am Markt agieren.

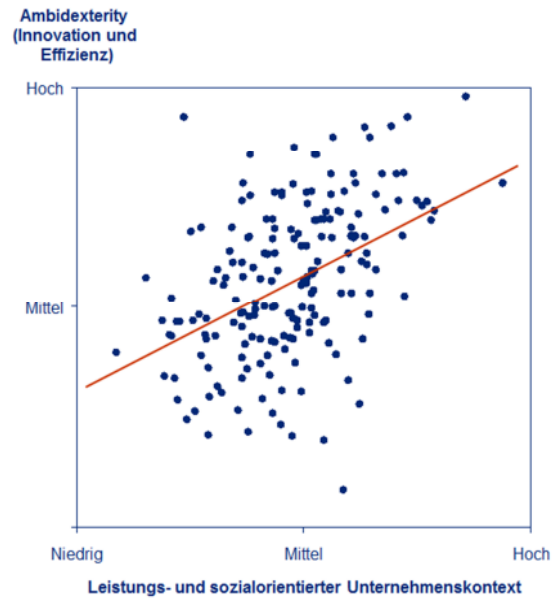


Abbildung 16: Der Unternehmenskontext und Ambidexterity (KMU)

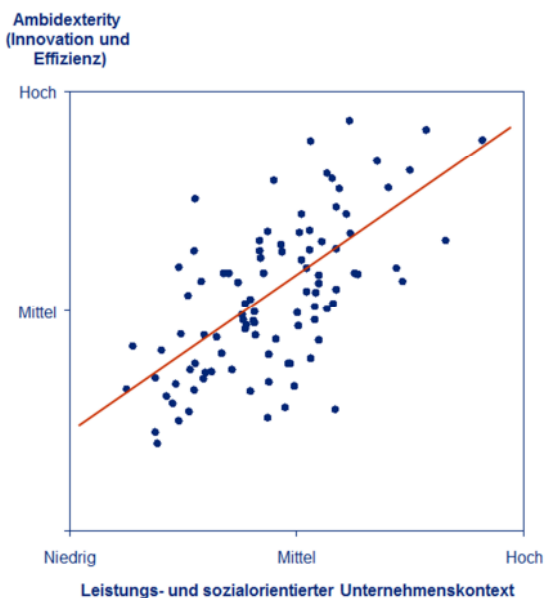


Abbildung 17: Der Unternehmenskontext und Ambidexterity (SMP)

### Zwischenfazit:

- Der Unternehmenskontext ist in den meisten Unternehmen oder Einheiten sowohl leistungs- als auch sozialorientiert
- Der Sozialkontext ist jedoch bei Mittelständlern tendenziell stärker ausgeprägt
- Unternehmen und Einheiten mit einem besonders stark ausgeprägten leistungs- und sozialorientierten Unternehmenskontext, sind am ehesten in der Lage, hohe Maße an Innovation und Effizienz zu vereinen

Unternehmenskontext errichten können. Drei Ansatzpunkte dafür möchten wir in den folgenden Kapiteln aufzeigen: komplexes Führungsverhalten, dichte Unternehmensnetzwerke und inkonsistente Strukturen.

Es stellt sich nun die Frage, wie Unternehmen und Einheiten einen solchen





## 4. KOMPLEXES FÜHRUNGSVERHALTEN – MANAGER LEBEN ES VOR

### 4.1 Vier Dimensionen von Führungsverhalten

Durch Ihre Entscheidungen, Taten und Vorbildfunktion spielen Führungskräfte eine große Rolle, wenn es um die Definition und das Vorleben von Überzeugungen, Vorstellungen und Arbeitseinstellungen in ihrem Unternehmen oder ihrer Einheit geht. Ein Einfluss auf den Unternehmenskontext ist daher naheliegend und es ist wichtig zu verstehen, wie genau sich das Verhalten von Führungskräften auf diesen auswirkt und zur Integration von leistungsbezogenen und sozialen Kontextelementen beitragen kann.

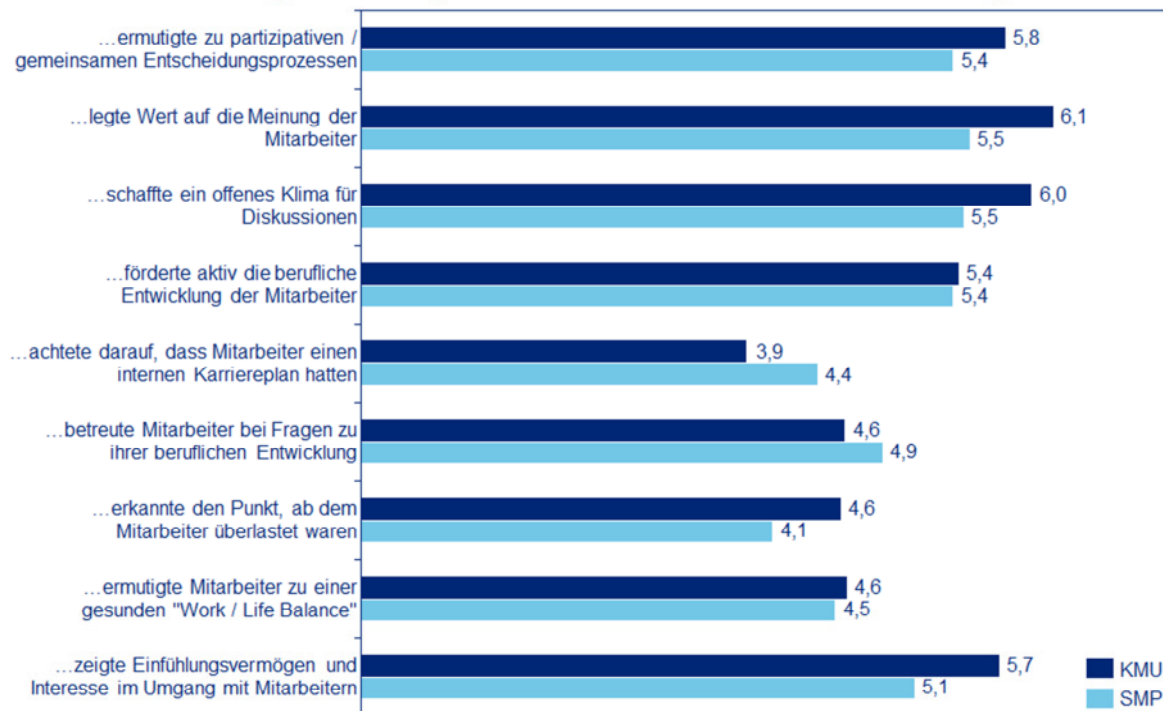
Unser Fragebogen beinhaltete daher den Themenblock „Führungsverhalten“, den wir in die folgenden vier Dimensionen unterteilen:

1. Partizipatives Führungsverhalten
2. Steuerndes Führungsverhalten
3. Veränderndes Führungsverhalten
4. Antreibendes Führungsverhalten

Abbildungen 18-21 zeigen die durchschnittlichen Ausprägungen dieser vier Dimensionen.

Insgesamt ist ein sehr einheitliches Muster in beiden Stichproben erkennbar. Partizipatives Führungsverhalten drückt sich insbesondere durch die Einbindung der Mitarbeiter in Entscheidungen und Diskussionen aus. Steuernd greifen die Führungskräfte insbesondere dadurch ein, dass sie sicherstellen, dass Richtlinien, Abläufe und die Notwendigkeit zur Präzision von Mitarbeitern verstanden waren. Veränderungen werden herbeigeführt, indem Führungskräfte selbst nah am Kunden agieren und, wenn nötig, Veränderungen anstoßen. Antreibend wirkt die Geschäftsführung dadurch, dass sie selbst vollen Einsatz zeigt und Wettbewerber immer im Auge behält. Tendenziell erhalten die Geschäftsführungen der Mittelständler höhere Bewertungen – da dieses Muster über alle Dimensionen hinweg gleich bleibt, lassen sich hieraus aber keine Aussagen zu grundlegenden Unterschieden im Führungsverhalten ableiten.

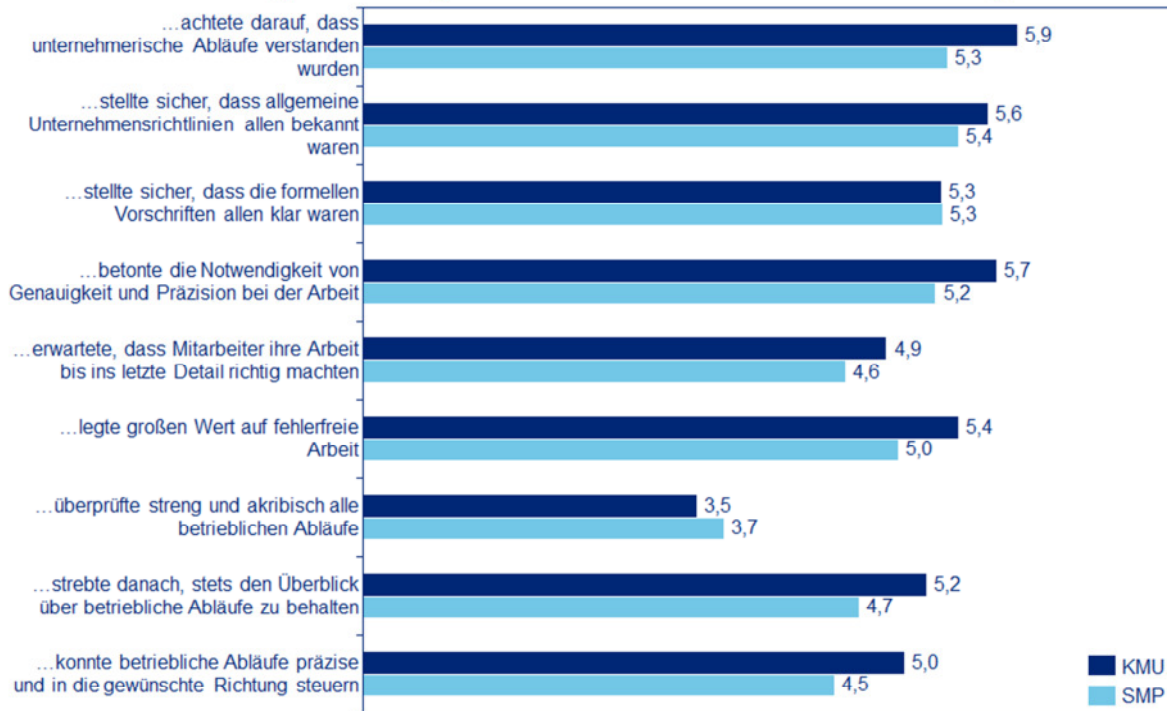
#### Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? Die Geschäftsführung...



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 18: Durchschnittliche Ausprägung des „Partizipativen Führungsverhaltens“

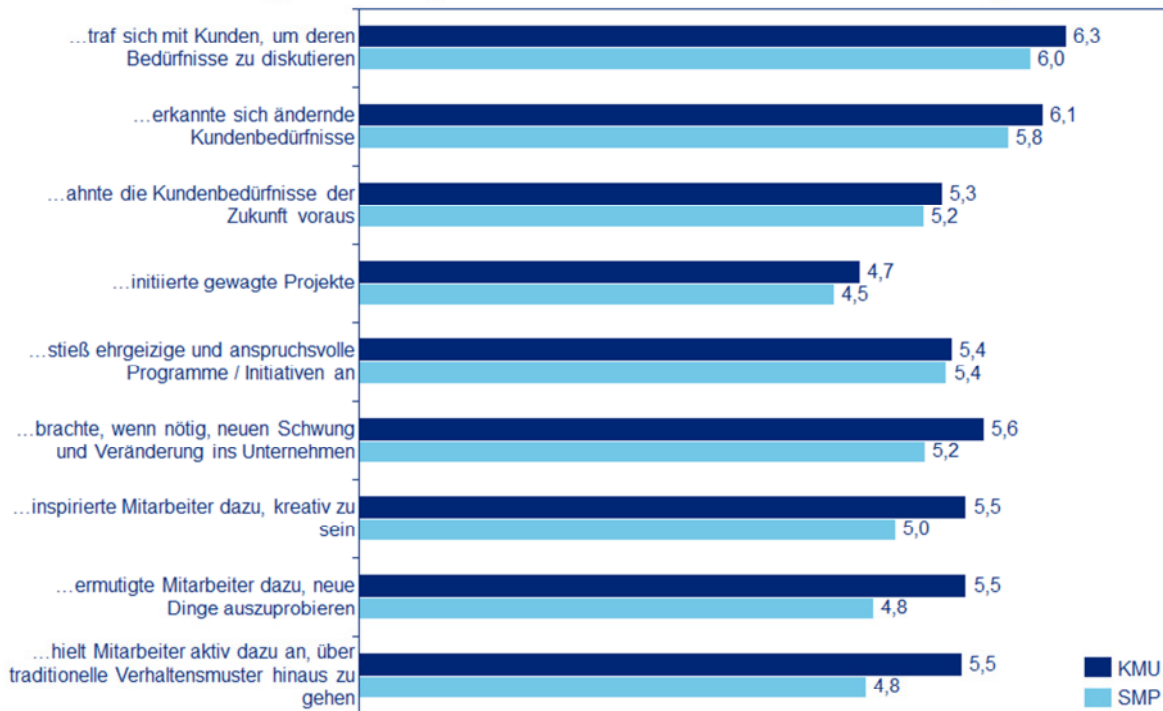
**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? Die Geschäftsführung...**



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 19: Durchschnittliche Ausprägung des „Steuernenden Führungsverhaltens“

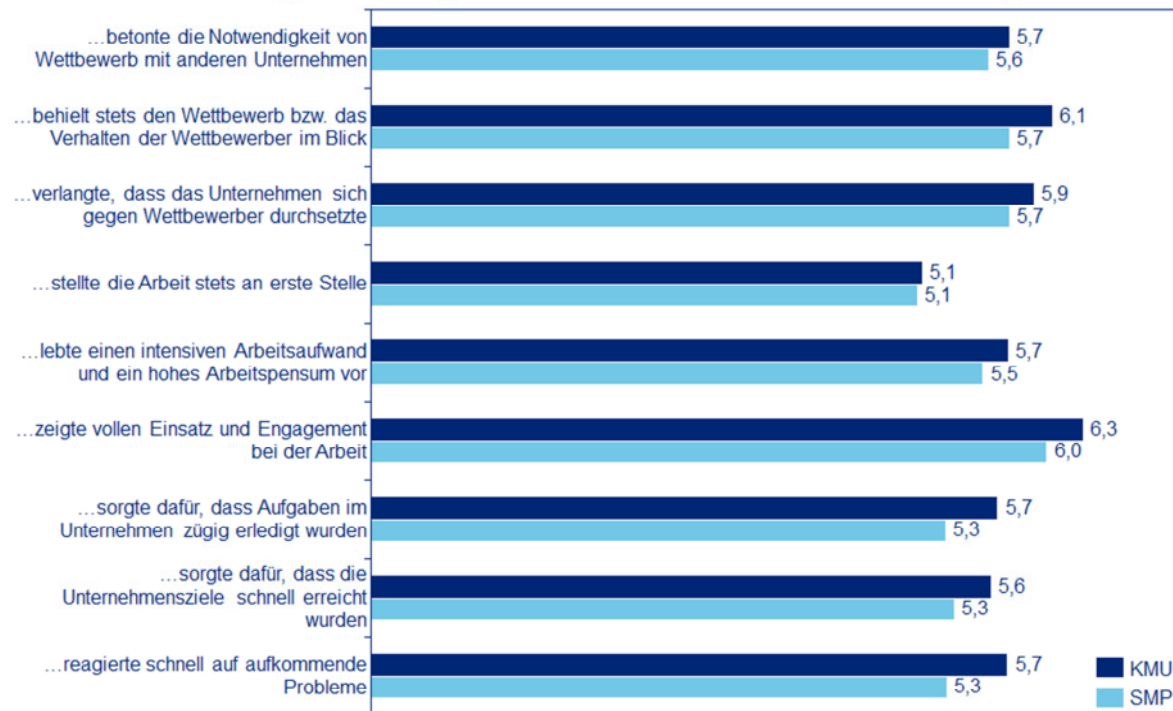
**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? Die Geschäftsführung...**



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 20: Durchschnittliche Ausprägung des „Verändernden Führungsverhaltens“

### Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? Die Geschäftsführung...



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 21: Durchschnittliche Ausprägung des „Antreibenden Führungsverhaltens“

## 4.2 Einfluss einzelner Führungsmechanismen auf den Unternehmenskontext

Um herauszufinden, wie sich diese vier Dimensionen des Führungsverhaltens auf den Unternehmenskontext auswirken, haben wir die Mechanismen isoliert, die einen hohen Zusammenhang mit dem in Kapitel 3.3 definierten Maß eines sowohl leistungs- als auch sozialorientierten Unternehmenskontexts hatten. **Abbildung 22** und **Abbildung 23** zeigen die drei Mechanismen pro Dimension, die den stärksten linearen Zusammenhang mit dem Unternehmenskontext aufweisen.

Die wirksamsten Mechanismen unterscheiden sich nicht wesentlich zwischen Mittelständlern und SMP-Teilnehmern. Insgesamt kann jedoch festgestellt werden, dass die einzelnen Mechanismen in der SMP-Stichprobe einen höheren Zusammenhang mit dem Unternehmenskontext haben. Eine mögliche Interpretation dieser Beobachtung könnte sein,

dass Führungskräfte in mittelständischen Unternehmen natürlich oft auch direkt ins Unternehmensgeschehen eingreifen, während sich Führungskräfte in größeren Einheiten aufgrund der Größe und Komplexität ihres Aufgabenfelds mehr auf das reine Führen ihrer Mitarbeiter, u.a. durch das Errichten eines optimalen Handlungsrahmens konzentrieren.

Wesentlich interessanter ist jedoch, dass in beiden Stichproben klar zu sehen ist, dass Mechanismen aus allen vier Dimensionen des Führungsverhaltens einen positiven linearen Zusammenhang mit dem sowohl leistungs- als auch sozialorientierten Unternehmenskontext aufweisen. Ein komplexes Führungsverhalten, das mehrere Dimensionen vereint, scheint daher ein besonders wirksamer Ansatz, um solch einen Unternehmenskontext zu errichten. Hierauf wollen wir im Folgenden kurz eingehen.

**Die Geschäftsführung...**

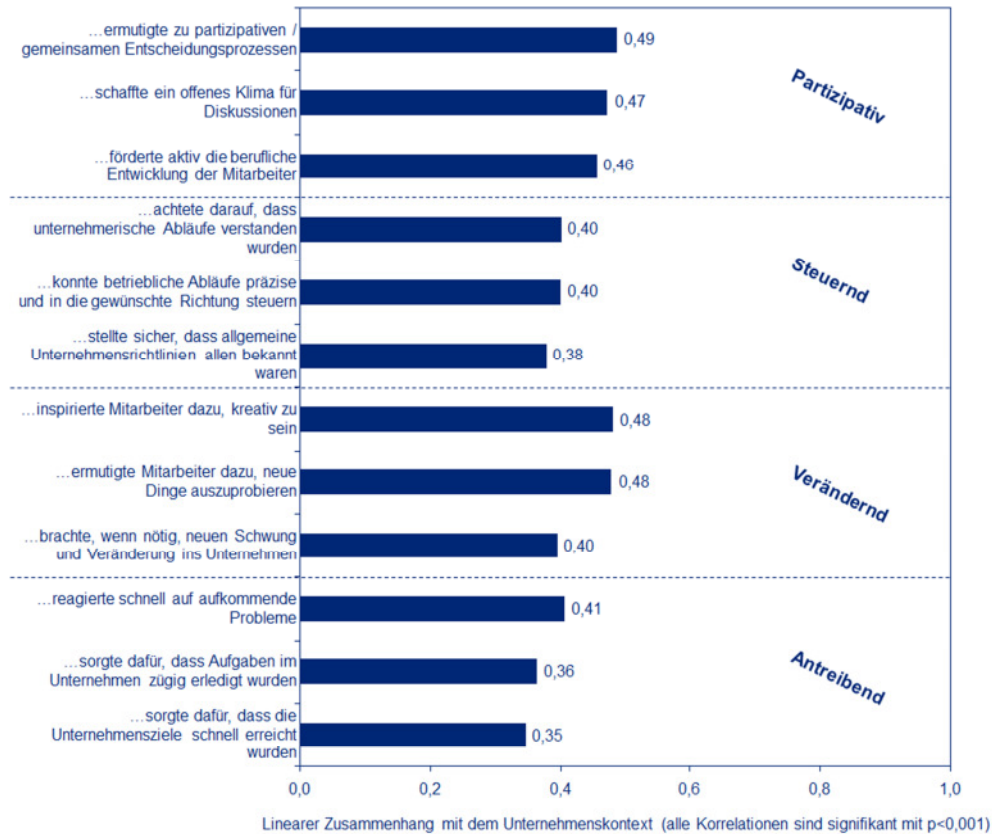


Abbildung 22: Top 3 Führungsmechanismen pro Führungsdimension (KMU)

**Die Geschäftsführung...**

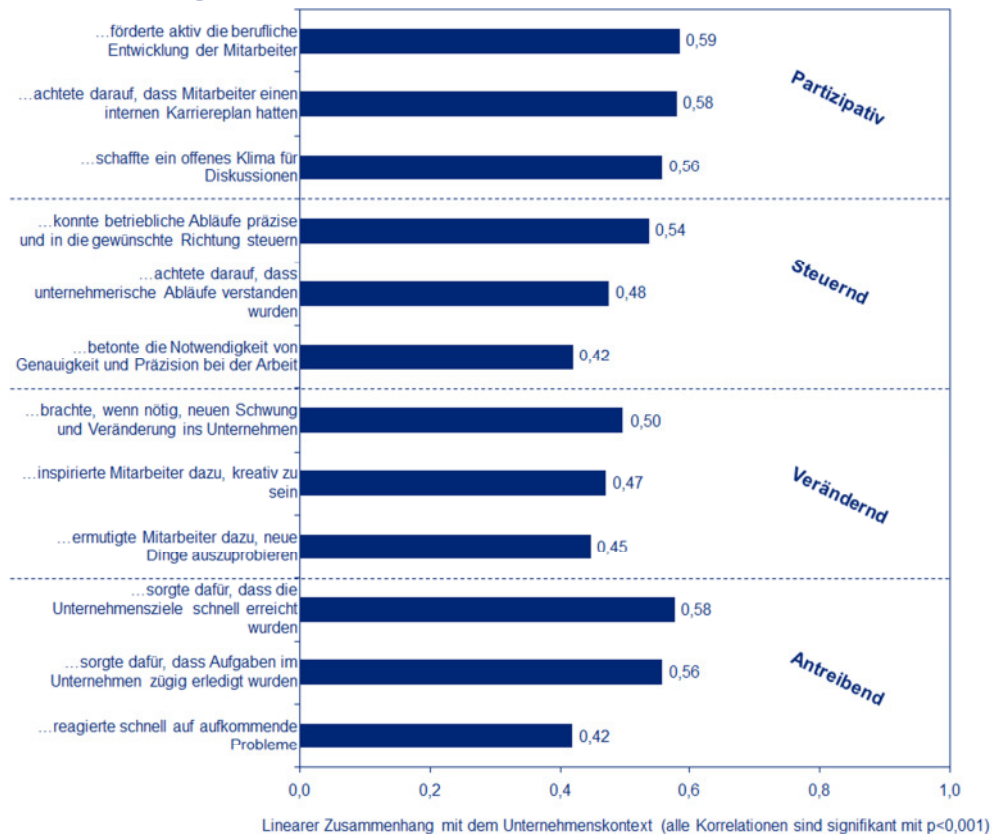


Abbildung 23: Top 3 Führungsmechanismen pro Führungsdimension (SMP)

### 4.3 Einfluss von komplexem Führungsverhalten auf den Unternehmenskontext

Wie wir gezeigt haben, scheinen in beiden Stichproben Mechanismen aus allen vier Dimensionen des Führungsverhaltens den Unternehmenskontext zu beeinflussen. Auf Basis dieser Ergebnisse analysierten wir, welche Wirkung die Integration verschiedener Führungsdimensionen auf einen leistungs- und sozialorientierten Unternehmenskontext haben würde. Dazu integrierten wir alle vier Skalen des Führungsverhaltens in ein Maß, das angibt, inwiefern das Führungsverhalten durch hohe Ausprägungen aller vier Dimensionen gekennzeichnet ist. Dieses vereinfachte Maß für „komplexes Führungsverhalten“ setzten wir dann in Beziehung zu dem oben genannten Maß für einen sowohl leistungs- als auch sozialorientierten Unternehmenskontext.

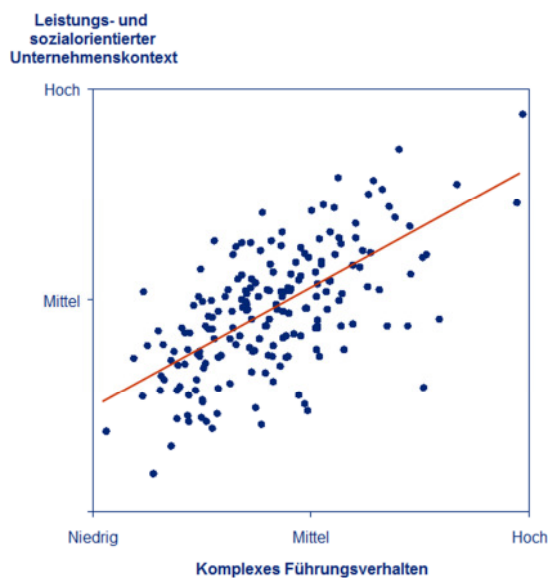


Abbildung 24: Komplexes Führungsverhalten und Unternehmenskontext (KMU)

Abbildung 24 und Abbildung 25 zeigen, dass in der Tat ein positiver Zusammenhang zwischen solch einem komplexen Führungsverhalten und einem leistungs- und sozialorientierten Unternehmenskontext zu bestehen scheint. Unsere Ergebnisse zeigen also nicht nur, welche Führungsmechanismen besonders effektiv sein könnten, sondern auch dass die Kombination verschiedener und teils im

Gegensatz stehender Mechanismen den Aufbau eines leistungs- und sozialorientierten Unternehmenskontexts fördert.

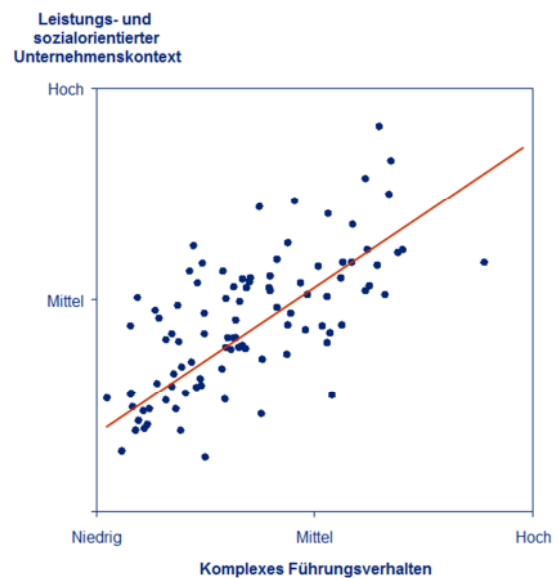


Abbildung 25: Komplexes Führungsverhalten und Unternehmenskontext (SMP)

#### Zwischenfazit:

- Partizipatives, die Entwicklung der Mitarbeiter förderndes und zu Kreativität und Veränderung aufrufendes Verhalten der Geschäftsführung hat einen positiven Zusammenhang mit einem leistungs- und sozialorientierten Unternehmenskontext
- Auch ein auf Kontrolle, Genauigkeit und zügige Aufgabenerledigung abstellendes Führungsverhalten weist einen positiven Zusammenhang mit dem Unternehmenskontext auf
- Die Kombination dieser teils konträren Führungsmechanismen wirkt sich jedoch besonders positiv auf den Unternehmenskontext aus

## 5. DICHTER NETZWERKE – NETWORKING FÜHRT ZU ERFOLG

### 5.1 Informelle und formelle

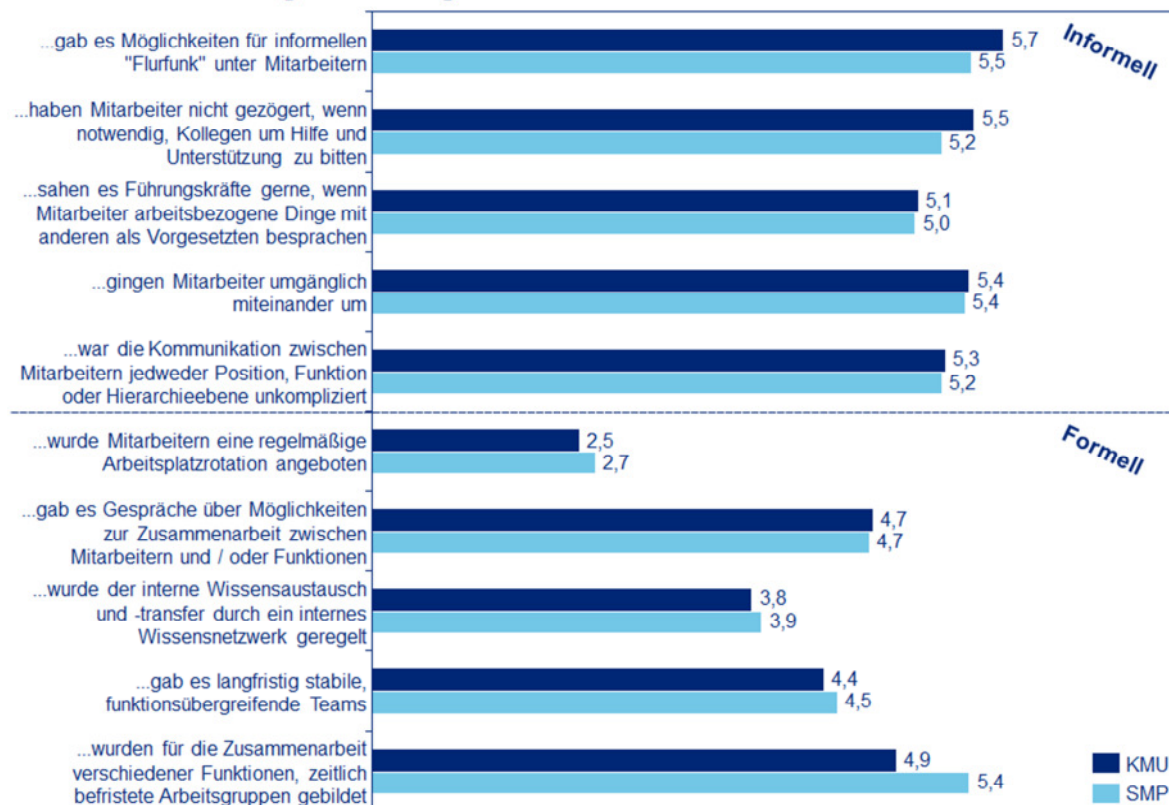
#### Unternehmensnetzwerke

Netzwerke innerhalb von Unternehmen und zwischen Unternehmen spielen eine große Rolle für deren Erfolg. Dies lässt sich zum einen klar durch den über sie ermöglichten Austausch von Wissen und Informationen begründen, zum anderen beeinflussen sie aber auch die Überzeugungen, Vorstellungen und Arbeitseinstellungen in Unternehmen oder Einheiten, also den Unternehmenskontext. Leistungsorientierung wird zum Beispiel durch gegenseitige informelle Vergleichs- und Kontrollmöglichkeiten gefördert, ein sozialer Kontext entsteht durch erhöhte Transparenz sowie gesteigerte Interaktion und Kooperation. Inwiefern Leistungs- und Sozialorientierung gleichermaßen gefördert werden und ob es diesbezüglich Unterschiede zwischen informellen und formellen, internen und externen Netzwerken gibt, möchten wir in diesem Kapitel untersuchen.

Dazu haben wir alle Umfrageteilnehmer gebeten, die informellen und formellen Netzwerke innerhalb ihres Unternehmens oder ihrer Einheit (intern) sowie zu anderen Unternehmen (extern) zu beurteilen. Netzwerke beziehen sich dabei auf Interaktion, Kooperation und Wissensaustausch zwischen Akteuren. **Abbildung 26** und **Abbildung 27** stellen die durchschnittlichen Ausprägungen der Unternehmensnetzwerke dar.

Grundsätzlich sind beide Stichproben durch ähnliche Muster gekennzeichnet. Informelle Netzwerke innerhalb der Unternehmen und Einheiten sind in beiden Stichproben relativ stark ausgeprägt, während interne formelle Kooperationen weniger der Fall zu sein scheinen. Die internen Netzwerke sind insbesondere durch einen funktionierenden Flurfunk und ein umgängliches Miteinander geprägt, während Kooperation und Austausch fördernde Maßnahmen wie „Job-Rotation“ oder interne Wissensnetzwerke seltener vorkommen.

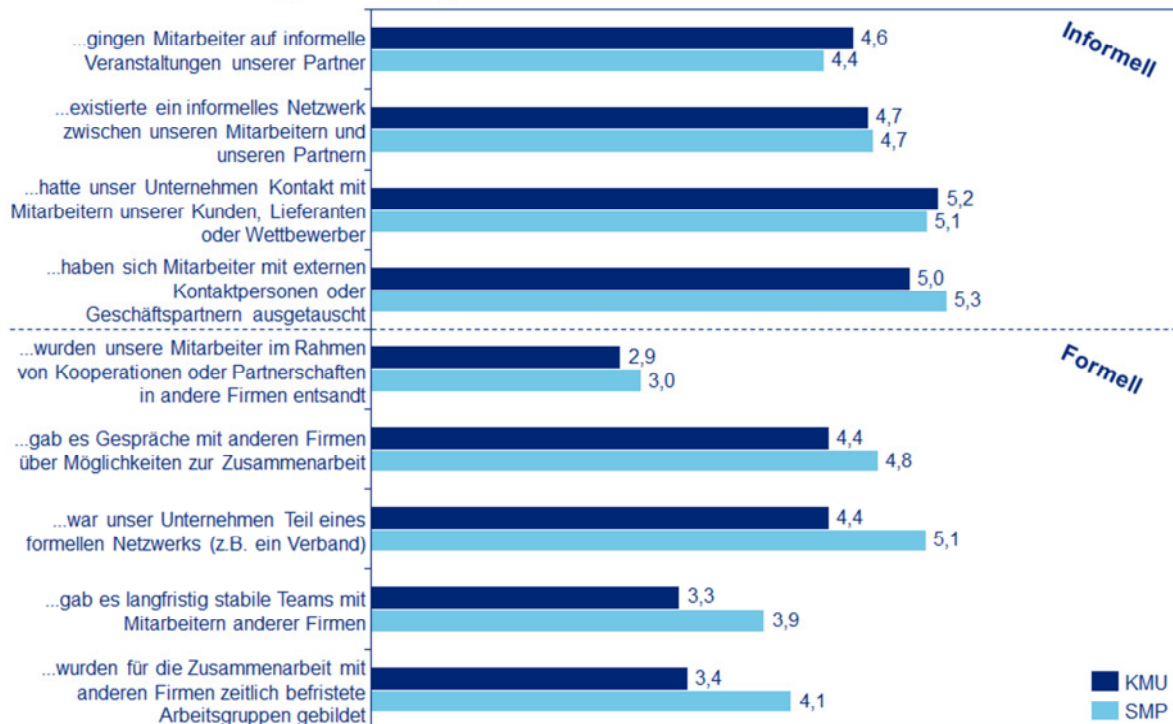
**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...**



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

**Abbildung 26: Durchschnittliche Ausprägung interner Unternehmensnetzwerke**

### Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 27: Durchschnittliche Ausprägung externer Unternehmensnetzwerke

Ein ähnliches Bild lässt sich auch für Netzwerke und Interaktionen mit anderen Unternehmen konstatieren. Informelle Netzwerke sind auch hier stärker ausgeprägt, insbesondere getrieben durch informelle Kontakte mit Mitarbeitern von Kunden, Lieferanten oder sogar Wettbewerbern und sonstigen Geschäftspartnern oder externen Kontaktpersonen. Die Unternehmen und Einheiten unserer Umfrageteilnehmer sind jedoch weniger offen für formelle Kooperationen mit anderen Unternehmen. Insbesondere firmenübergreifende, Mitarbeiter unterschiedlicher Unternehmen umfassende, Kooperationen und Partnerschaften kommen selten vor. Interessanterweise ist dies jedoch weniger der Fall in den Einheiten der SMP-Teilnehmer, die etwas offener für derartige externe Kooperationen sind.

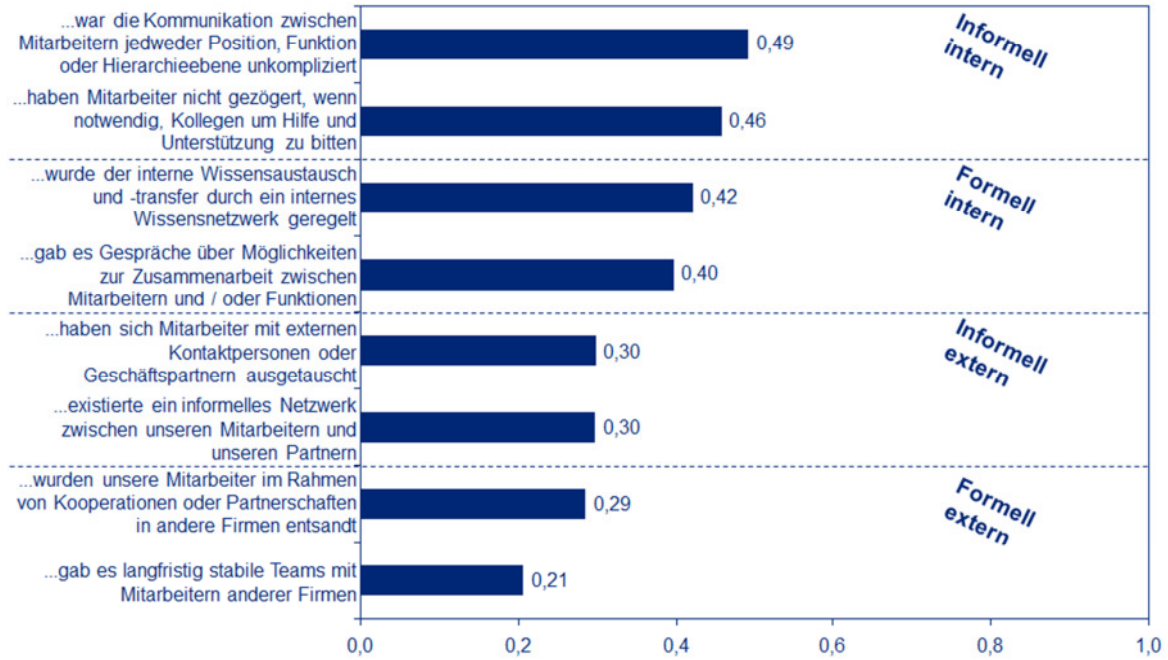
## 5.2 Einfluss einzelner Netzwerkmechanismen auf den Unternehmenskontext

Um zu verstehen, wie informelle und formelle interne und externe Unternehmensnetzwerke

den Unternehmenskontext beeinflussen, untersuchten wir, welche der einzelnen Netzwerkmechanismen einen hohen positiven Zusammenhang mit dem in Kapitel 3.3 definierten Maß eines sowohl leistungs- als auch sozialorientierten Unternehmenskontexts hat. In [Abbildung 28](#) und [Abbildung 29](#) stellen wir die jeweils stärksten Zusammenhänge dar.

Unter den Mittelständlern weisen informelle interne Netzwerkmechanismen den stärksten Zusammenhang mit einem leistungs- und sozialorientierten Unternehmenskontext auf, gefolgt von formellen internen, informellen externen und formellen externen Netzwerken. Interne Netzwerke scheinen also wesentlich stärker zur Leistungs- und Sozialorientierung des Unternehmenskontexts beizutragen als externe. Besonders hervorzuheben sind dabei ein unkompliziertes und sich gegenseitig unterstützendes Miteinander der Mitarbeiter über alle Hierarchieebenen, sowie formelle Wissensnetzwerke und die Suche nach formellen Möglichkeiten zur Zusammenarbeit.

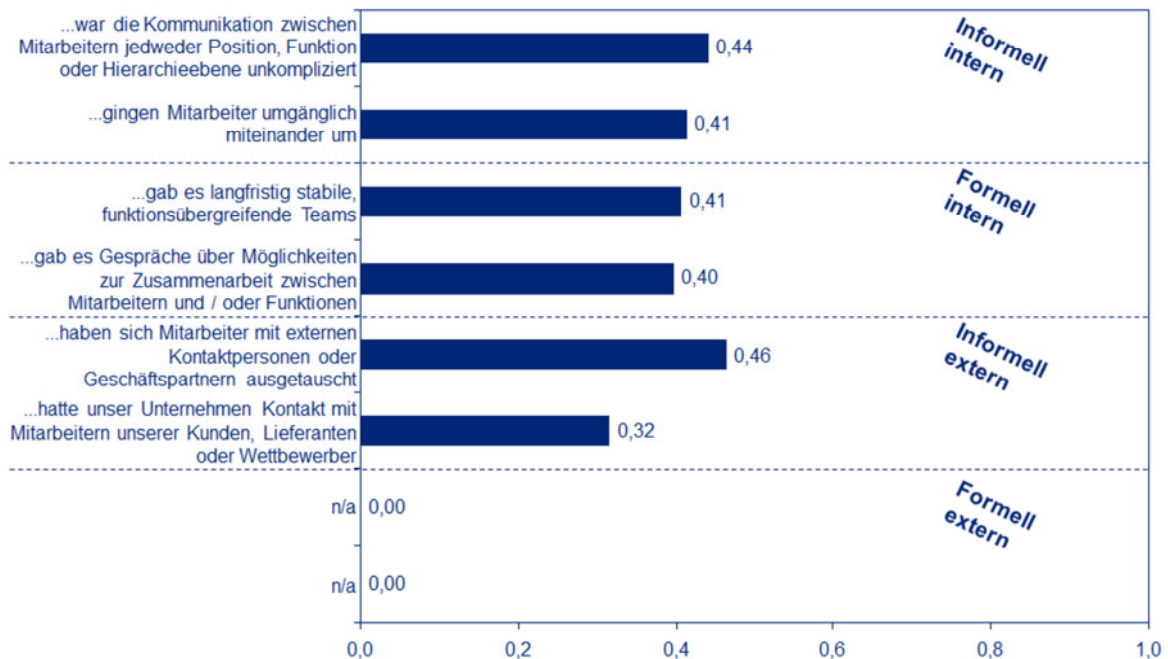
**In den letzten drei Jahren...**



Linearer Zusammenhang mit dem Unternehmenskontext (alle Korrelationen sind signifikant mit  $p < 0,01$ )

Abbildung 28: Top 2 Netzwerkmechanismen pro Netzwerktyp (KMU)

**In den letzten drei Jahren...**



Linearer Zusammenhang mit dem Unternehmenskontext (alle Korrelationen sind signifikant mit  $p < 0,01$ )

Abbildung 29: Top 2 Netzwerkmechanismen pro Netzwerktyp (SMP)

In den Einheiten der SMP-Teilnehmer ist die Situation nicht so eindeutig. Informelle und formelle interne sowie informelle externe Unternehmensnetzwerke weisen ähnlich starke Zusammenhänge mit einem leistungs- und sozialorientierten Unternehmenskontext auf,

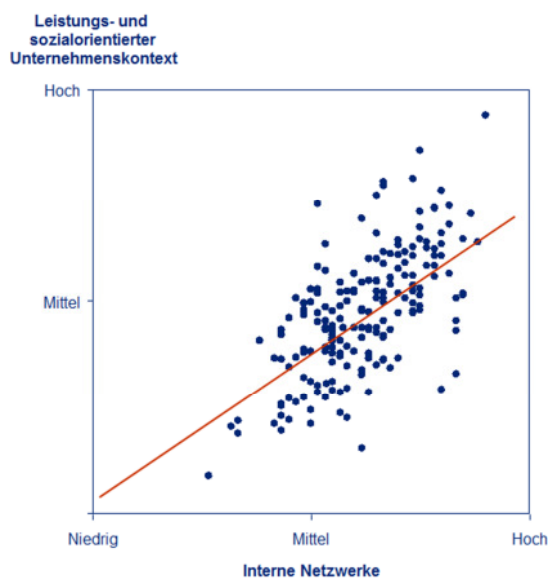
während kein einziger formeller externer Netzwerkmechanismus einen statistisch signifikanten Zusammenhang mit dem Unternehmenskontext aufweist. Besonders hervorzuheben sind hier der informelle Austausch mit Geschäftspartnern sowie eine



unkomplizierte Kommunikation über alle Hierarchieebenen hinweg.

### 5.3 Einfluss interner Netzwerke auf den Unternehmenskontext

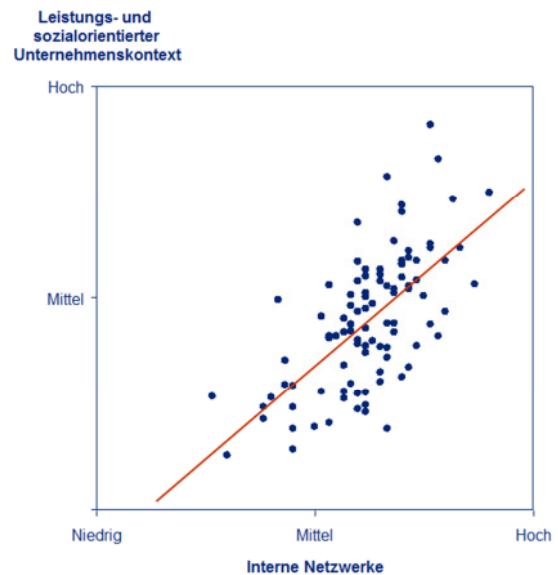
Beide Stichproben haben gemeinsam, dass interne Netzwerke von besonderer Bedeutung für den Unternehmenskontext zu sein scheinen. Dies macht dahingehend Sinn, dass die leistungsbezogenen Elemente (Disziplin, Motivation) und sozialen Elemente (Vertrauen, gegenseitige Unterstützung) des Unternehmenskontexts primär durch interne Prozesse geprägt werden, während externe Netzwerke vielleicht in der Tat eher auf den Austausch von Wissen und Informationen abzielen und nur bedingt, zum Beispiel über den Austausch von Best Practices, zum Aufbau des internen Unternehmenskontexts beitragen. Im Folgenden haben wir daher noch einmal den Einfluss interner Netzwerke in ihrer Gesamtheit, d.h. nicht unterschieden zwischen informellen und formellen Interaktionen, untersucht. Die Ergebnisse sind in **Abbildung 30** und **Abbildung 31** dargestellt.



**Abbildung 30: Interne Netzwerke und Unternehmenskontext (KMU)**

Die Ergebnisse zeigen, dass interne Netzwerke einen positiven Einfluss auf den Unternehmenskontext haben. Aus Kapitel 5.2 geht hervor, dass dabei informelle Mechanismen tendenziell wichtiger sind, aber

formelle Mechanismen dennoch nicht zu unterschätzen sind. An dieser Stelle möchten wir auch noch einmal klar darauf hinweisen, dass formelle und informelle externe Netzwerke ebenso wichtig für Unternehmen sind. In Bezug auf den Unternehmenskontext, erweisen sich in unserer Studie jedoch interne Netzwerke als die effektiveren Mechanismen.



**Abbildung 31: Interne Netzwerke und Unternehmenskontext (SMP)**

#### Zwischenfazit:

- Interne Netzwerke haben im Vergleich zu externen Netzwerken eine besonders positive Wirkung auf den leistungs- und sozialorientierten Unternehmenskontext
- Informelle interne Netzwerke weisen dabei einen stärkeren positiven Zusammenhang auf als formelle interne Netzwerke
- Bezüglich externer Netzwerke kann ebenfalls ein stärkerer positiver Zusammenhang für informelle Interaktionen beobachtet werden als für formelle Kooperationen

## 6. INKONSISTENTE STRUKTUREN – GEGENSÄTZE ERGÄNZEN SICH

### 6.1 Formale, zentrale und spezialisierte Strukturen

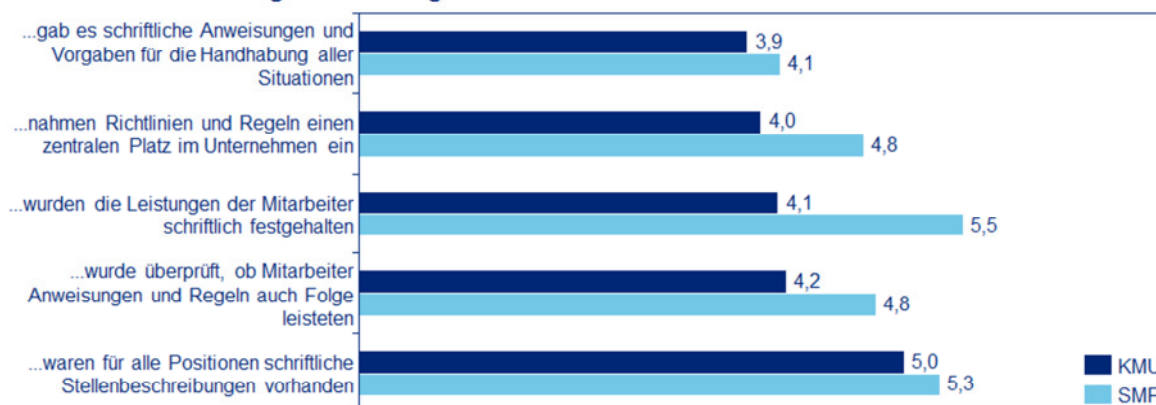
Unternehmensstrukturen beschreiben die Anatomie innerhalb derer Unternehmen funktionieren. Sie bestimmen, wie viel Einfluss jeder einzelne haben kann oder darf und sie stellen den Handlungsrahmen für jegliche Aktivitäten und Entscheidungen dar. Dass die Strukturen eines Unternehmens oder einer Einheit daher den Unternehmenskontext beeinflussen, ist zu vermuten. Wichtiger ist jedoch, zu verstehen, auf welche Art und Weise sie einen gleichzeitig leistungs- und sozialorientierten Unternehmenskontext ins Leben rufen können.

Daher haben wir in unserer Umfrage alle Teilnehmer gebeten, die Strukturen ihres

Unternehmens entlang der drei Dimensionen „Formalisierung“, „Zentralisierung“ und „Spezialisierung“ für uns zu charakterisieren. Formalisierung bezieht sich auf den Stellenwert, den formelle und schriftlich festgehaltene Regeln im Unternehmen einnehmen. Zentralisierung gibt wieder, inwiefern Entscheidungsgewalt gleichmäßig im Unternehmen verteilt ist. Spezialisierung steht für das Ausmaß der Arbeitsteilung im Unternehmen und inwiefern spezialisierte Fachkräfte von Nöten sind.

Abbildungen 32-34 geben an, inwiefern die Unternehmen und Einheiten unserer Umfrageteilnehmer durch Formalisierung, Zentralisierung und Spezialisierung gekennzeichnet sind. Auch hier sind sich beide Stichproben grundsätzlich wieder sehr ähnlich.

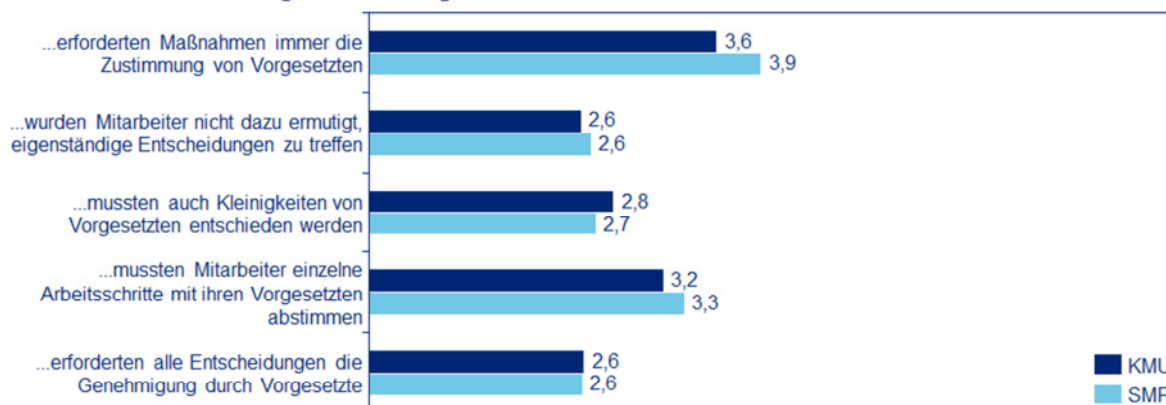
**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...**



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 32: Durchschnittliche Ausprägung von Formalisierung

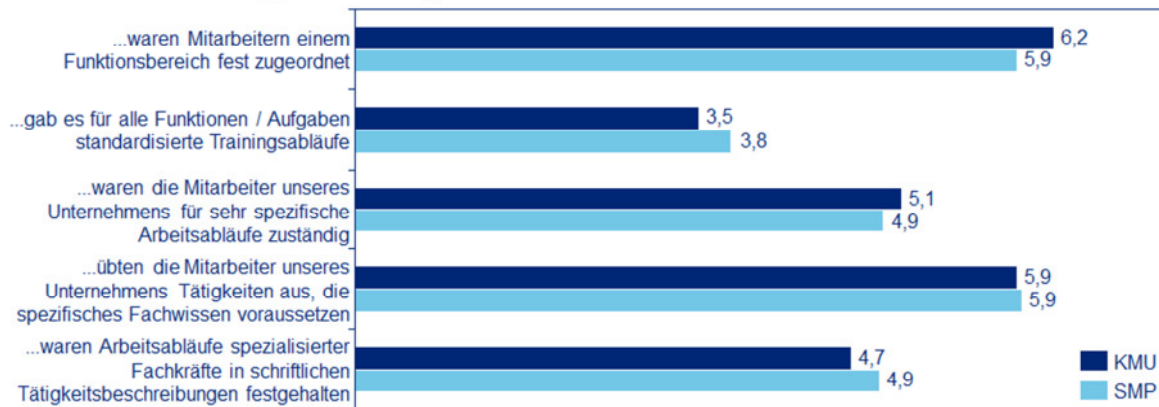
**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...**



Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

Abbildung 33: Durchschnittliche Ausprägung von Zentralisierung

**Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu? In den letzten drei Jahren...**



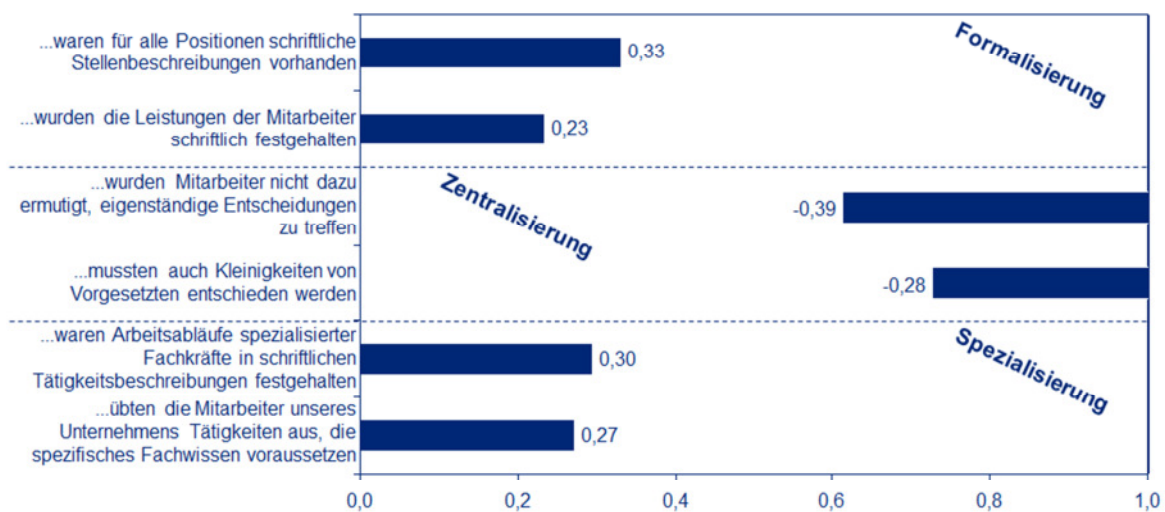
Gemessen auf einer Skala 1-7 (1 = „Stimme überhaupt nicht zu“; 7 = „Stimme voll und ganz zu“)

**Abbildung 34: Durchschnittliche Ausprägung von Spezialisierung**

Der Grad an Formalisierung ist im Durchschnitt von mittlerer Höhe in den Unternehmen und Einheiten. Dies drückt sich insbesondere durch formale Stellenbeschreibungen, das schriftliche Festhalten von Leistungen und einer konsequenten Überprüfung der Einhaltung von Regeln aus. Dies ist erwartungsgemäß unter den Einheiten der SMP-Teilnehmer noch ausgeprägter als unter den Mittelständlern, da gerade in größeren Unternehmen oftmals die Bedeutung von Regeln und Formalien höher ist als in kleineren, intimeren mittelständischen Betrieben. Im Durchschnitt sind die Unternehmen und Einheiten zudem dezentral aufgestellt, d.h. Entscheidungsbefugnisse sind

relativ breit über die Hierarchien verteilt. Mitarbeiter der Umfrageteilnehmer werden also eher dazu ermutigt, eigenständig Entscheidungen zu treffen und müssen nicht jede Kleinigkeit mit den Vorgesetzten abstimmen. Hinsichtlich der Spezialisierung sind sich beide Stichproben wieder sehr ähnlich. Sie haben im Durchschnitt relativ spezialisierte Strukturen, in denen eine klare Arbeitsteilung unter zumeist spezialisierten Mitarbeitern herrscht. Insgesamt lassen sich die Umfrageteilnehmer daher als mäßig bis hoch formalisierte, dezentralisierte und eher spezialisierte Unternehmen und Einheiten charakterisieren.

**In den letzten drei Jahren...**



Linearer Zusammenhang mit dem Unternehmenskontext (alle Korrelationen sind signifikant mit  $p < 0,01$ )

**Abbildung 35: Top 2 Strukturmechanismen pro Strukturdimension (KMU)**

### In den letzten drei Jahren...

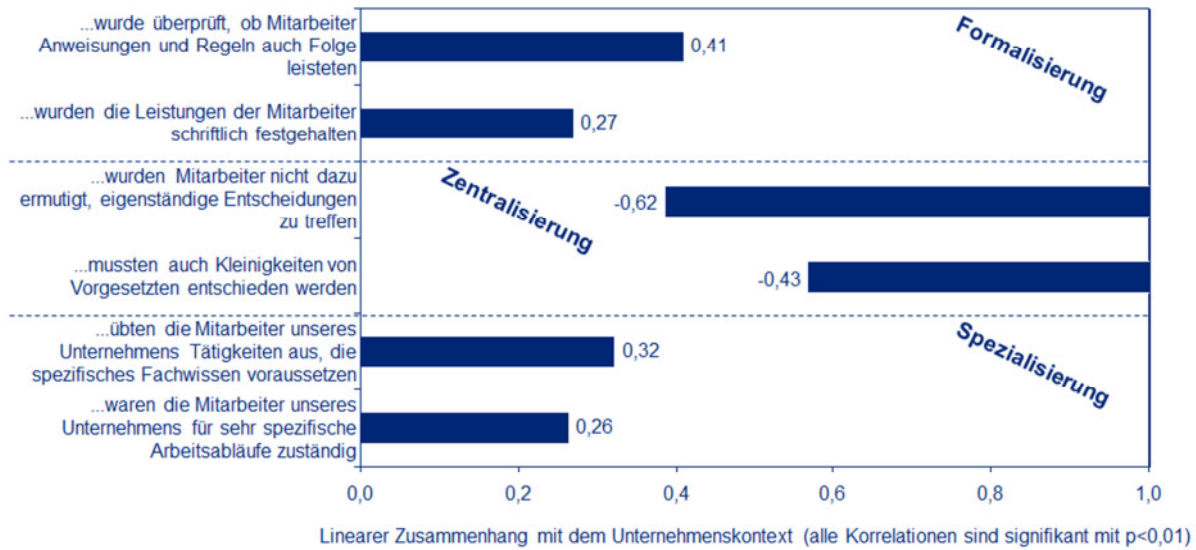


Abbildung 36: Top 2 Strukturmechanismen pro Strukturdimension (SMP)

## 6.2 Einfluss einzelner Strukturmechanismen auf den Unternehmenskontext

Da wir verstehen wollten, in welchem Zusammenhang diese Strukturen mit einem gleichzeitig leistungs- und sozialorientierten Unternehmenskontext stehen, untersuchten wir die einzelnen Strukturmechanismen genauer. **Abbildung 35** und **Abbildung 36** stellen die Mechanismen dar, die am stärksten mit dem in Kapitel 3.3 definierten einheitlichen Maß des Unternehmenskontexts zusammenhängen. An dieser Stelle kommen auch negative Zusammenhänge mit dem Unternehmenskontext vor.

Die Formalisierungs- und Spezialisierungsmechanismen weisen einen positiven Zusammenhang auf, während die Zentralisierungsmechanismen negativ mit dem Unternehmenskontext verbunden sind. Insgesamt ist die Stärke der einzelnen Zusammenhänge im Vergleich zu den bereits vorher beschriebenen Führungs- und Netzwerkmechanismen jedoch relativ gering. Ausgenommen hiervon sind die negativen Zusammenhänge zwischen Zentralisierung und Unternehmenskontext unter den Einheiten der SMP-Teilnehmer. Hier sind sehr starke negative Werte zu beobachten.

Zusammenfassend lässt sich also festhalten, dass die einzelnen Strukturmechanismen gegenläufig wirken. Eine dezentralisierte, aber formalisierte und spezialisierte Struktur erscheint dementsprechend als eine zwar inkonsistente aber optimale Struktur, um einen sowohl leistungs- als auch sozialorientierten Kontext zu schaffen. Diesen Zusammenhang möchten wir daher im Folgenden noch etwas detaillierter untersuchen.

## 6.3 Einfluss inkonsistenter Strukturen auf den Unternehmenskontext

Wie im vorherigen Abschnitt erwähnt, lassen unsere Ergebnisse darauf schließen, dass eine dezentralisierte, aber formalisierte und spezialisierte Unternehmensstruktur am ehesten in der Lage ist, eine gleichzeitige Leistungs- und Sozialorientierung in den Unternehmen und Einheiten zu fördern. In der Wissenschaft seit langem gelehrt und in der Praxis meist praktiziert wird jedoch, dass strukturelle Entscheidungen konsistent getroffen werden müssen, um erfolgreich zu sein. Meist verfolgen Unternehmen und Einheiten daher entweder mechanistische bzw. bürokratische Strukturen (zentralisiert, formalisiert, spezialisiert) oder organische bzw. flexible Strukturen (dezentralisiert,

informal, unspezialisiert). Unsere Ergebnisse deuten jedoch darauf hin, dass gerade inkonsistente Strukturen erfolgsversprechender sein könnten, indem sie einen Unternehmenskontext fördern, der das gleichzeitige Streben nach Innovation und Effizienz ermöglicht.

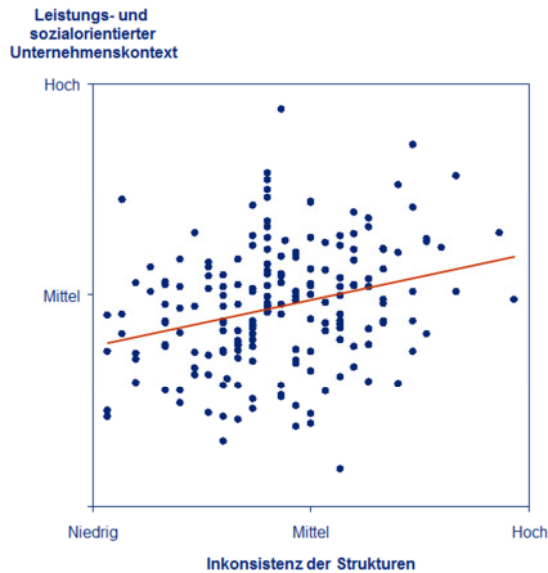


Abbildung 37: Inkonsistente Strukturen und Unternehmenskontext (KMU)

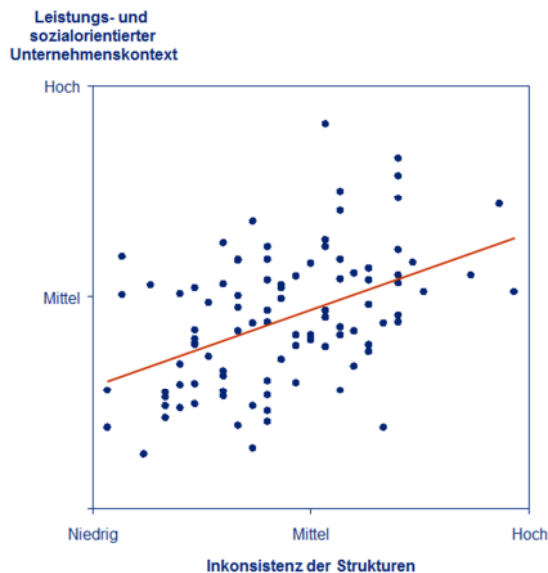


Abbildung 38: Inkonsistente Strukturen und Unternehmenskontext (SMP)

Um dieser Idee nachzugehen, kombinierten wir die drei Strukturdimensionen in ein einheitliches Maß. Dieser Wert gibt jedoch nicht wieder, wie strukturiert ein Unternehmen oder eine Einheit ist, sondern misst den Grad an Inkonsistenz zwischen allen drei

Dimensionen (errechnet durch die summierten absoluten Abweichungen zwischen den einzelnen Strukturdimensionen). Dieses Maß setzen wir nun in Beziehung zu dem bereits beschriebenen Maß für einen leistungs- und sozialorientierten Unternehmenskontext. **Abbildung 37** und **Abbildung 38** zeigen die Ergebnisse dieser Analyse.

Diese Ergebnisse zeigen, dass inkonsistente Unternehmensstrukturen tatsächlich einen positiven Effekt auf den Unternehmenskontext haben können. Wie im vorherigen Abschnitt beschrieben, scheinen dezentralisierte, aber formalisierte und spezialisierte Strukturen eine in diesem Zusammenhang besonders vielversprechende Kombination zu sein.

**Zwischenfazit:**

- Formalisierte und spezialisierte Strukturen hängen positiv mit einem leistungsbezogenen und sozialen Unternehmenskontext zusammen
- Zentralisierte Strukturen weisen dagegen einen stark negativen Zusammenhang auf
- Inkonsistente, in diesem Fall dezentralisierte, aber gleichzeitig formalisierte und spezialisierte Strukturen, scheinen einen positiven Einfluss auf die Leistungs- und Sozialorientierung zu haben



## 7. FAZIT – WAS IST ZU TUN?

Langfristiger Erfolg basiert auf der Fähigkeit, gleichzeitig sowohl innovativ als auch effizient am Markt zu agieren. Dies eröffnet zum einen Wachstumspotenziale und sichert damit den Erfolg in der Zukunft, zum anderen stellt es sicher, dass bestehende Potenziale optimal ausgeschöpft werden und so heute das Geld für Investitionen erwirtschaftet wird. Nur Unternehmen und Einheiten, die diese Wechselwirkung verstehen und versuchen, eine entsprechende Balance zwischen Innovation und Effizienz zu erreichen, werden nachhaltig erfolgreich sein. Dies ist jedoch nicht trivial, denn Innovation und Effizienz basieren auf zumeist gegensätzlichen Aktivitäten, Prozessen und Strukturen (vgl. **Abbildung 1**). Beide innerhalb eines Unternehmens in Einklang miteinander zu bringen, ist daher ein kritischer Erfolgsfaktor.

Im Gegensatz zu großen Firmen oder Konzernen, fehlen Mittelständlern oder Unternehmenseinheiten meist die Ressourcen, Systeme und Kapazitäten, um Innovation und Effizienz in voneinander getrennten Untereinheiten verfolgen zu können. Wie zuvor erläutert, benötigen sie vielmehr integrative Lösungen. Ein vielversprechender Ansatz ist die Integration von Innovation und Effizienz über einen leistungs- und sozialorientierten Unternehmenskontext. Dies wird auch durch unsere Studienergebnisse bestätigt. Sie zeigen, dass Unternehmen mit einem gleichzeitig leistungs- und

sozialorientierten Unternehmenskontext eher in der Lage sind, hohe Maße an Innovation und Effizienz zu vereinen.

Unternehmen und Unternehmenseinheiten sollten daher ein erhöhtes Augenmerk auf den in ihnen herrschenden Unternehmenskontext richten. Es gilt sicherzustellen, dass dieser sowohl durch leistungsbezogene Elemente gekennzeichnet ist, welche Disziplin und Motivation fördern, als auch durch soziale Elemente, die gegenseitiges Vertrauen und Unterstützung schaffen. Die Ergebnisse unserer Studie weisen in diesem Zusammenhang auf drei konkrete Ansatzpunkte hin, mit deren Hilfe solch ein Unternehmenskontext errichtet werden kann:

1. Komplexes Führungsverhalten
2. Dichte Unternehmensnetzwerke
3. Inkonsistente Unternehmensstrukturen

Innerhalb dieser drei Ansatzpunkte zeigen unsere Studienergebnisse eine Vielzahl an konkreten Handlungsempfehlungen auf, die im Folgenden noch einmal zusammenfassend dargestellt werden. Diese Maßnahmen können sowohl einzeln als auch gebündelt, sich dabei gegenseitig verstärkend und ergänzend, ergriffen werden, um über einen leistungs- und sozialorientierten Unternehmenskontext ein hohes Maß sowohl an Innovation als auch an Effizienz zu erreichen und so langfristigen Erfolg sicherzustellen.

Ansatzpunkt	Handlungsempfehlung
<b>Führungsverhalten</b>	<ul style="list-style-type: none"> <li>• Jeder einzelne der folgenden Führungsmechanismen fördert entweder leistungsbezogene Elemente (z.B. Motivation, Disziplin) oder soziale Elemente (z.B. Vertrauen, Unterstützung), manche begünstigen auch mehrere</li> <li>• Eine optimale Wirkung auf den Unternehmenskontext wird erreicht, wenn Sie alle Mechanismen oder zumindest einen Mechanismus aus jedem Bereich anwenden – so werden alle relevanten Elemente gefördert</li> </ul>
<i>Partizipatives Führungsverhalten</i>	<ol style="list-style-type: none"> <li>i) Ermutigen Sie zu partizipativen / gemeinsamen Entscheidungsprozessen und schaffen sie ein offenes Klima für Diskussionen</li> <li>ii) Fördern Sie die berufliche Entwicklung und Karrieren (innerhalb und außerhalb Ihres Unternehmens) Ihrer Mitarbeiter</li> </ol>

<b>Ansatzpunkt</b>	<b>Handlungsempfehlung</b>
<b>Steuernendes Führungsverhalten</b>	<p>iii) Achten Sie darauf, dass betriebliche Abläufe in die gewünschte Richtung gehen und dabei genaue/präzise Arbeit geleistet wird</p> <p>iv) Sorgen Sie dafür, dass allgemeine Unternehmensrichtlinien und betriebliche Abläufe verstanden und bekannt sind</p>
<b>Veränderndes Führungsverhalten</b>	<p>v) Ermutigen Sie Mitarbeiter dazu, kreativ zu sein und neue Dinge auszuprobieren</p> <p>vi) Bringen Sie selbst auch mal neuen Schwung und Veränderung ins Unternehmen</p>
<b>Antreibendes Führungsverhalten</b>	<p>vii) Sorgen Sie dafür, dass Aufgaben zügig erledigt und dadurch Unternehmensziele schnell erreicht werden</p> <p>viii) Reagieren Sie schnell auf aufkommende Probleme</p>
<b>Unternehmensnetzwerke</b>	<ul style="list-style-type: none"> <li>• <b>Interne Unternehmensnetzwerke sind besonders effektiv im Aufbau von Leistungs- und Sozialorientierung im Unternehmenskontext</b></li> <li>• <b>Disziplin und Motivation werden durch Vergleichs- und Kontrollmöglichkeiten gefördert, während Vertrauen und Unterstützung durch die sozialen Interaktionen und Kooperation aufgebaut wird</b></li> </ul>
<b>Informelle interne Unternehmensnetzwerke</b>	<p>i) Ermöglichen Sie eine unkomplizierte Kommunikation zwischen Mitarbeitern jedweder Position, Funktion oder Hierarchieebene</p> <p>ii) Ermutigen Sie Mitarbeiter dazu, wenn notwendig, Kollegen um Hilfe und Unterstützung zu bitten (und auch dementsprechend selbst anzubieten)</p> <p>iii) Fördern Sie einen umgänglichen, angenehmen Umgang Ihrer Mitarbeiter untereinander (z.B. auch durch Mitarbeiterveranstaltungen/-events)</p>
<b>Formelle interne Unternehmensnetzwerke</b>	<p>iv) Bauen Sie ein formelles internes Wissensnetzwerk für den internen Wissensaustausch und -transfer auf (z.B. Intranet-Plattform, regelmäßige Mitarbeiternewsletter/-versammlungen)</p> <p>v) Unterstützen Sie Gespräche über Möglichkeiten zur Zusammenarbeit zwischen Mitarbeitern, Bereichen und / oder Funktionen</p> <p>vi) Bilden Sie langfristig stabile, funktionsübergreifende Teams</p>
<b>Unternehmensstrukturen</b>	<ul style="list-style-type: none"> <li>• <b>Leistungs- und Sozialorientierung gleichermaßen zu fördern verlangt nach inkonsistenten Unternehmensstrukturen, also einer Kombination von eher mechanistischen/bürokratischen sowie organischen/informellen Elementen</b></li> <li>• <b>Die Unternehmen und Einheiten unserer Umfrageteilnehmer scheinen insbesondere mit formalisierten, aber dezentralisierten und spezialisierten Strukturen Erfolg zu haben</b></li> </ul>
<b>Formalisierung</b>	<p>i) Stellen Sie sicher, dass schriftliche Stellenbeschreibungen vorhanden sind und Mitarbeiter Anweisungen und Regeln auch Folge leisten</p> <p>ii) Halten Sie die Leistungen der Mitarbeiter schriftlich fest</p>
<b>Dezentralisierung</b>	<p>iii) Ermutigen Sie Mitarbeiter dazu, eigenständige Entscheidungen zu treffen</p> <p>iv) Vermeiden Sie, dass auch Kleinigkeiten von Vorgesetzten entschieden werden müssen</p>
<b>Spezialisierung</b>	<p>v) Halten Sie Arbeitsabläufe spezialisierter Fachkräfte in schriftlichen Tätigkeitsbeschreibungen fest</p> <p>vi) Versuchen Sie, ein hohes Maß an Arbeitsteilung zu erreichen, indem jeder Mitarbeiter (mit entsprechendem Fachwissen) für einen sehr spezifischen Arbeitsablauf zuständig gemacht wird</p>

## IHRE ANSPRECHPARTNER

An dieser Stelle möchten wir uns noch einmal ganz herzlich bei allen Teilnehmern an dieser Umfrage bedanken! Für Fragen, Anregungen oder Anmerkungen zu dieser Studie stehen wir Ihnen jederzeit gerne zur Verfügung. Bitte wenden Sie sich an:

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## Über uns

Das Center for Organizational Excellence (CORE) ist ein gemeinsames Kooperationsprojekt der **Universitäten St. Gallen und Genf.**



University of St.Gallen



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Unser Ziel ist es, zu verstehen, wie Unternehmen **kurzfristig profitabel und langfristig erfolgreich, innovativ und verantwortungsbewusst** wirtschaften können. Hierzu erforschen wir, wie das vermeintliche Spannungsfeld zwischen **ökonomischer und gesellschaftlicher Wertschöpfung innerhalb des Kerngeschäfts** überwunden und Synergien zwischen beiden Zielen erreicht werden können.

Wir unterstützen unsere Unternehmenspartner und Sponsoren dabei, ihre Strategien, Systeme und Prozesse so auszurichten, dass sie durch ihre Geschäftstätigkeit **kurzfristig und langfristig, ökonomischen und gesellschaftlichen Mehrwert** schaffen. Wir bieten **folgende konkrete Leistungen an:**

- Messung des «Public Value» für die Geschäftsaktivitäten des Partners
- Begleitung von Initiativen zur «Synergistic Value Creation» (z.B. durch Fallstudien und Workshops)
- Mitgliedschaft und Austausch von Best-Practices in einer Community aus Vertretern führender Unternehmen
- Zugang zu aktuellen Forschungsergebnissen, sowie zu den Erfahrungen und dem Wissen des CORE und des CLVS

**Haben wir Ihr Interesse geweckt? Für weitere Informationen wenden Sie sich bitte an [alexander.zimmermann@unisg.ch](mailto:alexander.zimmermann@unisg.ch).**



## REFERENZEN

Die in dieser Studie verwendeten theoretischen Hintergründe und Erläuterungen basieren auf zum Teil jahrelanger Arbeit in der Management-Forschung. Die wichtigsten, dieser Studie zugrunde liegenden Arbeiten sind im Folgenden aufgelistet.

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Zusätzlich möchten wir uns an dieser Stelle für die Unterstützung durch folgende Partner, Institutionen und Unternehmen bedanken:

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- *Hoppenstedt Firmeninformationen GmbH*
- *MonitorDeloitte*

## 6. CONCLUSION

### Overarching Summary

With this dissertation I attempt to enhance research's and management practice's understanding of how firms can reconcile exploration and exploitation within one organizational domain. Especially smaller organizational entities such as SMEs and business units depend on such integrative ambidexterity approaches as they usually lack the size, resources, and administrative systems to pursue approaches based on structural separation (Lubatkin et al., 2006). Ambidexterity research has therefore increasingly focused on this type of ambidexterity (Jansen et al., 2012), but some very important aspects still remain underexplored:

- (1) Reconciling exploration and exploitation through the creation of an ambidextrous organizational context is the most prominent example of an integrative mechanism leading to ambidexterity. Yet, research still lacks an understanding of how such an ambidextrous organizational context can be established and how it interacts with other organizational mechanisms.
- (2) Exploration and exploitation demand fundamentally opposed, seemingly irreconcilable organizational structuring choices. Integrative solutions, however, require a solution for this conflict. Yet, research lacks an understanding of how organizational structuring can facilitate the reconciliation of exploration and exploitation within one organizational domain.

These two aspects are discussed in three essays which are at the heart of this dissertation. Two essays focus on the first aspect and one essay explores a solution to the latter aspect.

In this regard, the first two essays investigate managerial and relational mechanisms which foster an ambidextrous organizational context, i.e. an organizational context characterized by the interaction of both performance and social elements. Such an organizational context is argued to facilitate the attainment of organizational ambidexterity across a single organizational entity by allowing each individual to optimally allocate his or her time between exploration and exploitation (Gibson & Birkinshaw, 2004). Specifically, *essay 1* examines how leadership behavior (more precisely: behavioral complexity of senior managers) affects organizational ambidexterity through the creation of such an ambidextrous organizational context.

The findings indicate that behavioral complexity of senior managers in SMEs foster organizational ambidexterity both directly and indirectly through the organizational context, while only an indirect effect can be observed in business units. *Essay 2* focuses on organizational relations (more precisely: informal and formal, internal and external connectedness) and analyzes how these relate to the organizational context and thereby contribute to organizational ambidexterity. The analyses reveal a moderated mediated relationship in which internal connectedness fosters organizational ambidexterity indirectly through the organizational context and formal external connectedness positively moderates this mediation effect. Regarding the challenges identified with regard to organizational structuring, *essay 3* investigates how compensatory structuring strategies (i.e. inconsistent combinations of centralization, formalization, and specialization) affect organizational ambidexterity. Its findings suggest that organizations can reconcile the opposing structuring demands of exploration and exploitation by making targeted inconsistent compensatory structuring choices. Additionally, this dissertation includes a *management report* aimed at conveying practical and actionable recommendations to management practice. These recommendations are based on simple statistical analysis translated into concrete measures which SMEs or business units can take to reconcile innovation and efficiency in their organizations.

### **Overview of Overarching Theoretical Contributions**

The following paragraphs aim at providing an overview of the overarching theoretical contributions of the dissertation as a whole focusing on its central theme and the two specific research gaps identified. For a more detailed discussion of each essay's individual contributions, please refer to the respective chapter of this dissertation.

#### **Contribution 1: Proposing and explaining three integrative mechanisms to reconcile exploration and exploitation within one organizational domain**

Contribution 1 aims at the central theme of this dissertation which is to enhance research's understanding of integrative approaches to organizational ambidexterity. Prior research acknowledges the benefits of such integrative approaches and they have shifted more and more into the focus of researchers (Jansen et al., 2012). Some scholars even suggest that reconciling exploration and exploitation within one single organizational entity might be a more sustainable model of ambidexterity than

structural separation (Gibson & Birkinshaw, 2004). Therefore it is important to create a better understanding of how organizations can integrate exploration and exploitation across their entire organizational domain.

This dissertation adds to this understanding by proposing and explaining three distinct integrative mechanisms which allow them to do so and in their combination describe how the organization as a whole needs to function to achieve ambidexterity. First, the leadership behavior of senior managers needs to be characterized by behavioral complexity. This ability to reconcile paradox and contradiction in their own task environment and translate them into their leadership behavior enables senior managers to integrate exploration and exploitation in their organizations. This can either be direct or indirect through the organizational context depending on the governance setting. Second, organizations should strive for dense internal and external relations. Dense internal relations foster an ambidextrous organizational context which in turn facilitates organizational ambidexterity. External relations, in contrast, reinforce the effect this organizational context has on organizational ambidexterity by injecting outside knowledge into the organization. To provide an adequate administrative frame within which the above described activities take place, the organizational structuring needs to be characterized by inconsistency. Specifically, organizations need to make compensatory structuring decisions combining mechanistic and organic structuring elements which compensate the shortcomings of each other and as a whole satisfy the structuring demands of both exploration and exploitation.

In other words, these three essays suggest that organizations striving for integrative approaches to ambidexterity should be characterized by inconsistent organizational structures in which behaviorally complex senior managers lead individuals who closely and frequently interact with each other and external actors. Overall, but more importantly through each of its essays, this dissertation therefore contributes to a better theoretical understanding of how organizations can reconcile exploration and exploitation within a single organizational domain.

### **Contribution 2: Exploring and explaining drivers and interdependencies of an ambidextrous organizational context**

Contribution 2 aims at the first research gap of this dissertation. In this dissertation contextual ambidexterity is for the first time not treated as an independent variable, but as a capability which can be actively fostered by organizations and which interacts

with other organizational mechanisms to facilitate ambidexterity. This is important, because although the merits of contextual ambidexterity have been much valued, research and practice lack an understanding of how to actively lay its foundations.

Regarding its drivers, we show that behavioral complexity of senior managers is positively related to an ambidextrous behavioral context. This is because behavioral complexity allows them to effectively surmount the paradox of exploration and exploitation in their behaviors, decisions, and actions (Denison et al., 1995) which, next to directly influencing individual behavior, frame the organizational context of an organization. Additionally, internal connectedness is identified as an important driver of an ambidextrous organizational context. We thus advance and contribute to a deeper theoretical understanding of how organizations can pro-actively foster an organizational context characterized by both performance and social elements to achieve organizational ambidexterity.

Furthermore, prior studies on ambidexterity so far have mostly conceptualized the antecedents of ambidexterity as alternative, independent paths to ambidexterity. ‘An in-depth analysis of these studies, however, reveals complementarities between the different paths to ambidexterity... Future research could formally develop and test propositions on how different antecedents interact and complement one another in a firm’s pursuit of organizational ambidexterity.’ (Raisch & Birkinshaw, 2008: 399). Answering this call, essay 1 shows that managerial and contextual antecedents of organizational ambidexterity are not alternatives, but may occur simultaneously and complement each other. Similarly, the findings of essay 2 show that internal and external relational and contextual antecedents of organizational ambidexterity interact and complement each other. These results point to the importance of more integrated models of ambidexterity which account for interdependencies, interactions, and complementarities between different organizational mechanisms in the pursuit of organizational ambidexterity (Raisch & Birkinshaw, 2008).

### **Contribution 3: Investigating the benefits of inconsistent organizational structuring to integrate exploration and exploitation**

Contribution 3 aims at the second research gap identified in this dissertation. Literature on organizational structuring usually differentiates between mechanistic and organic structures, in which the former facilitate exploration and the latter exploitation (Lavie et al., 2010). Accordingly, prior research has regarded structuring rather as a

mechanism to differentiate explorative and exploitative activities (e.g., Jansen et al., 2006; Tushman & O'Reilly, 1996) than as a means to reconcile their conflicting structuring demands. Organizations such as SMEs or business units, however, need to reconcile the conflicting structuring demands within a single organizational domain. Therefore it is important to understand, how organizational structuring can facilitate this reconciliation and foster organizational ambidexterity.

Adopting a holistic modular view on organizational structuring, essay 3 shows that compensatory structuring may integrate mechanistic and organic attributes of organizational structuring that in combination contribute to the achievement of organizational ambidexterity. This way the conflicting structuring demands of exploration and exploitation are reconciled across the three different dimensions of organizational structuring. By introducing this holistic modular perspective on organizational structuring into ambidexterity research and by propagating the beneficial effect of inconsistent structuring decisions, we thus extend prior research which has rather analyzed each dimension independent from the other two dimensions. Furthermore, this might help to replace the traditional, more simplistic generalizations prevailing in organizational theory (Bunderson & Boumgarden, 2010). Combining research on ambidexterity and organizational structure, these findings thus shed a new light on the effectiveness of structuring in organizations and might revive research on organizational structuring by applying a holistic perspective which accounts for and offers a solution to 'the paradox of administration' (Thompson, 1967).

However, also essay 2 contributes to the debate about optimal structures for ambidexterity. Specifically, it points to the importance of accounting for unofficial structures (i.e. informal networks) within organizations. These 'shadow organizations' may complement the official organization and, as essay 2 shows, may facilitate the reconciliation of exploration and exploitation. Thereby essay 2 adds to similar arguments of prior studies which have examined such complimentary effects of unofficial structures and to some extent have also related them to organizational ambidexterity (e.g., Gulati & Puranam, 2009). These findings encourage future research on the interaction of unofficial and official structures in a firm's pursuit of organizational ambidexterity.

## **Managerial Implications**

The firm landscape of almost all economies in the world is dominated by SMEs (Lubatkin et al., 2006). At the same time, however, SMEs contribute to over 99% of firm failures in economies such as the U.S. economy (Arend, 2006). The reason for this could be that SMEs are especially affected or even endangered by the exploration-exploitation trade-off (e.g., because they often rely on only one business area or model, are too small to cushion short-term downturns, or are bound by strong traditions). Similarly, all larger corporations are organized into more or less independent business units which usually are under close scrutiny of their corporation and compete for scarce internal resources with other business units. If they fail to perform or meet certain performance indicators, corporations often initiate severe restructuring programs which eventually can even lead to the divestment or shutdown of businesses.

Organizational ambidexterity, the reconciliation of exploration and exploitation, has been empirically shown to improve the performance and survival of organizations such as SMEs and business units (Raisch & Birkinshaw, 2008). Both SMEs and business units thus seem to greatly benefit from achieving ambidexterity. They both are, however, also particularly reliant on integrative approaches to ambidexterity as they usually lack the size, resources, and administrative systems required for structural separation (Lubatkin et al., 2006). Such integrative approaches, as explained earlier in this dissertation, often are complex and of theoretical nature. Translating the theoretical findings and results of our survey into concrete and tangible insights thus is of highest relevance to management practice. Accordingly, the management report included in this dissertation aims at providing management practice with viable and actionable recommendations on how to reconcile exploration and exploitation – or innovation and efficiency as it is called therein – within their organizations.

The importance of this topic is emphasized by the fact that roughly 90% of all participants rated innovation and efficiency as nearly equally important for their organizations. Still, not all of them were also actually able to achieve high levels of innovation and efficiency and a slight tendency towards efficiency-driven behavior could be observed over the last three years. Given the financial and economic uncertainties in the years 2009-2011 this is understandable. Nevertheless, those organizations which scored high on both innovation and efficiency over the last three

years actually were able to obtain higher performance ratings. In light of this empirically corroborated positive effect of an equally innovation- and efficiency-driven behavior, the recommendations included in the management report thus appear even more relevant. For details I kindly ask the reader to refer to the report itself which follows the same structure and logic as this dissertation. In the following I will briefly touch upon the managerial implication of each identified mechanism.

First, this dissertation shifts the concept of behavioral complexity and the underlying competing values framework into the focus of management practice and thereby provides management practice with a better grasp of what may be required from individual managers to lead their organizations to sustainable success. Paradox, contradiction, and complexity shape large parts of a manager's daily job and he or she needs to be aware, needs to recognize, and needs to be able to adequately respond to these underlying tensions. The concrete examples of the most effective leadership behaviors included in the management report are tangible illustrations of how such behavioral complexity could look like in practice. Coupled with the herewith created attention and awareness of the benefits of behaviorally complex leadership behaviors, this dissertation thus provides individual managers with practical and actionable measures to profitably grow their businesses.

Second, the impact of organizational relations (especially informal intra-firm networks) is often underestimated by senior managers. As the results show, however, organizational relations are important mechanisms in an organization's pursuit of ambidexterity and senior managers need to pay more attention to cultivating and making effective use of these networks. My dissertation points senior managers to this importance and makes them aware of the potential residing in the networks within and around their organizations. Our study, however, not only enhances their understanding and awareness of the effectiveness of their organization's social capital, but also provides them with very tangible measures to increase this social capital.

Finally, structuring choices (e.g., centralization efforts, increase of formalization of operations, etc.) often seem to be easy and straight-forward measures at the discretion of senior management, but employing them in a concerted, targeted, and balanced way does not go without saying. Especially the benefits of inconsistent compensatory structuring strategies are likely not to be part of senior managers' strategic agenda. The study provides management practice with empirical findings and concrete examples of how they can systematically employ seemingly inconsistent but highly beneficial



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organizational structuring mechanisms to ensure their organizations' long-term success.

Overall, this dissertation thus very concretely contributes to managerial practice in several ways. As the results of our survey are very intriguing and tangible, we are currently thinking of additional ways to make use of them. The data could be used, for example, for performing a contextual benchmarking process in which selected organizations (ideally SMEs or business units) complete an identical survey and are then compared to the most ambidextrous and successful organizations in our samples. In a next step, we could try to identify the items regarding which they fall short of or exceed the respective benchmarks. Lastly, we could make recommendations on the most critical measures they would need to take to potentially achieve best practice results. The viability and feasibility of this approach are currently being tested, but it might indeed be a fruitful extension of this dissertation.

## APPENDIX

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## Fragebogen

## "Nachhaltige Innovation und Effizienz im deutschen Mittelstand"

Was wird erforscht?	Was haben Sie davon?
<p>Wir erforschen <u>Unternehmenseigenschaften</u>, die gleichzeitig Wachstum durch Innovation und Profitabilität durch Effizienz fördern. Dazu untersuchen wir in dieser Studie:</p> <ul style="list-style-type: none"> <li>- Die Vereinbarkeit von <u>Innovation und Effizienz</u> in mittelständischen Unternehmen.</li> <li>- Die Bedeutung der <u>Unternehmenskultur</u> für die gleichzeitige Förderung dieser beiden Ziele.</li> <li>- Den Einfluss von <u>Führungs-, Struktur- und Netzwerkmechanismen</u> auf Unternehmenskultur.</li> </ul>	<p>Sie erhalten einen <u>praxisnahen Ergebnisbericht</u> mit konkreten Handlungsempfehlungen zum Aufbau einer auf langfristigen Erfolg ausgerichteten Unternehmenskultur durch:</p> <ul style="list-style-type: none"> <li>- Die Entwicklung nachhaltiger und effektiver <u>Führungssysteme</u>.</li> <li>- Die Nutzung <u>formeller und informeller Netzwerke</u> als langfristige Erfolgsfaktoren.</li> <li>- Den gezielten Einsatz von <u>strukturellen Maßnahmen</u> in Ihrem Unternehmen.</li> </ul>

Was ist beim Ausfüllen des Fragebogens zu beachten?
<ol style="list-style-type: none"> <li>1) Wir versichern Ihnen, dass alle Daten und Angaben <b>absolut anonym und streng vertraulich</b> behandelt, aufbereitet, analysiert und <b>ausschließlich für dieses Forschungsprojekt</b> verwendet werden.</li> <li>2) Dieser Fragebogen beansprucht <b>ca. 15 Minuten</b> Bearbeitungszeit.</li> <li>3) Bitte lassen Sie keine Frage aus - ein guter <b>Schätzwert ist wertvoller</b> als ein unvollständiger Fragebogen.</li> <li>4) Bitte beziehen Sie sich bei Ihren Antworten auf den Zeitraum der <b>letzten drei Jahre</b>.</li> <li>5) Sie können den Fragebogen <b>direkt hier im PDF-Formular oder schriftlich</b> ausfüllen und uns per Email, Post oder Fax zukommen lassen (s. Hinweise auf der letzten Seite des PDF-Formulars).</li> </ol> <p><b>Wir sind auf Ihre Erfahrungen und Einblicke angewiesen und danken Ihnen ganz herzlich für Ihren Beitrag zu unserem Forschungsprojekt!</b></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">   <b>Martin Jäckel</b> </div> <div style="text-align: center;">   <b>Prof. Dr. Alexander Zimmermann</b> </div> <div style="text-align: center;">   <b>Prof. Dr. Peter Gomez</b> </div> </div>

Wer sind wir?		
		
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0754446606



**Teil A: Innovation und Effizienz im Unternehmen**

Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu?

**1. Wie wichtig sind Innovation und Effizienz für Ihr Unternehmen?**

Nur Innovation ist wichtig ← Gleich wichtig → Nur Effizienz ist wichtig

Innovation vs. Effizienz   

**2. In den letzten drei Jahren hat unser Unternehmen...**

Stimme überhaupt nicht zu ← → Stimme voll zu

2.1 ...danach gestrebt, die Kosten zu senken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.2 ...die Kundenzufriedenheit im Auge behalten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.3 ...die Zuverlässigkeit seiner Produkte / Services verbessert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.4 ...den Automatisierungsgrad in betrieblichen Prozessen gesteigert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.5 ...das Produkt- / Serviceangebot so angepasst, dass bestehende Kunden zufrieden gestellt wurden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.6 ...auf eine stärkere Durchdringung des bestehenden Kundensegments abgezielt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**3. In den letzten drei Jahren hat unser Unternehmen...**

Stimme überhaupt nicht zu ← → Stimme voll zu

3.1 ...nach neuartigen Ideen gesucht und dabei auch mal "um die Ecke" gedacht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.2 ...seinen Erfolg vor allem seiner Innovationskraft zu verdanken	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.3 ...neue innovative Produkte / Services auf den Markt gebracht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.4 ...Kunden auf kreative Art und Weise zufrieden gestellt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.5 ...aktiv neue Märkte / Marktsegmente erschlossen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.6 ...aktiv neue Kundengruppen bearbeitet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**4. In den letzten drei Jahren haben die Managementsysteme (Zielsetzungs-, Steuerungs- und Kontrollmechanismen) unseres Unternehmens...**

Stimme überhaupt nicht zu ← → Stimme voll zu

4.1 ...konsistent die übergeordneten Unternehmensziele unterstützt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.2 ...zur Verschwendung von Ressourcen geführt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.3 ...widersprüchliche Ziele vorgegeben	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.4 ...dazu ermutigt, überholte und veraltete Traditionen anzuzweifeln	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.5 ...schnelle Reaktionen auf Marktveränderungen erlaubt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.6 ...sich schnell an strategische Veränderungen angepasst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Institut für Betriebswirtschaft



Universität St. Gallen

Center for  
Organizational Excellence**Teil B: Unternehmenskultur, -netzwerk und -struktur****Wie sehr stimmen Sie folgenden Aussagen über Ihr Unternehmen zu?****1. In den letzten drei Jahren...**

	Stimme überhaupt nicht zu	←	→	Stimme voll zu
1.1 ...wurden Mitarbeitern aggressive und herausfordernde Ziele gesetzt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.2 ...wurden Mitarbeitern kreative anstatt eng definierte Aufgaben übertragen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.3 ...konnten sich Mitarbeiter auf die optimale Erledigung ihrer eigentlichen Aufgaben konzentrieren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.4 ...gingen Mitarbeiter an oder über ihre Grenzen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.5 ...wurden Mitarbeiter auf Basis rigoroser und gerechter Erfolgsmessungen belohnt aber auch abgemahnt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.6 ...übernahmen Mitarbeiter die Verantwortung für ihre Leistung	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.7 ...konnten Mitarbeiter auf Basis von Feedback (z.B. in Personalgesprächen und -beurteilungen) ihre Leistungen verbessern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**2. In den letzten drei Jahren...**

	Stimme überhaupt nicht zu	←	→	Stimme voll zu
2.1 ...investierten Führungskräfte viel Aufwand und Bemühungen in die Mitarbeiterentwicklung	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.2 ...wurde Mitarbeitern genügend Autorität und Freiraum gegeben, um ihre Arbeit optimal erledigen zu können	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.3 ...wurden Entscheidungen auf der untersten, angemessenen Hierarchieebene getroffen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.4 ...gaben Mitarbeiter sich gegenseitig bereitwillig Zugriff auf benötigte Informationen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.5 ...arbeiteten Mitarbeiter gemeinsam darauf hin, die übergeordnete Vision des Unternehmens umzusetzen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.6 ...wurden Entscheidungen auf Basis objektiver Tatsachen und nicht auf Basis subjektiver oder politischer Interessen gefällt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.7 ...wurde aus (wohlgemeinten) Fehlern gelernt, anstatt sich für sie zu schämen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.8 ...waren Mitarbeiter willens und fähig, umsichtig gewisse Risiken einzugehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.9 ...wurden Mitarbeitern realistische Ziele gesetzt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**3. In den letzten drei Jahren...**

	Stimme überhaupt nicht zu	←	→	Stimme voll zu
3.1 ...gab es Möglichkeiten für informellen "Flurfunk" unter Mitarbeitern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.2 ...haben Mitarbeiter nicht gezögert, wenn notwendig, Kollegen um Hilfe und Unterstützung zu bitten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.3 ...sahen es Führungskräfte ungerne, wenn Mitarbeiter arbeitsbezogene Angelegenheiten mit anderen als direkten Vorgesetzten besprachen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.4 ...gingen Mitarbeiter umgänglich miteinander um	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.5 ...war die Kommunikation zwischen Mitarbeitern jedweder Position, Funktion oder Hierarchieebene unkompliziert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.6 ...gingen Mitarbeiter auf informelle Veranstaltungen unserer Partnerunternehmen, Kunden, Lieferanten oder Wettbewerber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.7 ...existierte ein informelles Netzwerk zwischen unseren Mitarbeitern und Mitarbeitern unserer Kunden, Lieferanten und Wettbewerber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.8 ...hatte unser Unternehmen über bestimmte Mitarbeiter Kontakt mit Mitarbeitern unserer Kunden, Lieferanten oder Wettbewerber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.9 ...haben sich Mitarbeiter zur Erfüllung Ihrer Aufgaben mit externen Kontaktpersonen oder Geschäftspartnern ausgetauscht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## 4. In den letzten drei Jahren...

	Stimme überhaupt nicht zu	←	→	Stimme voll zu
4.1 ...wurde Mitarbeitern eine regelmäßige Arbeitsplatzrotation / ein innerbetrieblicher Arbeitsplatzwechsel angeboten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.2 ...gab es Gespräche über Möglichkeiten zur Zusammenarbeit zwischen unterschiedlichen Mitarbeitern und / oder Funktionen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.3 ...wurde der interne Wissensaustausch und -transfer durch ein internes Wissensnetzwerk geregelt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.4 ...gab es langfristig stabile, funktionsübergreifende Teams über die Wissen zwischen verschiedenen Funktionen / Bereichen ausgetauscht wurde	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.5 ...wurden für die Zusammenarbeit verschiedener Funktionen, Bereiche oder Mitarbeiter projektbezogene, zeitlich befristete Arbeitsgruppen gebildet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.6 ...wurden unsere Mitarbeiter im Rahmen von Kooperationen oder Partnerschaften in andere Firmen entsandt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.7 ...gab es Gespräche mit anderen Firmen über Möglichkeiten zur Zusammenarbeit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.8 ...war unser Unternehmen Teil eines formellen Netzwerks, welches u.a. den Wissensaustausch mit Partnerunternehmen unterstützte (z.B. ein Verband)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.9 ...gab es langfristig stabile Teams mit Mitarbeitern anderer Firmen, in denen an firmenübergreifenden Fragestellungen gearbeitet wurde	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.10 ...wurden für die Zusammenarbeit mit anderen Firmen projektbezogene, zeitlich befristete Arbeitsgruppen mit Mitarbeitern anderer Firmen gebildet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 5. In den letzten drei Jahren...

	Stimme überhaupt nicht zu	←	→	Stimme voll zu
5.1 ...gab es schriftliche Anweisungen und Vorgaben für die Handhabung aller Situationen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.2 ...nahmen Richtlinien und Regeln einen zentralen Platz im Unternehmen ein	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.3 ...wurden die Leistungen der Mitarbeiter schriftlich festgehalten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.4 ...wurde überprüft, ob Mitarbeiter Anweisungen und Regeln auch Folge leisteten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.5 ...waren für alle Positionen schriftliche Stellenbeschreibungen vorhanden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.6 ...erforderten Maßnahmen immer die Zustimmung von Vorgesetzten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.7 ...wurden Mitarbeiter dazu ermutigt, eigenständige Entscheidungen zu treffen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.8 ...mussten auch Kleinigkeiten von Vorgesetzten entschieden werden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.9 ...mussten Mitarbeiter einzelne Arbeitsschritte mit ihren Vorgesetzten abstimmen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.10 ...erforderten alle Entscheidungen die Genehmigung durch Vorgesetzte	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 6. In den letzten drei Jahren...

	Stimme überhaupt nicht zu	←	→	Stimme voll zu
6.1 ...wurden die verschiedenen Funktionsbereiche im Unternehmen (z.B. Marketing, Controlling, Buchhaltung, Logistik, usw.) von spezialisierten Mitarbeitern wahrgenommen, die diesem Funktionsbereich auch fest zugeordnet waren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.2 ...gab es für alle Funktionen / Aufgaben standardisierte Trainingsabläufe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.3 ...waren die Mitarbeiter unseres Unternehmens für sehr spezifische Arbeitsabläufe zuständig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.4 ...übten die Mitarbeiter unseres Unternehmens Tätigkeiten aus, die spezifisches Fachwissen voraussetzen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.5 ...waren Arbeitsabläufe spezialisierter Fachkräfte in schriftlichen Tätigkeitsbeschreibungen festgehalten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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### Teil C: Führungssysteme

Wie sehr stimmen Sie folgenden Aussagen zu?

#### 1. Bezogen auf die letzten drei Jahre lässt sich die Geschäftsführung unseres Unternehmens wie folgt beschreiben:

	Stimme überhaupt nicht zu											Stimme voll zu
1.1 Ermutigte zu partizipativen / gemeinsamen Entscheidungsprozessen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.2 Legte Wert auf die Meinung der Mitarbeiter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.3 Schaffte ein offenes Klima für Diskussionen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.4 Förderte aktiv die berufliche Entwicklung der Mitarbeiter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.5 Achtete darauf, dass Mitarbeiter einen internen Karriereplan hatten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.6 Betreute Mitarbeiter bei Fragen zu ihrer beruflichen Entwicklung	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.7 Erkannte den Punkt, ab dem Mitarbeiter überlastet waren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.8 Ermutigte Mitarbeiter zu einer gesunden "Work / Life Balance"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.9 Zeigte Einfühlungsvermögen und Interesse im Umgang mit Mitarbeitern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 2. Bezogen auf die letzten drei Jahre lässt sich die Geschäftsführung unseres Unternehmens wie folgt beschreiben:

	Stimme überhaupt nicht zu											Stimme voll zu
2.1 Achtete darauf, dass unternehmerische Abläufe verstanden wurden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.2 Stellte sicher, dass allgemeine Unternehmensrichtlinien allen bekannt waren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.3 Stellte sicher, dass die formellen Vorschriften allen klar waren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.4 Betonte die Notwendigkeit von Genauigkeit und Präzision bei der Arbeit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.5 Erwartete, dass Mitarbeiter ihre Arbeit bis ins letzte Detail richtig machten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.6 Legte großen Wert auf fehlerfreie Arbeit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.7 Überprüfte streng und akribisch alle betrieblichen Abläufe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.8 Strebte danach, stets den Überblick über betriebliche Abläufe zu behalten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.9 Konnte betriebliche Abläufe präzise und in die gewünschte Richtung steuern	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 3. Bezogen auf die letzten drei Jahre lässt sich die Geschäftsführung unseres Unternehmens wie folgt beschreiben:

	Stimme überhaupt nicht zu											Stimme voll zu
3.1 Traf sich mit Kunden, um deren Bedürfnisse zu diskutieren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.2 Erkannte sich ändernde Kundenbedürfnisse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.3 Ahnte die Kundenbedürfnisse der Zukunft voraus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.4 Initiierte gewagte Projekte	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.5 Stieß ehrgeizige und anspruchsvolle Programme / Initiativen an	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.6 Brachte, wenn nötig, neuen Schwung und Veränderung ins Unternehmen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.7 Inspirierte Mitarbeiter dazu, kreativ zu sein	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.8 Ermutigte Mitarbeiter dazu, neue Dinge auszuprobieren	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.9 Hielt Mitarbeiter aktiv dazu an, über traditionelle Verhaltensmuster hinaus zu gehen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 4. Bezogen auf die letzten drei Jahre lässt sich die Geschäftsführung unseres Unternehmens wie folgt beschreiben:

	Stimme überhaupt nicht zu											Stimme voll zu
4.1 Betonte die Notwendigkeit von Wettbewerb mit anderen Unternehmen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.2 Behielt stets den Wettbewerb bzw. das Verhalten der Wettbewerber im Blick	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.3 Verlangte, dass das Unternehmen sich gegen Wettbewerber durchsetzte	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.4 Stellte die Arbeit stets an erste Stelle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.5 Lebte einen intensiven Arbeitsaufwand und ein hohes Arbeitspensum vor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.6 Zeigte vollen Einsatz und Engagement bei der Arbeit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.7 Sorgte dafür, dass Aufgaben im Unternehmen zügig erledigt wurden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.8 Sorgte dafür, dass die Unternehmensziele schnell erreicht wurden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.9 Reagierte schnell auf aufkommende Probleme	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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## Teil D: Allgemeine Fragen

Zuletzt würden wir Ihnen gerne einige allgemeine Fragen über Ihr Unternehmen und Sie selbst stellen.

## 1. Allgemeine Informationen zum Unternehmen

- 1.1 Wieviele Mitarbeiter beschäftigte Ihr Unternehmen im Durchschnitt über die letzten drei Jahre? *[eine ungefähre Zahl ist ausreichend]* ca.    Mitarbeiter
- 1.2 Wie lange besteht Ihr Unternehmen in der jetzigen Form (Geschäftsfeld und -zweck)? ca.   Jahr(e)
- 1.3 Aus wie vielen eigenständigen Geschäftseinheiten besteht Ihr Unternehmen?   Einheit(en)
- 1.4 Würden Sie Ihr Unternehmen als "Familienunternehmen" bezeichnen (d.h. mehr als 50% der Unternehmensanteile sind im Besitz von max. zwei Familien und Familienangehörige gehören der Geschäftsführung an)?  Familienunternehmen  
 Kein Familienunternehmen
- 1.5 Ist das Geschäft Ihres Unternehmens eher auf private Endkunden (B2C) oder geschäftliche Firmenkunden (B2B) ausgerichtet?  Auf private Endkunden (B2C)  
 Auf geschäftliche Firmenkunden (B2B)
- 1.6 Wie würden Sie die Wettbewerbsdynamik und -intensität im Umfeld Ihres Unternehmens in den letzten drei Jahren beschreiben?
- Stimme überhaupt nicht zu ←————→ Stimme voll zu
- Veränderungen im Unternehmensumfeld waren stark?
- Veränderungen im Unternehmensumfeld waren häufig?
- 1.7 Wie hat Ihr Unternehmen im Vergleich zu seinen Hauptwettbewerbern in den letzten drei Jahren in Bezug auf folgende Kriterien abgeschnitten?
- Viel schlechter ←———— Gleich —————→ Viel besser
- Umsatzwachstum
- Wachstum der Kundenbasis
- Gewinn
- Umsatzrendite
- Allgemeiner Unternehmenserfolg

## 2. Allgemeine Informationen zu Ihrer Person

- 2.1 Wie alt sind Sie?    Jahre
- 2.2 Auf welcher Hierarchieebene befinden Sie sich in Ihrem Unternehmen?
- Geschäftsführung / Vorstand
- 1 Ebene unter der Geschäftsführung
- 2 Ebenen unter der Geschäftsführung
- 3 Ebenen unter der Geschäftsführung
- Andere:
- 2.3 Welchem Funktionsbereich würden Sie Ihre Tätigkeit im Unternehmen zuordnen? *[Mehrfachnennungen sind möglich]*
- Allgemeines Management  Forschung & Entwicklung  Produktion
- Finanzen & Controlling  Einkauf  Marketing & Vertrieb
- Personalwesen  Logistik  Kundenservice
- Andere:
- 2.4 Wie lange sind Sie bereits in Ihrem Unternehmen tätig? Wieviele Jahre davon in Ihrer derzeitigen Position und Funktion?
- Jahr(e) Mitglied des Unternehmens, davon ca.    Jahr(e) in der derzeitigen Position und Funktion
- 2.5 Was für eine Ausbildung haben Sie? *[Mehrfachnennungen sind möglich]* Andere:
- Keine  Berufsausbildung  Hochschulabschluss  Doktor-/Professortitel

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## Vielen Dank für Ihre Teilnahme!

### Zweiter Ansprechpartner

Um unsere Datenbasis noch aussagekräftiger zu machen, wäre es für uns sehr wichtig, wenn eine weitere Person aus Ihrem Unternehmen (wenn möglich eine Führungskraft mit operativer Verantwortung ein bis zwei Hierarchieebenen unter Ihnen) ebenfalls diesen Fragebogen ausfüllen könnte.

Wir wären Ihnen daher sehr dankbar, wenn Sie uns einen zweiten Ansprechpartner aus Ihrem Unternehmen nennen und uns ihre / seine Emailadresse mitteilen würden - Ihre Antworten bleiben selbstverständlich vertraulich und werden nicht weitergeleitet!

Vor- und Nachname des zweiten Ansprechpartners:

Emailadresse des zweiten Ansprechpartners:

### Praxisnaher Ergebnisbericht

- Ja, bitte schicken Sie mir den Ergebnisbericht zu (bitte tragen Sie unten Ihre Kontaktdaten ein)
- Nein, ich bin nicht am Ergebnisbericht interessiert

Firmenname:

Ihr Vor- und Nachname:

Ihre Emailadresse:

### Feedback und Erläuterungen

Bitte lassen Sie uns Kritik und Verbesserungsvorschläge, aber auch Lob und Erläuterungen zu diesem Fragebogen gerne auf diesem Wege zukommen:

Bitte hier klicken:

Sollten Sie diesen Fragebogen **schriftlich** ausgefüllt haben, können Sie ihn uns entweder per Fax oder per Post zukommen lassen:

Fax - faxen Sie den ausgefüllten Fragebogen an:

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