Assessing Organizational Culture and Investigating its Link to Organizational Effectiveness

Culture eats strategy for breakfast.

Peter Drucker

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Abstract

Organizational culture is widely acknowledged to be a driver of organizational effectiveness. However, existing empirical research tends to focus on investigating the links between individual, isolated culture dimensions and effectiveness outcomes. This approach is at odds with the theoretical roots of organizational culture and does not do justice to the complex reality that most organizations face. This issue is addressed by this dissertation, which is comprised of four studies.

Study 1 investigated the psychometric quality and cultural equivalence of three culture measures in a German context, based on a sample of 172 employees in a bank. The results suggested that the German versions of the Denison Organizational Culture Survey and the Organizational Culture Profile performed satisfactorily, while results regarding the GLOBE survey fell short of expectations. The study contributes to facilitating cross-cultural research on organizational culture by providing evidence on instruments that can be applied in international settings, which is an important prerequisite for investigating relationships between culture and effectiveness in an increasingly globalized economy.

Study 2 reviewed the literature on the link between culture and effectiveness with a focus on studies that treat organizational culture as a holistic phenomenon. The review yielded four kinds of holistic approaches (aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based). For each approach, main findings, theoretical foundations, and specific avenues for future research are provided.

Study 3 investigated how a change in organizational culture induced by an M&A project impacts employee commitment. Based on a sample of 180 employees in a German organization, the findings suggest that individuals perceive cultural change differently, that cultural stability is positively related to employee commitment, and that group-level leader-member exchange and individual self-efficacy moderate this relationship. The study thus contributes to the literature by enabling a better understanding of how cultural change affects employee-related effectiveness factors and by illuminating important contextual factors at the group and the individual level.

Study 4 introduced a new theoretical perspective (set theory) and a novel methodology (fuzzy set qualitative comparative analysis) to the field of organizational culture. Across two samples (1170 employees in a financial service provider and 998 employees in fashion retailer), results indicated that culture dimensions do not operate in isolation, but jointly work together in achieving different effectiveness outcomes. The study offers new theoretical and methodological impulses for investigating the culture-effectiveness link.

In sum, this dissertation contributes to the literature by providing novel insights that can help researchers to analyze the relationship between organizational culture and effectiveness in a manner that acknowledges both the complexities of organizational reality and of organizational culture's theoretical roots. Theoretical and practical implications are discussed, and promising directions for future research are identified.

Zusammenfassung

Der Zusammenhang zwischen Unternehmenskultur und Unternehmenserfolg ist weithin anerkannt. Empirische Studien beschränken sich jedoch zumeist auf die Erforschung einzelner Kulturdimensionen. Dieser Ansatz steht im Kontrast zu den theoretischen Wurzeln des Konstrukts Unternehmenskultur und scheint der komplexen Realität, mit der die meisten Unternehmen heutzutage konfrontiert sind, nicht gerecht zu werden. Diesem Problemfeld widmet sich die vorliegende Dissertation, welche aus vier Studien besteht.

Studie 1 untersuchte die psychometrische Qualität und die kulturelle Äquivalenz von drei Instrumenten zur Unternehmenskulturmessung anhand einer Stichprobe von 172 Mitarbeitern einer deutschen Bank. Die Ergebnisse für die deutschen Versionen des Denison Organizational Culture Survey und des Organizational Culture Profile waren zufriedenstellend, während die Resultate für den GLOBE-Fragebogen nicht die Erwartungen erfüllten. Die Studie erleichtert globale Unternehmenskulturforschung, indem sie Erkenntnisse über international einsetzbare Instrumente liefert. Dies ist eine wichtige Voraussetzung, um Verbindungen zwischen Unternehmenskultur und -erfolg in einer zunehmend globalisierten Wirtschaft zu untersuchen.

Studie 2 konzentrierte sich auf den Review von Studien, welche den Zusammenhang zwischen Unternehmenskultur und Unternehmenserfolg anhand von ganzheitlichen Ansätzen untersucht haben. Es wurden vier Arten von ganzheitlichen Ansätzen identifiziert (aggregationsbasiert, übereinstimmungsbasiert, moderations- oder mediationsbasiert, und konfigurationsbasiert). Für alle vier Ansätze werden wesentliche Befunde, theoretische Grundlagen und konkrete Ansätze für die zukünftige Forschung aufgezeigt.

Studie 3 untersuchte, inwiefern eine Veränderung der Unternehmenskultur im Rahmen eines M&A-Projekts das Mitarbeiterengagement beeinflusst. Anhand einer Stichprobe von 180 Mitarbeitern zeigte sich, dass Individuen Kulturveränderung unterschiedlich wahrnehmen, dass kulturelle Stabilität das Engagement positiv beeinflusst und dass Leader-Member-Exchange und Selbstwirksamkeit diese Beziehung moderieren. Die Studie ermöglicht ein besseres Verständnis davon, wie Kulturveränderungen mitarbeiterbezogene Erfolgsfaktoren beeinflussen und welche Rolle Kontextfaktoren auf Gruppen- und Mitarbeiterebene dabei spielen.

Study 4 führt eine neue theoretische Perspektive (set theory) und eine neue Methodik (fuzzy set qualitative comparative analysis) in das Feld der Unternehmenskulturforschung ein. Die Studienergebnisse basieren auf zwei Stichproben aus zwei Unternehmen (1170 Mitarbeiter / 998 Mitarbeiter) und zeigen, dass Kulturdimensionen sich nicht isoliert, sondern in komplexen Konfigurationen auf Erfolgsfaktoren auswirken. Die Studie bietet neue theoretische und methodische Impulse für die Erforschung des Zusammenhangs zwischen Unternehmenskultur und Unternehmenserfolg.

Insgesamt erweitert die Dissertation die bestehende Literatur, indem sie neue Erkenntnisse beiträgt, die Forschern helfen können, die Verbindung zwischen Unternehmenskultur und -erfolg in einer Weise zu untersuchen, die der Komplexität Rechnung trägt, welche sowohl die organisationale Realität als auch die theoretische Basis des Konstrukts Unternehmenskultur kennzeichnet. Abschließend werden theoretische und praktische Implikationen der Ergebnisse diskutiert und künftige Forschungsrichtungen abgeleitet.

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1. General Introduction

1.1 Theoretical Foundations of Organizational Culture

Organizational culture has its theoretical roots in anthropological research. As early as in the 1950s and 1960s, scholars adopted the concept of culture from anthropology and analyzed how it can provide a context for the understanding of the behavior of individuals and groups within organizations (e.g., Bennis, 1969; Crozier, 1964; Dalton, 1959; Jaques, 1951; Parsons, 1951). However, it was not until the early 1980s that organizational culture attracted the attention of organizational psychologists, following the seminal discourse by Pettigrew (1979), who is widely credited for introducing the construct to organizational studies (Schneider, Ehrhart, & Macey, 2013). He integrated insights from sociology and anthropology to spur interest in culture as an integral feature of organizational behavior and outlined how the concepts of beliefs, ideology, language, ritual, and myth could be applied to the study of organizations (Alvesson & Berg, 1992; Hartnell, Ou, & Kinicki, 2011). Since then, the number of publications dealing with organizational culture has jumped up substantially. Hartnell and colleagues (2011) counted more than 4,600 articles that have examined the topic of organizational culture since 1980, and the field is expected to grow even further in the future (Sackmann, 2011; Schneider et al., 2013).

However, this large body of research did not yield a universally accepted understanding of the construct of organizational culture, although there are some cornerstones that the large majority of scholars can agree on. These include the conceptualization of organizational culture as a complex phenomenon that is shared among organizational members (Glisson & James, 2002; Trice & Beyer, 1993), manifests itself at different organizational levels (Detert, Schroeder, & Mauriel, 2000; Schein, 2010), can be split up in

various subcultures (Adkins & Caldwell, 2004; Martin, 2002), influences employees' attitudes and behaviors (Ostroff, Kinicki, & Muhamad, 2013; Smircich, 1983), and consists of a complex bundle of collective values, beliefs, and assumptions (Detert et al., 2000; Schein, 2010). Edgar Schein provided a definition of organizational culture that summarizes these commonly assumed features and is frequently cited in the literature. According to this definition, organizational culture is "…the set of shared, taken-for-granted implicit assumptions that a group holds and that determines how it perceives, thinks about and reacts to its various environments" (Schein, 1996, p. 236).

1.1.1 The Organizational Culture Frameworks by Schein and Martin

Schein (1985; 2010) also provided the most commonly referred to framework regarding the different levels at which organizational culture unfolds. It conceives organizational culture as a three-layered construct, consisting of observable artifacts, espoused values, and underlying assumptions. Observable artifacts represent the outer layer of culture and include dress codes, language, rituals, myths, and stories. They are the most readily accessible but also the most ambiguous in terms of the underlying meaning they may represent. Although many artifacts may look the same across organizations, the meanings ascribed to them may be quite different. At the medium level, espoused values and norms are located. These are endorsed by the organization's management as core to the organization. While these values can provide security and guidance for employees regarding how to deal with unexpected or challenging events, they may or may not reflect the actual organizational reality (Schneider et al., 2013). The third level consists of the underlying assumptions of organizational life. They are largely unobservable and reside at the core of organizational culture. Assumptions emerge from values that are consistently confirmed and thus become deeply rooted in the organization over time. They are usually so ingrained that they are rarely

confronted or debated and cannot be easily articulated. Challenging these basic assumptions produces anxiety and defensiveness among organizational members because they provide security through their ability to define what employees should pay attention to, how to react emotionally, and what actions to take in various kinds of situations (Ostroff et al., 2013; Schein, 2010). Schein (2010) emphasized that these three cultural layers overlap and influence each other, thus resulting in the multifaceted and complex construct that is organizational culture.

Another influential framework that also highlights the complexity of organizational culture and is frequently drawn on for theoretical discussions was provided by Martin (1992, 2002). Similar to Schein, Martin suggests three lenses through which organizational culture can be studied: the integrationist perspective, the fragmented perspective, and the differentiated perspective. While Schein's framework focuses on how deeply values, beliefs, and assumptions are anchored within the organization, Martin's framework is centered on the question to which degree cultural values are shared by organizational members. The integrationist perspective emphasizes that there is one overarching culture that is shared by all organizational members. Cultural conflicts and differences are either ignored or seen as undesirable aberrations that need to be "fixed". The fragmented perspective, in contrast, focuses specifically on cultural ambiguity and even contradictoriness. It explicitly denies the necessity for a culture that is shared by all organizational members, arguing that it is unlikely that employees at different levels, in different departments, and with different personalities would have the same experiences and attach the same meaning to the organization's cultural values. The differentiation perspective combines the integrationist and the fragmented view. It acknowledges that organizations have numerous subcultures that represent the shared values and assumptions of a focal unit, such as a team or department (Schneider et al., 2013). Martin herself (2002) as well as recent reviews (e.g., Ostroff et al., 2013; Schneider et al.,

2013) have advocated for applying comprehensive approaches for studying culture in which all three perspectives are reflected, thus accounting for the complexity that is inherent in the concept of organizational culture.

1.1.2 The Distinction between Organizational Culture and Climate

A description of the theoretical foundations of organizational culture would be incomplete without briefly illuminating its relationship to organizational climate and addressing the question of whether the constructs of culture and climate are different, the same, or interrelated – an issue to which a great deal of attention has been devoted in the past (e.g., Denison, 1996; Payne, 2000; Schein, 2000). Organizational climate and organizational culture are two alternative constructs for conceptualizing the way people experience and describe their work settings. They both focus on how organizational members make sense of their environment and are fundamental building blocks for describing and analyzing organizational phenomena (Schein, 2000).

However, in contrast to organizational culture research, climate studies typically place greater emphasis on practices and procedures that are closer to the "surface" of organizational life. Thus, climate is often considered as largely limited to those aspects of the social environment that are consciously perceived by organizational members (Denison, 1996; James & Jones, 1974). It is more subjective and “immediate” than culture, since individuals can sense the climate upon entering an organization via aspects such as the physical look of the place, the behaviors and attitudes exhibited by employees, and the treatment of visitors and new organizational members. In this sense, organizational climate is closely related to the “observable artifacts” that were described by Schein (2010) as the outmost layer of organizational culture (see above). It can thus be argued that artifacts are the overlapping area between climate as subjective perceptions of practices (i.e., experiential descriptions of *what*

happens) and culture as deep-rooted assumptions and values that help to explain *why* these things happen. In other words, organizational culture is expected to align with and relate to structure, practices, policies, and routines in the organization that in turn provide the context for climate perceptions (Ostroff et al., 2013). Thus, culture and climate are nowadays seen by most scholars as two complementary, yet distinct constructs since they reveal overlapping but distinguishable nuances in the psychological life of organizations (Denison, 1996; Ostroff et al., 2013; Schneider et al., 2013).

1.2 The Relationship between Organizational Culture and Organizational Effectiveness

Above, I provided a definition by Edgar Schein that is frequently drawn on to describe organizational culture and highlighted the influence of Schein's work for the field. Another definition by Schein, which is also cited very frequently in the literature, refers to organizational culture as

"a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid, and, therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 2010, p. 18).

Looked at more closely, this definition quickly reveals why it is tempting to assume a relationship between organizational culture and effectiveness outcomes. After all, Schein's definition implies that culture functions as a behavioral compass, a guide book that tells the members of an organization how to cope with challenges and overcome obstacles in the organization's best interest. In fact, the link between organizational culture and effectiveness was in the center of the considerable attention that the concept of organizational culture received in the 1980s. The growing interest in organizational culture in general and its

relationship to organizational effectiveness in particular was driven by two main insights. First, the number of multinational companies increased significantly at that time due to the advent of globalization. In the light of different national cultures, differences between organizations regarding business practices and underlying cultural values and assumptions became obvious as well, which is why knowledge about national and organizational cultures was increasingly regarded as an important success factor of organizations. Second, the enormous success of Japanese competitors around that time became a serious threat for US-American companies and led to detailed investigations of Japanese business practices, such as total quality management. Attempts to establish these methods in western organizations, however, mostly failed, and the ill success was generally attributed to the incompatibility of (US-American) organizational cultures with the Japanese practices (Flamholtz & Randle, 2011; Heskett, 2011).

Against this backdrop, several bestselling management books – most notably "*Theory Z: How American business can meet the Japanese challenge*" (Ouchi, 1981), "*Corporate cultures: The rites and rituals of corporate life*" (Deal & Kennedy, 1982), and "*In search of excellence*" (Peters & Waterman, 1982) – made a strong case for the existence of a link between organizational culture and organizational effectiveness. The presented evidence, however, was anecdotal rather than empirical and the hopes of managers to rely on organizational culture as a source of competitive advantage were, at that time, "…based on a rather superficial understanding of the concept…and some unfounded beliefs regarding its effects on performance" (Sackmann, 2011, p. 188).

In fact, academic scholars gave little attention around that time to empirically investigating the relationship between organizational culture and effectiveness. Instead, researchers were concerned with developing organizational culture's theoretical boundaries and advanced the organizational culture literature by illuminating how culture is created,

maintained, and disseminated (Hartnell et al., 2011). For a long time, reviews that did investigate the then scarce findings on relationships between culture and effectiveness (e.g. Lim, 1995; Ostroff, Kinicki & Tamkins, 2003; Siehl & Martin, 1990; Wilderom, Glunk & Maslowski, 2000) were rather skeptical regarding the existence of the culture-effectiveness link and criticized the then-existing studies for numerous deficiencies, including insufficient theoretical development, a lack of longitudinal research designs, invalidated ad-hoc measures of culture, a narrow concentration on financial performance criteria (and problems to measure them), sampling issues, and a failure to examine potential moderators. In summary, Ostroff et al. (2003, p. 232) stated that "…empirical evidence does not support the idea that culture supports performance".

However, this conclusion now seems premature, since the concept of organizational culture has been further refined in terms of a general understanding of its major characteristics, and research methodologies have improved in rigor (Sackmann, 2011). Since 2000, an increasing number of researchers have tested hypotheses that they derived from sound theoretical considerations, prior research, and existing frameworks. In sum, the results show consistent significant findings regarding the existence of a relationship between organizational culture and effectiveness (Schneider et al., 2013). Collectively, the numerous studies that were published in the last 15 to 20 years have drawn a "…rather diverse and eclectic picture of the link between culture and effectiveness..." (Sackmann, 2011, p. 216), spanning a large variety of effectiveness outcomes that have been shown to be related to organizational culture. These outcomes range from traditional criteria of financial performance such as sales growth or return on investment (e.g., Gregory, Armenakis, Harris, & Shook, 2009; Koufteros, Nahm, Cheng, & Lai, 2007), to operational effectiveness criteria such as process efficiency or product quality (e.g., Naranjo Valencia, Sanz Valle, & Jimenez Jimenez, 2010; Sarros, Cooper, & Santora, 2008) to employee-related criteria such as job

satisfaction and job commitment (e.g. Berson, Oreg, & Dvir, 2008; Fey & Denison, 2003). Skepticism regarding the existence of the culture-effectiveness link could be further reduced by a meta-analysis by Hartnell et al. (2011), which yielded 25 positive correlations (with 23 of them being significant) between organizational culture and effectiveness outcomes. Moreover, a recent longitudinal study by Boyce, Nieminen, Gillespie, Ryan, and Denison (2015) suggested that it is in fact organizational culture that impacts organizational effectiveness, and not vice versa.

1.3 Research on the Culture-Effectiveness Link – Current Issues and Aims of the Dissertation

Organizations are complex entities that face complex challenges. They need to react to ever-changing external demands which include newly emerging markets and competitors (e.g., London & Hart, 2004; Patel, Fernhaber, McDougall-Covin, & van der Have, 2014), sociodemographic developments (e.g., Hansson, Dekoekkoek, Neece, & Patterson, 1997; Koij, de Lange, Jansen, & Dikkers, 2008), changing customer needs (e.g., Chen & Popovich, 2003; Richards & Jones, 2008), and megatrends such as digitalization (e.g., Brettel, Friederichsen, Keller, & Rosenberg, 2014; Colbert, Yee, & George, 2016) or globalization (e.g., Palthe, 2004; Shaffer, Kraimer, Chen, & Bolino, 2012). Thus, in order to be successful, organizations must constantly evolve and adapt to changing environments, while simultaneously trying to optimize existing businesses, processes, products, and systems in order to exploit them as efficiently as possible (March, 1991). This dilemma of being torn between multiple complex and possibly conflicting demands has always been emphasized in the management and organizational studies literature (e.g., Lawrence & Lorsch, 1967; Mintzberg, 1978; Tushman & O'Reilly, 1996) and continues to be a major focus of organizational research, as exemplified by the large number of recent studies that are based

on the concept of organizational ambidexterity (e.g., Andriopoulos & Lewis, 2009; Cao, Gedajlovic, & Zhang, 2009; Patel, Messersmith, & Lepak, 2013).

As outlined in detail above, this kind of organizational complexity and ambiguity is inherent in organizational culture theory, which assumes that culture is a multifaceted construct consisting of multiple elements that, although closely interwoven, are often difficult to reconcile. In fact, when Schneider and colleagues (2013) highlighted the importance of Pettigrew's seminal discourse on organizational culture, they emphasized that "…what Pettigrew (1979) did in introducing the topic to organizational studies was to legitimize the concept in all of its potential richness, as complex as that obviously would be" (Schneider et al., 2013, p. 370) and that practitioners could very easily identify with this complexity "…as a realistic picture of the world in which they functioned" (Schneider et al., 2013, p. 370). Virtually all other influential theorists in the field (e.g., Denison & Mishra, 1995; Quinn, 1988; Schein, 1985; Smircich, 1983) also emphasized the notion of organizational culture as a complex, multifaceted entity, and early studies accounted for this complexity by mostly applying qualitative approaches. Those studies took a holistic perspective under which each aspect of an organization's culture was treated as a facet of a larger whole and were aligned with the anthropological and sociological perspective on organizational culture. This perspective is well reflected in the following description of organizational culture by Denison:

"Culture refers to the deep structure of organizations, which is rooted in the values, beliefs, and assumptions held by organizational members. Meaning is established through socialization to a variety of identity groups that converge in the workplace. Interaction reproduces a symbolic world that gives culture both a great stability and a certain precarious and fragile nature rooted in the dependence of the system on individual cognition and action" (Denison, 1996, p. 624).

Culture researchers that adopted this perspective were usually concerned with the evolution of social systems over time (e.g., Mohr, 1982; Schein, 1985; Van Maanen, 1979), argued for the importance of a deep understanding of underlying assumptions (e.g., Kunda, 1992; Schein, 1985), individual meaning (e.g., Geertz, 1973; Pondy, Frost, Morgan, & Dandridge, 1983), and the insider's point of view of the organization, and relied on participant observation as the method of choice (Denison, 1996). This perspective is probably best represented by book-length ethnographies, by authors such as Whyte (1949, Jaques (1951), Dalton (1959), or Rohlen (1974). For example, Whyte's (1949) analysis of the social structure of a restaurant presents organization as a negotiated set of interaction patterns among different status, gender, and occupational groupings as it examines these factors as the context within which work occurs. Rohlen's (1974) ethnography of white-collar workers in a Japanese bank presents a thorough analysis of social structure, career pathways, organizational cultures, individual meaning, and organizational adaptation in a holistic manner that illustrates the insights that can be gained from applying ethnographic methods to a modern organization (Denison, 1996).

With the rise of quantitative, survey-based approaches, however, the focus has shifted from this kind of holistic perspective to investigating individual dimensions that are treated as independent, standalone aspects of organizational culture. As a consequence, the holistic notion of organizational culture has increasingly lost ground in quantitative research (Ostroff & Schulte, 2014). The practice of investigating isolated culture dimensions (and their relationships to effectiveness outcomes) evoked harsh criticism early on. Siehl and Martin, for example, warned that this type of research bears the risk of reducing culture to "…just another variable in existing models of organizational performance" (1990, p. 274), and Denison even claimed that this approach might be "…the antithesis of culture research"

(1996, p. 620) as it contradicts the epistemological foundations of organizational culture. These warnings, however, seemed to go unheard, as a recent review of quantitative studies focusing on the culture-effectiveness link by Sackmann (2011) suggests. Sackmann reviewed studies between 2000 and 2011 and found that the overwhelming majority was still limited to investigating between individual culture dimensions and effectiveness outcomes. Surprisingly, the early criticism had almost seemed to vanish over time and the practice of investigating organizational culture using a "dimension-by-dimension" approach was rarely questioned. Recently, however, new pleas for taking a more holistic perspective in quantitative research that accounts for the complexity and multifacetedness of organizational culture have been raised (e.g., Hartnell et al., 2011; Kotrba et al., 2012; Ostroff and Schulte, 2014). However, specific suggestions on how to approach this issue are scarce, let alone empirical studies that apply these suggestions.

This is the starting point for this dissertation. It addresses the general question of how organizational culture and its link to organizational effectiveness can be investigated in a manner that retains the advantages of quantitative research (such as the ability to compare results across organizations or to replicate studies), while simultaneously accounting for the holistic theoretical roots of organizational culture and the complex reality that organizations face. More specifically, the dissertation addresses the following research questions:

1. Which kinds of different approaches can be used to investigate organizational culture and its relationship to organizational effectiveness in a more holistic manner and what are their respective advantages and disadvantages?
2. How does a significant change of the whole complex value pattern that an organization's culture consists of impact effectiveness outcomes and what are contextual factors that affect this relationship?

3. How do different cultural elements work together in achieving different effectiveness outcomes?
4. In a preceding step, this dissertation moreover aims at identifying organizational culture measures that perform well in international, cross-border settings, since ever-increasing globalization is an important element of the complexity that most organizations face today (Lundby, Moriarty, & Lee, 2014; Sackmann, 2011). Thus, if internationally operating organizations intend to shape and change culture in a way that fosters organizational effectiveness, the ability to reliably assess culture regardless of the country in which the assessment takes place is an important prerequisite.

1.4 Outline of the Dissertation

This dissertation consists of four manuscripts. Study 1 ("The assessment of organizational culture in cross-cultural settings: Investigating the psychometric quality and cultural equivalence of three quantitative instruments") aims at testing the applicability of three different organizational culture measures that were developed in the U.S. in a German context. Based on a sample of 172 employees in a German bank, the psychometric quality and cultural equivalence of the three instruments (the Denison Organizational Culture Survey [DOCS], the Organizational Culture Profile [OCP], and the GLOBE survey for organizational culture) is investigated. The results contribute to facilitating cross-cultural research on organizational culture by providing evidence on instruments that, although being developed and validated in an Anglo-American context, perform satisfactorily in other cultural settings as well, which is an important prerequisite for investigating relationships between culture and effectiveness in an increasingly globalized economy. Moreover, this study yielded a German version of the OCP and an improved German version of the DOCS,

which can be applied by researchers to assess organizational cultures in German cultural contexts.

Study 2 ("Holistic approaches to investigating organizational culture and its link to effectiveness – A review and research agenda") shifts the focus from the cross-cultural assessment of organizational culture to the question of how culture can be assessed (and linked to effectiveness outcomes) in a manner that is more consistent with its theoretical foundations compared to the prevalent approaches in existing empirical research. This issue is addressed by reviewing the literature on the culture-effectiveness link with a focus on studies that do not examine culture dimensions independently or additively, but treat organizational culture as a holistic phenomenon that consists of multiple facets. The review results are categorized in four kinds of holistic approaches (aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based). For each approach, an overview of the existing studies is presented, main findings, methodological aspects, and theoretical foundations are illuminated, and directions for future research are provided. This review study thus contributes to reducing mismatches between theory and empirical research and helps researchers to align quantitative studies on the culture-effectiveness link more closely with the theoretical roots of organizational culture.

Study 3 and Study 4 build on selected avenues for future research that are suggested in Study 2. Study 3 ("Towards more positive employee attitudes in merger and acquisition projects: The importance of perceived cultural stability and the moderating roles of workgroup-level leader-member exchange and individual change-related self-efficacy beliefs") follows up on the recommendation offered in Study 2 to study organizational culture from a more holistic perspective. Based on a sample of 180 employees in a German organization that had recently undergone a major M&A (merger and acquisition) project, it aims at investigating how a significant change of the overall organizational culture (i.e., a

drastic destabilization of the whole system of values that constitute an organization's culture) impacts employee commitment and how this relationship is moderated by factors at the group and the individual level. The study thus contributes to a more nuanced understanding of how individuals experience cultural shifts and how the effects that are related to these shifts are contingent on contextual factors. In Study 3, the assessment of organizational culture is based on the Competing Values Framework (CVF; Cameron & Quinn, 2006; Quinn & Rohrbaugh, 1983). The model underlying the CVF is regarded as the most comprehensive and reflective of organizational culture (Cardador & Rupp, 2011), and the CVF survey is acknowledged as the one of the most widely used and best validated instruments for measuring organizational culture (Ostroff et al., 2013; Sackmann, 2011; Schneider et al., 2013). It has been applied in tens of thousands of organizations worldwide (Hartnell et al., 2011), and its reliability and validity have been supported in numerous studies (e.g., Howard, 1998; Kalliath, Bluedorn, & Gillespie, 1999; Kwan & Walker, 2004; McDermott & Stock, 1999; Quinn & Spreitzer, 1991; Yazici, 2009), including a validation study of the German version (Strack, 2012). Thus, although Study 1 provided valuable insights into the applicability of the DOCS, the OCP, and the GLOBE survey in a German context, the CVF was ultimately chosen as it is the leading instrument in the field and meets the highest possible standards.

Study 4 ("Look at the forest, not just the trees: A configurational approach to investigating the relationship between organizational culture and organizational effectiveness using fuzzy-set analysis") advances the field of organizational culture research by proposing an alternative theoretical perspective (set theory) for investigating organizational culture that focuses on the analysis of cultural configurations. In addition, fuzzy set qualitative comparative analysis (fsQCA) is introduced as a corresponding method for gaining a better understanding of which elements of a cultural configuration are relevant for an outcome and how these elements jointly work together to achieve specific effects. The use of set-theoretic

perspectives and fsQCA has recently become increasingly popular in strategic management research (see Misangyi et al. [2017] for a review) since it enables a fine-grained conceptualization and empirical investigation of causal complexity. Based on two large samples from two organizations (1170 employees in 89 work units of a financial service provider and 998 employees in 49 work units of a fashion retailer), this study introduced this innovative approach to the field of organizational culture research. In combining this theoretical perspective and a novel methodology, the study represents an important step towards assessing organizational culture and its link to effectiveness in a way that captures the full complexity of the construct. In Study 4, the CVF was again chosen for assessing organizational culture for the reasons outlined above. Moreover, the study directly addresses questions regarding the proposed internal structure of the CVF, which are still remaining despite its well-researched foundations. This was another important reason for choosing the CVF for this study.

1.5 References

Adkins, B., & Caldwell, D. (2004). Firm or subgroup culture: where does fitting in matter most?. *Journal of Organizational Behavior*, *25*, 969-978. doi:10.1002/job.291

Alvesson M., & Berg, P. O. (1992). *Corporate culture and organizational symbolism*. New York: de Gruyter.

Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science*, *20*, 696-717. doi:10.1287/orsc.1080.0406

Bennis, W. W. (1969). *Organizational development: Its nature, origins, and perspectives*. Reading, MA: Addison Wesley.

Berson, Y., Oreg, S., & Dvir, T. (2007). CEO values, organizational culture and firm outcomes. *Journal of Organizational Behavior, 29,* 615–633. doi:10.1002/job.499

Boyce, A. S., Nieminen, L. R. G., Gillepsie, M. A., Ryan, A. M., & Denison, D. R. (2015). Which comes first, organizational culture or performance? A longitudinal study of causal priority with automobile dealerships. *Journal of Organizational Behavior, 36,* 339–359. doi:10.1002/job.1985

Brettel, M., Friederichsen, N., Keller, M., & Rosenberg, M. (2014). How virtualization, decentralization and network building change the manufacturing landscape: An Industry 4.0 perspective. *International Journal of Mechanical, Industrial Science and Engineering*, *8*, 37-44. doi: scholar.waset.org/1999.8/9997144

Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture based on the competing values framework*. Hoboken, NJ: John Wiley & Sons.

Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, *20*, 781-796. doi:10.1287/orsc.1090.0426

Cardador, M. T., & Rupp, D. E. (2011). Organizational culture, multiple needs, and the meaningfulness of work. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (2nd ed., pp. 158-180). Thousand Oaks, CA: Sage.

Chen, I. J., & Popovich, K. (2003). Understanding customer relationship management (CRM): People, process and technology. *Business Process Management Journal*, *9*, 672-688. doi:10.1108/14637150310496758

Colbert, A., Yee, N., & George, G. (2016). The digital workforce and the workplace of the future. *Academy of Management Journal*, *59*, 731-739. doi:10.5465/amj.2016.4003

Crozier, M. (1964). *The bureaucratic phenomenon*. Chicago: University of Chicago Press.

Dalton, M. (1959). *Men who manage*. New York: Wiley.

Deal, T. E., & Kennedy, A. A. (1982). Corporate cultures: The rites and rituals of organizational life. Reading, MA: Addison-Wesley.

Denison, D. R. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review*, *21*, 619-654. doi:10.5465/AMR.1996.9702100310

Denison, D. R. & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science, 6,* 204–223. doi:10.1287/orsc.6.2.204

Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review, 25*, 850-863. doi:10.5465/AMR.2000.3707740

Fey, C., & Denison, D. R. (2003). Organizational culture and performance: Can an American theory be applied in Russia? *Organization Science, 14,* 686-706. doi:10.1287/orsc.14.6.686.24868

Flamholtz, W. G., & Randle, Y. (2011). *Corporate culture: The ultimate strategic asset*. Stanford, CA: Stanford University Press.

Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.

Glisson, C., & James, L. R. (2002). The cross-level effects of culture and climate in human service teams. *Journal of Organizational Behavior, 23*, 767-794. doi:10.1002/job.162

Gregory, B. T., Harris, S. G., & Armenakis, A. A. (2009). Organizational culture and effectiveness: A study of values, attitudes, and organizational outcomes. *Journal of Business Research, 62,* 673–679. doi:10.1016/j.jbusres.2008.05.021

Hansson, R. O., Dekoekkoek, P. D., Neece, W. M., & Patterson, D. W. (1997). Successful aging at work: The older worker and transitions to retirement. *Journal of Vocational Behavior*, *51*, 202-233. doi:10.1006/jvbe.1997.1605

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational performance: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*, 677-694. doi:10.1037/a0021987

Heskett, J. (2011). *The culture cycle: How to shape the unseen force that transforms performance*. Upper Saddle River, NJ: FT Press.

Howard, L. W. (1998). Validating the competing values model as a representation of organizational cultures. *International Journal of Organizational Analysis, 6,* 231–250. doi:10.1108/eb028886

James, L. R., & Jones, A. P. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin*, *81*, 1096-1112. doi:10.1037/h0037511

Jaques, E. (1951). *The changing culture of a factory*. New York: Dryden Press.

Kalliath, T. J., Bluedorn, A. C., & Gillespie, D. F. (1999). A confirmatory factor analysis of the competing values instrument. *Educational and Psychological Measurement, 59,* 143–158. doi:10.1177/0013164499591010

Kooij, D., de Lange, A., Jansen, P., & Dikkers, J. (2008). Older workers' motivation to continue to work: Five meanings of age: A conceptual review. *Journal of Managerial Psychology*, *23*, 364-394. doi:10.1108/02683940810869015

Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A., & Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human Relations, 65*, 241-262. doi:10.1177/0018726711426352

Koufteros, X. A., Nahm, A. Y., Cheng, T. E., & Lai, K. H. (2007). An empirical assessment of a nomological network of organizational design constructs: From culture to structure to pull production to performance. *International Journal of Production Economics*, *106*, 468-492. doi:10.1016/j.ijpe.2006.08.001

Kunda, G. (1992*). Engineering culture*. Philadelphia: Temple University Press.

Kwan, P., & Walker, A. (2004). Validating the competing values framework as representation of organizational culture through inter-institutional comparison. *Organizational Analysis, 12*, 21-37. doi:10.1108/eb028984

Lawrence, P. R., & Lorsch, J. W. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly*, 1-47. doi:10.2307/2391211

Lim, B. (1995). Examining the organizational culture and organizational performance link. *Leadership and Organization Development Journal, 16*, 16-21. doi:10.1108/01437739510088491

London, T., & Hart, S. L. (2004). Reinventing strategies for emerging markets: beyond the transnational model. *Journal of international business studies*, *35*, 350-370. doi:10.1057/palgrave.jibs.8400099

Lundby, K., Moriarty, R., & Lee, W. C. (2014). A tall order and some practical advice for globale leaders: Managing across cultures and geographies. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 658-678). New York, NY: Oxford University Press.

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, *2*, 71-87. doi:10.1287/orsc.2.1.71

Martin, J. (1992). *Cultures in organizations: Three perspectives*. New York: Oxford University Press.

Martin, J. (2002). *Organizational culture: Mapping the terrain.* Thousand Oaks, CA: Sage Publications.

McDermott, C. M., & Stock, G. N. (1999). Organizational culture and advanced manufacturing technology implementation. *Journal of Operations Management, 17,* 521–533 doi:10.1016/S0272-6963(99)00008-X

Mintzberg, H. (1978). Patterns in strategy formation. *Management Science*, *24*, 934-948. doi:10.1287/mnsc.24.9.934

Misangyi, V. F., Greckhamer, T., Furnari, S., Fiss, P. C., Crilly, D., & Aguilera, R. (2017). Embracing Causal Complexity: The emergence of a neo-configurational perspective. *Journal of Management*, *43*, 255-282. doi:10.1177/0149206316679252

Mohr, L. (1982). *Explaining organizational behavior*. San Francisco: Jossey-Bass.

Naranjo Valencia, J. C., Sanz Valle, R., & Jiménez Jiménez, D. (2010). Organizational culture as determinant of product innovation. *European Journal of Innovation Management*, *13*, 466-480. doi:10.1108/14601061011086294

Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In N. W. Schmitt, S. Highhouse, & I. B. Weiner (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, 2nd ed., pp. 643-676). Hoboken, NJ: John Wiley & Sons.

Ostroff, C., Kinicki, A. J., & Tamkins, M. M. (2003). Organizational culture and climate. In W. C. Borman, D. R. Ilgen, R. J. Klimoski, & I. Weiner (Eds.), *Handbook of psychology* (Vol. 12, pp. 565–593). Hoboken, NJ: Wiley.

Ostroff, C., & Schulte, M. (2014). A configural approach to the study of organizational culture and climate. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 532-552). New York, NY: Oxford University Press.

Ouchi, W. (1981). *Theory Z: How American business can meet the Japanese challenge*. New York: Addison-Wesley.

Palthe, J. (2004). The relative importance of antecedents to cross-cultural adjustment: Implications for managing a global workforce. *International Journal of Intercultural Relations*, *28*, 37-59. doi:10.1016/j.ijintrel.2003.12.004

Parsons, T. (1951). *The social system*. Glencoe, IL: Free Press.

Patel, P. C., Fernhaber, S. A., McDougall-Covin, P. P., & van der Have, R. P. (2014). Beating competitors to international markets: The value of geographically balanced networks for innovation. *Strategic Management Journal*, *35*, 691-711. doi:10.1002/smj.2114

Patel, P. C., Messersmith, J. G., & Lepak, D. P. (2013). Walking the tightrope: An assessment of the relationship between high-performance work systems and organizational ambidexterity. *Academy of Management Journal*, *56*, 1420-1442. doi:10.5465/amj.2011.0255

Payne, R. L. (2000). Culture and climate: How close can they get? In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (1st ed., pp. 163–176). Thousand Oaks, CA: Sage.

Peters, T. J., & Waterman, R. H. (1982). *In search of excellence*. New York: Harper & Row.

Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly, 24,* 570-581. doi:10.2307/2392363

Pondy, L., Frost, P., Morgan, G., & Dandridge, T. (1983). *Organizational symbolism*. Greenwich, CT: JAI Press.

Quinn, R. E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance*. San Francisco: Jossey-Bass.

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science, 29*, 363-377. doi:10.1287/mnsc.29.3.363

Quinn, R. E., & Spreitzer, G. M. (1991). The psychometrics of the competing values culture instrument and an analysis of the impact of organizational culture on quality of life. *Research in organizational change and development, 5,* 115–142.

Richards, K. A., & Jones, E. (2008). Customer relationship management: Finding value drivers. *Industrial Marketing Management*, *37*, 120-13. doi:10.1016/j.indmarman. 2006.08.005

Rohlen, T. (1974). *For harmony and strength: Japanese white-collar organization in anthropological perspective*. Berkeley, CA: University of California Press.

Sackmann, S. A. (2011). Culture and performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (2nd ed., pp. 188-224). Thousand Oaks, CA: Sage.

Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies, 15*, 145-158. doi:10.1177/1548051808324100

Schein, E. H. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.

Schein, E. H. (1996). Culture: The missing concept in organization studies. *Administrative Science Quarterly, 41,* 229–240. doi:10.2307/2393715

Schein, E. H. (2000). Sense and nonsense about culture and climate. In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (1st ed., pp. xxiii-xxx). Thousand Oaks, CA: Sage.

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco: Jossey-Bass.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361-388. doi:10.1146/annurev-psych-113011-143809

Shaffer, M. A., Kraimer, M. L., Chen, Y.-P., & Bolino, M. C. (2012). Choices, challenges, and career consequences of global work experiences: A review and future agenda. *Journal of Management*, *38*, 1282–1327. doi:10.1177/0149206312441834

Siehl, C, & Martin, J. (1990). Organizational culture: a key to financial performance? In B. Schneider (Edt.), *Organizational climate and culture* (pp. 241–281). San Francisco: Jossey-Bass.

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28,* 339-358. doi:10.2307/2392246

Strack, M. (2012). Organisationskultur im Competing Values Model: Messeigenschaften der deutschen Adaption des OCAI [Organizational culture in the Competing Values Model: Measuring characteristics of the German OCAI adaption]. *Journal of Business and Media Psychology*, *3*, 30-41.

Trice, H. M., & Beyer, J. M. (1993). *The cultures of work organizations*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Tushman, M. L., & O'Reilly, C. A. (1996). The ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, *38*, 8-30. doi:10.2307/41165852

Van Maanen, J. (1979). Qualitative research. *Administrative Science Quarterly, 24*, 570-581.

Whyte, W. F. (1949). The social structure of the restaurant. *American Journal of Sociology, 54*, 302-310.

Wilderom, C. P. M., Glunk, U., & Maslowski, R. (2000). Organizational culture as a predictor of organizational performance. In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.) *Handbook of organizational culture and climate* (pp. 193–209). Thousand Oaks, CA: Sage.

Yazici, H. J. (2009). The role of project management maturity and organizational culture in perceived performance. *Project Management Journal*, *40*, 14-33. doi:10.1002/pmj

2. Study 1: The Assessment of Organizational Culture in Cross-Cultural Settings: Investigating the Psychometric Quality and Cultural Equivalence of Three Quantitative Instruments

Abstract

This study tested the psychometric quality and cultural equivalence of the German versions of three instruments for measuring organizational culture: the Denison Organizational Culture Survey (DOCS), the Organizational Culture Profile (OCP), and the GLOBE survey. Using an organizational sample from the banking industry, we analyzed the metric equivalence (by means of assessing the psychometric quality), the conceptual equivalence (by means of assessing the construct validity) as well as the linguistic and functional equivalence of the three instruments. The results indicate that the psychometric properties and the equivalence of the DOCS and the OCP can be summarized as satisfactory. In contrast, reliability indices of the GLOBE scales were far below recommended thresholds and results regarding its construct validity were unsatisfying. Conceptual equivalence could therefore not be assumed. Avenues for future research and implications for practitioners are discussed. In addition, the authors created and tested a German translation of the OCP scales and an adapted version of the German DOCS scales.

Keywords: construct validity; cross-cultural validation; cultural equivalence; German; organizational culture; psychometric quality; reliability; scales

2.1 Introduction

The field of organizational culture research has grown substantially in recent decades and will most likely continue to do so in the future (Ashkanasy, Wilderom, & Peterson, 2011; Denison, Nieminen, & Kotrba, 2014). This is not surprising since organizational culture has been shown to affect important success factors such as financial performance, operational effectiveness, and employee satisfaction and commitment (Hartnell, Ou, & Kinicki, 2011; Sackmann, 2011). Therefore, organizations have a strong interest in analyzing and changing their cultures in order to drive organizational success. Recommendations for organizational interventions have to be based, however, on analyses that rely on psychometrically sound instruments that provide valid and reliable results (Aiken & Groth-Marnat, 2006; Fields, 2002; Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993).

However, while the number of instruments that claim to measure organizational culture has increased considerably, the reliability and validity of these instruments is often unsatisfactory (e.g., Ashkanasy, Broadfoot, & Falkus, 2000; Jung et al., 2009; Scott, Mannion, Davies, & Marshall, 2003; Xenikou & Furnham, 1996). An additional challenge arises from today's globalized business environment, which necessitates multinational organizations to adapt international perspectives (Lievens et al., 2015). Thus, researchers increasingly aim to understand phenomena such as organizational culture in cross-cultural settings, which means that they are dependent on translated or linguistically adapted instruments (Carter et al., 2012; Geisinger, 2003). One can therefore conclude that there is a general need for research on the psychometric properties of organizational culture measures (Schneider & Barbera, 2014; van Muijen et al., 1999) and a particular need for studies that test the equivalence of translated versions of original instruments in order to facilitate cross-cultural research (House, Javidan, Hanges, & Dorfman, 2004; Sharifirad, 2011). This study addresses both of these issues and contributes to the literature in two ways: First, the

psychometric quality and the cultural equivalence of three translated or adapted organizational culture questionnaires (the Denison Organizational Culture Survey [DOCS], the Organizational Culture Profile [OCP], and the GLOBE organizational culture survey) are tested in one integrated study, using a German cultural context as an example. Implications for the use of these instruments by researchers and practitioners are discussed. Second, in order to be able to address the core questions of this paper, the authors created and tested a German translation of the OCP survey (which has not been available in German until now) and an adapted version of the German DOCS survey[1] .

2.2 Theoretical Background

2.2.1 Measuring Organizational Culture

Organizational culture is a complex phenomenon. It reflects the underlying values, beliefs, and assumptions of a collective, manifests itself on different organizational levels, and can be divided into various subcultures (Martin, 2002; Ostroff, Kinicki, & Muhamad, 2013; Schein, 2010). Rooted in anthropological research, early studies on organizational culture were mostly of a qualitative nature. In order to account for the multifacetedness of the construct, methods such as observations and case studies were used. However, with an increasing number of studies that intended to link organizational culture to performance outcomes, qualitative methods have lost ground and given way to quantitative survey approaches (Ostroff & Schulte, 2014). Initially, the use of standardized survey instruments for studying a phenomenon as complex as organizational culture was controversially discussed. Nowadays, however, it is widely recognized that, depending on the research context, both qualitative and quantitative methods are appropriate means for investigating organizational

[1] Subject to the consent of the authors of the original instruments, both the translated German version of the OCP and the adapted German version of the DOCS are available upon request.

culture (Ostroff et al., 2013). While surveys, due to their use of pre-defined items, might be limited to distinct facets of organizational cultures, they are less time consuming than qualitative approaches, allow for benchmarking across organizations, and facilitate replications of studies (Ashkanasy et al., 2000; Denison et al., 2014; Xenikou & Furnham, 1996).

A distinguishing feature of organizational culture surveys is the type of information they are supposed to generate. Denison and colleagues (2014) describe a taxonomy that differentiates between typing or profiling surveys. Typing surveys focus on several mutually exclusive culture types and assume that a high score on more than one culture type is theoretically impossible. However, this approach is highly controversial since it may lead to an overly simplistic view of organizational culture (Kotrba et al., 2012) and lacks empirical support (Hartnell et al., 2011).

In contrast, profiling surveys acknowledge the coexistence of multiple culture dimensions within an organization. Thus, organizations can score high or low on each of the assessed dimensions, and the resulting pattern across dimensions can be used to describe and understand an organization's culture (Ostroff & Schulte, 2014). Profiling surveys can be further divided into formative and diagnostic research purposes (Ashkanasy et al., 2000; Denison et al., 2014; Jung et al., 2009). Formative measures aim to capture an organization's culture profile without making any statement about how the culture dimensions are related to external criteria such as organizational performance. In contrast, diagnostic surveys are based on a theoretical framework that links different culture dimensions to different criteria of organizational effectiveness, such as financial performance or organizational commitment.

2.2.2 Reliability and Validity of Organizational Culture Surveys

While a large number of quantitative surveys for measuring organizational culture has emerged over time, reliability and validity evidence is still limited for many of these

instruments. Consequently, reviews of the field repeatedly identified the use of invalidated and ad-hoc measures as a major drawback for the advancement of organizational culture research (e.g., Lim, 1995; Ostroff, Kinicki, & Tamkins, 2003; Wilderom, Glunk, & Maslowski, 2000). In a comprehensive review of 48 culture surveys, Jung and colleagues (2009) found that for only 22 instruments (46%), adequate information on their internal consistency was available, and only nine surveys (19%) were able to provide sufficient factor-analytic support for substantiating their construct validity. Earlier reviews by Ashkanasy and colleagues (2000) and Scott and colleagues (2003) reached similar discouraging conclusions regarding the psychometric properties and validities of organizational culture surveys.

2.2.3 Additional Challenges in Intercultural Contexts

As indicated by these findings, there is a need for further research on the reliability and validity of quantitative measures of organizational culture. This need is even more urgent when it comes to applying these instruments in intercultural contexts. Of the 48 instruments reviewed by Jung and colleagues (2009), only six (13%) originated from countries other than the USA and the UK. This dominance of Anglo-American measures is a challenge for researchers and practitioners who intend to assess organizational cultures in other cultural settings, since they are dependent on translated or adapted instruments. However, cultural idiosyncrasies can influence the interpretation of and response to items that were developed and validated with a different population (Morse, Weinhardt, Griffeth, & Ziebell de Oliveira, 2014). Thus, if the findings of these instruments are to have validity, cultural equivalence of the original and the adapted instruments is required (Geisinger, 2003).Otherwise, differences in scores may be attributed to true differences in the population, whereas in reality, they are due to non-equivalent instruments across cultures (Carter et al., 2012; Huang, Church, & Katigbak, 1997).

More specifically, four main criteria of equivalence should be met (Geisinger, 2003; Lonner, 1979; Ones & Viswesvaran, 2001). First, linguistic equivalence, which refers to the appropriate translation of survey items, needs to be ensured. Closely related to linguistic equivalence is functional equivalence, which refers to the issue that literal translations do not always convey the actual meaning because the behaviors mentioned in some or all of the items might not generalize across cultures. In these cases, the adaption of items is necessary. The third criterion is metric equivalence, which is defined as "the extent to which the instrument manifests similar psychometric properties (distributions, ranges, etc.) across cultures" (Nichols, Padilla, & Gomez-Maqueo, 2000, p. 256). The internal consistency of the instrument is an important index in this regard (Geisinger, 2003). The fourth and most important criterion is conceptual equivalence, which deals with the question whether the instrument measures the same construct across cultures. Conceptual equivalence is therefore closely related to the construct validity of the instrument. A lack of conceptual equivalence, also referred to as construct bias, is, for example, evident in a translated measure that features a factor structure that is different from the one of the original version (Geisinger, 2003).

In order to address the issues described above, we assessed the psychometric properties and the cultural equivalence of three translated or adapted organizational culture surveys in one integrated study, using a German cultural context as an example. The instruments tested were the DOCS, the OCP, and the GLOBE organizational culture survey. We chose these instruments since they represent three different kinds of profiling instruments, including a diagnostic instrument (DOCS), a formative instrument (GLOBE), and a hybrid of both (OCP). Typing instruments were not included in this study due to the drawbacks associated with the typing approach mentioned above.

2.3 Method

2.3.1 Participants and Procedure

The study sample consisted of 172 employees from a German bank. Of the employees who indicated their gender, 48.7% were female and 51.3% were male. The majority of employees (26.2%) were between 41 and 50 years old, and only few participants were aged 20 or younger (1.7%) or 60 years and older (1.2%). The participants either worked in customer-facing positions at eight branches of the bank or in supporting functions, such as finance and marketing. 43.6% of the participants had been employed at the bank for more than 10 years, and 12.8% of the participants occupied a leadership position. The questionnaire, which consisted of demographic questions and the German versions of the DOCS, OCP, and GLOBE, was administered online. The head of human resources sent the link to the questionnaire to all of the bank's employees (N = 221). After two weeks, a reminder was sent, and employees were once again encouraged to participate. As a result, the response rate was as high as 78% (172 out of 221 employees), which indicates that the sample is a representative cross-section of the organization.

2.3.2 Measures

Denison Organizational Culture Survey (DOCS). The DOCS consists of 60 items that measure four dimensions of organizational culture: adaptability, mission, consistency, and involvement. These dimensions are supposed to reflect four key drivers of organizational performance that balance the competing demands of an external versus an internal focus and between stability and flexibility (Denison et al., 2014). As the DOCS assumes that it is possible (and desirable) for organizations to achieve high scores across all four dimensions, it is clearly a profiling instrument. Furthermore, it has a diagnostic focus because direct links

between the dimensions of the survey and specific performance outcomes are proposed (Denison et al., 2014). A distinguishing feature of the DOCS is its nested structure, as each of the four dimensions consists of three subscales that are comprised of five items each. The subscales are named as follows: creating change, customer focus, and learning (forming the adaptability dimension), strategic direction, goals and objectives, and vision (forming the mission dimension), core values, agreement, and coordination and integration (forming the consistency dimension), and empowerment, team orientation, and capability development (forming the involvement dimension). The items are answered on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The DOCS is frequently mentioned as one of the most widely used and acknowledged instruments for assessing organizational culture (Ostroff et al., 2013; Sackmann, 2011; Schneider, Ehrhart, & Macey, 2013), and many studies have confirmed its reliability and validity (e.g., Gillespie, Haaland, Denison, Smerek, & Neale, 2007; Kotrba et al., 2012; Yilmaz & Ergun, 2008). However, to the authors' knowledge, psychometric assessments or validation studies within a German context do not exist.

Organizational Culture Profile (OCP). We used the revised version of the OCP by Sarros, Gray, Densten, and Cooper (2005). This version uses a Likert-type scale and consists of seven dimensions: competiveness, innovation, performance, rewards, social responsibility, stability, and supportiveness. Each dimension is comprised of four items, and the items are answered on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). As it is possible for organizations to achieve high scores for more than one dimension, the OCP is also categorized as a profiling instrument. In contrast to the DOCS, the OCP dimensions are not theoretically linked to performance outcomes, so it can be classified as a formative survey. However, since all of the OCP dimensions have a clearly positive connotation, it is obvious that a high score across OCP dimensions should lead to high

performance outcomes. Therefore, the OCP might be regarded as a hybrid between a diagnostic and a formative instrument. Like the DOCS, the OCP is widely regarded as one of the most established organizational culture surveys (Ostroff et al., 2013; Sackmann, 2011; Schneider et al., 2013), although findings regarding its factor structure are mixed (e.g., Ashkanasy et al., 2000; Cable & Judge, 1997; Lee & Yu, 2004; O'Reilly, Chatman, & Caldwell, 1991). As in the case of the DOCS, there are, to the best of the authors' knowledge, no psychometric assessments or validation studies for a German context.

Global Leadership & Organizational Behavior Effectiveness Survey (GLOBE). GLOBE is a research program that yielded different kinds of culture surveys. There are two different GLOBE versions that capture culture either on a societal or on an organizational level. These two versions can each be divided into two subsets that either reflect the actual status quo in a society or an organization ("as is") or a desired state described in terms of what "should be" (House et al., 2004). Since the unit of analysis for this study was the current culture of our partner organization, the "as is" items for the organizational level were used. This subset consists of 32 items distributed to eight dimensions, namely uncertainty avoidance (three items), future orientation (three items), power distance (three items), humane orientation (four items), performance orientation (four items), individualism (three items), organizational and group cohesion (six items), and gender egalitarianism (six items). In order to increase consistency with the other measures in this study, the response format was changed from the original 7-point Likert-type scale to a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) for most items. Differing anchor labels for some of the items (e.g., 1 = dominant, 5 = not dominant) were kept as in the original version. Organizations can score high on more than one of the GLOBE dimensions, but there are no assumptions (explicitly or implicitly) linking the dimensions to any performance outcomes. Thus, the GLOBE survey can be classified as a formative profiling survey. While the GLOBE

framework is frequently used for assessing cultural characteristics of countries or societies (e.g., Atwater, Wang, Smither, & Fleenor, 2009; Waldman et al., 2006), it is, in contrast to the DOCS and the OCP, not regarded as an established measure for assessing organizational culture (Ostroff et al., 2013; Sackmann, 2011; Schneider et al., 2013). As with the DOCS and the OCP, psychometric assessments or validation studies of the GLOBE organizational culture survey for a German context do not, to the best of the authors' knowledge, exist.

2.3.3 Linguistic and Functional Equivalence

All three surveys were administered in a German version. Therefore, the linguistic and functional equivalence of the instruments were assessed prior to conducting the study. As recommended by Geisinger (2003), a combination of the back-translation and the committee approach was used for this purpose (Brislin, 1970, 1980; Geisinger, 1994; van de Vijver & Leung, 1997). Since a German version of the OCP was not available, a bilingual researcher translated the original English version of the OCP into German, while a second bilingual researcher back-translated the German version into English. Afterwards, the translator and back-translator formed an expert committee with a third bilingual topic matter expert and discussed items that diverged from the original version. Finally, the panel agreed upon a solution that resulted in a German translation of the OCP that was considered linguistically and functionally equivalent to the original English questionnaire. German translations of the DOCS and the GLOBE were provided to the authors upon request. The expert committee tested these versions for equivalence of the English and the German items. The German versions of the GLOBE items were considered appropriate and thus remained unchanged. In contrast, the wording of 17 items of the German DOCS version was considered uncommon in the German language or not equivalent to the original English items. In these cases, the wording was slightly adjusted based on the recommendations of the three experts.

2.3.4 Data Analysis for Assessing Metric and Conceptual Equivalence

Data analysis comprised two steps: the analysis of psychometric properties (i.e., individual item performance and scale reliabilities) as the basis for metric equivalence and the analysis of the construct validity by means of confirmatory factor analyses (CFA) as the basis for conceptual equivalence. We followed the guidelines for analyzing organizational culture measures provided by Ashkanasy et al. (2000) and Sharifirad (2011). In addition, the guidelines regarding the analysis of individual item performance as an important step before investigating scale performance (DeVellis, 2012; Hinkin, 1995), and reporting guidelines for the CFA results were followed in order to increase the transparency of the findings for the readers (Jackson, Gillaspy, & Purc-Stephenson, 2009). All analyses were performed with SPSS version 20 and MPlus version 7. In the following, the individual steps of the data analysis are described in greater detail.

First, descriptive information such as means, standard deviations, and measures of skewness and kurtosis was obtained for each of the items in order to assess individual item performance. Items with means smaller than two or larger than four were highlighted because items with very high or very low means are likely to indicate smaller variability and, therefore, to have suboptimal psychometric qualities. In addition, item means can also be interpreted as item difficulty, and thus, it may indicate whether respondents largely disagreed or agreed with item statements (Furr & Bacharach, 2014). Moreover, items with a standard deviation smaller than SD = 0.40 were marked as problematic because small standard deviations can be a sign of limited discriminatory power (DeVellis, 2012). To assess deviations from normality, z-scores of skewness and kurtosis were calculated by dividing the values for skewness and kurtosis by their standard errors (Z Skewness= Skewness-0/SE Skewness; Z Kurtosis= Kurtosis-0/SE Kurtosis). Items were marked as suboptimal if their z-scores were larger than +/- 1.96, which indicates departure from normality (Runyon,

Coleman, & Pittenger, 2000). The existence of floor and ceiling effects was assessed by calculating the percentage of participants who selected the lowest or highest possible scores. These effects may point to the inability of a given instrument to distinguish among participants with differing levels of low or high agreement, and this is likely to limit the validity of the instrument (Lewis-Beck, Bryman, & Liao, 2004).

Second, the reliability or internal consistency of the scales was assessed using three different indicators: inter-item correlations, corrected item-total correlations, and Cronbach's alpha. Item performance was considered satisfactory if values for inter-item correlations ranged between $.20 > r < .70$, corrected item-total correlations were above $r = .30$, and Cronbach's alpha was above $\alpha = .70$ (Clark & Watson, 1995; Hinkin, 1998; Nunnally, 1978). Some authors have argued that Cronbach's alpha values of .60 can be viewed as the lower limit of acceptability, when conducting exploratory research (Hair, Black, Babin, & Anderson, 2006). As this was not the case in this study, we applied the commonly accepted professional standard of .70 (Nunnally, 1978).

Third, the construct validity of the three instruments was tested with a CFA. CFA is a powerful tool for assessing construct validity and conceptual equivalence (Geisinger, 2003) and provides more diagnostic information compared to traditional approaches such as multitrait-multimethod matrices (Bagozzi, Yi, & Phillips, 1991; Thompson & Daniel, 1996). Based on the proposed factor structures of the underlying theoretical models, a second-order factor structure (consisting of four factors on the second level that are each measured by three factors on the first level that are each measured by five items) was tested for the DOCS. A first-order factor structure consisting of seven dimensions was tested for the OCP, and a first-order factor structure consisting of eight dimensions was tested for the GLOBE survey. In each CFA model, the first indicator was fixed to one for scaling purposes of the latent factor.

As the results of a Shapiro-Wilk's test indicated that univariate normality of the data could not be assumed ($p < .05$), maximum likelihood robust (MLR) was used, a CFA estimator with robust standard errors that has been proven to perform well with non-normal data (Yuan, Chan, & Bentler, 2000). Since it has been recommended to treat Likert-type data that show floor or ceiling effects as categorical because the values between categories cannot be treated as equidistant (Finney & DiStefano, 2013), a second alternative was calculated that treated the data as categorical and used the WLSMV estimator to estimate the CFA models (Yuan et al., 2000). Absolute (i.e., RMSEA) and incremental fit indices (i.e., CFI, TLI) were calculated for which the following cut-off criteria were deemed appropriate: RMSEA < 0.06 (Hu & Bentler, 1999), CFI > 0.90 (Hooper, Coughlan, & Mullen, 2008), and TLI > 0.90 (Hooper et al., 2008). Moreover, convergent and discriminant validity were investigated by analyzing the factor loadings of items and the loadings of lower-level factors on higher-level factors (Brown, 2006; Cabrera-Nguyen, 2010; Jackson et al., 2009). Factor loadings above r = .40 without cross-loadings were regarded as indicative of convergent validity, and high factor correlations above r = .80 were regarded as indicative of poor discriminant validity (Brown, 2006).

2.4 Results

2.4.1 Intercorrelations Among the Three Instruments

Table 1.1 displays the intercorrelations among all scales from all three organizational culture surveys. As can be seen in the table, there are numerous strong intercorrelations exceeding r = .50 between the DOCS and the OCP scales (39 out of 84 intercorrelations), which might indicate substantial contentual overlaps between the DOCS and the OCP. Particularly strong intercorrelations could be observed between the OCP scale "supportiveness" and the DOCS scales "team orientation" (r = .76), "agreement" (r = .67),

"empowerment" (r = .64), and "learning" (r = .62). Intercorrelations between the GLOBE scales and the scales of the other two instruments were considerably weaker, with only 12 intercorrelations (out of 96) exceeding r = .50 between GLOBE and DOCS and five (out of 56) between GLOBE and OCP. In particular, the GLOBE scale "organization and group cohesion" correlates strongly with the DOCS scales "team orientation" (r = .65) and "empowerment" (r = .62) as well as with the OCP scale "supportiveness" (r = .59).

Table 1.1

Intercorrelations of Organizational Culture Scales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. D CC	1																										
2. D CF	.56	1																									
3. D L	.64	.57	1																								
4. D SD	.49	.50	.59	1																							
5. D G&O	.53	.55	.62	.62	1																						
6. D V	.54	.46	.68	.62	.68	1																					
7. D CV	.41	.43	.59	.57	.59	.50	1																				
8. D A	.64	.48	.72	.61	.63	.62	.65	1																			
9. D C&I	.62	.42	.64	.57	.63	.61	.57	.68	1																		
10. D E	.58	.41	.63	.49	.55	.59	.58	.72	.69	1																	
11. D TO	.51	.45	.64	.56	.59	.62	.57	.71	.64	.72	1																
12. D CD	.51	.39	.58	.52	.51	.51	.47	.64	.54	.59	.61	1															
13. O C	.42	.44	.49	.57	.53	.46	.41	.43	.43	.40	.43	.43	1														
14. O SR	.46	.39	.58	.54	.57	.57	.52	.56	.50	.56	.59	.55	.63	1													
15. O Su	.46	.36	.62	.56	.54	.62	.52	.67	.56	.64	.76	.57	.49	.64	1												
16. O I	.35	.28	.45	.43	.38	.49	.22	.35	.30	.35	.36	.35	.49	.50	.50	1											
17. O EoR	.46	.34	.53	.35	.41	.50	.38	.53	.40	.56	.53	.55	.34	.53	.62	.43	1										
18. O PO	.43	.37	.55	.57	.52	.52	.48	.57	.56	.48	.60	.52	.54	.54	.58	.49	.44	1									
19. O St	.41	.25	.47	.47	.47	.49	.42	.64	.52	.55	.58	.53	.46	.58	.58	.32	.45	.56	1								
20. G UA	.19	.22	.31	.38	.38	.23	.52	.38	.38	.40	.40	.35	.30	.33	.29	**.07**	.23	.35	.35	1							
21. G FO	.44	.28	.41	.43	.37	.39	.35	.43	.52	.41	.35	.33	.33	.36	.35	.23	.28	.31	.36	.18	1						
22. G PD	.39	.25	.40	.30	.37	.44	.28	.53	.45	.49	.47	.43	.27	.35	.47	.23	.51	.35	.39	**.16**	.26	1					
23. G HO	.48	.43	.43	.38	.34	.42	.43	.51	.47	.51	.57	.44	.18	.31	.50	**.16**	.42	.32	.37	.22	.19	.43	1				
24. G PO	.50	.36	.49	.38	.47	.39	.35	.44	.41	.46	.42	.52	.36	.42	.42	.39	.53	.48	.30	.24	.31	.36	.45	1			
25. G I	.28	.23	.23	.26	.34	.30	.31	.29	.26	.42	.50	.22	**.11**	.28	.29	**.05**	.21	.20	.29	.26	**.10**	.22	.32	.16	1		
26. G OC	.40	.33	.56	.46	.47	.48	.49	.55	.53	.62	.65	.43	.34	.47	.59	.36	.52	.42	.51	.32	.32	.43	.52	.47	.52	1	
27. G F	**.16**	**.11**	.21	**.10**	.20	.22	**.15**	.23	.21	.30	.30	.20	**-.04**	.18	.37	**.06**	.31	**.07**	.27	**.10**	**.03**	.35	.33	**.12**	.27	.32	1

Note: All correlations significant, except for the ones in bold. D = Denison; O = OCP; G = GLOBE; D CC = Creating Change; D CF = Customer Focus; D L = Learning; D SD = Strategic Direction; D G&O = Goals & Objectives; D V = Vision; D CV = Core Values; D A = Agreement; D C&I = Coordination & Integration; D E = Empowerment; D TO = Team Orientation; D CD = Capability Development; O C = Competitiveness; O SR = Social Responsibility; O Su Supportiveness; O I = Innovation; O EoR = Emphasis on Rewards; O PO = Performance Orientation; O St = Stability; G UA = Uncertainty Avoidance; G FO = Future Orientation; G PD = Power Distance; G HO = Humane Orientation; G PO = Performance Orientation; G I = Individualism; G OC Organizational Cohesion; G F = Feminini

2.4.2 Item Performance: Means, Standard Deviations, Skewness, and Kurtosis

DOCS. Standard deviations of all DOCS items were above SD = 0.40, which indicated satisfactory variability of the data (Table 1.2). None of the means were below M = 2.00, but several items displayed values larger than M = 4.00. This was particularly pronounced for the items of the customer focus, strategic direction, and capability development subscales. This finding should be seen in conjunction with the results regarding skewness and kurtosis. Except for three items (Items 15, 28, and 50), all items were negatively skewed, some with extreme values above five. Additionally, it can be seen from the calculation of floor and ceiling effects that not one of the floor effect values was above 10%, but in more than 30 cases, a ceiling effect was observed. Several items showed a combination of violations of acceptable distributional patterns, and eight items (Items 2, 9, 10, 14, 18, 19, 20, and 52) violated more than three of the recommendations.

Table 1.2

Descriptive Item Statistics: DOCS

Factor	**Item**	***N***	***M***	***SD***	**Skewness/ SE of Skewness**	**Kurtosis/ SE of Kurtosis**	**Floor effect**	**Ceiling effect**
Creating Change								
	1	171	3.04	0.82	-0.35	-0.53	2%	2%
	2	171	**4.02**	0.69	**-4.21**	**5.60**	1%	**22%**
	3	171	3.33	0.82	-1.15	-0.34	1%	5%
	4	169	3.33	0.94	-1.95	-0.36	4%	8%
	5	169	3.53	0.86	**-3.95**	1.47	2%	8%
Customer Focus								
	6	169	2.98	0.77	1.06	-1.22	1%	2%
	7	167	2.89	0.85	-0.12	-1.43	4%	1%
	8	170	3.61	0.84	**-2.70**	-0.08	1%	**11%**
	9	167	**4.17**	0.88	**-6.69**	**4.61**	1%	**39%**
	10	167	**4.14**	0.82	**-5.74**	**4.92**	1%	**35%**

Factor	Item	*N*	*M*	*SD*	Skewness/ SE of Skewness	Kurtosis/ SE of Kurtosis	Floor effect	Ceiling effect
Learning								
	11	167	3.74	0.95	**-3.26**	0.67	2%	**22%**
	12	167	2.99	0.80	-0.72	0.21	3%	2%
	13	166	3.70	0.89	**-3.66**	0.69	1%	**15%**
	14	164	**4.13**	0.76	**-3.39**	0.52	0%	**33%**
	15	165	3.42	1.09	1.87	**-2.66**	1%	**28%**
Strategic Direction								
	16	164	**4.23**	0.69	**-3.53**	1.40	0%	**36%**
	17	161	3.22	0.83	-0.47	-1.59	1%	4%
	18	164	**4.22**	0.71	**-5.11**	**5.93**	1%	**35%**
	19	164	**4.18**	0.72	**-4.16**	**2.42**	0%	**34%**
	20	162	**4.22**	0.92	**-6.85**	**3.88**	1%	**46%**
Goals and Objectives								
	21	162	3.72	0.69	**-3.07**	1.23	0%	8%
	22	160	3.75	0.71	-1.81	0.36	0%	11%
	23	161	3.92	0.77	-1.92	-0.37	0%	**22%**
	24	161	3.89	0.82	**-2.84**	-0.07	0%	**22%**
	25	163	3.90	0.74	-1.61	-0.29	0%	**20%**
Vision								
	26	162	3.70	0.88	**-3.69**	0.22	1%	**14%**
	27	160	3.93	0.74	**-2.79**	0.93	0%	**20%**
	28	158	2.80	0.89	0.36	-1.11	6%	2%
	29	163	3.31	0.73	**-2.89**	1.74	2%	2%
	30	161	3.81	0.65	-1.11	0.40	0%	**11%**
Core Values								
	31	157	3.55	0.92	**-2.83**	0.57	3%	**12%**
	32	154	3.27	0.80	**-2.34**	-0.95	1%	2%
	33	157	3.97	0.73	**-3.37**	1.85	0%	**21%**
	34	153	3.38	0.89	-1.01	-1.57	1%	8%
	35	152	3.51	0.89	**-2.56**	0.21	2%	10%
Agreement								
	36	156	3.81	0.85	**-3.94**	**2.06**	1%	**18%**
	37	157	3.87	0.75	-1.20	-0.73	0%	**19%**
	38	155	3.10	0.75	-1.79	-1.42	1%	0%
	39	153	3.59	0.79	-1.41	-0.77	0%	10%
	40	155	3.43	0.75	**-2.08**	-1.22	0%	3%
Coordination and Integration								
	41	155	3.59	0.80	**-3.21**	-0.38	0%	7%
	42	155	3.24	0.80	-1.95	-0.99	1%	2%
	43	153	3.08	0.85	-1.83	-0.28	4%	2%
	44	154	3.81	0.96	**-2.59**	-0.58	1%	**26%**
	45	154	3.49	0.73	**-3.48**	-0.74	0%	3%
Empowerment								
	46	155	**4.03**	0.66	**-2.22**	1.58	0%	**21%**
	47	152	3.56	0.75	**-2.48**	-0.40	0%	6%
	48	154	3.71	0.85	-1.71	-0.20	1%	**17%**
	49	153	3.50	0.80	**-2.02**	-0.12	1%	7%
	50	155	2.82	0.85	1.50	-1.29	3%	2%

Factor	Item	*N*	*M*	*SD*	Skewness/ SE of Skewness	Kurtosis/ SE of Kurtosis	Floor effect	Ceiling effect
Team Orientation								
	51	153	3.31	0.81	**-2.12**	0.32	2%	4%
	52	155	**4.14**	0.81	**-4.31**	**2.05**	1%	**36%**
	53	155	3.90	0.85	**-3.64**	1.17	1%	**23%**
	54	154	3.99	0.87	**-4.93**	**3.04**	1%	**28%**
	55	155	3.69	0.79	**-3.96**	**2.84**	1%	10%
Capability Development								
	56	154	3.58	0.85	**-3.73**	1.69	2%	9%
	57	155	3.32	0.84	-1.36	0.25	2%	6%
	58	155	**4.09**	0.77	**-2.59**	-0.46	0%	**32%**
	59	153	**4.15**	0.84	**-4.23**	1.30	1%	**39%**
	60	153	3.82	0.85	**-3.55**	1.10	1%	**18%**

Note: Bold values violate recommendations regarding acceptable distributional patterns: $2.00 < M > 4.00$; $SD < 0.40$; Skewness/*SE* of Skewness and Kurtosis/*SE* of Kurtosis $-1.96 < x > 1.96$; % of participants choosing lowest/highest score > 10%.

OCP. The OCP items showed satisfactory scores for standard deviations, and not one of the items displayed a floor effect (Table 1.3). However, several items had a mean above M = 4.00, which affected the dimensions competitiveness, social responsibility, and stability in particular. All items (except for Item 16) were negatively skewed, and (except for the dimension innovation), more than two items showed strong negative skewness on all other dimensions. Nearly all items (except for Items 16 and 19) displayed ceiling effects.

Table 1.3

Descriptive Item Statistics: OCP

Factor	Item	*N*	*M*	*SD*	Skewness/ SE of Skewness	Kurtosis/ SE of Kurtosis	Floor effect	Ceiling effect
Competitiveness								
	1	155	**4.48**	0.57	**-2.76**	-1.76	0%	**52%**
	2	154	**4.71**	0.51	**-9.48**	**11.57**	0%	**73%**
	3	155	**4.17**	0.80	**-4.40**	1.36	0%	**37%**
	4	155	**4.18**	0.70	**-3.13**	1.22	0%	**33%**
Social Responsibility								
	5	155	3.94	0.72	**-2.24**	0.74	0%	**19%**
	6	155	**4.57**	0.52	**-2.83**	**-2.81**	0%	**58%**
	7	155	**4.32**	0.64	**-3.67**	**2.22**	0%	**41%**
	8	154	**4.56**	0.64	**-6.65**	**3.23**	0%	**63%**

Factor	Item	*N*	*M*	*SD*	Skewness/ SE of Skewness	Kurtosis/ SE of Kurtosis	Floor effect	Ceiling effect
Supportiveness								
	9	152	**4.14**	0.77	**-2.57**	-1.00	0%	**36%**
	10	152	3.60	0.82	-0.14	-0.33	1%	**14%**
	11	152	3.84	0.79	**-2.68**	1.38	1%	**18%**
	12	152	4.00	0.75	**-3.81**	**3.36**	1%	**24%**
Innovation								
	13	154	4.00	0.81	**-2.31**	-0.83	0%	**29%**
	14	153	**4.01**	0.69	-1.88	0.48	0%	**22%**
	15	153	3.76	0.78	-1.27	-0.65	0%	**16%**
	16	153	2.99	1.00	1.56	-1.14	4%	8%
Emphasis on Rewards								
	17	154	3.71	0.85	**-3.95**	**2.54**	2%	**14%**
	18	154	**4.27**	0.73	**-5.47**	**5.55**	1%	**40%**
	19	154	3.35	0.91	-0.91	-0.71	2%	9%
	20	154	3.60	0.94	**-3.16**	0.55	3%	**14%**
Performance Orientation								
	21	154	**4.02**	0.64	**-2.40**	**2.49**	0%	**19%**
	22	154	3.61	0.67	-0.08	-0.49	0%	7%
	23	154	**4.10**	0.72	**-3.47**	1.93	0%	**28%**
	24	154	3.88	0.81	**-3.51**	1.82	1%	**20%**
Stability								
	25	154	**4.58**	0.52	**-3.06**	**-2.64**	0%	**59%**
	26	153	**4.27**	0.68	**-2.61**	-0.55	0%	**39%**
	27	154	**4.71**	0.47	**-5.62**	-0.75	0%	**71%**
	28	154	3.68	0.75	**-2.68**	0.80	0%	**17%**

Note: Bold values violate recommendations regarding acceptable distributional patterns: $2.00 < M > 4.00$; $SD < 0.40$; Skewness/*SE* of Skewness and Kurtosis/*SE* of Kurtosis $-1.96 < x > 1.96$; % of participants choosing lowest/highest score > 10%.

GLOBE. The GLOBE items showed satisfactory standard deviations (Table 1.4). While few items had means above M = 4.00, this deviation from the recommendations was less pronounced than for the DOCS and especially the OCP items. Again, most items were negatively skewed, but fewer items violated the -1.96 threshold. Negative skewness was particularly pronounced for the items of the dimensions future orientation, humane orientation, performance orientation, and organization/group cohesion. In contrast to all other dimensions, the gender-egalitarianism dimension displayed three strongly positively skewed items and two items with floor effects. Ceiling effects were observable for a number of items, which affected particularly the humane orientation and organization/group cohesion

dimensions. Only few items showed a combination of violations of recommended distributional patterns, and Items 23 and 27 violated more than three of the recommendations.

Table 1.4

Descriptive Item Statistics: GLOBE

Factor	**Item**	***N***	***M***	***SD***	**Skewness/ SE of Skewness**	**Kurtosis/ SE of Kurtosis**	**Floor effect**	**Ceiling effect**
Uncertainty Avoidance								
	1	150	3.27	0.78	-0.95	-2.00	0%	3%
	2	153	3.24	0.83	-1.64	-1.24	1%	3%
	3	153	3.90	0.76	**-3.35**	1.42	0%	**18%**
Future Orientation								
	4	151	3.56	1.37	**-3.24**	-1.90	**14%**	**32%**
	5	153	3.84	1.21	**-4.80**	-0.18	7%	**36%**
	6	154	**4.07**	0.94	**-3.95**	-0.18	1%	**40%**
Power distance								
	7	150	3.13	1.34	-0.99	**-2.80**	**17%**	**19%**
	8	152	3.09	0.93	-0.12	-0.15	5%	7%
	9	150	3.21	0.95	-0.79	1.06	6%	10%
Humane Orientation								
	10	154	3.49	1.04	**-2.65**	-0.85	4%	**14%**
	11	153	3.39	0.88	-1.33	-0.01	2%	8%
	12	154	**4.20**	0.72	**-3.84**	1.85	0%	**35%**
	13	153	3.13	0.87	-0.08	0.53	3%	6%
Performance Orientation								
	14	153	3.80	0.84	**-2.48**	0.40	1%	**19%**
	15	150	3.35	0.99	**-2.06**	0.97	7%	**12%**
	16	152	2.93	1.07	-0.99	-1.19	**13%**	6%
	17	153	3.33	0.81	-1.57	0.80	2%	5%
Individualism – Collectivism								
	18	151	3.17	0.86	0.93	-1.16	1%	6%
	19	150	3.46	1.21	-1.28	**-2.24**	6%	**26%**
	20	152	3.95	1.02	**-3.40**	-0.11	3%	**39%**
Org./Group Cohesion								
	21	153	3.47	0.94	-1.28	-1.24	1%	**12%**
	22	152	3.76	0.84	**-2.51**	0.45	1%	**17%**
	23	153	**4.11**	0.64	**-2.83**	**2.96**	0%	**25%**
	24	154	**4.14**	0.75	-1.24	**-3.08**	0%	**36%**
	25	149	2.98	1.18	1.32	-1.56	10%	**16%**
	26	151	3.98	0.75	**-4.65**	**4.56**	1%	**21%**

Factor	Item	*N*	*M*	*SD*	Skewness/ SE of Skewness	Kurtosis/ SE of Kurtosis	Floor effect	Ceiling effect
Gender Issues - Femininity								
	27	155	**4.41**	0.86	**-6.91**	**2.27**	0%	**61%**
	28	154	2.19	0.98	**2.96**	-0.21	**27%**	2%
	29	153	2.91	0.93	0.43	0.34	7%	5%
	30	154	3.24	0.81	-0.85	1.55	3%	5%
	31	147	3.18	0.67	**2.37**	**5.81**	1%	5%
	32	153	**1.42**	0.53	**3.56**	-1.84	**59%**	0%

Note: Bold values violate recommendations regarding acceptable distributional patterns: 2.00 > *M* > 4.00; *SD* < 0.40; Skewness/*SE* of Skewness and Kurtosis/*SE* of Kurtosis -1.96 < x > 1.96; % of participants choosing lowest/highest score > 10%.

2.4.3 Internal Consistency or Reliability of the Scales

DOCS. The majority of the DOCS items demonstrated satisfactory values for Cronbach's alpha with an average of α = .74 across all scales (Table 1.5). Values for Cronbach's alpha ranged from α =.66 to α = 88. with three subdimensions (customer focus, strategic direction, and capability development) showing values slightly below the threshold of α = .70.Second, without any exception, all items displayed item-total correlations above the threshold of r = .30. Finally, none of the inter-item correlations (IICs) were above the limit of r = .70, but a few IICs were below r = .20.

Table 1.5

Reliability Statistics: DOCS

Factor	Item	*a*	Corr. ITC	Average IIC	Inter-Item Correlation Matrix			
					1	2	3	4	5
Creating Change		.72		.35					
	1		.49		1				
	2		.60		.38	1			
	3		.58		.37	.59	1		
	4		.42		.35	.39	.35	1	
	5		.34		.29	.31	.34	**.15**	1

Factor	Item	*a*	Corr. ITC	Average IIC	Inter-Item Correlation Matrix				
					1	2	3	4	5
Customer Focus		**.66**		.26					
	6		.41		1				
	7		.33		.41	1			
	8		.36		.13	.14	1		
	9		.49		.32	.26	.35	1	
	10		.37		.22	**.11**	.33	.34	1
Learning		.73		.36					
	11		.54		1				
	12		.35		.32	1			
	13		.50		.33	.32	1		
	14		.60		.54	.22	.36	1	
	15		.51		.36	**.18**	.42	.51	1
Strategic Direction		**.69**		.33					
	16		.45		1				
	17		.31		.24	1			
	18		.54		.42	.22	1		
	19		.71		.51	.35	.61	1	
	20		.32		**.16**	**.12**	.26	.41	1
Goals and Objectives		.81		.46					
	21		.59		1				
	22		.54		.36	1			
	23		.69		.52	.57	1		
	24		.65		.52	.43	.54	1	
	25		.53		.40	.32	.32	.48	1
Vision		.73		.37					
	26		.60		1				
	27		.59		.51	1			
	28		.27		.20	.26	1		
	29		.60		.58	.48	.23	1	
	30		.48		.43	.42	**.14**	.41	1
Core Values		.70		.33					
	31		.47		1				
	32		.49		.42	1			
	33		.60		.48	.40	1		
	34		.30		**.13**	.27	.29	1	
	35		.45		.33	.29	.44	.22	1
Agreement		.79		.43					
	36		.55		1				
	37		.52		.32	1			
	38		.62		.47	.40	1		
	39		.59		.53	.37	.51	1	
	40		.55		.36	.50	.48	.34	1
Coord. and Integration		.74		.37					
	41		.42		1				
	42		.63		.42	1			
	43		.64		.33	.60	1		
	44		.36		**.14**	.35	.38	1	
	45		.51		.39	.41	.50	.20	1
Empowerment		.72		.34					
	46		.48		1				
	47		.42		.30	1			
	48		.43		.29	.24	1		
	49		.59		.45	.37	.39	1	
	50		.47		.31	.30	.32	.41	1

Factor	Item	*a*	Corr. ITC	Average IIC	Inter-Item Correlation Matrix				
					1	2	3	4	5
Team Orientation		.88		.58					
	51		.58		1				
	52		.76		.58	1			
	53		.78		.45	.71	1		
	54		.81		.52	.70	**.80**	1	
	55		.61		.43	.48	.56	.59	1
Capability Development		**.68**		.30					
	56		.39		1				
	57		.51		.43	1			
	58		.51		.24	.44	1		
	59		.47		**.18**	.31	.54	1	
	60		.30		.23	.20	**.17**	.26	1

Note: IIC = Inter-item correlation; ITC = Item-total correlation. Bold values violate recommendations regarding acceptable distributional patterns: IIC = .20 < *r* > .70; ITC *r* < .30; Cronbach's alpha = α < .70. Average α = .74.

OCP. The OCP scales were the most reliable of the three instruments that were assessed (Table 1.6). First, the average value for Cronbach's alpha was α = .76, with dimensions ranging from α =.67 to α = 85. Only two dimensions (innovation and performance orientation) fell slightly below the .70 threshold. Second, only two items (Items 16 and 21) showed ITCs lower than r = .30. , and few IICs of the innovation and performance orientation dimensions were below the threshold of r = .20.

Table 1.6

Reliability Statistics: OCP

Factor	Item	*a*	Corr. ITC	Average IIC	Inter-Item Correlation Matrix			
					1	2	3	4
Competitiveness		.79		.50				
	1		.64		1			
	2		.57		.56	1		
	3		.56		.42	.41	1	
	4		.68		.60	.48	.54	1
Social Responsibility		.73		.41				
	5		.49		1			
	6		.53		.37	1		
	7		.61		.48	.45	1	
	8		.49		.32	.41	.45	1

Factor	Item	*a*	Corr. ITC	Average IIC	Inter-Item Correlation Matrix			
Supportiveness		.85		.59				
	9		.64		1			
	10		.66		.52	1		
	11		.73		.54	.63	1	
	12		.72		.61	.55	.67	1
Innovation		**.68**		.38				
	13		.56		1			
	14		.53		.55	1		
	15		.69		.68	.60	1	
	16		**.18**		**.11**	**.12**	.25	1
Emphasis on Rewards		.84		.57				
	17		.67		1			
	18		.59		.48	1		
	19		.71		.58	.50	1	
	20		.76		.62	.55	.69	1
Performance Orientation		**.67**		.33				
	21		**.29**		1			
	22		.48		**.17**	1		
	23		.62		.41	.47	1	
	24		.43		**.12**	.40	.44	1
Stability		.74		.44				
	25		.64		1			
	26		.64		.60	1		
	27		.47		.59	.38	1	
	28		.45		.34	.48	.24	1

Note: IIC = Inter-item correlation; ITC = Item-total correlation. Bold values violate recommendations regarding acceptable distributional patterns: IIC = .20 < *r* > .70; ITC *r* < .30; Cronbach's alpha = α < .70. Average α = .76.

GLOBE. A completely different picture emerged for the GLOBE dimensions (Table 1.7). Average Cronbach's alpha was as low as α = .46, and only one dimension (humane orientation) met the criterion of α > .70. Several ITCs were below the threshold of r = .30, and only the humane orientation dimension performed well in this regard. Numerous IICs were unsatisfactory (Items 6, 17, 25, 31, and 32). Moreover, Items 25 and 32 even showed negative IICs.

Table 1.7

Reliability Statistics: GLOBE

Factor	**Item**	***a***	**Corr. ITC**	**Average IIC**	**Inter-Item Correlation Matrix**					
					1	2	3	4	5	6
Uncertainty Avoidance		**.29**		**.12**						
	1		**.00**		1					
	2		.31		**.07**	1				
	3		**.19**		**-.08**	.35	1			
Future Orientation		**.49**		.22						
	4		.43		1					
	5		.42		.48	1				
	6		**.10**		**.11**	**.07**	1			
Power distance		**.38**		**.19**						
	7		**.18**		1					
	8		**.22**		**.09**	1				
	9		.30		**.19**	.27	1			
Humane Orientation		.76		.45						
	10		.56		1					
	11		.60		.45	1				
	12		.56		.57	.39	1			
	13		.52		.35	.56	.36	1		
Performance Orientation		**.51**		.20						
	14		**.23**		1					
	15		**.23**		**.01**	1				
	16		.48		.28	.33	1			
	17		**.28**		**.19**	**.09**	.29	1		
Indiv. – Collectiv.		**.41**		.21						
	18		.34		1					
	19		**.17**		**.17**	1				
	20		**.27**		.36	**.10**	1			
Org./Group Cohesion		**.56**		.22						
	21		.44		1					
	22		.48		.50	1				
	23		.41		.32	.36	1			
	24		.39		.34	.27	.40	1		
	25		**-.03**		**-.04**	**.04**	**-.05**	**-.03**	1	
	26		.36		.29	.29	.30	.31	**.02**	1
Gender Issues – Fem.		**.31**		**.06**						
	27		**.04**		1					
	28		**.11**		**-.21**	1				
	29		.33		**.02**	.33	1			
	30		.33		**.19**	**.13**	.30	1		
	31		**.07**		**.06**	**.08**	**.06**	**.03**	1	
	32		**-.05**		**.13**	**-.15**	**-.07**	**.07**	**.11**	1

Note: IIC = Inter-item correlation; ITC = Item-total correlation. Bold values violate recommendations regarding acceptable distributional patterns: IIC = .20 < *r* > .70; ITC *r* < .30; Cronbach's alpha = α < .70. Average α = .46.

2.4.4 Confirmatory Factor Analysis

DOCS. Model fit indices differed between the two estimation methods that were applied (Table 1.8). The incremental fit indices showed unsatisfactory model fit for the MLR estimation (CFI = 0.77; TLI = 0.76), whereas they confirmed good model fit for the WLSMV estimation (CFI = 0.95; TLI = 0.95). However, in both cases, RMSEA was below 0.06 (RMSEAMLR = 0.06; RMSEAWLSMV = 0.04), a result that indicates good model fit. Chi-square for the second-order factor solution was $\chi2(1,692) = 2,129.21$, $p < .01$. Two alternative models were compared to the second-order factor solution. The first alternative model specified four first-order factors (Chi-square and fit indices: $\chi2[1,704] = 2,206.90$, $p < .01$, CFI = 0.94, TLI = 0.94, RMSEA = 0.04), and the second alternative model specified one factor only (Chi-square and fit indices: $\chi2[1,710] = 2,364.61$, $p < .01$; CFI = 0.93; TLI = 0.92; RMSEA = 0.05). Compared to the second-order factor solution, both alternatives indicated significantly worse fit as indicated by significant chi-square differences ($\Delta\chi2[12] = 128.87$, $p < .01$ for the four-factor solution and $\Delta\chi2[18] = 305.86$, $p < .01$ for the one-factor solution).

Factor loadings on the first-factorial level ranged between $.24 < r > .88$. All items except for Items 7, 28, and 34 displayed factor loadings above r = .40 and no cross-loadings (Table 1.9), a result that indicates convergent validity. Factor loadings on the second-order factors were all larger than r = .85, indicating strong convergent validity. Correlations among second-order factors were strong and ranged between $.83 < r > .95$, a result that could indicate poor discriminant validity.

Table 1.8

CFA Model Fit Indices: DOCS

Fit index	Model estimation	
	Continuous, MLR	**Categorical, WLSMV**
χ^2	2651.62 (SCF = 1.01)	2129.21
df	198	298
CFI	0.77	0.95
TLI	0.76	0.95
RMSEA	0.06	0.04

Note: MLR = Maximum likelihood robust; WLSMV = Weighted least squares means and variance adjusted; SCF = Scaling correction factor; df = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker Lewis Index; RMSEA = Root Mean Square Error of Approximation.

Table 1.9

CFA Parameter Estimates: DOCS

Factor	Item	Estimation MLR		Estimation WLSMV	
		Standardized	***SE***	**Standardized**	***SE***
First-order factors					
Creating Change					
	1	0.50	0.08	0.50	0.07
	2	0.67	0.07	0.67	0.05
	3	0.70	0.07	0.74	0.04
	4	0.62	0.08	0.76	0.05
	5	0.44	0.08	0.48	0.06
Customer Focus					
	6	0.42	0.08	0.46	0.08
	7	0.36	0.09	0.37	0.08
	8	0.59	0.07	0.70	0.05
	9	0.54	0.09	0.59	0.05
	10	0.57	0.07	0.75	0.06
Learning					
	11	0.66	0.05	0.72	0.04
	12	0.46	0.08	0.50	0.07
	13	0.59	0.06	0.62	0.05
	14	0.59	0.06	0.66	0.05
	15	0.63	0.05	0.74	0.04
Strategic Direction					
	16	0.56	0.07	0.57	0.06
	17	0.39	0.07	0.47	0.06
	18	0.70	0.09	0.79	0.04
	19	0.87	0.04	0.88	0.03
	20	0.47	0.09	0.61	0.06

Factor	Item	Estimation MLR		Estimation WLSMV	
		Standardized	*SE*	Standardized	*SE*
Goals and Objectives					
	21	0.73	0.05	0.82	0.04
	22	0.58	0.05	0.64	0.05
	23	0.72	0.05	0.77	0.04
	24	0.69	0.05	0.69	0.05
	25	0.66	0.06	0.79	0.04
Vision					
	26	0.77	0.04	0.84	0.04
	27	0.67	0.06	0.74	0.05
	28	0.30	0.08	0.34	0.08
	29	0.71	0.05	0.77	0.05
	30	0.59	0.05	0.66	0.05
Core Values					
	31	0.73	0.04	0.80	0.04
	32	0.53	0.08	0.56	0.06
	33	0.71	0.06	0.78	0.05
	34	0.24	0.10	0.21	0.07
	35	0.55	0.06	0.63	0.05
Agreement					
	36	0.62	0.07	0.66	0.05
	37	0.66	0.06	0.75	0.04
	38	0.68	0.06	0.73	0.05
	39	0.63	0.06	0.70	0.05
	40	0.66	0.06	0.75	0.05
Coord. and Integration					
	41	0.57	0.07	0.68	0.05
	42	0.67	0.07	0.71	0.05
	43	0.73	0.05	0.78	0.04
	44	0.41	0.09	0.47	0.05
	45	0.68	0.05	0.81	0.04
Empowerment					
	46	0.66	0.05	0.76	0.04
	47	0.48	0.08	0.53	0.07
	48	0.52	0.07	0.54	0.06
	49	0.66	0.06	0.67	0.04
	50	0.59	0.05	0.61	0.05
Team Orientation					
	51	0.62	0.06	0.76	0.05
	52	0.81	0.04	0.86	0.03
	53	0.86	0.03	0.88	0.03
	54	0.88	0.03	0.91	0.02
	55	0.68	0.05	0.84	0.05
Capability Development					
	56	0.61	0.09	0.73	0.06
	57	0.66	0.07	0.71	0.06
	58	0.60	0.08	0.72	0.05
	59	0.47	0.10	0.57	0.05
	60	0.40	0.09	0.50	0.07
Second-order factors					
Adaptability					
	Creating Change	0.85	0.09	0.88	0.03
	Customer Focus	0.85	0.07	0.83	0.05
	Learning	1.03	0.03	1.04	0.03
Mission					
	Strategic Direction	0.86	0.05	0.91	0.03
	Goals & Objectives	0.92	0.04	0.93	0.02
	Vision	0.96	0.03	0.93	0.03

Factor	Item	Estimation MLR		Estimation WLSMV	
		Standardized	*SE*	Standardized	*SE*
Consistency					
	Core Values	0.92	0.04	0.91	0.03
	Agreement	0.99	0.03	0.98	0.02
	Coord. & Integration	0.92	0.04	0.91	0.03
Involvement					
	Empowerment	1.03	0.04	1.02	0.03
	Team Orientation	0.87	0.03	0.88	0.02
	Capability Developm.	0.89	0.07	0.86	0.04

Note: SE = Standard error.

OCP. The fit indices (Table 1.10) indicated acceptable construct validity of the underlying factor model of the OCP. In the case of MLR estimation, the absolute fit index (RMSEA = 0.06) indicated a good fit, whereas the incremental fit indices either also supported acceptable fit (CFI = 0.91) or showed a value just below the cut-off criterion (TLI = 0.89). With regard to the WLSMV estimation, all fit indices had values that were higher than the pre-defined cut-off criteria (CFI = 0.97; TLI = 0.97; RMSEA = 0.05), thus supporting the construct validity of the German OCP version that was used in this study. Chi-square for the seven-factor solution was $\chi 2(329) = 473.33$, $p < .01$. An alternative model that specified only one factor was compared to the seven-factor solution. The chi-square and fit indices for this model were $\chi 2(350) = 803.21$, $p < .01$; CFI = 0.91; TLI = 0.91; RMSEA = 0.09. A comparison to the seven-factor solution indicated significantly worse fit, as indicated by a significant chi-square difference for the one-factor solution ($\Delta\chi 2[21] = 244.89$, $p < .01$).

The convergent validity of the instrument was largely supported with factor loadings ranging between r = .20 and r = .88 and only two items (Items 16 and 20) with factor loadings below r = .40 (Table 1.11). Factor correlations ranged between r = .40 and r = .84, and only one factor correlation was higher than r = .80. Thus, the discriminant validity of the factors of the instrument was also supported.

Table 1.10

CFA Model Fit Indices: OCP

Fit index	Model estimation	
	Continuous, MLR	Categorical, WLSMV
χ^2	490.82 (SCF = 1.07)	473.33
df	105	138
CFI	0.91	0.97
TLI	0.89	0.97
RMSEA	0.06	0.05

Note: MLR = Maximum likelihood robust; WLSMV = Weighted least squares means and variance adjusted; SCF = Scaling correction factor; df = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker Lewis Index; RMSEA = Root Mean Square Error of Approximation.

Table 1.11

CFA Parameter Estimates: OCP

Factor	Item	Estimation MLR		Estimation WLSMV	
		Standardized	*SE*	Standardized	*SE*
First-order factors					
Competitiveness					
	1	0.77	0.04	0.85	0.04
	2	0.71	0.05	0.96	0.05
	3	0.62	0.05	0.70	0.05
	4	0.74	0.06	0.79	0.04
Social Responsibility					
	5	0.59	0.07	0.66	0.06
	6	0.67	0.05	0.81	0.05
	7	0.67	0.05	0.77	0.04
	8	0.65	0.06	0.78	0.05
Supportiveness					
	9	0.74	0.06	0.83	0.04
	10	0.70	0.06	0.74	0.04
	11	0.81	0.04	0.87	0.03
	12	0.81	0.04	0.86	0.03
Innovation					
	13	0.77	0.05	0.84	0.04
	14	0.70	0.06	0.77	0.05
	15	0.88	0.04	0.94	0.03
	16	0.20	0.10	0.11	0.09
Emphasis on Rewards					
	17	0.74	0.06	0.85	0.04
	18	0.65	0.07	0.77	0.05
	19	0.78	0.04	0.79	0.04
	20	0.85	0.03	0.87	0.03

Factor	Item	Estimation MLR		Estimation WLSMV	
		Standardized	*SE*	Standardized	*SE*
Performance Orientation					
	21	0.34	0.10	0.40	0.07
	22	0.68	0.07	0.79	0.05
	23	0.72	0.07	0.78	0.05
	24	0.60	0.07	0.67	0.06
Stability					
	25	0.76	0.06	0.89	0.04
	26	0.76	0.05	0.79	0.04
	27	0.60	0.08	0.77	0.05
	28	0.55	0.08	0.75	0.06

Note: SE = Standard error.

GLOBE. Performing a CFA with the GLOBE data did not seem promising due to the unsatisfactory reliabilities of the GLOBE scales that were clearly below commonly accepted thresholds. As several scholars have pointed out, the reliability of an instrument is a necessary condition for validity (e.g., DeVellis, 2012; Hinkin, 1998). Nevertheless, we tried to run a CFA, but the model did not converge. In a second step, we excluded those items with negative ITCs to increase the likelihood of convergence. Again, the model did not converge. We interpreted this as evidence that the proposed factorial structure was not supported. In line with this interpretation, we also obtained correlations greater than one among some of the eight latent factors. Researchers have argued that correlations greater than one among latent factors are indicative of indistinguishability, which can lead to incorrect model estimation and results that are "inadmissible" (Muthen, 2006). In sum, the proposed eight factorial structure of the GLOBE survey could not be replicated using the current sample.

2.5 Discussion

This study examined the psychometric quality and cultural equivalence of three organizational culture questionnaires, namely the DOCS, the OCP, and the GLOBE organizational culture survey, in one integrated study. Using a sample from the German banking industry, we obtained different results for the three instruments.

The psychometric properties of the DOCS version used in this study were largely satisfactory and resembled the values that were reported for the original version of the instrument (Denison et al., 2014), although slight deviations from recommended thresholds were observed. Depending on the estimation method and fit indices used for the CFAs, the construct validity of the instrument was also supported. The proposed second-order factor structure of the DOCS proved to be the best fit for the data compared to alternative models, and factor loadings indicated good convergent validity. Based on these results, the metric and conceptual equivalence of the DOCS version used in this study can be regarded as satisfactory. It should be noted, however, that the linguistic and functional equivalence of some items of the German DOCS version that was initially provided to the authors were considered suboptimal. These items were therefore slightly adapted.

The German version of the OCP (which was translated from the original version by the authors) showed even better results than the DOCS. Its psychometric quality was clearly supported by the data and strongly resembled the values that were reported for the original version (Sarros et al., 2005) with only very minor deviations from recommended thresholds. The MLR and the WLSMV estimator yielded either acceptable or very good CFA results regarding the seven-factor model that was proposed for the original version (Sarros et al., 2005). Moreover, the results for both convergent and discriminative validity turned out to be satisfying. Thus, the construct validity of the instrument was also supported. In sum, the results suggest that the metric and conceptual equivalence of the German OCP version used in this study can be regarded as satisfactory. In addition, the authors believe that the elaborated translation process (as described above) yielded an instrument that is also adequate in terms of linguistic and functional equivalence.

In contrast, the results of this study indicated that the GLOBE organizational culture survey should be utilized with caution in an organizational context in Germany. While the

linguistic and functional equivalence of the items were regarded as adequate, the results regarding the psychometric properties of the instrument were disappointing. Although the original GLOBE scales (of the GLOBE version designated for measuring the "as is" organizational culture) already exhibit low internal consistencies with an average Cronbach's α of .61 (House et al., 2004), the results obtained in the present study are even much less satisfying. Metric equivalence could therefore not be assumed. Since the proposed eight-factor model of the GLOBE survey did not converge, the conceptual equivalence of the German GLOBE version remains also questionable.

2.5.1 Limitations

Although this study contributes to a better understanding regarding the psychometric properties and the cultural equivalence of the DOCS, OCP, and the GLOBE organizational culture survey, certain limitations have to be acknowledged. First, it should be noted that all three surveys were presented to the participants in one questionnaire that consisted of 125 items (including socio-demographic questions). We were not able to counterbalance the surveys since our partner organization insisted that all questions were presented to the employees in the same way. As the GLOBE items were presented last, it cannot be ruled out that test fatigue, which can influence the accuracy and conscientiousness with which participants complete surveys (Ben-Nun, 2008), was at least partly responsible for the unsatisfactory GLOBE results. However, we conducted a pre-test with selected employees from the organization before distributing it to the entire workforce to obtain feedback regarding survey length, comprehensibility, and usability. The feedback was positive and no concerns were raised regarding the length of the questionnaire. On average, the time to complete the questionnaire was 19 minutes, which was considered appropriate by the employees that participated in the pre-test. After data collection, we took two additional steps to ensure that test fatigue had not biased the results. First, the leadership and the workers'

council of the organization were asked for feedback on the data collection process. They reported that no concerns regarding the length of the questionnaire had been raised, and that employees' motivation to participate had been high. Second, the pattern of dropouts and missing values was analyzed, and a noticeable accumulation of dropouts or missing values in the GLOBE part of the survey could not be detected. These aspects suggest that the influence of test fatigue on the results was limited, even though it cannot be ruled out completely. Future studies that aim to replicate the current study (see below) should therefore consider counterbalancing the three surveys.

Second, data was obtained from only one organization in Germany. While the sample represents a representative cross-section of the employees of the organization, some of the results might be unique to this organization. Third, the sample of N = 172 for this study ranged at the lower end of acceptable sample sizes for the estimation of CFAs. However, acceptable sample sizes can range between a minimum of 50 to 300 respondents (Furr & Bacharach, 2014); therefore, the study's sample size might still be considered appropriate. Finally, social desirability might have affected the results and limited the variability of the responses (O'Reilly et al., 1991).

2.5.2 Implications for Future Research

This study identifies three main directions for future research: First, future studies should aim at replicating the current study in other non-English-speaking countries (i.e., using different translated versions of the DOCS, the OCP, and the GLOBE survey). These kinds of replication studies could provide some indication of whether the results of this study are stable across different cultural contexts or whether they can be uniquely attributed to the German version of the instruments. Obtaining samples from countries in which dimensions of organizational culture exist that are uncommon in Western organizations – for example the concepts of guanxi (Park & Luo, 2001) and harmony (Tsui, Wang, & Xin, 2006) in China –

could be particularly interesting in this regard. Second, the present study assessed the conceptual equivalence of the instruments based on assessments of construct validity that were, in turn, based on confirmatory factor analyses. While equivalent factor structures are an essential part of conceptual equivalence, future studies could put additional emphasis on analyzing the nomological network of the instruments by testing whether the instruments correlate with other variables with which they are expected to correlate (Geisinger, 2003). In particular, testing and comparing the criterion-related validity of the three instruments under study could be a worthwhile next step, especially since one of them (the DOCS) is a diagnostic instrument that is based on a theoretical framework that links different culture dimensions to different criteria of organizational performance.

Third, the three instruments analyzed in this study represent only a small sample of what is, in fact, a wide range of available organizational culture surveys. Future studies could include other adapted or translated organizational culture surveys in order to identify instruments that work well outside of Anglo-American contexts.

2.5.3 Implications for Practitioners

The idea of gaining competitive advantages due to a superior organizational culture has always intrigued practitioners (Sackmann, 2011). However, attempts to shape organizational culture require thorough analyses of the status quo. Thus, practitioners should rely on validated instruments that allow them to assess organizational culture reliably and by means of clearly defined culture dimensions (Schneider et al., 2013). Multinational corporations face the additional challenge of needing to be able to compare the results of a culture assessment obtained in country A to the results obtained in country B. The present study suggests that the German versions of both the DOCS and the OCP fulfill these criteria and can therefore be recommended for use in practice (e.g., as the starting point of a culture change initiative). The DOCS might even be more appealing to practitioners for two reasons.

First, its nested structure provides information on two different levels of abstraction: The four dimensions, which are broad enough to be discussed at board level and allow for the identification of benchmarks across organizations, and the 12 subdimensions, which represent more focused and actionable culture areas. Second, the proposed links between the dimensions of the DOCS and specific performance outcomes (although these were not part of the current study) can provide valuable guidance for practitioners who intend to draw on organizational culture for enhancing organizational success.

2.6 Conclusion

Organizational culture is a topic that is increasingly attracting the attention of both scholars and practitioners, and research in this area has made great strides. However, the reliability and validity of organizational culture surveys is often poorly documented and findings in this area are generally disappointing. For translated or linguistically adapted measures, verified information regarding their reliability and validity is even more difficult to find, which poses a challenge to researchers who intend to assess organizational cultures in cross-cultural settings or non-English speaking countries. We took a first step towards addressing this issue by analyzing the psychometric quality and cultural equivalence of three organizational culture questionnaires, namely the DOCS, the OCP, and the GLOBE organizational culture survey, in one integrated study. By focusing on the translated or adapted versions of these instruments, we created new insights regarding the important issue of their cultural equivalence. This study thereby contributes to facilitating cross-cultural research on organizational culture by providing evidence on instruments that, although being developed and validated in an Anglo-American cultural context, perform satisfactorily in other cultural settings as well. Moreover, this study yielded a German version of the OCP and

an adapted (and, in the authors' opinion, improved) German version of the DOCS, which can be applied by researchers to assess organizational cultures in German cultural contexts.

2.7 References

Aiken, L. R., & Groth-Marnat, G. (2006). *Psychological testing and assessment* (12th ed.). Boston: Allyn and Bacon.

Ashkanasy, N. M., Broadfoot, L., & Falkus, S. (2000). Questionnaire measures of organizational culture. In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (1st ed., pp. 131–162). Thousand Oaks, CA: Sage.

Ashkanasy, N. M., Wilderom, C. P., & Peterson, M. F. (2011). Introduction to the handbook of organizational culture and climate, second edition. In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (2nd ed., pp. 3–10). Thousand Oaks, CA: Sage.

Atwater, L., Wang, M., Smither, J. W., & Fleenor, J. W. (2009). Are cultural characteristics associated with the relationship between self and others' ratings of leadership?. *Journal of Applied Psychology, 94,* 876-886. doi:10.1037/a0014561

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, *36,* 421-458. doi:10.2307/2393203

Ben-Nun, P. (2008). Respondent fatigue. In P. Lavrakas (Ed.), *Encyclopedia of survey research methods* (pp. 743–744). Thousand Oaks, CA: Sage.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1,* 185–216. doi:10.1177/135910457000100301

Brislin, R. W. (1980). Translation and content analysis of oral and written material. In H. C. Triandis & J. W. Berry (Eds.), *Handbook of cross-cultural psychology, Vol. 2: Methodology* (pp. 389–444). Needham Heights, MA: Allyn and Bacon.

Brown, T. (2006). *Confirmatory factor analysis for applied research*. New York: Guilford Press.

Cable, D. M., & Judge, T. A. (1997). Interviewers' perceptions of person-organization fit and organizational selection decisions. *Journal of Applied Psychology, 82,* 546-561. doi:10.1037/0021-9010.82.4.546

Cabrera-Nguyen, P. (2010). Author guidelines for reporting scale development and validation results in the Journal of the Society for Social Work and Research. *Journal of the Society for Social Work and Research, 1,* 99–103. doi:10.5243/jsswr.2010.8

Carter, N. T., Kotrba, L. M., Diab, D. L., Lin, B. C., Pui, S. Y., Lake, C. J., . . . Chao, A. (2012). A comparison of a subjective and statistical method for establishing score comparability in an organizational culture survey. *Journal of Business and Psychology, 27,* 451-466. doi:10.1007/s10869-011-9254-1

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7,* 309–319. doi:10.1037/1040-3590.7.3.309

Denison, D., Nieminen, L., & Kotrba, L. (2014). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work and Organizational Psychology, 23,* 145–161. doi:10.1080/1359432X.2012.713173

DeVellis, R. F. (2012). *Scale development: Theory and applications*. Thousand Oaks, CA: Sage.

Fields, D. L. (2002). *Taking the measure of work: A guide to validated scales for organizational research and diagnosis*. Thousand Oaks, CA: Sage. Retrieved from http://books.google.de/books?hl=de&lr=&id=ZBJzAwAAQBAJ&oi=fnd&pg=PP1&dq=Taking+the+Measure+of+Work:+A+Guide+to+Validated+Scales+for+Organizational+…&ots=sxhHsP4ljI&sig=NQIL7NrxYxoA6f4oCRUPG5DaXEA#v=onepage&q=Taking%20t

he%20Measure%20of%20Work%3A%20A%20Guide%20to%20Validated%20Scales%20for%20Organizational%20…&f=false

Finney, S. J., & DiStefano, C. (2013). Non-normal and categorical data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling. A second course* (2nd ed.). Charlotte, NC: Information Age Publishing.

Furr, M. R., & Bacharach, V. R. (2014). *Psychometrics: An Introduction* (2nd ed.). Thousand Oaks, CA: Sage.

Geisinger, K. F. (1994). Cross-cultural normative assessment: Translation and adaptation issues influencing the normative interpretation of assessment instruments. *Psychological Assessment, 6,* 304–312. doi:10.1037/1040-3590.6.4.304

Geisinger, K. F. (2003). Testing and assessment in cross-cultural psychology. In I. B. Weiner (Editor-in-Chief), J. R. Graham & J. A. Naglieri (Vol. Eds.), *Handbook of psychology* (Vol. 10, assessment psychology, pp. 95–117). Hoboken, NJ: Wiley.

Gillespie, M., Denison, D., Haaland, S., Smerek, R., & Neale, W. (2008). Linking organizational culture and customer satisfaction: Results from two companies in different industries. *European Journal of Work and Organizational Psychology, 17*, 112-132. doi:10.1080/13594320701560820

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2006). *Multivariate data analysis.* Upper Saddle River, NJ: Pearson Prentice Hall.

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational performance: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*, 677-694. doi:10.1037/a0021987

Hinkin, T. R. (1995). A review of scale development research in the study of organizations. *Journal of Management Studies, 21,* 967–988. doi:10.1016/0149-2063(95)90050-0

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods, 1,* 104–121. doi:10.1177/109442819800100106

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modeling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods, 6,* 53–60. doi:10.1080/10705519909540118

House, R., Javidan, M., Hanges, P., & Dorfman, P. (2004). Understanding cultures and implicit leadership theories across the globe: An introduction to project GLOBE. *Journal of World Business, 37,* 3–10. doi:10.1177/109442819800100106

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55. doi:10.1080/10705519909540118

Huang, C. D., Church, A. T., & Katigbak, M. S. (1997). Identifying cultural differences in items and traits: Differential item functioning in the NEO personality inventory. *Journal of Cross-Cultural Psychology, 28*, 192–218. doi:10.1177/0022022197282004

Jackson, D., Gillaspy, J., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. *Psychological Methods, 14,* 6–23. doi:10.1037/a0014694

Jung, T., Scott, T., Davies, Huw T. O., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review, 69,* 1087–1096. doi:10.1111/j.1540-6210.2009.02066.x

Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A., & Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human Relations, 65,* 241-262. doi:10.1177/0018726711426352

Lee, S., & Yu, K. (2004). Corporate culture and organizational performance. *Journal of Managerial Psychology, 19,* 340-359. doi:10.1108/02683940410537927

Lewis-Beck, M., Bryman, A., & Liao, T. (2004). *Encyclopedia of Social Science Research Methods*. 2455 Teller Road, Thousand Oaks California 91320 United States: SAGE Publications, Inc.

Lievens, F., Corstjens, J., Sorrel, M. Á., Abad, F. J., Olea, J., & Ponsoda, V. (2015). The cross-cultural transportability of situational judgment tests: How does a US-based integrity situational judgment test fare in Spain?. *International Journal of Selection and Assessment, 23,* 361-372. doi:10.1111/ijsa.12120

Lim, B. (1995). Examining the organizational culture and organizational performance link. *Leadership and Organization Development Journal, 16*, 16-21. doi:10.1108/01437739510088491

Lonner, W. J. (1979). Issues in cross-cultural psychology. In A. J. Marsella, R. Tharp, & T. Ciborowski (Eds.), *Perspectives on crosscultural psychology* (pp. 17–45). New York: Academic Press.

Martin, J. (2002). *Organizational culture: Mapping the terrain*. Thousand Oaks, CA: Sage Publications.

Morse, B. J., Weinhardt, J. M., Griffeth, R. W., & Oliveira, M. Z. (2014). Cross-cultural measurement invariance of the Employment Opportunity Index (EOI) in Mexican and Brazilian professionals. *International Journal of Selection and Assessment, 22*, 139-148. doi:10.1111/ijsa.12064

Muthen, L. K. (2006). http://www.statmodel2.com/discussion/messages/9/380.html?1372681230

Nichols, D. S., Padilla, J., & Gomez-Maqueo, E. L. (2000). Issues in the cross-cultural adaptation and use of the MMPI-2. In R. H. Dana (Ed.), *Handbook of cross-cultural and multicultural personality assessment* (pp. 247–266). Mahwah, NJ: Erlbaum.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Ones, D. S., & Viswesvaran, C. (2001). Integrity tests and other criterion-focused occupational personality scales (COPS) used in personnel selection. *International Journal of Selection and Assessment, 9,* 31-39. doi:10.1111/1468-2389.00161

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal, 34,* 487–516. doi:10.2307/256404

Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In N. W. Schmitt, S. Highhouse, & I. B. Weiner (Eds.), *Handbook of psychology, Vol. 12: Industrial and organizational psychology* (pp. 643-676). Hoboken: John Wiley & Sons Inc.

Ostroff, C., Kinicki, A. J., & Tamkins, M. M. (2003). Organizational culture and climate. In W. C. Borman, D. R. Ilgen, R. J. Klimoski (Eds.), *Handbook of psychology, Vol. 12: Industrial and organizational psychology* (2nd ed., pp. 565–593). New York: Wiley.

Ostroff, C., & Schulte, M. (2014). A configural approach to the study of organizational culture and climate. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizatonal climate and culture* (pp. 532-552). New York: Oxford University Press.

Park, S. H., & Luo, Y. (2001). Guanxi and organizational dynamics: Organizational networking in Chinese firms. *Strategic Management Journal, 22*, 455-477. doi:10.1002/smj.167

Runyon, R. P., Coleman, K. A., & Pittenger, D. J. (2000). *Fundamentals of behavioral statistics* (9th ed.). Boston: McGraw-Hill.

Sackmann, S. A. (2011). Culture and performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (2nd ed., pp. 188-224). Thousand Oaks, CA: Sage.

Sarros, J. C., Gray, J., Densten, I. L., & Cooper, B. (2005). The organizational culture profile revisited and revised: An Australian perspective. *Australian Journal of Management, 30,* 159–182. doi:10.1177/031289620503000109

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco: Jossey-Bass.

Schneider, B., & Barbera, K. M. (Eds.). (2014). *The Oxford handbook of organizational climate and culture*: Oxford University Press.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361-388. doi:10.1146/annurev-psych-113011-143809

Schriesheim, C. A., Powers, K. J., Scandura, T. A., Gardiner, C. C., & Lankau, M. J. (1993). Improving construct measurement in management research: Comments and a quantitative approach for assessing the theoretical content adequacy of paper-and-pencil survey-type instruments. *Journal of Management, 19,* 385–417. doi:10.1016/0149-2063(93)90058-U

Scott, T., Mannion, R., Davies, H., & Marshall, M. (2003). The quantitative measurement of organizational culture in health care: A review of the available instruments. *Health Services Research, 38,* 923–945. doi:10.1111/1475-6773.00154

Sharifirad, M. S. (2011). The Dimensions of Learning Organization Questionnaire (DLOQ): A cross-cultural validation in an Iranian context. *International Journal of Manpower, 32,* 661–676. doi:10.1108/01437721111158251

Thompson, B., & Daniel, L. G. (1996). Factor analytic evidence for the construct validity of scores: A historical overview and some guidelines. *Educational and Psychological Measurement*, 56, 197-208. doi:10.1177/0013164496056002001

Tsui, A. S., Wang, H., & Xin, K. R. (2006). Organizational culture in China: An analysis of culture dimensions and culture types. *Management and Organization Review, 2*, 345–376. doi:10.1111/j.1740-8784.2006.00050.x

van de Vijver, F., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. Thousand Oaks, CA: Sage.

van Muijen, J. J., Koopman, P., De Witte, K., De Cock, G., Susanj, Z., Lemoine, C., . . . Turnipseed, D. (1999). Organizational culture: The focus questionnaire. *European Journal of Work and Organizational Psychology, 8,* 551–568. doi:10.1080/135943299398168

Waldman, D. A., de Luque, M. S., Washburn, N., House, R. J., Adetoun, B., Barrasa, A., ... & Wilderom, C. P. (2006). Cultural and leadership predictors of corporate social responsibility values of top management: A GLOBE study of 15 countries. *Journal of International Business Studies, 37*, 823-837. doi:10.1057/palgrave.jibs.8400230

Wilderom, C. P., Glunk, U., & Maslowski, R. (2000). Organizational culture as a predictor of organizational performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (pp. 193-209). Thousand Oaks, CA: Sage.

Xenikou, A., & Furnham, A. (1996). A correlational and factor analytic study of four questionnaire measures of organizational culture. *Human Relations, 49,* 349–371. doi:10.1177/001872679604900305

Yilmaz, C., & Ergun, E. (2008). Organizational culture and firm effectiveness: An examination of relative effects of culture traits and the balanced culture hypothesis in an emerging economy. *Journal of World Business, 43,* 290-306. doi:10.1016/j.jwb.2008.03.019

Yuan, K.-H., Chan, W., & Bentler, P. M. (2000). Robust transformation with applications to structural equation modeling. *British Journal of Mathematical and Statistical Psychology, 53,* 31–50. doi:10.1348/000711000159169

3. Study 2: Holistic Approaches to Investigating Organizational Culture and its Link to Effectiveness – A Review and Research Agenda

Abstract

Given the theoretical roots of organizational culture, quantitative research on the culture-effectiveness link should conceive culture as a holistic, multidimensional variable. However, the opposite is the case: Most studies investigate single culture dimensions and their links to effectiveness outcomes. We believe that this misalignment between theory and research is unfortunate, as it might yield simplistic conclusions. To address this issue, we reviewed the literature on the culture-effectiveness link with a focus on studies that treat organizational culture as a holistic phenomenon. The review results are classified into four categories of holistic approaches (aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based). For each approach, main findings, methodological aspects, and theoretical foundations are illuminated. Additionally, we point out specific directions for future research.

Keywords: culture dimensions; literature review; organizational culture; organizational effectiveness

3.1 Introduction

Organizational culture can be understood as a kind of foundation on which other elements of organizational life, such as practices, behaviors, and, ultimately, organizational effectiveness, are built (Ostroff, Kinicki, & Muhamad, 2013). Quantitative research on the culture-effectiveness link has made great strides and there is a large number of studies that have found relationships between multiple facets of organizational culture and various effectiveness criteria (Schneider, Ehrhardt, & Macey, 2013). In most cases, scholars have investigated direct relationships between single culture dimensions and specific effectiveness outcomes (Ostroff & Schulte, 2014), which yielded "…a rather diverse and eclectic picture of the link between culture and performance" (Sackmann, 2011, p. 216) and undoubtedly contributed to a deeper understanding of the field.

However, this kind of research seems to neglect the holistic, multifaceted character of organizational culture that is emphasized in the classic definitions of the construct (e.g., Pettigrew, 1979; Schein, 1985; Smircich, 1983). According to these definitions, organizational culture is a complex phenomenon that represents a pattern of collectively accepted meanings and mirrors the interlinked values, beliefs, and assumptions of a group. In other words, it is the combination of different culture dimensions that constitutes an organization's overall culture, which is why an isolated perspective on individual dimensions seems to be at odds with the theoretical foundations of the construct and may lead to fragmented insights regarding its relationship to effectiveness outcomes.

Thus, pleas for a more holistic perspective have recently been raised. Kotrba et al. (2012) warned that investigating the culture-effectiveness link on a dimension-by-dimension basis might lead to simplified conclusions, while Ostroff and Schulte (2014) noted that focusing on isolated, selected culture dimensions neglects the fact that these dimensions operate together as a complex collective. In a very similar vein, Hartnell, Ou, and Kinicki

(2011) ended their frequently cited meta-analysis of quantitative studies that explore the culture-effectiveness link with the conclusion that "… researchers who describe organizational cultures according to their predominant culture type ignore the synergistic interaction among the values that define an organization's culture" (Hartnell et al., 2011, p. 687).

In spite of these concerns, details regarding what alternative, more holistic approaches could look like are scarce and an overview of studies that depart from the prevalent single-dimensional perspective is missing. We intend to address this gap by reviewing the literature on the relationship between organizational culture and effectiveness with a focus on studies that treat organizational culture as a holistic phenomenon. In the following, we first provide a theoretical frame for the review. Second, we clarify the scope of the review and describe the research methodology. Third, we present the review results, focusing on four different kinds of holistic approaches (aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based). For each approach, an overview of the existing studies is presented and main findings, methodological aspects, and theoretical foundations are illuminated. Moreover, we complement these results by discussing issues and directions for future research, enriched by specific research questions that scholars might build on. Fourth, the main findings are briefly summarized. Finally, practical implications are outlined. We thereby intend to provide impulses that will help researchers to quantitatively analyze organizational culture (and its link to effectiveness) in a manner that is more closely aligned with its theoretical roots compared to conventional approaches.

3.2 Theoretical Frame of the Review

Organizational culture has its theoretical roots in anthropology. It is a complex, multifaceted "gestalt" construct which provides the social context from which organizational

members derive meaning (Ostroff & Schulte, 2014). Although no universally accepted definition of organizational culture exists, virtually all influential theorists emphasized this holistic, multifaceted character of organizational culture (e.g., Denison, 1996; Martin, 2002; Pettigrew, 1979; Schein, 1985; Smircich, 1983; Trice & Beyer, 1993). The views of Pettigrew, who saw culture as "…the system of … publicly and collectively accepted meanings operating for a given group at a given time" (Pettigrew, 1979, p. 574) and Denison, who noted "…culture refers to the deep structure of organizations, which is rooted in the values, beliefs, and assumptions held by organizational members. Meaning is established through socialization to a variety of identity groups that converge in the workplace." (Denison, 1996, p. 624) can serve as examples in this regard.

Early studies in organizational culture acknowledged these theoretical roots and took a holistic perspective, using qualitative methods such as observations, interviews, and in-depth case studies in order to capture the culture of an organization as a whole (Denison, 1996). Each cultural facet was considered as a piece of the whole organizational culture, not as a standalone aspect that can be investigated independently. However, quantitative survey-based approaches for studying organizational culture, which tend to treat culture dimensions as independent facets, have become increasingly popular in the last two decades. As Ostroff and Schulte (2014) point out, these approaches usually examine the relative importance of cultural elements, thereby neglecting the theoretical foundations of organizational culture which suggest that these elements operate together as a complex system. Similarly, Hartnell and colleagues (2011) criticize that the common practice of investigating independent culture dimensions and their links to effectiveness outcomes is a mismatch between theory and empirical research, since culture is a unified pattern of assumptions, beliefs, values, norms, and behaviors. Thus, conceiving culture as a bundle of interlinked elements is more consistent with its theoretical bandwidth.

3.3 Identification of Relevant Publications

In light of this apparent incongruence of theoretical assumptions and empirical approaches, we reviewed the organizational culture literature with a special focus on studies that deviate from the common practice of examining the culture-effectiveness link on the basis of isolated culture dimensions, but rather conceive culture as a holistic phenomenon. We conducted a narrative review rather than a meta-analysis because of the variety of holistic approaches that had been used to investigate the culture-effectiveness link, the small number of studies applying any one of these approaches, and our interest in understanding the theoretical foundations of the different approaches. In a first step, we identified studies that investigated any kind of relationship between culture and effectiveness, regardless of whether or not culture was treated as a holistic phenomenon. We applied the following selection criteria. First, only publications that focused on organizational culture were included, meaning that studies investigating related but different topics, such as organizational climate (Denison, 1996; Schneider et al., 2013) were not considered. Second, the review was limited to quantitative studies that treated culture as an independent variable, since the isolated analysis of single culture dimensions is an issue that predominates in quantitative research (as outlined above). Third, at least one of the outcome variables had to reflect some kind of effectiveness criteria. In defining these criteria, we followed Hartnell and colleagues (2011), who identified three main effectiveness categories that are commonly associated with organizational culture, namely employee attitudes (e.g., job satisfaction), operational effectiveness (e.g., product quality), and financial effectiveness (e.g., sales figures). Fourth, only peer-reviewed journal articles in English were included to ensure high quality of the publications. Fifth, the review was limited to publications since 2000 because around that time, consensus regarding the existence of a relationship between culture and effectiveness emerged and studies in this area started to become increasingly sophisticated (Sackmann, 2011; Schneider et al., 2013).

Applying these criteria, we conducted a keyword search (using the keyword organizational culture and its synonyms corporate culture and company culture) in the databases Business Source Premier (via EBSCOhost), PsycInfo, and Web of Science. After removing duplicates and publications that did not meet the selection criteria, 69 publications remained. This result was expanded by forward and backward citation searches based on already identified publications. This search yielded another five publications, which means that 74 publications were identified in total.

In a second step, we searched these 74 studies for holistic perspectives on organizational culture. Since no definition in the literature exists regarding what actually constitutes a holistic perspective, we applied a rather broad approach that was guided by the foundations of organizational culture theory described above. We declared studies as "holistic" that did not follow the conventional path of investigating the relationship between individual culture dimensions and effectiveness outcomes, including regression-based approaches that examine the relative importance of culture dimensions in an additive manner (Ostroff & Schulte, 2014). Instead, we focused on studies that treated culture dimensions as interlinked or interdependent. In other words, for being included in our review, studies had to examine a relationship between a given effectiveness outcome and some kind of combination, aggregation, or interaction of different culture dimensions. Of the 74 identified studies, 19 met these criteria. This rather small number of studies was to be expected since the assumption that holistic approaches are clearly underrepresented in the literature was the very reason for conducting the review[2]. These 19 studies are presented in Table 2.1. Apart from the year of publication, authors, outlet, survey used to measure organizational culture, and main

[2] We did not include the results of the more comprehensive first review step in the manuscript since excellent reviews regarding the general link between organizational culture and performance already exist (e.g., Sackmann, 2011). Instead, we focused in a second review step exclusively on studies that treated organizational culture as a holistic variable because this perspective is clearly underrepresented in the field.

findings, the table provides information regarding the kind of holistic approach that was used to investigate organizational culture and the theoretical foundations.

Table 2.1

Results of the Literature Review

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
1	2004	Lee & Yu	Journal of Managerial Psychology	Organizational Culture Profile (Q-sort version), five dimensions: - Innovation - Support - Team - Humanistic - Task	Results based on a sample of 10 Singaporean organizations in three industries (insurance, manufacturing, and health care) suggested that in insurance, cultural strength and innovation were significantly correlated with business growth, annual policies and sum insured. In manufacturing, cultural strength and supportiveness were found to be significantly correlated with growth in net profits. Cultural strength was moreover significantly correlated with return on assets.In health care, cultural strength, team orientation, and task orientation were significantly correlated with staff turnover.	Agreement-based: The cultural strength of each organization was assessed by computing how many respondents from a particular organization agreed on the same culture profile	No specific theory
2	2006	Tsui, Wang, & Xin	Manage-ment and Organi-zation Review	Development of an own survey, five dimensions: - Employee development - Harmony - Customer orientation - Social responsibility - Innovation	Results based on two samples of Chinese managers suggested that a "highly integrative" culture configuration (i.e., a configuration that emphasized both internally oriented dimensions such as employee development and externally oriented dimensions such as customer orientation) was most strongly related to perceived organizational performance and managers's attitudes towards the organization.	Configuration-based: Cluster analysis was used to derive culture configurations	Schein's framework of organizational culture / Configurational theory

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
3	2007	Chang & Lee	The Learning Organi-zation	Organizational Culture Scale, four dimensions: - Mission - Adaptive - Clan - Bureaucratic	Results based on a sample of 134 Taiwanese organizations suggested that overall organizational culture was positively and significantly related to the degree the organization was a "learning organization". The assumed relationship between organizational culture and job satisfaction was not significant.	Aggregation-based: Overall organizational culture was operationalized as the mean across all culture dimensions	No specific theory
4	2007	Khazan-chi, Lewis, & Boyer	Journal of Operations Manage-ment	Survey based on the Competing Values Framework, two dimensions: - Flexibility - Control	Results based on a sample of 110 US-American manufacturing plants suggested that both flexibility and control were significantly related to perceived plant performance. Post-hoc analyses suggested that flexibility mediated the relationship between control and plant performance.	Mediation-based: The relationship between the culture dimension control and performance was mediated by the culture dimension flexibility	No specific theory
5	2008	Yilmaz & Ergun	Journal of World Business	Denison Organizational Culture Survey, four dimensions: - Mission - Adaptability - Involvement - Consistency	Results based on a sample of 100 Turkish organizations suggested that all four culture dimensions were significantly related to various performance indicators. In addition, overall organizational culture was significantly related to all performance indicators. Moreover, imbalances in pairs of culture dimensions explained variance in performance beyond overall culture.	Aggregation-based: Overall organizational culture was operationalized as the sum of the scores across all culture dimensions	Denison's theory of organizational culture

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
6	2009	Gregory, Harris, Armena-kis, & Shook	Journal of Business Research	Survey based on the Competing Values Framework, four dimensions: - Group - Development - Rational - Hierarchical	Results based on a sample of 99 US-American healthcare facilities suggested that group culture as well as a "balanced" culture (i.e., a culture configuration with high scores across all dimensions) were positive related to patient satisfaction. Moreover, the results suggested that employee attitudes mediated these relationships.	Configuration-based: Cluster analysis was used to derive culture configurations	Competing Values Framework
7	2010	An, Yom, & Ruggiero	Journal of Trans-cultural Nursing	Survey based on the Competing Values Framework, four dimensions: - Affiliation - Progressive - Maintenance - Rationality	Results based on a sample of 145 nurses from three South Korean hospitals suggested that overall organizational culture was positively related to organizational effectiveness and quality of work life.	Aggregation-based: Overall organizational culture was operationalized as the mean across all culture dimensions	No specific theory
8	2010	Zheng, Yang, & McLean	Journal of Business Research	Denison Organizational Culture Survey, four dimensions: - Mission - Adaptability - Involvement - Consistency	Results based on a sample of 301 US-American organizations suggested that overall organizational culture was positively related to organizational effectiveness and knowledge management. The results further suggested that the relationship between culture and effectiveness was mediated by knowledge management.	Aggregation-based: Overall organizational culture was operationalized as the mean across all culture dimensions	No specific theory

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
9	2011	Tsai	BMC Health Services Research	Development of an own survey, four dimensions: - Employee orientation - Customer focus - Responsibility - Cooperation	Results based on a sample of 200 nurses from two Taiwanese hospitals suggested that all four culture dimension were positively related to job satisfaction and leadership behavior. Moreover, overall organizational culture was also positively related to both job satisfaction and leadership behavior.	Aggregation-based: Overall organizational culture was operationalized as the mean across all culture dimensions	No specific theory
10	2012	Kotrba et al.	Human Relations	Denison Organizational Culture Survey, four dimensions: - Mission - Adaptability - Involvement - Consistency	Results based on a sample of 137 US-American organizations suggested that the effects of consistency on market-to-book ratio, sales growth, and return on assets were moderated by each of the remaining three culture dimensions. Consistency was positively related to market-to-book-ratio when coupled with high involvement, adaptability, or mission. However, it was negatively related when combined with low levels of the other three culture dimensions. Similarly, consistency was positively related to sales growth when involvement, adaptability, or mission were high, but negatively related when coupled with lower levels of involvement, adaptability or mission. Finally, consistency was positively related to return on assets when coupled with low levels of adaptability and this positive relationship was much weaker at high levels of adaptability.	Moderation-based: The relationship between one culture dimension consistency and performance was moderated by the other three culture dimensions of the Denison Organizational Culture Survey	Denison's theory of organizational culture / March's theory of exploration vs. exploitation

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
11	2012	Wilderom van den Berg, & Wiersma	Leadership Quarterly	Survey developed by van den Berg & Wilderom (2004), four dimensions: Empowerment External orientation Interdepartmental cooperation HR orientation	Results of a longitudinal study based on a sample of 46 Dutch bank branches suggested that overall organizational culture and charismatic leadership were positively related to perceived performance. Moreover, when Time 1 financial performance measures were controlled for, it showed that charismatic leadership increased financial performance while organizational culture did not do so.	Aggregation-based: Using structural equation modeling, the four culture dimensions were used as observed variables to construct a latent variable of overall organizational culture	No specific theory (culture dimensions that were most likely to affect the outcome variable were identified on the basis of a literature review)
12	2013	ElKordy	Business Manage-ment Dynamics	Denison Organizational Culture Survey, four dimensions: - Mission - Adaptability - Involvement - Consistency	Results based on a sample of Egyptian managers suggested that overall organizational culture was positively and significantly related to job satisfaction and organizational commitment.	Aggregation-based: Using structural equation modeling, the four culture dimensions were used as observed variables to construct a latent variable of overall organizational culture	No specific theory (culture dimensions that were most likely to affect the outcome variable were identified on the basis of a literature review)
13	2013	Hogan & Coote	Journal of Business Research	Development of an own survey, eight dimensions: - Success - Openness - Communication - Competence and professionalism - Cooperation - Responsibility - Appreciation - Risk-taking	Results based on a sample of 100 US-American law firms suggested that overall organizational culture was significantly and positively related to innovation and overall organizational performance.	Aggregation-based: Using structural equation modeling, the eight culture dimensions were used as observed variables to construct a latent variable of overall organizational culture.	No specific theory (culture dimensions that were most likely to affect the outcome variable were identified on the basis of a literature review)

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
14	2013	Ortega-Parra & Sastre-Castillo	Manage-ment Decision	Development of an own survey, three dimensions: - Task orientation - People orientation - Ethical orientation	Results based on a sample of 216 Spanish managers suggested that overall organizational culture was significantly and positively related to organizational commitment. Moreover, the results suggested that congruence between the officially stated values of an organization and the values that were actually perceived was positively related to commitment.	Aggregation-based: Using structural equation modeling, the three culture dimensions were used as observed variables to construct a latent variable of overall organizational culture.	No specific theory
15	2014	Chatman, Caldwell, O'Reilly, & Doerr	Journal of Organi-zational Behavior	Organizational Culture Profile (Q-sort version), six dimensions: - Adaptability - Integrity - Collaborative - Results orientation - Customer orientation - Detail orientation	Results based on a sample of 39 US-American organizations suggested that culture consensus had a significant main effect on financial performance. Moreover, adaptability moderated the relationship between culture consensus and financial performance such that consensus was positively related to financial performance when adaptability was high, but negatively related to performance when adaptability was low. Among firms with lower culture consensus, lower adaptability was associated with higher financial performance.	Agreement-based: Culture consensus was calculated by compiling organizations' respondents Q-sorts results into single culture profiles representing each organization. Next, it was calculated how similar each organizational member's ranking of the set of items was to the total culture profile of the organization. Moderation-based: The relationship between culture consensus and performance was moderated by the culture dimension adaptability	Schein's framework of organizational culture / Organizational ambidexterity

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
16	2014	Pinho, Rodrigues & Dibb	Journal of Manage-ment Develop-ment	Survey based on the Competing Values Framework, four dimensions: - Clan - Adhocracy - Hierarchy - Market	Results based on a sample of 134 Portuguese non-profit healthcare organizations suggested that overall organizational culture was positively and significantly related to organizational performance but not to organizational commitment.	Aggregation-based: Overall organizational culture was operationalized as the mean across all culture dimensions	No specific theory
17	2015	Boyce, Nieminen, Gillespie, Ryan, & Denison	Journal of Organi-zational Behaviour	Denison Organizational Culture Survey, four dimensions: - Mission - Adaptability - Involvement - Consistency	Results of a longitudinal study based on a sample of US-American 95 car dealerships suggested that overall organizational culture consistently predicted subsequent ratings of customer satisfaction and vehicle sales. Furthermore, the positive effect of culture on vehicle sales was mediated by customer satisfaction ratings.	Aggregation-based: Overall organizational culture was operationalized as the mean across all culture dimensions	Denison's theory of organizational culture
18	2015	Naqsh-bandi, Kaur, & Ma	Quality and Quantity	Survey developed by Tsui and colleagues (2006), five dimensions: - Employee - development - Harmony - Customer orientation - Social responsibility - Innovation	Results based on a sample of 133 Malaysian organizations suggested that a "highly integrative" culture configuration (i.e., a configuration that emphasized both internally oriented dimensions such as employee development and externally oriented dimensions such as customer orientation) was positively and significantly related to "inbound innovation". A "hierarchy culture" configuration (i.e., a configuration with low scores across all dimensions) was significantly negatively related to both inbound and outbound innovation.	Configuration-based: Cluster analysis was used to derive culture configurations	Schein's framework of organizational culture / Configurational theory

#	Year	Author(s)	Outlet	Culture survey used	Main findings	Holistic approach	Underlying theory
19	2015	Valmo-hammadi & Roshan-zamir	International Journal of Production Economics	Competing Values Framework, four dimensions: - Clan - Adhocracy - Market - Hierarchy	Results based on a sample of Iranian pharmaceutical companies suggested that overall organizational culture was positively and significantly related to organizational performance. Moreover, the results suggested that total quality management mediated the relationship between organizational culture and performance.	Aggregation-based: Using structural equation modeling, the four culture dimensions were used as observed variables to construct a latent variable of overall organizational culture.	No specific theory

3.4 Holistic Approaches to Investigating Organizational Culture as a Predictor for Effectiveness Outcomes

Our review identified four kinds of holistic approaches: Aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based. In the following, we illuminate the current state of research for each approach in more detail by presenting an overview of the existing studies and main findings. Moreover, we discuss selected issues related to each of the four approaches and outline specific directions for future research

3.4.1 Aggregation-based Approaches

Overview of the existing studies and main findings. In 12 studies, the holistic approach was based on aggregating multiple culture dimensions to a higher-order construct of overall organizational culture. This was achieved by either calculating the mean score across all dimensions (An, Yom, & Ruggiero, 2010; Boyce, Nieminen, Gillespie, Ryan, & Denison, 2015; Chang & Lee, 2007; Pinho, Rodrigues, & Dibb, 2014; Tsai, 2011; Zheng, Yang, & McLean, 2010), by calculating the sum of scores across dimensions (Yilmaz & Ergun, 2008), or by using culture dimensions as observed variables to construct a latent variable of overall culture (ElKordy, 2013; Hogan & Coote, 2014; Ortega-Parra & Sastre-Castillo, 2013; Valmohammadi & Roshanzamir, 2015; Wilderom, van den Berg, & Wiersma, 2012). In each case, the aggregation resulted in some kind of overall organizational culture variable that was then linked to effectiveness outcomes.

An and colleagues (2010), for example, showed that overall culture (operationalized as the mean across culture dimensions) was positively related to organizational effectiveness and quality of work life in a sample of South Korean hospitals. Ortega-Parra and Sastre-Castillo (2013) identified a latent variable of overall culture to be related to organizational

commitment in a sample of Spanish organizations. Zheng and colleagues (2010) aggregated the dimensions of the Denison Organization Culture Survey (DOCS) to a higher-order construct of overall culture and found this to be related to organizational effectiveness and knowledge management practices in a sample of US-American firms.

The basic idea in all these studies is that a high overall culture score is beneficial for effectiveness outcomes. However, the theoretical foundations underlying this assumption were often vaguely discussed. Valmohammadi and Roshanzamir (2015), for example, hypothesized that a construct of overall organizational culture consisting of the four dimensions of the Competing Values Framework (CVF) was positively related to the overall effectiveness of pharmaceutical companies. A theoretical reason, however, for why a combination of these very different and seemingly contradictory dimensions should lead to higher effectiveness was not presented. In fact, the authors emphasized that "…certain culture orientations and culture types are conducive to performance" (Valmohammadi & Roshanzamir, 2015, p. 170). This argument, however, does precisely not suggest investigating culture dimensions as a bundle, but rather individually. Similarly vague theoretical reasons were presented by An and colleagues (2010), Chang and Lee (2007), Pinho and colleagues (2014), Ortega-Parra and Sastre-Castillo (2013), Tsai (2011), and Zheng and colleagues (2010).

More convincing were the approaches by Boyce and colleagues (2015) and Yilmaz and Ergun (2008). In these studies, an aggregated overall culture score based on the individual scores of the four DOCS dimensions was used to predict effectiveness outcomes, and Denison's theory of organizational culture (Denison & Mishra, 1995) was drawn on to explain why this approach is reasonable. Denison's theory proposes that the four DOCS dimensions adaptability, mission, involvement, and consistency facilitate an organization's

capabilities for coordinating internal resources and simultaneously adapting to the external environment, thereby leading to superior effectiveness.

Selected issues and future research directions. As pointed out above, aggregation-based approaches focus on the idea that culture dimensions can be aggregated to a higher-order variable of overall organizational culture. Researchers should keep in mind that when using this approach, culture dimensions become interchangeable since different combinations of dimensions might lead to the same aggregated overall culture score. The idea of examining interdependencies between dimensions, that explicitly or implicitly underlies most pleas for a more holistic investigation of the culture-effectiveness link (e.g., Hartnell et al., 2011; Kotrba et al., 2012; Ostroff & Schulte, 2014), is thus difficult to reconcile with aggregation-based approaches. Nevertheless, this kind of approach is applicable when organizational culture as a whole is supposed to be investigated, with no intention to illuminate the roles of the individual dimensions that the overall culture consists of.

As indicated above, the lack of a sound theoretical foundation is a major shortcoming of many existing studies using aggregation-based approaches. In some cases, the main argument for aggregating culture dimensions simply seems to be that culture per se is generally something positive (i.e., the "more" culture there is, the more beneficial for effectiveness). This, however, is an undue simplification given the complexity of organizational culture, which can manifest itself in many forms, including dysfunctional ones (Ashkanasy & Härtel, 2014; Balthazard, Cooke, & Potter, 2006). This means that researchers using aggregation-based approaches need to provide a convincing, theory-based reason for why a high score across the specific culture dimensions they investigate should positively impact a given effectiveness criterion. As noted above, positive examples were set by Boyce and colleagues (2015) and Yilmaz and Ergun (2008), who drew on Denison's theory of organizational culture. By pointing out that organizations need to adapt to changing external

environments while simultaneously facing the need to align internal resources, they present a convincing argument for why a high score across the DOCS dimensions (which precisely reflect this balancing act between external and internal demands) is likely to foster effectiveness. Similar ideas that refer to the balance of internal and external challenges and that researchers could draw on to theoretically underpin the use of aggregation-based approaches can be found in Schein's (1985) organizational culture theory, in the Competing Values Framework (Quinn & Rohrbaugh, 1983), in the theory of organizational ambidexterity (O'Reilly & Tushman, 2013), or in March's (1991) distinction between exploiting and exploring organizations. However, these kinds of theoretical foundations obviously only apply if coupled with culture dimensions that do reflect both internally and externally oriented cultural values.

Another interesting theoretical basis – which is, however, absent from the studies mentioned above – could be provided by the resource-based view (Barney, 1986). Barney proposes that an organization's culture must be valuable, rare, and imperfectly imitable to qualify as a source of competitive advantage. The latter aspect refers to competitors seeking to imitate the culture of successful organizations. However, the higher the number of strongly pronounced culture dimensions (i.e., the higher the overall culture score) in a given organization, the more difficult such imitation attempts are likely to become. Following this line of reasoning, organizations with a high score across many culture dimensions should have a competitive advantage and therefore enjoy higher effectiveness outcomes. This assumption, however, is obviously only reasonable if the culture dimensions that are assessed are positively connoted and exclude dysfunctional ones. In light of these thoughts, we suggest the following research questions:

1a. Which culture dimensions, when aggregated to an overall construct of organizational culture, are theoretically related to organizational effectiveness?

1b. Is any aggregated construct of overall organizational culture positively related to organizational effectiveness as long as the underlying culture dimensions are positively connoted?

Another area that seems to be worthy of closer attention is the simultaneous investigation of aggregation-based holistic culture variables and individual culture dimensions. It is, for example, conceivable, that both individual dimensions and overall culture predict effectiveness outcomes, but to a different degree. Moreover, in line with suggestions from the bandwidth literature (e.g., Edwards, 2001), one could assume that specific dimensions predict specific effectiveness facets whereas overall culture might be better suited to predict overall effectiveness (Hartnell, Kinicki, Ostroff, Karam, & Morgeson, 2015). In order to test these kinds of hypotheses, studies are needed that firstly examine whether overall culture explains variance in effectiveness outcomes beyond single culture dimensions and secondly investigate different kinds of effectiveness indicators (from specific to broad). Accordingly, we propose the following research questions:

2a. Is overall organizational culture a better predictor of effectiveness outcomes compared to individual culture dimensions?

2b. Which effectiveness outcomes are best predicted by specific culture dimensions and which by overall culture?

3.4.2 Agreement-based Approaches

Overview of the existing studies and main findings. Two studies (Chatman, Caldwell, O'Reilly, & Doerr, 2014; Lee & Yu, 2004) investigated organizational culture holistically by using what can be best described as an agreement-based approach. This kind of approach follows the basic idea that agreement among organizational members across a set of culture dimensions represents a structural property of an organization's culture that can be observed

independently of any particular cultural content (Chatman et al., 2014). It is assumed that strong agreement is positively related to effectiveness outcomes.

Lee and Yu (2004) assessed agreement based on the Q-sort version of the Organizational Culture Profile (OCP; O'Reilly, Chatman, & Caldwell, 1991). A factor analysis on the OCP items yielded four different culture profiles that were distributed across 10 organizations. Next, they assessed agreement by computing how many respondents from a particular organization agreed on the same culture profile. Results showed that cultural agreement was correlated with several effectiveness indicators, including business growth and return on assets. Specific theoretical reasons for choosing this kind of approach, however, were not proffered by the authors.

Using a sample of 39 US-American organizations, Chatman and colleagues (2014) also investigated cultural agreement based on the Q-sort version of the OCP. In a first step, the Q-sorts results were compiled into single culture profiles representing each organization. Next, it was calculated how similar each organizational member's rankings of the set of items was to the total culture profile of the organization, resulting in an overall agreement score for each organization. Results showed that agreement had a significant effect on financial effectiveness. Chatman and colleagues (2014) did not offer a specific theoretical foundation , but extensively covered the organizational culture literature and referenced various previous perspectives on the agreement-effectiveness link. These include, for example, the assumptions that agreement is positively related to effectiveness because it increases a group's efficiency and frees members to concentrate on non-routine challenges (Hackman & Wageman, 2005) and aligns employees with an organization's strategic priorities (Denison & Mishra, 1995).

Selected issues and future research directions. Similar to aggregation-based approaches, the roles that the different culture dimensions play and their potential interdependencies remain elusive in an agreement-based approach. Agreement-based

approaches are therefore appropriate when cultural agreement is supposed to be investigated as a discrete feature of an organization's culture that is independent of any particular cultural content.

There is a variety of theoretical reasons for why cultural agreement is potentially related to effectiveness outcomes. For example, drawing on theories such as similarity attraction (Byrne, 1971), attraction-selection-attrition (Schneider, 1987), and social identity and self-categorization (Hogg & Terry, 2000; Tajfel & Turner, 1979), Harrison and Klein (2007) argue that in general, a lack of agreement on common values is likely to be negatively related to effectiveness, as it reduces cohesiveness and fosters conflicts and distrust. In the specific context of organizational culture, these effects apply most likely as well. If organizational members perceive the culture in a very different manner, the function of organizational culture to provide security by defining what employees should pay attention to and how to react in various kinds of situations is reduced, leading to insecurity and defensiveness (Ostroff et al., 2013). Shared mental models of effective behavior cannot emerge, and organizational effectiveness is likely to be hampered.

However, there is also evidence in the literature for a potentially negative impact of (too much) cultural agreement on certain effectiveness criteria. For example, strong agreement may hinder creativity and innovativeness as it fosters blind commitment to a fixed set of cultural values and makes employees more susceptible to groupthink and inertia (Lee & Yu, 2004; Nemeth, 1997). In light of these contrasts, we propose the following research questions:

3a. Which specific effectiveness outcomes correlate with cultural agreement and which do not? Is there a "dark side" of cultural agreement, meaning that agreement hinders specific types of effectiveness (e.g., innovation)?

3b. Is there a non-linear relationship between cultural agreement and effectiveness? That is, is agreement to a certain degree beneficial for effectiveness, but hindering if it becomes too strong? How strong is too strong?

Moreover, as noted above, agreement does not tell us anything about the actual content of the culture. Thus, agreement can be built around any kind of cultural values. It might therefore be reasonable not to investigate the relationship between effectiveness and cultural agreement per se, but to examine the impact of cultural agreement in the light of the actual values that there is agreement on. Lee and Yu (2004), for example, proposed that strong cultural agreement may only be beneficial for organizational effectiveness if it is combined with values that focus on adaptation and learning. We therefore suggest the following research questions (which are partially investigated by the moderation-based studies described below):

4a. Is the impact of cultural agreement on effectiveness outcomes dependent on the cultural values that there is agreement on?

4b. Which cultural values or dimensions strengthen (or weaken) the impact of cultural agreement on effectiveness outcomes?

Another promising avenue for future research would be to analyze the role of cultural agreement at different organizational levels. In diversified organizations, for example, it is likely that subunits need to maintain unique subcultures that are more consistent with their specific missions than with overall organizational goals (Moon, Quigley, & Marr, 2012). In this case, it would be the subunit level at which cultural agreement should be pursued, since the overall culture is too broad and ambiguous to effectively guide employees' behavior in the direction needed. If agreement at the subunit level is high, this also means, however, that agreement at the overall organizational level might be low, since the overarching culture might consist of different highly aligned subcultures that emphasize completely different

values. This kind of organizational culture, which Martin (2002) refers to as a differentiated culture, could be beneficial for the organization as a whole if the strong agreement within the subunits is geared towards different, but equally important goals that complement each other at the overall organizational level (Ostroff et al., 2013). Following this line of reasoning, we propose the following research questions:

5. How is cultural agreement related to effectiveness outcomes at different organizational levels?

Finally, while both of the studies that were classified in our review as using an agreement-based approach assessed agreement on the basis of Q-sort profiles, we would like to note that there are other options that researchers have to determine the degree of cultural agreement within an organization. Most notably, dispersion indices that reflect the inverse degree of variance in organizational members' ratings across a set of culture dimensions could be a useful alternative (e.g., Calori & Sarnin, 1991; Gordon & DiTomaso, 1992). It is important to note, though, that in order to qualify as a "holistic" variable, any agreement index should reflect agreement across a broad set of cultural dimensions instead of focusing on just one or a few (Chatman et al., 2014).

Moreover, it should be noted that agreement-based approaches (as well as aggregation-based approaches, see above) are sometimes referred to as measures of "culture strength" (e.g., Lee & Yu, 2014). This label, however, is confusing, since culture strength is a concept that is operationalized very differently across studies and thus has a large variety of meanings (Gonzalez-Roma & Peiro, 2014). We thus agree with Sackmann (2011), who suggests abandoning the term culture strength and substituting it with the actual approach used.

3.4.3 Moderation- and Mediation-based Approaches

Overview of the existing studies and main findings. Three studies (Chatman et al., 2014; Khazanchi, Lewis, & Boyer, 2007; Kotrba et al., 2012) approached the culture-performance link holistically by investigating whether the relationship between a given culture variable and a given effectiveness outcome is moderated or mediated by another culture variable.

As noted above, Chatman and colleagues (2014) hypothesized that the relationship between cultural agreement and effectiveness is moderated by the culture dimension adaptability, which emphasizes values such as innovation, creativity, and learning. Their findings suggested that adaptability moderated the relationship between agreement and financial effectiveness such that agreement was positively related to financial effectiveness when adaptability was high, but negatively related to effectiveness when adaptability was low. According to Chatman and colleagues (2014), agreement on which culture dimensions are important is a structural feature of an organization's culture that provides the normative guidance to foster alignment and commitment among organizational members. In a complementary fashion, a focus on adaptability as one of the dimensions that there is agreement on ensures that the normative character of a high-agreement culture does not result in becoming overly reliant on organizational routines. In line with some of the authors applying aggregation-based approaches (see above), they use the idea that organizations need to align internal resources and adapt to external challenges (e.g., O'Reilly & Tushman, 2013; Schein, 1985) to underpin this line of reasoning theoretically and argue that the former need is facilitated by strong cultural agreement while the latter is facilitated by a focus on adaptability as one of the core culture dimensions.

In another study applying a moderation-based approach, Kotrba and colleagues (2012) showed that the effects of the DOCS dimension consistency (which includes cultural values

geared towards integration, coordination and control) on effectiveness outcomes were moderated by each of the remaining three DOCS dimensions adaptability, involvement, and mission. Kotrba and colleagues (2012) used Denison's theory of organizational culture as a framework for their study and hypothesized that consistency should be positively related to effectiveness when the organization scores high on the other three DOCS dimensions (which had previously been shown to be related to effectiveness outcomes). Again, the authors emphasized that an internal organizational orientation (which is reflected in the consistency dimension) should complemented by external orientations (which is reflected, for example, in the mission dimension).

Finally, Kahazanchi and colleagues (2007) investigated whether the culture dimensions flexibility (representing values such as creativity and agility) and control (representing values such as stability and efficiency) were related to the performance of manufacturing plants. Results suggested that flexibility mediated the relationship between control and plant performance. However, while the authors did provide possible explanations for this finding (e.g., they suggested that stable routines facilitate trust in employees to innovate within appropriate boundaries), they did not link it to any specific theoretical foundation.

Selected issues and future research directions. Moderation- or mediation-based approaches can be recommended when interdependencies of specific culture dimensions are supposed to be investigated, with less focus on the overall culture of a given organization. Considering the large variety of instruments that claim to measure organizational culture and the number of culture dimensions associated with these instruments (Jung et al., 2009), the options to investigate interaction or mediation effects of culture dimensions seem to be endless, and existing research seems to have investigated just a fraction of the potential possibilities. As noted above, guidelines for developing hypotheses in this regard could be

provided by organizational theories proposing a balance of internal and external cultural values. In this sense, a sound theoretical foundation could be similar to the one we proposed with regard to aggregation-based approaches. The difference, however, lies in the way culture dimensions are explored: While an aggregated approach would assume that a balance between internally and externally oriented cultural values across all dimensions is beneficial for effectiveness a moderation- or mediation based approach would assume that it is the combination of a specific internally oriented dimension with another specific externally oriented dimension which drives effectiveness.

In this context, it could also be worthwhile to include culture dimensions that are less frequently investigated than the ones of the leading instruments in the field, such as the CVF, the DOCS, or the OCP. For example, van Dyck, Frese, Baer, and Sonnentag (2005) found error management culture to be positively related to organizational effectiveness. It is conceivable, for example, that the relationship between error management culture and effectiveness is positively moderated by culture dimensions focusing on rules and routines. This kind of interaction might enhance effective error management by clear guidelines that help employees to handle mistakes. It might also be possible that an effective error management culture mediates the relationship between a rule-oriented culture and effectiveness (i.e., a focus on cultural values such as rules and routines leads to effective error management, which in turn fosters effectiveness). In light of these thoughts, we propose the following research question:

6. Which interaction or mediation effects of culture dimensions (beyond the very few ones that have already been investigated) are positively related to effectiveness outcomes?

3.4.4 Configuration-based Approaches

Overview of the existing studies and main findings. In three studies (Gregory, Harris, Armenakis, & Shook, 2009; Naqshbandi, Kaur, & Ma, 2015; Tsui, Wang, & Xin, 2006), the

holistic approach was based on deriving configurations of culture dimensions. This approach focuses on investigating all culture dimensions of a given organization and grouping them in configurations that retain the particular pattern of high and low scores across dimensions (Ostroff & Schulte, 2014). Culture configurations are usually identified by means of cluster analysis[3]. Cluster membership is then used as the independent variable and correlated with effectiveness outcomes.

Gregory and colleagues (2009) hypothesized that a configuration in which all four dimensions of the CVF are strongly pronounced would predict patient satisfaction and expenses in a sample of US-American health care facilities. Drawing on the theoretical model underlying the CVF (Quinn & Rohrbaugh, 1983), the authors argued that in order to successfully operate in complex environments with multiple demands, a culture configuration is needed that combines the seemingly contradictory CVF dimensions. In order to test their hypothesis, Gregory and colleagues (2009) performed a cluster analysis on the CVF dimensions and identified two clusters, the first one reflecting a configuration with high scores across all culture dimensions and the second one reflecting a configuration with low scores across dimensions. The two clusters were then compared with ANCOVA. The results supported the hypothesized relationship between high-score configurations and patient satisfaction, while a significant relationship to expenses was not confirmed.

In a similar approach, Tsui and colleagues (2006) performed a cluster analysis on five inductively developed culture dimensions (employee development, harmony, customer orientation, social responsibility, and innovation) which yielded four different configurations. In line with the authors' hypotheses, a "highly integrative" configuration that is characterized by high scores across all dimensions was most strongly related to perceived organizational effectiveness and positive attitudes towards the organization. Naqshbandi and colleagues

[3] Alternatively, latent class analysis might be used, which uses model fit statistics to identify the optimal number of clusters (Ostroff & Schulte, 2014). However, our review identified no studies using this approach.

(2015) basically replicated these results by using the same culture dimensions that, after being cluster-analyzed, yielded culture configurations that were very similar to the ones identified by Tsui and colleagues (2006). Again, the "highly integrative" configuration was most strongly related to effectiveness outcomes. In both studies, configurational theory was drawn on to justify the investigation of culture configurations. The central assumption of configurational theory is that organizations are best understood by looking at configurations of interconnected elements and that some of these configurations are more successful than others (Short, Payne, & Ketchen, 2008).

Selected issues and future research directions. The use of culture configurations is appropriate when the overall organizational culture is supposed to be investigated under consideration of the coexistence of the specific culture dimensions that the culture consists of. Of the four approaches discussed in this paper, the configuration-based approach is closest to the theoretical roots of organizational culture, since it takes into account the roles of the individual culture dimensions within the configuration, thus acknowledging their individual scores and interdependencies, while simultaneously acknowledging that the dimensions form a higher-order construct of overall culture. Interestingly, the few existing studies seem to tap only a very small portion of the potential that these approaches bear, since these studies are limited to the investigation of "high" culture configurations, in which all culture dimensions are strongly pronounced. In assuming that a high score across all dimensions is positively related to performance, these studies are very similar to the ones using aggregation-based approaches described above, the only difference being the way the holistic culture variable is operationalized (aggregation vs. configurations based on cluster analysis).

However, when looking at culture configurations from the perspective of configurational theory, it is obvious that culture configurations can take on multiple forms and are by no means limited to "high" or "low" configurations. As noted above, the central idea of

configuration theory is to identify specific configurations of organizational features, assuming that some configurations are more beneficial for achieving high effectiveness than others (Short et al., 2008). Within a configuration, each variable that the configuration consists of plays a distinctive role because "…it is the presence or absence of particular other factors that gives a variable meaning or not" (Fiss, 2007, p. 1182). When applying this perspective to organizational culture, a culture configuration can be regarded as an indicator of the overall culture (since it is composed of all culture dimensions under investigation), but also considers the coexistence of the dimensions and provides information on each dimension's content and respective score. Consequently, the possible number of culture configurations is vast, which provides exciting opportunities for culture researchers to investigate the relationship between specific configurations and effectiveness outcomes. In line with the concept of equifinality, which is another core aspect of configuration theory and refers to the idea that multiple paths may lead to the same outcome (Fiss, 2007), it could also be possible that completely different culture configurations are equally related to the same effectiveness outcomes.

This kind of differentiated configural approach was applied by Schulte, Ostroff, Shmulyian, and Kinicki (2009) in the related field of organizational climate. Schulte and colleagues identified multiple climate configurations that were related to different effectiveness criteria, including employee commitment and customer satisfaction. The results suggested that several specific configural patterns that included highly and weakly pronounced climate facets (which complemented each other in complex ways) were beneficial for specific effectiveness outcomes. This study is certainly a promising example for more sophisticated configural approaches which culture researchers could build on. We therefore propose the following research questions:

7a. Which culture configurations other than "high" configurations are related to which kinds of effectiveness outcomes?

7b. Are different kinds of configurations equally related to high effectiveness (in line with the idea of equifinality)?

The second aspect that is striking when analyzing the existing studies is a slight mismatch between the intention to test specific hypotheses and the way cluster analyses were applied to do this. While cluster analysis is a common and appropriate method to identify culture configurations (Ostroff & Schulte, 2014), it is rather suitable for explorative purposes than for hypothesis testing, at least if it is used inductively. In an inductive approach, organizations are classified into clusters with each cluster representing a specific culture configuration. The resulting configurations are then related to effectiveness outcomes. However, the number and the kind of configurations that the cluster analysis is going to yield are unknown to the researchers before the cluster analysis is actually conducted. Therefore, it seems to be risky to test hypotheses regarding culture configurations by means of inductive cluster analyses, since researchers would have to hope that the configurations that they hypothetically link to effectiveness outcomes are actually reflected in the analysis results.

Alternatively, deductive approaches might be used (e.g., Payne, 2006). For deductive approaches, a priori theoretical assumptions are needed to determine ideal culture configurations that are likely to correlate most strongly with the outcome of interest. Next, the deviation of empirically derived, actual configurations from the ideal one is calculated with the assumption that an organization with a configuration that is closer to the ideal one will achieve higher effectiveness (Ostroff & Schulte, 2014). To date, deductive approaches have not been used in organizational culture research, but Ostroff and Schulte (2014) expect deductive approaches to gain momentum as researchers start developing additional theory about culture configurations.

Another interesting approach that may shed additional light on the question of how culture configurations are related to effectiveness outcomes is using methods that are based on

set theory, such as uses fuzzy set analysis (Fiss, 2007; Ragin, 2008). When a configuration that has been identified by means of cluster analysis is positively correlated with a given effectiveness outcome, the researcher still does not know which dimension within the configurations is most "responsible" for this relationship. Given the fact that each configuration consists of multiple dimensions, some dimensions might be more essential for the character of the configuration than others (Ostroff & Schulte, 2014). Fuzzy set analysis addresses this problem since it allows for a more differentiated investigation of which variables within a given configuration are of core, peripheral, or no importance with regard to a given outcome (Fiss, 2011)[4]. In line with these suggestions, we propose the following research questions:

8a. What is the most adequate way to link culture configurations to effectiveness outcomes? Which research contexts call for inductive approaches and which for deductive approaches?

8b. How can culture configurations be investigated in more detail concerning the relative importance of the configurations' constituent dimensions?

3.5 Summary

We reviewed the literature on the culture-effectiveness link with a focus on studies that treat organizational culture as a holistic phenomenon. The review results were classified into four categories of holistic approaches: aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based. Table 2.2 summarizes the main points of the review, thus providing a concise, yet integrative overview that researchers who are interested in applying holistic approaches to investigating organizational culture as a predictor for effectiveness outcomes can build on.

[4] It is beyond the scope of this paper to address set theory and fuzzy set analysis in detail. The interested reader is referred to excellent introductions to the topic by Fiss (2007), Greckhamer, Misangyi, Elms, and Lacey (2008), and Ragin (2008).

Table 2.2

Overview of Holistic Approaches to Investigating the Culture-performance Link

Holistic approach	**Basic assumptions / when to be used**	**Operationalizations**	**Avenues for future research**	**Guiding theories**
Aggregation-based	Culture dimensions can be aggregated to a higher-order variable of overall organizational culture. The general assumption is that a high score on this overall variable is positively related to performance outcomes. To be used when organizational culture as a whole is supposed to be investigated, with no intention to illuminate the roles or the interdependencies of the individual dimensions.	- Mean score / sum of scores across culture dimensions - Use of culture dimensions as observed variables to construct a latent variable of overall organizational culture	- Which culture dimensions are, as a bundle, positively related to performance outcomes? - Is overall organizational culture a better predictor of performance outcomes than individual dimensions? - Which kinds of performance outcomes are best predicted by specific culture dimensions and which by overall organizational culture?	- Resource-based view - Theories focusing on the need of internal integration and external adaption (e.g., Schein's framework of organizational culture, Denison's theory of organizational culture, Competing Values Framework, organizational ambidexterity, exploitation vs. exploration)
Agreement-based	Cultural agreement is reflected in the degree to which organizational members perceive a set of culture dimensions similarly. It is assumed that strong agreement is positively related to performance outcomes. To be used when agreement is supposed to be investigated as a structural property of an organization's culture that is independent of any particular cultural content.	- Degree of agreement of organizational members to the overall organizational culture profile - Dispersion indices	- Which specific performance outcomes correlate with cultural agreement? Does agreement hinder specific types of performance? - Is there a non-linear relationship between cultural agreement and performance? - Is the impact of cultural agreement on performance outcomes dependent on the cultural values that there is agreement on?	- Similarity attraction - Attraction-Selection-Attrition - Social identity / Self-categorization

Holistic approach	Basic assumptions / when to be used	Operationalizations	Avenues for future research	Guiding theories
Moderation-/mediation-based	Culture dimensions are not separate entities, but interrelated. No general assumptions regarding performance outcomes (dependent on the kind of moderation / mediation). To be used when interdependencies of specific culture dimensions are supposed to be investigated, with less focus on the overall culture.	- Moderation / mediation analysis	- Which interaction or mediation effects of culture dimensions (beyond the very few ones that have already been investigated) are positively related to performance outcomes?	- Theories focusing on the need of internal integration and external adaption (e.g., Schein's framework of organizational culture, Denison's theory of organizational culture, Competing Values Framework, organizational ambidexterity, exploitation vs. exploration)
Configuration-based	Culture configurations consist of distinct culture dimensions that are not interchangeable. No general assumptions regarding performance outcomes (dependent on the kind of culture configuration). To be used when the overall organizational culture is supposed to be investigated under consideration of the coexistence and the pattern of high and low scores across the specific culture dimensions that the culture consists of.	- Cluster analysis	- Which specific culture configurations are related to performance outcomes? - Are different kinds of configurations equally related to high performance (equifinality)? - How can culture configurations be investigated in more detail concerning the relative importance of the configurations' constituent dimensions (e.g., by means of fuzzy-set analysis?	- Configurational theory

Finally, while all four approaches deviate from the prevalent practice of investigating relationships between isolated culture dimensions and effectiveness outcomes, it became obvious that whether an approach is "holistic" or not is probably not a dichotomous distinction. Instead, the distinction seems to vary along a continuum of two features that are essential to the theoretical foundations of organizational culture and included in most of the classic definitions: (1) the degree to which culture is conceived as a holistic phenomenon that consists of multiple dimensions and (2) the degree to which the complex interplay between these dimensions is accounted for. Figure 2.1 classifies the four approaches along these two axes.

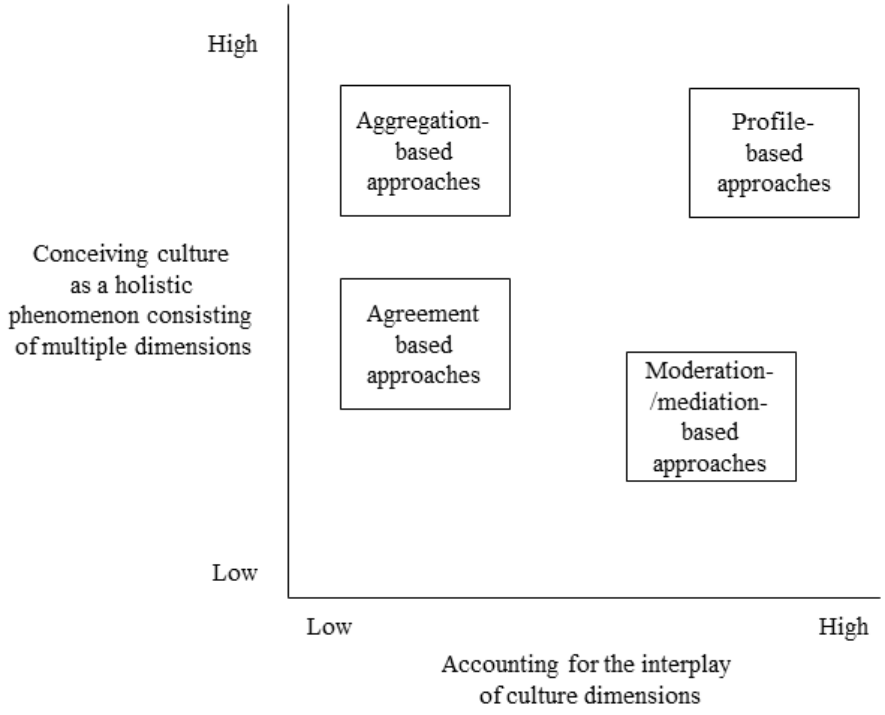

Figure 2.1. Classification of Holistic Approaches

Aggregation-based approaches aggregate culture dimensions to a higher-order variable of overall organizational culture. This approach fully acknowledges the holistic nature of organizational culture since it does not focus on individual cultural elements, but on the whole

entity that these dimensions collectively amount to. This approach, does not, however, illuminate the roles or interdependencies of culture dimensions. Researchers should therefore make a conscious decision whether they are willing to accept this loss of information by simply aggregating all dimensions to one construct. When they do, they should present convincing theoretical arguments for why an aggregated culture variable is supposed to be related to the outcome of interest and address specific research contexts in which an aggregation makes sense (see above).

Agreement-based approaches focus on the degree to which organizational members perceive a set of culture dimensions similarly. Similar to aggregation-based approaches, agreement-based approaches acknowledge the holistic nature of organizational culture, since overall agreement is based on the agreement across all culture dimensions. However, while two identical aggregation scores can have very different "meanings", depending on the actual culture dimensions that were aggregated, agreement can be regarded as a structural property of an organization's culture that is independent of any particular cultural content (Chatman et al., 2014). Hence, agreement-based approaches provide less information on which kind of culture an organization has, compared to aggregation-based approaches. Moreover, just like aggregation-based approaches, this approach does not allow for investigating the interplay between culture dimensions. Given the rather limited information that agreement-based approaches provide, they might be most useful as a complement to other approaches, as it is exemplified by the study of Chatman and colleagues (2014) discussed above.

Moderation- and mediation-based approaches acknowledge the holism of organizational culture by not focusing on separate, but on multiple culture dimensions. However, they are not geared towards describing the overall culture of an organization, but aim at investigating the relationships between a few (usually two) specific culture dimensions.

Finally, configuration-based approaches score high on both axes. They conceive culture as a holistic phenomenon that consists of multiple dimensions and also allow for an investigation of the complex interplay between these dimensions. Thus, the configuration-based approach can be regarded as being closest to the theoretical roots of organizational culture. It offers exciting avenues for future research, since existing studies seem to have tapped only a very small fraction of the potential that these approaches bear. In particular, it seems to be worthwhile including set-theoretic approaches such as fuzzy set qualitative analysis, which not only allow for identifying differentiated cultural configurations, but also for determining the degree to which the dimensions that a given configuration consists of affect a given effectiveness criterion.

3.6 Practical Implications

The idea of gaining competitive advantages due to a superior organizational culture has always intrigued practitioners, especially at the upper-echelon management levels (Sackmann, 2011). This paper offers some impulses that practitioners might take into consideration when attempting to build or change organizational culture.

First, in line with the theoretical roots of organizational culture, practitioners should be aware that culture is a complex, multidimensional phenomenon, which is why culture change initiatives should not focus on isolated culture dimension but have a more comprehensive scope that is geared towards multiple dimensions.

Second, developing or changing organizational culture requires significant investments (Barney, 1986). In practice, organizations will face trade-off decisions between the amount of resources they are willing to invest in their culture and the possible effectiveness outcomes this kind of investment might generate. Thus, while a limited focus on a single culture dimension is not advisable, tackling too many dimensions at once might not

yield a reasonable cost-benefit ratio. Selecting the optimal culture configuration and then shaping the specific dimensions that make up this configuration might be more reasonable than aiming for a high score across as many dimensions as possible. Alternatively, following the research on moderation approaches, focusing on one key dimension and then combining it with one or two carefully selected other dimensions that optimally complement the main one might be advisable.

Third, culture change efforts usually aim at unifying organizational members and creating strong agreement on common cultural values (Flamholtz & Randle, 2011). Recent research suggests that while agreement is generally something positive, organizations should carefully select the culture dimensions that there is agreement on in order to prevent organizational members from engaging in excessively uniform behaviors that may hinder creativity and innovation.

3.7 Conclusion

Theoretically, organizational culture is a holistic, multi-dimensional phenomenon that reflects a complex pattern of a group's values, beliefs, and assumptions. However, most quantitative studies explore single culture dimensions and link them separately to effectiveness outcomes. In order to address this misalignment between theory and research, we reviewed the literature on the culture-performance link with a focus on studies that treat organizational culture as a holistic phenomenon. Although the number of identified studies was rather small (N=19) – which is not surprising since we conducted the review precisely because we assumed that empirical research that conceives organizational culture as a holistic variable is scarce – the review identified four different categories of holistic approaches (aggregation-based, agreement-based, moderation- or mediation-based, and configuration-based). By comparing these approaches in an integrative overview, including an illumination

of their respective theoretical foundations, methodological aspects, strengths, weaknesses, and implications for future research, we intend to provide some guidance for researchers who are interested in applying holistic approaches to investigating organizational culture as a predictor for effectiveness outcomes. We see this paper as a first step to unlocking some of the large potential that these approaches bear and hope that it helps to align quantitative research on the culture-effectiveness link more closely with the theoretical roots of organizational culture.

3.8 References

References marked with an asterisk indicate studies included in the literature review

*An, J. Y., Yom, Y. H., & Ruggiero, J. S. (2010). Organizational culture, quality of work life, and organizational effectiveness in Korean university hospitals. *Journal of Transcultural Nursing, 22*, 22-30. doi:10.1177/1043659609360849

Ashkanasy, N. M., & Härtel, C. E. (2014). Positive and negative affective climate and culture: the good, the bad and the ugly. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 136-152). New York, NY: Oxford University Press.

Balthazard, P. A., Cooke, R. A., & Potter, R. E. (2006). Dysfunctional culture, dysfunctional organization: Capturing the behavioral norms that form organizational culture and drive performance. *Journal of Managerial Psychology, 21*, 709-732. doi:10.1108/02683940610713253

Barney, J. B. (1986). Organizational culture: Can it be a source of sustained competitive advantage? *Academy of Management Review, 11*, 656-665. doi:10.5465/AMR.1986.4306261

Boyce, A. S., Nieminen, L. R., Gillespie, M. A., Ryan, A. M., & Denison, D. R. (2015). Which comes first, organizational culture or performance? A longitudinal study of causal priority with automobile dealerships. *Journal of Organizational Behavior, 36,* 339-359. doi:10.1002/job.1985

Byrne, D. (1971). *The attraction paradigm*. New York, NY: Academic Press.

Calori, R., & Sarnin, P. (1991). Corporate culture and economic performance: A French study. *Organization Studies, 12*, 49-74. doi:10.1177/017084069101200104

*Carlos Pinho, J., Paula Rodrigues, A., & Dibb, S. (2014). The role of corporate culture, market orientation and organisational commitment in organisational performance: the case of non-profit organisations. *Journal of Management Development, 33*, 374-398. doi:10.1108/JMD-03-2013-0036

*Chang, S. C., & Lee, M. S. (2007). A study on relationship among leadership, organizational culture, the operation of learning organization and employees' job satisfaction. *The Learning Organization, 14,* 155-185. doi:10.1108/09696470710727014

*Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2014). Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms. *Journal of Organizational Behavior, 35,* 785-808. doi:10.1002/job.1928

Denison, D. R. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review, 21*, 619-654. doi:10.5465/AMR.1996.9702100310

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and performance. *Organization Science, 6*, 204-223. doi:10.1287/orsc.6.2.204

Edwards, J. R. (2001). Multidimensional constructs in organizational behavior research: An integrative analytical framework. *Organizational Research Methods, 4,* 144-192. doi:10.1177/109442810142004

*ElKordy, M. (2013). Transformational leadership and organizational culture as predictors of employees attitudinal outcomes. *Business Management Dynamics, 3,* 15-26.

Flamholtz, W. G., & Randle, Y. (2011). *Corporate culture: The ultimate strategic asset*. Stanford, CA: Stanford University Press.

Fiss, P. C. (2007). A set-theoretic approach to organizational configurations. *Academy of Management Review, 32*, 1180-1198. doi:10.5465/AMR.2007.26586092

Fiss, P. C. (2011). Building better causal theories: A fuzzy set approach to typologies in organizational research. *Academy of Management Journal, 54*, 393-420. doi:10.5465/AMJ.2011.60263120

Gonzalez-Roma, V., & Peiro, J.M. (2014). Climate and culture strength. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 496-531). New York: Oxford University Press.

Gordon, G. G., & DiTomaso, N. (1992). Predicting corporate performance from organizational culture. *Journal of Management Studies, 29*, 783-798. doi:10.1111/j.14676486.1992.tb00689.x

Greckhamer, T., Misangyi, V. F., Elms, H., & Lacey, R. (2008). Using QCA in strategic management research: An examination of combinations of industry, corporate, and business unit effects. *Organizational Research Methods, 11*, 695-726. doi:10.1177/1094428107302907

*Gregory, B. T., Harris, S. G., Armenakis, A. A., & Shook, C. L. (2009). Organizational culture and effectiveness: A study of values, attitudes, and organizational outcomes. *Journal of Business Research, 62*, 673-679. doi:10.1016/j.jbusres.2008.05.021

Hackman, J. R., & Wageman, R. (2005). A theory of team coaching. *Academy of Management Review, 30,* 269-287. doi:10.5465/AMR.2005.16387885

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review, 32,* 1199–1228. doi:10.5465/AMR.2007.26586096

Hartnell, C.A, Kinicki, A., Ostroff, C., Karam, E., & Morgeson, F. (2015, April). Investigating the relative predictive validity of organizational dimensions and

configurations. In D. P. Costanza & C. Ostroff (Chairs), *Alternative solutions to measurement challenges of culture and climate*. Symposium conducted at the 30th Annual Conference of the Society for Industrial and Organizational Psychology, Philadelphia, PA.

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational performance: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*, 677-694. doi:10.1037/a0021987

*Hogan, S. J., & Coote, L. V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research, 67*, 1609-1621. doi:10.1016/j.jbusres.2013.09.007

Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review, 25*, 121–140. doi:10.5465/AMR.2000.2791606

Jung, T., Scott, T., Davies, Huw T. O., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review, 69,* 1087–1096. doi:10.1111/j.1540-6210.2009.02066.x

*Khazanchi, S., Lewis, M. W., & Boyer, K. K. (2007). Innovation-supportive culture: The impact of organizational values on process innovation. *Journal of Operations Management, 25*, 871-884. doi:org/10.1016/j.jom.2006.08.003

*Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A., & Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human Relations, 65*, 241-262. doi:org/10.1177/0018726711426352

*Lee, S., & Yu, K. (2004). Corporate culture and organizational performance. *Journal of Managerial Psychology, 19*, 340-359. doi:10.1108/02683940410537927

Martin, J. (2002). *Organizational culture: Mapping the terrain.* Thousand Oaks, CA: Sage Publications.

Moon, H., Quigley, N. R., & Marr, J. C. (2012). How interpersonal motives explain the influence of organizational culture on organizational productivity, creativity, and adaptation: The ambidextrous interpersonal motives (AIM) model of organizational culture. *Organizational Psychology Review, 2,* 109-128. doi:10.1177/2041386611433085

*Naqshbandi, M. M., Kaur, S., & Ma, P. (2015). What organizational culture types enable and retard open innovation?. *Quality & Quantity, 49,* 2123-2144. doi:10.1007/s11135-014-0097-5

Nemeth, C.J. (1997). Managing innovation: when less is more. *California Management Review, 40*, 59-74. doi:10.2307/41165922

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal, 34*, 487-516. doi:10.2307/256404

O'Reilly, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *The Academy of Management Perspectives, 27*, 324-338. doi:10.5465/amp.2013.0025

*Ortega-Parra, A., & Ángel Sastre-Castillo, M. (2013). Impact of perceived corporate culture on organizational commitment. *Management Decision, 51*, 1071-1083. doi:10.1108/MD-08-2012-0599

Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In N. W. Schmitt, S. Highhouse, & I. B. Weiner (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, 2nd ed., pp. 643-676). Hoboken, NJ: John Wiley & Sons.

Ostroff, C., & Schulte, M. (2014). A configural approach to the study of organizational culture and climate. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 532-552). New York, NY: Oxford University Press.

Payne, G. T. (2006). Examining configurations and firm performance in a suboptimal equifinality context. *Organization Science, 17*, 756-770. doi:10.1287/orsc.1060.0203

Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly, 24,* 570-581. doi:10.2307/2392363

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science, 29*, 363-377. doi:10.1287/mnsc.29.3.363

Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press.

Sackmann, S. A. (2011). Culture and performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (2nd ed., pp. 188-224). Thousand Oaks, CA: Sage.

Schein, E. H. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.

Schneider, B. (1987). The people make the place. *Personnel Psychology, 40,* 437–453. doi:10.1111/j.1744-6570.1987.tb00609.x

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361-388. doi:10.1146/annurev-psych-113011-143809

Short, J. C., Payne, G. T., & Ketchen, D. J. (2008). Research on organizational configurations: Past accomplishments and future challenges. *Journal of Management, 34*, 1053-1079. doi:10.1177/0149206308324324

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28,* 339-358.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33– 47). Monterey, CA: Brooks/Cole.

*Tsai, Y. (2011). Relationship between organizational culture, leadership behavior and job satisfaction. *BMC Health Services Research,* 11, 1-9. doi:10.1186/1472-6963-11-98

*Tsui, A. S., Wang, H., & Xin, K. R. (2006). Organizational culture in China: An analysis of culture dimensions and culture types. *Management and Organization Review, 2*, 345–376. doi:10.1111/j.1740-8784.2006.00050.x

*Valmohammadi, C., & Roshanzamir, S. (2015). The guidelines of improvement: Relations among organizational culture, TQM and performance. *International Journal of Production Economics, 164*, 167-178. doi:10.1016/j.ijpe.2014.12.028

van Dyck, C., Frese, M., Baer, M., & Sonnentag, S. (2005). Organizational error management culture and its impact on performance: a two-study replication. *Journal of Applied Psychology, 90*, 1228-1240. doi:10.1037/0021-9010.90.6.1228

*Wilderom, C. P., van den Berg, P. T., & Wiersma, U. J. (2012). A longitudinal study of the effects of charismatic leadership and organizational culture on objective and perceived corporate performance. *The Leadership Quarterly, 23,* 835-848. doi:10.1016/j.leaqua.2012.04.002

*Yilmaz, C., & Ergun, E. (2008). Organizational culture and firm effectiveness: An examination of relative effects of culture traits and the balanced culture hypothesis in an emerging economy. *Journal of World Business, 43*, 290-306. doi:10.1016/j.jwb.2008.03.019

*Zheng, W., Yang, B., & McLean, G. N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research, 63*, 763-771. doi:10.1016/j.jbusres.2009.06.005

4. Study 3: Towards More Positive Employee Attitudes in Merger and Acquisition Projects: The Importance of Perceived Cultural Stability and the Moderating Roles of Workgroup-level Leader-member Exchange and Individual Change-related Self-efficacy beliefs

Abstract

This research examines the impact of employees' perceptions of cultural stability during a merger and acquisition (M&A) project on their attitudes towards the M&A. We argue that by means of reducing uncertainty, acculturative stress, and feelings of identity loss, perceived cultural stability is positively related to employee attitudes. Further, we examine contextual factors that affect this relationship and hypothesize that workgroup-level LMX and individual change-related self-efficacy beliefs moderate this relationship such that it is stronger when workgroup-level LMX is high (vs. low) and change-related self-efficacy beliefs are low (vs. high). Data were collected from employees in a German organization (N=180) that had recently been acquired by a larger competitor. All three hypotheses, which were tested via multilevel analysis, were supported. Together, the findings highlight the important role that organizational culture plays in M&A projects and shed new light on contextual factors that influence the relationship between cultural change and the formation of employee attitudes in M&A settings. The study thus offers an important extension to the existing organizational culture and M&A literature and also provides new practical insights which can potentially reduce the risk of failed M&A projects.

Keywords: commitment; employee attitudes; LMX; M&A; multi-level; organizational culture; self-efficacy

4.1 Introduction

After a short slump caused by the worldwide financial crisis in 2008, merger and acquisition (M&A) activities have recovered quickly, and today's economy is in the middle of another M&A wave. Examples for recent notable large-scale M&A projects include the merger of food companies Heinz and Kraft and the acquisition of the pharmaceutical company Hospira by its larger competitor Pfizer (Davis, 2014; McGrath, 2015).

M&A projects are, however, risky endeavors. Many of these projects fail to generate the expected benefits and end in "unhappy marriages" that suffer from high frictional losses and are, in many cases, eventually divorced (Cartwright & Cooper, 1993; Papadakis & Thanos, 2010). The reasons for why M&A projects fail are manifold. Apart from financial and structural challenges, questions regarding the organizational cultures of the merging firms have attracted the attention of scholars and practitioners alike (Cartwright, 2005). The general assumption is that incongruent organizational cultures have a negative impact on the employees' sociocultural integration process via which specific attitudes towards the M&A and the new organization are formed (Birkinshaw, Bresman, & Hakanson, 2000; Stahl & Voigt, 2008). These attitudes, in turn, can affect other, more direct indicators of M&A performance such as synergy realization or shareholder value (Brannen & Peterson, 2009).

While the impact of "clashing" organizational cultures on employee attitudes during or following M&A projects has been investigated before (e.g., Schweiger & Goulet, 2005; Vaara, Sarala, Stahl, & Björkman, 2012; Weber, Shenkar, & Raveh, 1996), inter-individual differences regarding culture-related perceptions are rarely considered in this context, although these perceptions can vary substantially between individuals within an organization (Elsass & Veiga, 1994; Jones, Jimmieson & Griffiths, 2005). Thus, there is limited understanding of how employees react at an individual level to cultural issues in M&A situations, which is unfortunate, because subjective, individual perceptions may be valid

predictors of peoples' attitudes and behaviors (Elsass & Veiga, 1994; Frantz, 2015; Kavanagh & Ashkanasy, 2006).

A second research gap in the M&A literature is that there is limited understanding regarding contextual factors that may inform under what conditions cultural issues matter. Previous studies have paid little attention to variables that potentially impact the relationship between cultural issues and M&A success in general or employee attitudes in particular. Researchers have therefore called for a closer examination of moderators affecting the link between cultural issues and M&A outcomes (e.g., Bauer & Matzler, 2014; Stahl & Voigt, 2008).

A third shortcoming in the M&A literature is the questionable construct validity of the culture measures used in many studies (Stahl & Voigt, 2008). Somewhat surprisingly, organizational culture is rarely assessed by means of acknowledged measures, although the literature on organizational culture provides clear recommendations on which instruments are considered valid (e.g., Ostroff, Kinicki, & Muhammad, 2013; Sackmann, 2011; Schneider, Ehrhart, & Macey, 2013). This raises the question of whether some of the findings in previous studies can really be attributed to issues of organizational culture or rather to related but certainly distinct constructs, such as management styles.

These issues are addressed in the present study, which aims to make three contributions. First, we account for the fact that individuals experience cultural challenges differently by investigating whether perceived stability in organizational culture affects employee attitudes towards an M&A project. Second, we answer the call for a closer examination of contextual factors by investigating two moderators that potentially impact the relationship between perceived cultural stability and employee attitudes. Specifically, in line with previous research that emphasized the multilevel view of change acceptance (e.g., Armenakis, Harris, & Mossholder, 1993; Jones et al., 2005; Rafferty & Griffin, 2006;

Wanberg & Banas, 2000), we focused on examining workgroup-level leader-member exchange (LMX) and individual-level change-related self-efficacy beliefs as the potential moderators. Third, we bridge the gap between the M&A literature and the organizational culture literature by using a previously validated organizational culture measure to assess the culture variables used in this study.

4.2 Theoretical Background and Hypotheses

4.2.1 Perceived Cultural Stability in M&A Projects and Employee Attitudes

The most frequently cited definition of organizational culture was provided by Schein (2010). He defined organizational culture as "… a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 2010, p. 18).

This definition suggests that organizational culture can be considered an invisible foundation on which employees' attitudes and behaviors are based. During an M&A project, this foundation is disturbed, because every M&A project involves the combination of different organizational cultures or, in most cases, rather the imposition of one over another. The system of values that constituted the "old" organizational culture is thus destabilized, which poses substantial challenges to organizational members (Seo & Hill, 2005). In order to understand these challenges, scholars frequently draw on acculturation and social identity theory.

Acculturation is defined as the change that occurs as a result of contact between different cultural groups (Berry, 1980). In line with acculturation theory, the synthesis of two cultures in an M&A project requires organizational members to adapt to a changing cultural

environment. This process of acculturation can demand considerable psychological efforts leading to acculturative stress (Nahavandi & Malekzadeh, 1988). Acculturative stress is generally assumed to have a negative impact on employees' attitudes and has been linked to lower commitment and cooperation, change resistance, turnover, and increased potential for conflict (Elsass & Veiga, 1994; Larsson & Lubatkin, 2001; Nahavandi & Malekzadeh, 1988; Seo & Hill, 2005).

Apart from leading to acculturative stress, M&A-related changes in organizational culture can also affect employees' social identities. Social identity is defined as the part of an individual's identity that is based on membership in groups (Tajfel & Turner, 1979) including the organization the individual works for (Hogg & Terry, 2000). It is largely determined by the distinctive attributes (including cultural values) that individuals associate their group memberships with (Ashforth & Mael, 1989). In M&A projects that involve a great deal of cultural change, although the common cultural values established in employees' original workgroup were an essential part of their social identities, these values may not be valid anymore in the new organization (Panchal & Cartwright, 2001). Such a threat to social identities is likely to negatively affect employee attitudes towards the M&A since it increases subjective uncertainty, thus leaving employees with a sense of disorientation (Marks & Mirvis, 2001). Moreover, employees typically react to an erosion of their social identities by trying to strengthen the identity and relative standing of their respective workgroups. This can lead to strong "us-versus-them" thinking between workgroups, which can lead to serious intraorganizational tensions and foster the resistance to the cultural integration of the two merging organizations (Seo & Hill, 2005; Stahl & Voigt, 2008; Terry & O'Brian, 2001).

In light of these arguments, it should be obvious that cultural issues in M&A situations do matter with regard to employee attitudes. Empirical studies have tried to approach these cultural issues by measuring the congruence of the overall cultures of the merging companies

(e.g., Vaara et al., 2012; Weber et al., 1996). The basic line of reasoning in these studies is that greater cultural congruence is linked to more favorable employee attitudes. While this approach has been fruitful, it is limited to an overall organizational perspective. Therefore, it does not account for the fact that the degree to which individuals experience radical change is subjective and may vary substantially between organizational members (Rafferty & Griffin, 2006). This kind of subjective perception also applies to cultural change. Although organizational culture is essentially a collective construct, individuals in organizations can perceive and interpret cultural attributes differently (Martin, 2002). Accordingly, the way cultural change is perceived in an M&A project may differ significantly between individuals within an organization (Buono, Bowditch, & Lewis, 1985; Elsass & Veiga, 1994; Kavanagh & Ashkanasy, 2006). Depending on a variety of conceivable factors (e.g., sensitivity to cultural issues or the degree of interaction with members of the other organization), some employees may experience a significant cultural shift while others perceive less cultural changes.

These differences are likely to affect individual attitudes towards the M&A project. Employees who perceive the organizational culture to be stable should be less likely to encounter the negative effects of cultural change outlined above. Their existing patterns of cultural values remain unchanged, which ought to be psychologically comforting (Harrison & Klein, 2007). Moreover, as social identity processes are motivated by a need to reduce subjective uncertainty regarding one's perceptions (Hogg & Terry, 2000), the urge to overly strengthen existing social identities is likely to decrease if the organizational culture is perceived to be stable (i.e., the subjective cultural uncertainty is small). As such, employees who perceive the organizational culture to be stable may experience little identity-related uncertainty or stress during the M&A process and thus are likely to develop more positive cognitive appraisals of the change (Rafferty & Griffin, 2006). In sum, high levels of perceived

cultural stability should have a positive impact on employees' attitudes towards the M&A. We therefore propose:

Hypothesis 1: Perceived cultural stability is positively related to employee attitudes towards the M&A project.

4.2.2 The Moderating Role of Workgroup-level LMX

Leader-member exchange (LMX) refers to the quality of the relationship between leader and follower. A high level of LMX can be described as a "mature partnership" (Graen & Uhl-Bien, 1995, p. 230) that is characterized by mutual liking, trust, and support. Interactions between the leader and the follower are thus not only of a contractual nature, but also have a strong emotional component (Nishii & Mayer, 2009).

In general, high-quality LMX is considered to be something positive and has been found to correlate with a large variety of desirable outcomes, including subjective and objective performance ratings, job satisfaction, organizational commitment, positive role perceptions, and organizational citizenship behavior (Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007). The positive effects of typical facets of LMX such as conveying feelings of trust and stability are likely to become particularly salient at the workgroup level (Huy, 2002). If a manager establishes an overall high level of LMX in the workgroup, LMX ceases to be an individual matter between the manager and selected employees and becomes a normative standard that group members share (Nishii & Mayer, 2009), thus fostering group identification and amplifying the positive effects that are related to high levels of LMX (Huy, 2002).

Given these findings and thoughts, membership in high-LMX workgroups should be associated with high levels of employees' overall satisfaction and positive general perceptions of their leader and their work environment. These positive effects are likely to spillover to influence how employees perceive the culture of their workgroups, since leadership and

culture are inextricably linked with each other. The idea that leadership shapes culture is at the heart of Schein's (2010) widely acknowledged theory of organizational culture. As Schein puts it "…it can be argued that the only thing of real importance that leaders do is to create and manage culture; that the unique talent of leaders is their ability to understand and work with culture…" (Schein, 2010, p. 11). Various facets of leadership behavior are essential elements of the most frequently applied organizational culture models and measures such as the Competing Values Framework (Cameron & Quinn, 2006; Quinn & Rohrbaugh, 1983) or the Denison Organizational Culture Survey (Denison & Mishra, 1995), and there are numerous empirical studies that have shown the important role of leaders in shaping organizational cultures (e.g., Berson, Oreg, & Dvir, 2008; Giberson et al., 2009; Kerr & Slocum, 2005; Ogbonna & Harris, 2000; Tsui, Zhang, Wang, Xin, & Wu, 2006). In light of this very close interweavement of leadership and culture, it is reasonable to assume that members of high-LMX workgroups who are highly satisfied with their relationship to their supervisor are also likely to cherish their general cultural environment, regardless of the culture's actual content or direction (i.e., regardless of whether the culture is, for example, geared towards more internally oriented values such as people involvement and familiarity or towards more externally oriented values such as competitiveness and innovation).

Following this line of reasoning, high LMX is likely to amplify the positive effect of perceived cultural stability in M&A situations. High-LMX workgroup members will feel that their positive culture is particularly worthy of protection and preservation. Thus, a confirmation of their cultural values (i.e., high perceived cultural stability) should have a strong positive effect on their attitudes towards the M&A, whereas perceptions of cultural instability are likely to be interpreted as threatening and evoke feelings of identity loss, which, in turn, should induce negative attitudes towards the M&A. To contrast, these effects of perceived cultural stability should be less pronounced among members of low-LMX

workgroups. In line with the arguments presented before, low-LMX workgroup members may view their cultural environment as less worthy of protection as compared to high-LMX workgroup members and thus react less sensitively to perceptions of cultural instability. Accordingly, we propose:

Hypothesis 2: Workgroup-level LMX moderates the positive relationship between perceived cultural stability and employee attitudes towards the M&A in such a way that the relationship is stronger when LMX is high than when it is low.

4.2.3 The Moderating Role of Change-related Self-Efficacy

According to Bandura (1977), self-efficacy is an individual's fundamental belief in her or his ability to succeed in specific situations or to accomplish a certain goal, task, or challenge. Individuals high in self-efficacy tend not to refrain from difficult tasks but rather approach them as something that can be controlled and mastered. The concept of self-efficacy has been applied to a large variety of research contexts, including organizational change (e.g., Armenakis et al., 1993; Cunningham et al., 2002; Holt, Armenakis, Feild, & Harris, 2007). Change-related self-efficacy can be considered as a certain type of domain-specific self-efficacy (Wanberg & Banas, 2000) and is defined as "an individual's perceived ability to handle change in a given situation and to function well on the job despite demands of the change" (Wanberg & Banas, 2000, p. 134). In line with Bandura's general theory of self-efficacy, individuals with low change-related self-efficacy are assumed to not perform well in change-contexts since they lack the confidence in their abilities to master the challenges induced by the change (Armenakis et al., 1993). To contrast, high change-related self-efficacy is regarded as an important predictor for openness towards a specific change (often labeled as "change-readiness"), which, in turn, is positively related to employee attitudes and behaviors, such as acceptance of the change, job satisfaction, or participation in change initiatives (Cunningham et al., 2002; Holt et al., 2007; Jones et al., 2005; Wanberg & Banas, 2000).

Following this line of theorizing, it stands to reason that change-related self-efficacy is an important coping mechanism that not only directly affects the way employees perceive and are committed to the M&A project and the changes that go along with it, but also functions as a moderator that buffers the effect of cultural (in-)stability on M&A commitment. Employees high in change-related self-efficacy are likely to react less strongly to perceptions of cultural instability in M&A situations since their high self-efficacy should help them to effectively manage the changes assoicated to cultural instability. To contrast, employees low on change-related self-efficacy should be more susceptible to the effects of cultural (in-)stability. Since they lack self-efficacy as a source of confidence, they are likely to consider perceptions of cultural instability to be particularly threatening and thus develop negative attitudes towards the M&A, In addition, they may also feel more psychologically comfortable when they perceive high levels of cultural stability. As such, the positive relationship between perceptions of cultural stability and attitudes towards the M&A should be stronger for employees with low (vs. high) change-related self-efficacy. We therefore propose:

Hypothesis 3: Change-related self-efficacy moderates the positive relationship between perceived cultural stability and employee attitudes towards the M&A in such a way that the relationship is stronger when change-related self-efficacy is low than when it is high.

4.3 Method

4.3.1 Sample and Procedure

Data collection took place in a German company specializing in food-processing that arose from a recent M&A project. The project involved the acquisition of a family-owned German company (henceforth referred to as Company A) by the German branch of a larger US-American competitor (henceforth referred to as Company B) eight months before this study was conducted. The acquisition process involved, amongst other things, a name change

of the acquired company and new reporting structures. Data collection focused on the employees of former Company A, since employees in the acquired company usually feel the impact of a merger or an acquisition much more strongly than employees in the buying company (Larsson & Lubatkin, 2001). All employees of former Company A were asked to fill out an online survey which could be completed during company time. Management encouraged participation and confirmed confidentiality. The final sample consisted of 180 employees (61% of the total workforce) that were distributed across 24 work units (unit sizes ranged from 3 to 13 employees, with an average of 7.5). Two thirds of the participants were male and the average age was 45 years.

4.3.2 Measures

For all measures, a German version was used, following a translation-back translation procedure (Brislin, 1970). Unless indicated otherwise, items were answered on five-point Likert scales ranging from "strongly disagree" to "strongly agree" (or a slight variation of this pattern such as "not at all" to "fully").

Perceived cultural stability. We assessed perceived cultural stability with the Competing Values Framework (Cameron & Quinn, 2006). The CVF is widely acknowledged as one of the best validated instruments for measuring organizational culture (Hartnell, Ou, & Kinicki, 2011; Ostroff et al., 2013; Sackmann, 2011; Schneider et al., 2013). It consists of 24 items that are distributed across four scales, namely clan (sample item: "The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high".), adhocracy (sample item: "The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks".), market (sample item: "The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant".), and hierarchy (sample item: "The organization emphasizes permanence and stability. Efficiency, control, and smooth operations are

important".). We were, however, not interested in the specific CVF scales, but in the overall cultural stability across scales, since theoretically, it is organizational culture as a whole (regardless of the elements that the culture consists of) which provides security by defining what employees should pay attention to, how to react emotionally, and what actions to take in various kinds of situations (Chatman, Caldwell, O'Reilly, & Doerr, 2014; Ostroff et al., 2013, Schein, 2010).

All employees were asked to fill out two sets of CVF items. The first set captured the "pre-acquisition" culture of company A. The instructions explicitly referred to the former culture as it was perceived prior to the acquisition, the items were formulated in past tense, and the old company name was used. Average Cronbach's alpha for the four "pre-acquisition" scales was .86 (clan: .89; adhocracy: .88; market: .85; hierarchy: .83). The second set of CVF items captured the organizational culture as it was perceived at the time of the study (eight months after the acquisition). The instructions explicitly referred to the current culture, the items were formulated in present tense, and the new company name was used. Average Cronbach's alpha for the "post-acquisition" scales was .87 (clan: .92; adhocracy: .85; market: .86; hierarchy: .85). In order to obtain the cultural stability score for each employee across scales, the differences between the pre-acquisition culture score and the post-acquisition culture score on each of the four CVF scales were calculated. The total amounts of these differences were summed up and divided by four, leading to a scale ranging from zero (no differences, maximum stability) to four (maximum differences, minimal stability). Finally, the scale was inverted, so that high values indicated high perceived cultural stability.

Employee attitudes. We focused on commitment to the M&A project, which is an employee attitude that is considered to be particularly relevant in an M&A context (Stahl & Voigt, 2008). Commitment to the M&A project was assessed with the "affective commitment to change" scale (six items) by Herscovitch and Meyer (2002) which measures the desire to

support a given change based on a belief in its inherent benefits. Since the items refer to a general kind of change (sample item: "I believe in the value of this change"), it was explicitly stated in the instructions that the change refers to the recent M&A project. Cronbach's alpha for this scale was .88.

Leader-member-exchange. LMX was assessed with the seven-item LMX scale (sample item: "How well does your leader understand your job problems and needs?") recommended by Graehn and Uhl-Bien (1995). Cronbach's alpha for this scale was .92.

Change-related self-efficacy. We used the six items of the "change-efficacy" sub-scale from the Readiness for Organizational Change Survey (Holt et al., 2007) to measure change-related self-efficacy. Again, it was explicitly stated in the instructions that the change mentioned in the items refers to the recent M&A project (sample item: "When I set my mind to it, I can learn everything that will be required when this change is adopted"). Cronbach's alpha for this scale was .84.

Data aggregation. The scores for LMX were aggregated to the workgroup level (i.e., each workgroup's score is the mean of the responses provided by all employees within the workgroup). In order to examine whether this aggregation was justified, we calculated Intraclass Correlation Coefficients (ICCs) and rWG(J) values as recommended by LeBreton and Senter (2008). ICC(1) was .16 and ICC(2) was .58, while average RWG(J) values were .83. These figures indicate acceptable between-unit variability and within-group agreement (LeBreton and Senter, 2008), and were considered high enough to justify aggregation.

Control variables. Since age might affect the degree to which organizational change is embraced (e.g., Iverson, 1996), and workgroup size might affect group-level phenomena such as group-level LMX (e.g., Cogliser & Schriesheim, 2000), we considered these factors as control variables. However, they were not related to the predictors or the outcome variables and adding them to the analyses did not impact the conclusions drawn from the results.

Therefore, in order to conserve power, we did not include these variables as controls in the main analyses reported here.

4.4 Results

Table 3.1 shows descriptive statistics and correlations of the study variables. As can be seen in Table 3.1, significant relationships were observed between perceived cultural stability, change-related self-efficacy beliefs, workgroup-level LMX, and M&A commitment. Our hypotheses where then tested via multilevel modeling using HLM 7.01 (Raudenbush, Bryk, & Congdon, 2013). Perceived cultural stability, change-related self-efficacy, and their corresponding interaction term were entered as level-1 variables, while workgroup-level LMX was entered as a level-2 predictor of the random slope of the level-1 regression. Since in organizational reality, perceived cultural stability, workgroup-level LMX, and change-related self-efficacy beliefs occur conjunctly, all variables were included simultaneously in the analysis. Perceived cultural stability and change-related self-efficacy as level-1 variables were group-mean centered, whereas workgroup-level LMX as a level-2 variable was grand-mean centered (Enders & Tofighi, 2007). Table 3.2 presents the results of the analysis.

Table 3.1
Means, Standard Deviations, and Correlations[a]

Variable	*M*	*SD*	Correlation					
			1	2	3	4	5	6
1. Age	44.82	9.31	–					
2. Workgroup size	7.52	2.78	.02	–				
3. Perceived cultural stability	3.33	0.43	-.04	.01	–			
4. Change-related self-efficacy	3.41	0.97	.08	.03	.45**	–		
5. Workgroup-level LMX	3.71	0.50	.09	-.11	.33**	.15*	–	
6. Commitment to the M&A	3.24	0.76	-.06	-.08	.38**	.21*	.23*	–

[a] n = 180 employees for variables 1, 3, 4, and 6; n = 24 workgroups for variables 2 and 5. In order to calculate correlations between an individual variable and a workgroup variable, we assigned the same workgroup-level score to all employees from the same workgroup.
* $p < .05$ ** $p < .01$

Table 3.2
Multi-level model Testing the Effect of Perceived Cultural Stability on M&A Commitment and the Moderating Effects of Workgroup-level LMX and Change-related Self-efficacy[a]

Variable	Commitment to the M&A			
	Coefficient	*SE*	*t*	*df*
Level 1				
Perceived cult. stability γ_{10}	1.12	0.24	4.48**	22
Change-related self-efficacy beliefs γ_{20}	0.51	0.20	2.47*	130
Interaction term γ_{30}	-0.15	0.06	-2.33*	130
Level 2				
LMX (moderating effect) γ_{11}	0.75	0.28	2.66*	22
LMX (main effect) γ_{01}	0.41	0.17	2.37*	22

[a] level-1 n = 180; level-2 n = 24.
Level 1 predictors were group-mean centered, level 2 predictors were grand-mean centered
* $p < .05$ ** $p < .01$

The HLM analysis supported all three hypotheses. As predicted in Hypothesis 1, perceived cultural stability was positively and significantly related to employees' M&A commitment ($\gamma 10 = 1.12$, $t(22) = 4.48$, $p < .001$).

Figure 3.1 graphically shows the relationship between perceived cultural stability and M&A commitment as moderated by workgroup-level LMX, for which high and low levels are depicted as one standard deviation above and below the mean, respectively. As predicted in Hypothesis 2, workgroup-level LMX moderated the relationship between perceived cultural stability and M&A commitment ($\gamma 11 = 0.75$, $t(22) = 2.66$, $p < .05$). More specifically, the relationship between perceived cultural stability and M&A commitment was positive and marginally significant at low levels (-1SD) of workgroup LMX (0.74, $t(22) = 2.26$, $p < 0.5$), while it was much stronger and highly significant at high levels (+1SD) of workgroup-level LMX (1.49, $t(22) = 3.75$, $p < .01$). Moreover, there was a positive relationship between workgroup-level LMX and M&A commitment ($\gamma 01 = 0.41$, $t(22) = 2.37$, $p < .05$).

In line with Hypothesis 3, the positive relationship between perceived cultural stability and employees' M&A commitment was furthermore moderated by individual change-related self-efficacy beliefs ($\gamma 30 = -0.15$, $t(130) = -2.33$, $p < .05$), as can be seen in Figure 3.2. The relationship was strongly positive and highly significant at low levels (-1SD) of change-related self-efficacy (0.74, $t(130) = 4.27$, $p < 0.01$), while it was less positive and marginally significant at high levels (+1SD) of change-related self-efficacy (0.44, $t(130) = 2.23$, $p < .05$). In addition, a positive and significant relationship between change-related self-efficacy beliefs and M&A commitment could be observed ($\gamma 20 = 0.51$, $t(130) = 2.47$, $p < .05$).

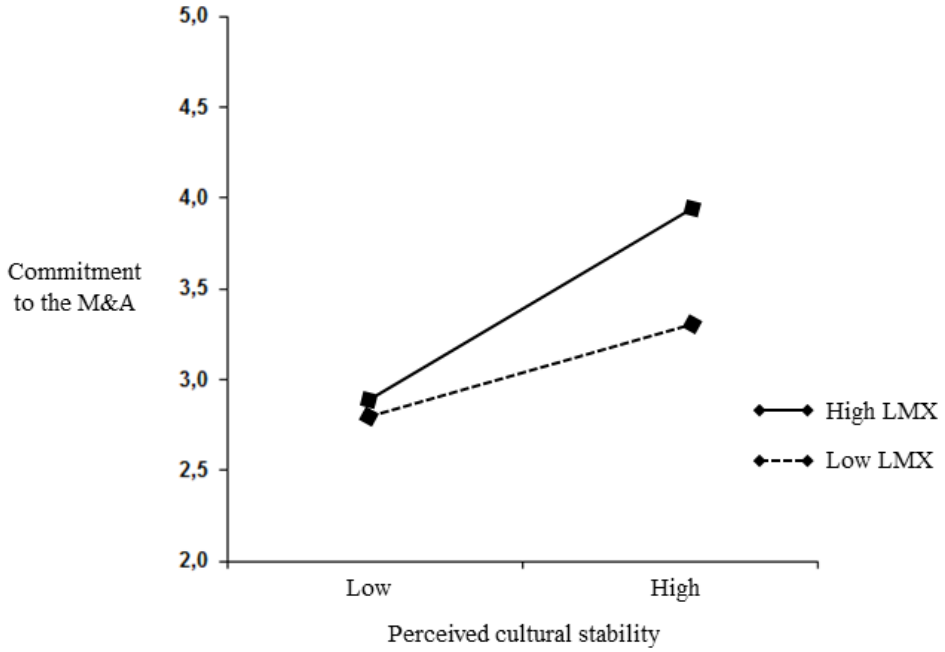

Figure 3.1. Workgroup-level LMX as a Moderator of the Relationship between Perceived Cultural Stability and Commitment to the M&A

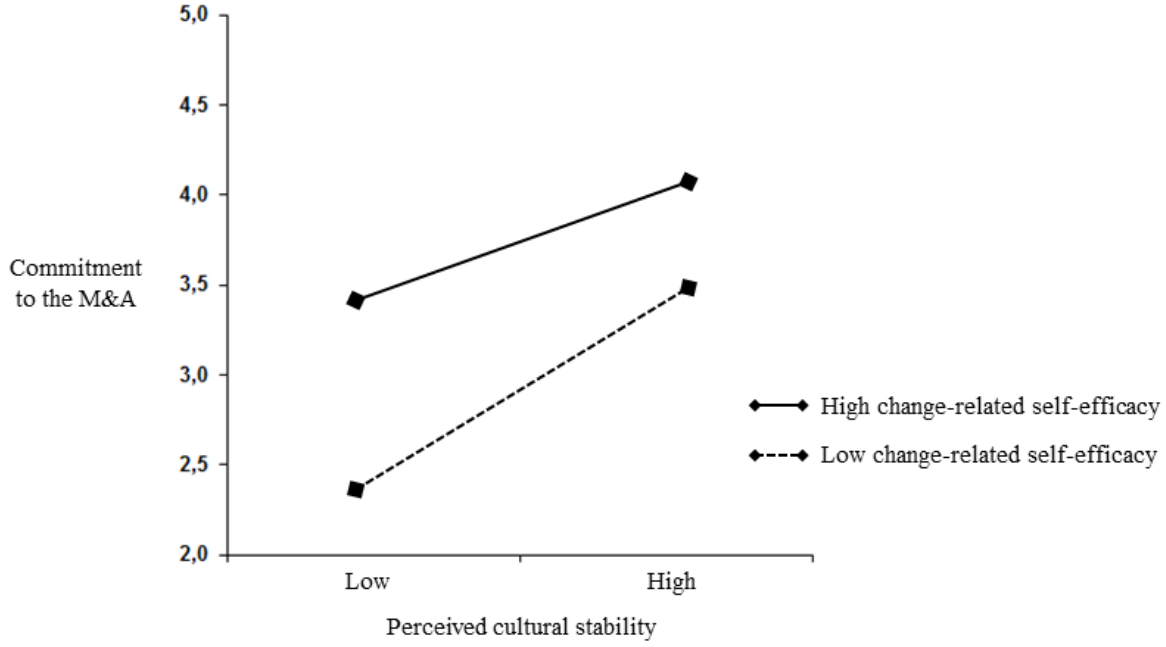

Figure 3.2. Change-related Self-efficacy as a Moderator of the Relationship between Perceived Cultural Stability and Commitment to the M&A

4.5 Discussion

In order to explore perceptions of organizational cultural stability in an M&A context, the relationship between these perceptions and employee attitudes towards the M&A, and the moderating effects of workgroup-level LMX and individual change-related self-efficacy, we collected data from a German organization that had recently undergone a major M&A project. Our findings suggest that there is a positive relationship between perceived cultural stability and the degree to which employees are committed to the M&A project. Further, two moderation effects were detected: The positive relationship between perceived cultural stability and employee attitudes was more pronounced when the workgroup-level LMX was high (vs. low) and when the employee has low (vs. high) change-related self-efficacy. In the following, these findings are discussed with regard to the study's theoretical and practical implications and its limitations and future research directions.

4.5.1 Theoretical Implications

The M&A literature has acknowledged that cultural issues play an important role in achieving post-merger success in general and in forming specific attitudes towards the M&A in particular (Birkinshaw et al., 2000; Brannen & Peterson, 2009; Cartwright, 2005). Researchers have also argued that contextual factors that may inform under what conditions cultural issues matter need to be explored in greater detail (Bauer & Matzler, 2014; Stahl & Voigt, 2008), and that higher attention should be paid to individual perceptions of cultural issues (Frantz, 2015; Kavanagh & Ashkanasy, 2006). We built on and combined these thoughts and demands in an integrated study, thereby providing an important extension to the current M&A literature.

First, our findings regarding perceived cultural stability are consistent with previous theorizing that differences in the cultures of merging organizations pose a risk to the

sociocultural integration of employees and ultimately to the success of the M&A project. In particular, our findings support Hofstede's (1980) general "cultural distance" hypothesis, which suggests that difficulties associated with establishing contacts from different cultures increase with growing cultural differences (Stahl & Voigt, 2008). However, most of the existing studies have analyzed cultural issues in M&A settings at an overall organizational level, suggesting that organizational members are all similarly affected by cultural shifts associated with the M&A. Our results indicate that this assumption is questionable and that considerable differences exist among organizational members regarding their perceptions of cultural stability, which can in turn affect their attitudes towards the M&A project. Thus, our study is an important step towards analyzing the role of organizational culture in M&A settings through the lens of the individuals that are actually affected. Although this perspective has been proffered before (e.g., Buono et al., 1985; Elsass & Veiga, 1994; Kavanagh & Ashkanasy, 2006), it is rarely applied in empirical M&A research and is missing from the most recent and comprehensive theoretical frameworks on M&A success and its antecedents (Bauer & Matzler, 2014; Haleblian, Devers, McNamara, Carpenter, & Davison, 2009; Stahl & Voigt, 2008). Thus, future theoretical models should acknowledge that individual differences regarding cultural perceptions exist and that these differences can play an important role in shaping employees' attitudes towards the M&A and the newly formed organization. In addition, theoretical models need to be more specific with regards to antecedents of diverging cultural perceptions. For example, in line with the theories presented in the *hypotheses* section of this paper, it is possible that individuals acculturate in different ways and at different speeds (Elsass & Veiga, 1994), which may drive the inter-individual differences in perceptions of cultural stability.

Second, our findings suggest that moderators need to be acknowledged to provide a more holistic understanding with regards to the predictive utility of cultural issues in M&A

settings. In this study, we focused on workgroup-level LMX and individual change-related self-efficacy. While our results confirmed the previous findings of the positive direct relationships between these variables and change acceptance in general (e.g., Wanberg & Banas, 2000) and M&A attitudes in particular (e.g., Bhal, Uday Bhaskar, & Venkata Ratnam, 2009), we went one step further and linked LMX and change-related self-efficacy to the relationship between cultural perceptions and M&A commitment. As Stahl and Voigt (2008) critically remarked, very few studies have examined the role of cultural effects in M&A projects contingent on contextual factors. The few studies that did include such factors focused almost exclusively on moderators at highly aggregated organizational levels, such as the degree to which the industries of the acquiring and the target organization are related. By examining moderators at the individual and the lower organizational level, this study offers an important extension to the existing M&A literature by shedding additional light on the boundary conditions under which the individual sociocultural integration process of the employee – of which the formation of employee attitudes is an integral part (Birkinshaw et al., 2000; Stahl & Voigt, 2008) – unfolds. A more in-depth engagement with such boundary conditions can yield novel insights that can potentially reduce the risk of failed M&A projects. Thus, theoretical models on M&A success and its antecedents should become more specific with regards to variables that moderate the link between cultural issues and M&A outcomes. This applies, in particular, to micro-level variables, which are virtually absent from existing theories and can reasonably complement the prevalent macro-level view. It can be assumed that “hidden below the veil of incompatible cultures” (Frantz, 2015, p. 103), there is a variety of individual and lower organizational level factors which offer interesting starting points for further theory development and fruitful empirical research.

4.5.2 Practical Implications

Our results offer several practical implications for managers and organizations. First, our findings suggest that organizations ought to be careful when aiming for the acquisition of companies that have very different organizational cultures. At the very least, the buying company should be aware of the cultural features of the target company and how these are different from its own organizational culture. Including an assessment of organizational culture in the due diligence process prior to the M&A project (Marks & Mirvis, 2011; Piccolo, Bardes, Baker, & Kyimaz, 2011) could therefore be a helpful measure. After the merger or acquisition took place, both the buying and the acquired company should attempt to reduce impressions of radical cultural change and convey a sense of cultural stability instead. One approach could be to limit changes only to business-critical areas, such as production processes, while tolerating other facets of organizational culture, such as social rituals. In any case, interventions that foster a mutual sensitivity for the respective other organizational culture (e.g., cultural learning sessions, as described by Schweiger and Goulet [2005]) could be useful measures in this respect.

Further, our findings suggest that while LMX generally has a positive direct effect on employee attitudes towards the M&A, members of high-LMX workgroups react more sensitively to perceptions of cultural (in-)stability than members of low-LMX units. The change management strategy that accompanies the M&A integration process could take this aspect into account by conducting thorough change preparation and stakeholder analyses in which high- and low- LMX units are identified. In a next step, these units could receive special change management measures such as communication that is geared towards their respective needs (e.g., promoting the benefits of the change in low-LMX units and conveying feelings of cultural stability in high-LMX units). Moreover, given that high-LMX leaders are

particularly credible and trustful, winning over the leaders of high-LMX workgroups as change agents could be particularly effective.

Finally, our findings suggest that in M&A situations, organizations should invest in enhancing the change-related self-efficacy beliefs of their employees. The more different the organizational cultures of the merging organizations are (i.e., the lower the perceived cultural stability), the more important – and rewarding – will this investment be. As Wanberg and Banas (2000) point out, Bandura (1977) suggested that domain-specific self-efficacy is situation-dependent and can be enhanced through organizational interventions that promote mastery of the task. Thus, organizations should take active steps to enhance employees' confidence in their abilities to adjust to the changes that come with the M&A project, for example by ensuring that appropriate training measures are provided (Wanberg & Banas, 2000). Moreover, organizations could rethink the way they design their jobs (e.g., by building learning opportunities and autonomy into the job tasks; Cunningham et al., 2002) in order to strengthen the change-related self-efficacy of their employees.

4.5.3 Limitations and Implications for Future Research

The results of this study should be considered in light of its limitations. These limitations could be addressed in future research. First, because our studied sample came from a single M&A project, the generalizability of the results is limited. For example, it is possible that the organizational culture of the target company (a family business rich in tradition) was very deep-rooted due to its long and proud history. Thus, any changes in the organizational culture might have been perceived as particularly severe. Moreover, LMX may play a less pronounced role in other kinds of companies, since family businesses are known for leader-follower relationships that are often particularly trustful and loyal (Pearson & Marler, 2010). To provide evidence of generalizability, future research is needed to replicate our findings within other M&A settings.

Second, our study is cross-sectional, which means that participants had to assess the pre-acquisition culture and the post-acquisition culture at the same point in time. Thus, it cannot be ruled out that assessments of the pre-acquisition culture were influenced by retrospective recall or post-hoc constructions (Miller, Cardinal, & Glick, 1997). Obviously, a research design with two or more measurement points (prior to and after the acquisition) would have been preferable, but was unfortunately not supported by our partner organization. Moreover, a true longitudinal design with multiple measurements would have allowed for comparing different post-merger phases that might exert different influences on employees' attitudes and the way they perceive the organizational culture (Seo & Hill, 2005). Future studies should take these aspects into consideration.

Third, our study included only two contextual factors as moderators of the relationship between perceived cultural stability and employee attitudes. Obviously, there are many other potentially interesting moderators that future studies could focus on. For example, we know that personality is generally an important factor in change processes (e.g., Oreg, 2006; Vaola, Tsaousis, & Nikolao, 2004). Investigating whether personality also matters with regard to perceptions of organizational culture and their link to M&A attitudes could be an interesting approach for future studies. The literature on expatriate management that highlights the importance of personality traits for adapting to different national cultures (e.g., Albrecht, Dilchert, Deller, & Paulus, 2014; Peltokorpi & Froese, 2012) could be a valuable source informing this effort.

Finally, it should be noted that the results of this study may be susceptible to common method bias since data was collected by using self-report measures. We believe, however, that self-report measures were appropriate for assessing the variables of interest for this study. First, our outcome variable (commitment towards the M&A project) reflected affective feelings, for which self-reports are appropriate measures (Chan, 2009). Second, our

independent variable was perceived cultural stability, which is a subjective judgement and thus makes self-reports the theoretically most relevant measurement method (Conway & Lance, 2010). For the same reason, it is appropriate to capture our moderator variables workgroup-level LMX and change-related self-efficacy via self-report measures. Moreover, we aggregated the data for LMX to the workgroup-level, thus using a group-level variable for predicting individual-level outcomes, which makes it less likely for common method variance to bias the findings. Finally, we followed the guidelines proposed by Podsakoff, McKenzie, Lee, and Podsakoff (2003) of guaranteeing respondent anonymity and clearly separating the scales for capturing predictor and outcome variables.

4.6 References

Albrecht, A. G., Dilchert, S., Deller, J., & Paulus, F. M. (2014). Openness in cross-cultural work settings: A multicountry study of expatriates. *Journal of Personality Assessment, 96*, 64-75. doi:10.1080/00223891.2013.821074

Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating readiness for organizational change. *Human Relations, 46*, 681-703. doi:10.1177/001872679304600601

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review, 14*, 20-39. doi:10.5465/AMR.1989.4278999

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. doi:10.1037/0033-295X.84.2.191

Bauer, F., & Matzler, K. (2014). Antecedents of M&A success: The role of strategic complementarity, cultural fit, and degree and speed of integration. *Strategic Management Journal, 35,* 269-291. doi:10.1002/smj.2091

Berry, J.W. (1980). Social and cultural change. In H. C. Triandis & R.W. Brislin (Eds.), *Handbook of cross-cultural psychology* (Vol. 5, pp. 211-279). Boston: Allyn & Bacon.

Bhal, K. T., Uday Bhaskar, A., & Venkata Ratnam, C. S. (2009). Employee reactions to M&A: role of LMX and leader communication. *Leadership & Organization Development Journal, 30*, 604-624. doi:10.1108/01437730910991637

Birkinshaw, J., Bresman, H., & Hakanson, L. (2000). Managing the post-acquisition integration process: How the human integration and task integration processes interact to foster value creation. *Journal of Management Studies, 37*, 395-425. doi:10.1111/1467-6486.00186

Brannen, M. Y., & Peterson, M. F. (2009). Merging without alienating: Intervention promoting cross-cultural organization integration and their limitations. *Journal of International Business Studies, 40,* 468-489. doi:10.1057/jibs.2008.80

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1, 185-216. doi:10.1177/135910457000100301

Buono, A. F., Bowditch, J. L., & Lewis, J. W. (1985). When cultures collide: The anatomy of a merger. *Human Relations, 38,* 477-500. doi:10.1177/001872678503800506

Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture based on the competing values framework*. Hoboken, NJ: John Wiley & Sons.

Cartwright, S. (2005). Mergers and acquisitions: an update and appraisal. In G. Hodgkinson & K. Ford (Eds.), *International Review of Industrial and Organizational Psychology* (pp. 1-38). London: Wiley.

Cartwright, S., & Cooper, C. L. (1993). The role of culture compatibility in successful organizational marriage. *Academy of Management Executive, 7,* 57-70. doi:10.5465/AME.1993.9411302324

Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity, and fable in the organizational and social sciences* (pp. 311–338). New York: Routledge.

Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2014). Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms. *Journal of Organizational Behavior*, 35, 785-808. doi:10.1002/job.1928

Cogliser, C. C., & Schriesheim, C. A. (2000). Exploring work unit context and leader-member exchange: A multi-level perspective. *Journal of Organizational Behavior*, *21*, 487-511. doi:10.1002/1099-1379(200008)21:5<487::AID-JOB57>3.0.CO;2-P

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25*, 325-334. doi:10.1007/s10869-010-9181-6

Cunningham, C. E., Woodward, C. A., Shannon, H. S., MacIntosh, J., Lendrum, B., Rosenbloom, D., & Brown, J. (2002). Readiness for organizational change: A longitudinal study of workplace, psychological and behavioural correlates. *Journal of Occupational and Organizational Psychology*, 75, 377-392. doi:10.1348/096317902321119637

Davis, A. (2014, June 14). *No slowdown in sight for 2014s M&A frenzy.* Retrieved from http://www.forbes.com/sites#/sites/alexadavis/2014/06/24/no-slowdown-in-sight-for-2014s-ma-frenzy/

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science, 6*, 204-223. doi:10.1287/orsc.6.2.204

Elsass, P. M., & Veiga, J. F. (1994). Acculturation in acquired organizations: A force-field perspective. *Human Relations*, *47*, 431-453. doi.org/10.1177/001872679404700404

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods, 12*, 121-138. doi:10.1037/1082-989X.12.2.121

Frantz, T.L. (2015). Post-merger integration: Looking under the haziness of culture conflict. In C. L. Cooper & S. Finkelstein (Eds.), *Advances in Mergers and Acquisitions* (pp. 103-127). Bingley, UK: Emerald.

Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader–member exchange theory: Correlates and construct issues. *Journal of Applied Psychology, 82*, 827-844. doi:10.1037/0021-9010.82.6.827

Giberson, T. R., Resick, C. J., Dickson, M. W., Mitchelson, J. K., Randall, K. R., & Clark, M. A. (2009). Leadership and organizational culture: Linking CEO characteristics to cultural values. *Journal of Business and Psychology, 24*, 123-137. doi:10.1037/0021-9010.90.5.1002

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly, 6,* 219-247. doi:10.1016/1048-9843(95)90036-5

Haleblian, J., Devers, C. E., McNamara, G., Carpenter, M. A., Davison, R. B. (2009). Taking stock of what we know about mergers and acquisitions: a review and research agenda. *Journal of Management, 35*, 469–502. doi:10.1177/0149206308330554

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review, 32*, 1199–1228. doi:10.5465/AMR.2007.26586096

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational effectiveness: a meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*, 677-694. doi:10.1037/a0021987

Herscovitch, L., & Meyer, J. P. (2002). Commitment to organizational change: Extension of a three-component model. *Journal of Applied Psychology, 87,* 474–487. doi:10.1037/0021-9010.87.3.474

Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review, 25*, 121–140. doi:10.5465/AMR.2000.2791606

Holt, D. T., Armenakis, A. A., Feild, H. S., & Harris, S. G. (2007). Readiness for organizational change: The systematic development of a scale. *Journal of Applied Behavioral Science, 43*, 232-255. doi:10.1177/0021886306295295

Huy, Q. N. (2002). Emotional balancing of organizational continuity and radical change: The contribution of middle managers. *Administrative Science Quarterly, 47*, 31-69. doi:10.2307/3094890

Ilies, R., Nahrgang, J. D., & Morgeson, F. P. (2007). Leader-member exchange and citizenship behaviors: a meta-analysis. *Journal of Applied Psychology, 92*, 269-277. doi:10.1037/0021-9010.92.1.269

Iverson, R. D. (1996). Employee acceptance of organizational change: the role of organizational commitment. *International Journal of Human Resource Management, 7*, 122-149. doi:10.1080/09585199600000121

Jones, R. A., Jimmieson, N. L., & Griffiths, A. (2005). The impact of organizational culture and reshaping capabilities on change implementation success: The mediating role of readiness for change. *Journal of Management Studies, 42*, 361-386. doi:10.1111/j.1467-6486.2005.00500.x

Kavanagh, M. H., & Ashkanasy, N. M. (2006). The impact of leadership and change management strategy on organizational culture and individual acceptance of change during a merger. *British Journal of Management, 17,* 81–103. doi:10.1111/j.1467-8551.2006.00480.x

Kerr, J., & Slocum, J. W. (2005). Managing corporate culture through reward systems. *Academy of Management Executive*, 19, 130-138. doi:10.5465/AME.2005.19417915

Larsson, R., & Lubatkin, M. (2001). Achieving acculturation in mergers and acquisitions: An international case study. *Human Relations, 54,* 573-1607. doi:10.1177/00187267015412002

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods, 11,* 815-852. doi:10.1177/1094428106296642

Marks, M. L., & Mirvis, P. H. (2001). Making mergers and acquisitions work: Strategic and psychological preparation. *Academy of Management Executive, 15*, 80-94. doi:10.5465/AME.2001.4614947

Marks, M. L., & Mirvis, P. H. (2011). Merge ahead: A research agenda to increase merger and acquisition success. *Journal of Business and Psychology, 26*, 161-168. doi:10.1007/s10869-011-9219-4

Martin, J. (2002). *Organizational culture: Mapping the terrain.* Thousand Oaks, CA: Sage.

McGrath, M. (2015, June 17). *Why 2015 could be the best year for M&A since the financial crisis.* Retrieved from http://www.forbes.com/sites#/sites/maggiemcgrath/2015/06/17/why-2015-could-be-the-best-year-for-ma-since-the-financial-crisis/

Miller, C. C., Cardinal, L. B., & Glick, W. H. (1997). Retrospective reports in organizational research: A reexamination of recent evidence. *Academy of Management Journal, 40,* 189-204. doi:10.2307/257026

Nahavandi, A., & Malekzadeh, A. R. (1988). Acculturation in mergers and acquisitions. *Academy of Management Review, 13,* 79-90. doi:10.5465/AMR.1988.4306790

Nishii, L. H., & Mayer, D. M. (2009). Do inclusive leaders help to reduce turnover in diverse groups? The moderating role of leader–member exchange in the diversity to turnover relationship. *Journal of Applied Psychology, 94,* 1412-1426. doi:10.1037/a0017190

Ogbonna, E., & Harris, L. C. (2000). Leadership style, organizational culture and performance: empirical evidence from UK companies. *International Journal of Human Resource Management*, 11, 766-788. doi:10.1080/09585190050075114

Oreg, S. (2006). Personality, context, and resistance to organizational change. *European Journal of Work and Organizational Psychology, 15,* 73-101. doi:10.1080/13594320500451247

Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In N. W. Schmitt, S. Highhouse, & I. B. Weiner (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, 2nd ed., pp. 643-676). Hoboken, NJ: John Wiley & Sons.

Panchal, S., & Cartwright, S. (2001). Group differences in post-merger stress. *Journal of Managerial Psychology, 16,* 424-433. doi:10.1108/02683940110402398

Papadakis, V., & Thanos, I. (2010). Measuring the performance of acquisitions: An empirical investigation using multiple criteria. *British Journal of Management, 21,* 859-873. doi:10.1111/j.1467-8551.2009.00671.x

Pearson, A. W., & Marler, L. E. (2010). A leadership perspective of reciprocal stewardship in family firms. *Entrepreneurship Theory and Practice, 34,* 1117-1124. doi:10.1111/j.1540-6520.2010.00416.x

Peltokorpi, V., & Froese, F. J. (2012). The impact of expatriate personality traits on cross-cultural adjustment: A study with expatriates in Japan. *International Business Review, 21,* 734-746. doi:10.1016/j.ibusrev.2011.08.006

Piccolo, R. F., Bardes, M., Baker, H. K., & Kiymaz, H. (2011). Cultural due diligence. In H. K. Baker & H. Kiymaz (Eds.), *The art of capital restructuring: Creating shareholder value through mergers and acquisitions*, (pp. 223-241). Hoboken, NJ: John Wiley & Sons.

Podsakoff, P., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88,* 879–903. doi:10.1037/0021-9010.88.5.879

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science, 29*, 363-377. doi:10.1287/mnsc.29.3.363

Rafferty, A. E., & Griffin, M. A. (2006). Perceptions of organizational change: A stress and coping perspective. *Journal of Applied Psychology, 91*, 1154-1162. doi:10.1037/0021-9010.91.5.1154

Raudenbush, S., Bryk, A. & Congdon, R. (2013). *HLM 7.01 for Windows.*

Sackmann, S. A. (2011). Culture and performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (pp. 188-224). Thousand Oaks, CA: Sage.

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco: Jossey-Bass.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64,* 361-388. doi:10.1146/annurev-psych-113011-143809

Schweiger, D. M., & Goulet, P. K. (2005). Facilitating acquisition integration through deep-level cultural learning interventions: A longitudinal field experiment. *Organization Studies, 26,* 1477-1499. doi:10.1177/0170840605057070

Seo, M. G., & Hill, S. N. (2005). Understanding the human side of merger and acquisition. An integrative framework. *Journal of Applied Behavioral Science, 42,* 422-443. doi:10.1177/0021886305281902

Stahl, G., & Voigt, A. (2008). Do cultural differences matter in mergers and acquisitions? A tentative model and examination. *Organization Science, 19,* 160-176. doi:10.1287/orsc.1070.0270

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33– 47). Monterey, CA: Brooks/Cole.

Terry, D. J., & O'Brien, A. T. (2001). Status, legitimacy, and in-group bias in the context of an organizational merger. *Group Processes & Intergroup Relations, 4*, 271-289. doi:10.1177/1368430201004003007

Tsui, A. S., Zhang, Z. X., Wang, H., Xin, K. R., & Wu, J. B. (2006). Unpacking the relationship between CEO leadership behavior and organizational culture. *The Leadership Quarterly, 17*, 113-137. doi:10.1016/j.leaqua.2005.12.001

Vaara , E., Sarala, R., Stahl, G., & Björkman, I. (2012). The impact of organizational and national cultural differences on social conflict and knowledge transfer in international acquisitions. *Journal of Management Studies, 49,* 1-27. doi:10.1111/j.1467-6486.2010.00975.x

Vakola, M., Tsaousis, I., & Nikolaou, I. (2004). The role of emotional intelligence and personality variables on attitudes toward organisational change. *Journal of Managerial Psychology, 19,* 88-110. doi:10.1108/02683940410526082

Wanberg, C. R., & Banas, J. T. (2000). Predictors and outcomes of openness to changes in a reorganizing workplace. *Journal of Applied Psychology, 85*, 132-142. doi:10.1037/0021-9010.85.1.132

Weber, Y., Shenkar, O., & Raveh, A. (1996). National and corporate cultural fit in mergers and acquisitions: An exploratory study. *Management Science, 42,* 1215-1227. doi.org/10.1287/mnsc.42.8.1215

5. Study 4: Look at the Forest, not just the Trees: A Configurational Approach to Investigating the Relationship between Organizational Culture and Organizational Effectiveness using Fuzzy-set Analysis

Abstract

The theoretical literature on organizational culture strongly emphasizes the multifacetedness of the construct. Nevertheless, empirical research has tended to focus on independent culture dimensions rather than applying a holistic perspective that conceives organizational culture as a complex collective. We addressed this issue by investigating configurations of organizational culture using fuzzy set qualitative comparative analysis (fsQCA). Across two samples (1170 employees in 89 work units of a financial service provider and 998 employees in 49 work units of a fashion retailer), results indicated that culture dimensions do not operate in isolation, but jointly work together in achieving different effectiveness outcomes. The results further suggested that several cultural configurations can be equally effective in reaching the same outcome, and that a clan culture is most relevant for achieving low employee turnover, while a market-oriented culture is most relevant for achieving financial effectiveness. With respect to more specific configurations of cultural elements, the results showed some congruencies, but were mixed overall. The discussion focuses on theoretical implications and future directions for applying configurational, set-theoretic approaches to analyzing organizational culture.

Keywords: competing values framework; culture configurations; fuzzy set qualitative comparative analysis; organizational culture; organizational effectiveness; set theory

5.1 Introduction

Ever since the concept of organizational culture became "en vogue" in the early 1980s, the question of how it is related to organizational effectiveness has puzzled practitioners and researchers alike. Companies were intrigued by the idea of using organizational culture as a source of competitive advantage. Scholars have tried – with increasingly sophisticated methods – to dissect the construct in order to better understand the mechanisms that link organizational culture to effectiveness. Those efforts have definitely borne fruit: While it was anything but undisputed for a long time, the relationship between organizational culture and effectiveness is now widely acknowledged (Ostroff, Kinicki, & Muhammad, 2013; Sackmann, 2011; Schneider, Macey, & Erhardt, 2013).

However, in spite of the remarkable progress in the field, the notion of organizational culture as a holistic, multifaceted phenomenon is surprisingly scarce in existing empirical research. Instead of adopting a comprehensive perspective that conceives organizational culture as a combination of interrelated cultural facets, the majority of studies focused on individual culture dimensions. This approach stands in contrast with the theoretical assumption that organizational culture is not just a sum of independent dimensions that can be looked at in an isolated fashion, but rather emerges from the specific composition of its constituent elements (Detert, Schroeder, & Mauriel, 2000). This kind of holistic perspective, which plays an important role in virtually all of the classic and widely cited definitions of the construct (e.g., Denison, 1996; Pettigrew, 1979; Schein, 1985; Smircich, 1983), suggests that organizational culture represents a pattern of interlinked values, beliefs, assumptions, and collectively accepted meanings within an organization or an organizational unit[5]. We believe

[5] The level of analysis in this study is the subcultures of organizational units. Theoretically, organizational cultures and subcultures can be regarded as isomorphic because both of them influence the behavior of the members of the respective organization or organizational unit through shared, social normative cues (Hartnell, Ou, & Kinicki, 2011; O'Reilly & Chatman, 1996). We thus follow the example of Hartnell and colleagues (2011) and consistently refer to both levels as organizational culture.

that his misalignment between theory and research is unfortunate since the prevalent practice of analyzing culture dimensions individually ignores important synergies and dependencies between cultural facets, and can thus lead to simplified conclusions regarding the nature of an organization's culture and its relationship to effectiveness outcomes.

In order to address this issue, we introduce a novel perspective on the culture-effectiveness link which focuses on the analysis of cultural configurations using a set-theoretic approach. Based on two samples from two different organizations (1170 employees in 89 organizational units in a financial services firm and 998 employees in 49 organizational units in a fashion retailer), we use fuzzy set qualitative comparative analysis (fsQCA) to empirically derive cultural configurations based on the Competing Values Framework (CVF; Cameron & Quinn, 2006; Quinn & Rohrbaugh, 1983). We then investigate how the identified configurations are related to selected indices of organizational effectiveness, namely employee turnover and financial performance. This study thereby contributes to the literature in four important ways. First, by applying a configurational perspective, it answers recent calls in the organizational culture literature (e.g., Hartnell et al., 2011; Kotrba et al., 2012; Ostroff & Schulte, 2014) for a more holistic investigation of organizational culture that takes into account the complex interlinkages between culture dimensions. Second, it advances the field by introducing fsQCA as a method to investigate organizational culture. Compared to conventional methods, such as regression-based approaches or cluster analysis, fsQCA allows scholars to develop a more profound and differentiated understanding of how different cultural elements impact a given outcome (Fiss, 2007; 2011; Schulte & Ostroff, 2014). Third, it illuminates the interplay between the dimensions of the CVF, thus shedding new light on one of the most widely used models of organizational culture. Fourth, the theoretical perspective proposed here and our empirical findings offer interesting avenues for future research, which are discussed in the final part of this paper.

5.2 Organizational Culture, its Link to Effectiveness, and the Issue of Investigating Culture Dimensions Individually

5.2.1 Organizational Culture and Effectiveness

Organizational culture is a complex phenomenon. It is deeply rooted in an organization's history, is collectively held, difficult to grasp, and manifests itself at different organizational levels (Detert et al., 2000; Hartnell et al., 2011). Since the interest in organizational culture blossomed at the beginning of the 1980s, the question for its link to effectiveness outcomes has always been in the limelight. In the early years, the idea that a "good" culture might lead to higher effectiveness was embraced by practitioners rather than by researchers, which resulted in organizational culture becoming the "darling of the management consulting world" (Schneider et al., 2013, p. 369). Academic scholars, however, approached the topic much more skeptically. Early reviews of the field repeatedly doubted the existence of any substantial relationship (e.g. Lim, 1995; Siehl & Martin, 1990; Wilderom, Glunk & Maslowski, 2000) and criticized the then-existing studies for a variety of flaws (e.g., insufficient theoretical development and invalidated ad-hoc measures of culture).

In the last 15 years, however, the picture has changed. The concept of organizational culture has been refined, theory building and testing have advanced, and research methods have become more sophisticated. This development has led to a better understanding of the concept of organizational culture in general and its relationship to effectiveness outcomes in particular (Ostroff et al., 2013). Schneider et al. (2013) noted that between 2000 and 2012, there had been consistent significant findings that provided strong support for the existence of the culture-effectiveness link. A large number of studies have found relationships between organizational culture dimensions and a variety of organizational effectiveness criteria.

Xenikou and Simosi (2006), for example, identified a direct positive relationship between the dimension "achievement" of the Organizational Culture Inventory (OCI; Cooke & Lafferty, 1989) and business unit performance. Moreover, they found that the dimension "adaptability" of the Denison Organizational Culture Survey (DOCS; Denison & Mishra, 1995) was positively related to the same outcome. Chan, Shaffer, and Snape (2004) found each of the three DOCS dimensions "involvement", "consistency", and "adaptability" to be correlated with perceived organizational performance. Taylor, Levy, Boyacigiller, and Beechler (2008) found the DOCS dimensions "mission" and "adaptability" to be positively related to organizational commitment. Brazil, Wakefield, Cloutier, Tennen, and Hall (2010) identified positive relationships between the CVF domain "clan" and the criteria job satisfaction and perceived effectiveness, while the CVF domains "hierarchy" and "market" were negatively related to these outcomes. Moreover, the moderating role of organizational culture has been illuminated in several studies. For example, Bezrukova, Thatcher, Jehn, and Spell (2012) found the relationship between group faultlines and group performance to be moderated by the degree to which a results-oriented culture was aligned. Pandey and Moynihan (2006) found that the relationship between bureaucratic red tape and organizational performance was moderated by the CVF domain "adhocracy".

5.2.2 The Issue of Analyzing Culture Dimensions Individually

As we reviewed above, in most studies, scholars have focused on the role of individual culture dimensions and how they affect different effectiveness criteria (Hartnell et al., 2011; Kotrba et al., 2012; Ostroff & Schulte, 2014; Sackmann, 2011). The focus on single, isolated culture dimensions has certainly contributed to a better understanding of how organizational culture is related to organizational effectiveness. However, considering the historical and theoretical roots of organizational culture, the practice of investigating culture dimensions individually raises some questions. Organizational culture is a concept that has its origins in

sociology and anthropology (Denison, 1996). Early works in the field (e,g., Crozier, 1964; Dalton, 1959; Jacques, 1951) focused on qualitative methods, such as observations, interviews, or comparative case analysis, and took a holistic perspective under which each aspect of an organization's culture was treated as a part of a larger whole (Denison, 1996; Ostroff & Schulte, 2014). Pettigrew, whose seminal paper is widely credited for triggering the significant upswing that research on organizational culture experienced in the 1980s (Schneider, 2013), picked up on this holistic, multi-dimensional perspective and emphasized that organizational culture is "…the *system* (emphasis added) of … publicly and collectively accepted meanings operating for a given group at a given time" (Pettigrew, 1979, p. 574). Other publications that are frequently drawn on for outlining the theoretical roots of organizational culture also underline the importance of studying culture as a complex pattern of interlinked elements (e.g., Denison, 1996; Martin, 2002; Schein, 1985; Smircich, 1983; Trice & Beyer, 1993). Thus, investigating organizational culture dimensions in a selective, isolated fashion seems not to do justice to the theoretical bandwidth of the construct and may lead to simplistic, fragmented conclusions.

5.3 Studying Configurations of Organizational Culture Using Set-theoretic Approaches

5.3.1 Configurations of Organizational Culture

One way to address this issue is to study organizational culture (and its link to effectiveness) through the lens of configurational and set theory. Organizational configurations played an important role in classic strategic management research (e.g., Miles, Snow, Meyer, & Coleman, 1978; Mintzberg, 1979; Porter, 1980). Since then, configurational theory has been used repeatedly to study how combinations of organizational features are linked to organizational effectiveness outcomes (e.g., Doty, Glick, & Huber, 1993; Ketchen et

al., 1997; Payne, 2006). Proponents of configurational approaches consider organizations as complex, holistic entities, in which patterns of organizational attributes rather than individual, isolated variables are associated with a given outcome of interest (Delery & Doty, 1996; Fiss, 2007). These patterns will lead to different outcomes depending on how they are arranged, because according to configuration theory, it is the presence (or absence) of specific other factors that gives a variable meaning or not (Fiss, 2007). Thus, instead of focusing on linear relationships, a configurational approach assumes "causal asymmetry", which implies that attributes "… found to be causally related in one configuration may be unrelated or even inversely related in another" (Meyer, Tsui, & Hinings, 1993, p. 1178). Another important aspect of configurational theory is the concept of equifinality, which is defined as the state of achieving a particular outcome through various paths (Short, Payne, & Ketchen, 2008). In other words, equifinality implies that two or more organizational configurations may lead to the same outcome and are equally effective in achieving, for example, high effectiveness.

Applied to the culture-effectiveness link, a configurational approach would mean to investigate specific cultural patterns, emphasizing the interdependencies of culture dimensions. This is a substantial deviation from conventional, single-dimensional approaches which assume that each dimension of culture influences effectiveness outcomes independently or additively. Recently, both Hartnell and colleagues (2011) and Ostroff and Schulte (2014) have argued that applying a configurational perspective is particularly suitable for investigating organizational culture. Hartnell et al. note that culture is a unified pattern of assumptions, beliefs, values, norms, and behaviors that should not be described as a sum of its constituent elements. Therefore, they suggest that instead of investigating links between independent cultural facets and effectiveness criteria, future research should pursue configurational approaches, since conceiving culture as a bundle of interlinked elements is

consistent with its theoretical foundations and sheds additional light on the complex social phenomenon.

In a similar vein, Ostroff and Schulte (2014) argue that organizational culture is a gestalt construct from which employees perceive, make sense of, and derive meaning from the context. They note that while quantitative approaches are necessarily limited to more fragmented, surface level aspects of culture, treating culture dimensions as independent or additive ignores the notion that certain combinations of cultural values may better capture the holistic nature of the context. According to Ostroff and Schulte, configurational approaches are very well suited to solve this dilemma, since they allow for analyzing multiple cultural facets as a gestalt system and for examining the role each dimension plays in the system.

Despite these convincing theoretical reasons, studies that investigate configurations of organizational culture are extremely scarce. The few studies that did use a configurational approach (Gregory, Armenakis, Harris, & Shook, 2009; Naqshbandi, Kaur, & Ma, 2015; Tsui, Wang & Xin, 2006) were limited to the assumption that "high" culture configurations, in which all culture dimensions are strongly pronounced, would be beneficial for achieving organizational effectiveness. However, it is the central idea of configurational theory that configurations can take on multiple specific forms and are by no means limited to "high" or "low" configurations, which is why these studies seem to tap only a very small portion of the potential that configurational approaches bear.

A more differentiated and thus potentially more fruitful example was set by Schulte, Ostroff, Shmulyian, and Kinicki (2009) in the related field of organizational climate. Very similar to the arguments above regarding organizational culture, they argued that by studying single climate dimensions, "… meaning can be compromised by fractionating a construct whose primary theoretical utility is in drawing attention to the holistic aspect of the group or organizational phenomenon" (Schulte et al., 2009, p. 618). A configurational approach, by

contrast, would emphasize the effects of multiple climate dimensions working together as they form a higher order system, which is why investigating climate configurations is likely to exhibit a more theoretically meaningful result than would the study of isolated factors (Schulte et al., 2009). The results of their study suggested that different climate configurations were related to different effectiveness criteria, such as employee commitment, customer satisfaction, and financial performance. The results further supported the assumptions that not all climate dimensions need to be high in order to achieve a specific outcome and that climate dimensions complement each other in reaching effectiveness outcomes. This kind of differentiated approach would certainly bear considerable potential for analyzing organizational culture, too, but has not been adapted to cultural research yet.

Schulte and colleagues (just like the studies focusing on culture configurations mentioned above) used cluster analysis to investigate configurations. While cluster analysis is frequently applied for investigating organizational configurations, it is not without limitations. Most importantly, it tends to treat each configuration as a "black box", meaning that the analysis does not capture the contribution of the individual elements of the configuration to the whole and does not foster understanding of just how these elements work together to achieve effectiveness (Fiss, 2007). In the context of organizational culture, this means that when a cultural configuration (determined by cluster analysis) has been identified to be associated with effectiveness outcomes, the researcher still does not know which culture dimension within the configuration is most "responsible" for this relationship. Given the fact that each configuration consists of multiple dimensions, some dimensions might be more essential for the character of the configuration and its relationship to a given effectiveness outcome than others (Ostroff & Schulte, 2014). In particular, researchers can only assume that a specific dimension within the configuration would contribute to the outcome in some way, but whether this is actually the case is impossible to determine. This is a significant issue,

since it makes cluster analysis susceptible to grouping organizations or organizational units that are similar across many, but irrelevant characteristics (with regard to the outcome in question) in the same cluster. At the same time, organizations or organizational units that are very similar across a few, but decisive characteristics are likely to be placed in different clusters, although they logically belong to the same configuration in terms of being associated with the specific outcome (Fiss, 2007).

5.3.2 Set-theoretic Approaches to Investigating Cultural Configurations

An alternative approach to investigating (cultural) configurations is to apply fuzzy set qualitative comparative analysis (fsQCA), which is a set-theoretic approach. There are many examples for the use of set-theoretic approaches in recent management and organization studies (e.g., Bell, Filatotchev, & Aguilera, 2014; Crilly, 2011; Fiss, 2011; Misangyi & Acharya, 2014). However, set theory has not been applied yet to organizational culture research, although it addresses the issues related to examining culture dimensions individually or additively and also allows for "… a more fine-grained and complex analysis for assessing how important each of the dimensions in a configuration is in relation to an outcome variable" in comparison to cluster analysis (Ostroff & Schulte, 2014).

Considering the theoretical foundations of organizational culture that were described above, it is unlikely that a single culture dimension is solely "responsible" for leading to a specific (effectiveness) outcome. In light of the complex interweavements of the multiple facets that an organization's culture consists of, it can rather be assumed that, in some cases, a specific culture variable only leads to effectiveness when one or more other cultural elements are also present. In other cases, a specific variable might only lead to effectiveness when specific other cultural elements are absent. Then again, there might be cases in which it is the presence of certain cultural variables and the simultaneous absence of other variables that decide whether a cultural variable is linked to effectiveness. To make matters even more

complex, it is probably not just the presence or the absence of cultural elements, but the degrees to which these elements are present (absent) that actually determine whether a specific outcome is achieved. This situation can be best illustrated by the metaphor of a recipe. In a recipe, it is not a single ingredient that leads to the desired outcome. Instead, there are some ingredients that must be used generously, some ingredients that must be added sparingly, and some ingredients that must not be included in order to create a tasty result.

Untangling these "recipes" is the core idea of set-theory (Ragin, 2008). In fsQCA, cultural configurations are treated as different types of cases. Each case consists of specific combinations that reflect the presence or absence of different culture variables and thus give the cases their uniqueness (Fiss, 2011). By comparing cases, the researcher is then able to discard cultural elements that are unrelated to the outcome in question and to identify complex causal patterns[6] leading to effectiveness outcomes. Complex causality, in this context, refers to a situation, in which multiple variables combine to create the outcome, but none is by itself necessary or sufficient (Fiss, 2007). fsQCA identifies these complex causal patterns by analyzing so-called set-subset relationships. In particular, in order to investigate which configurations lead to high effectiveness, fsQCA analyzes all cases that are members of the set of highly effective organizations (i.e., that are associated with the outcome "high effectiveness"). Next, it examines the culture variables that these cases consist of and searches for commonalities. In this sense, the fsQCA approach differs substantially from statistical analyses based on linear algebra. The latter seek to identify the individual contribution of each cause (independent variable) in explaining variation in the outcome (dependent variable). To contrast, fsQCA systematically compares cases sharing the same outcome with the intent of identifying the common causal conditions – whether constituted by a single variable or

[6] fsQCA terminology, which we follow here, commonly invokes causation and causality. However, it should be noted that, just like other methodological approaches, fsQCA does not "prove" causal relations. Rather, it reveals patterns of associations across sets of cases, thereby providing support for the existence of such causal relations. Whether it makes sense to interpret associations as causal relations depends on existing empirical and theoretical knowledge of the phenomenon under investigation (Greckhamer et al., 2008; 2011; Legewie, 2013).

configurations of variables – across these cases (Greckhamer, Misangyi, Elms, & Lacey, 2008). Based on the identified commonalities, Boolean algebra and algorithms are used to logically reduce numerous, complex causal conditions into a condensed set of configurations that are associated with the outcome. Based on these results, fsQCA can then provide a differentiated investigation of which culture variables should be present and/or absent in a given case in order to achieve the outcome (Fiss, 2007; 2011). Moreover, fsQCA allows the researcher to determine which variables within a given configuration are of core, peripheral, or no importance with regard to the outcome, which gives fsQCA an analytic edge over other methods, such as correlation- and regression-based approaches or cluster analysis (Legewie, 2013; Ostroff & Schulte, 2014).

In sum, fsQCA illuminates causal relations with regard to all three areas of complexity that were highlighted by earlier configurational theorists in the classic management literature: (1) it enables the analysis of how multiple causal conditions combine into distinct configurations to achieve a given outcome (conjunctural causation); (2) it assesses whether multiple configurations are linked to the same outcome (equifinality) as well as the relative empirical importance of each of these configurations (and of the variables within these configurations); and (3) it accounts for causal asymmetry, meaning that it examines whether both the presence and the absence of variables are associated with the outcome in question (Misangyi et al., 2017).

5.4 Configurations of the Cultural Domains of the Competing Values Framework and Organizational Effectiveness Outcomes

5.4.1 The Competing Values Framework

In order to investigate cultural configurations the way we just described, we chose the Competing Values Framework (CVF; Cameron & Quinn, 2006; Quinn & Rohrbaugh, 1983)

as the underlying model of organizational culture. The CVF was chosen for two main reasons. First, it is probably the most widely used taxonomy for assessing organizational culture (Ostroff et al., 2013; Sackmann, 2011; Schneider et al., 2013). As of 2006, the CVF had been applied in more than 10,000 organizations worldwide (Cameron & Quinn, 2006), and its reliability and validity have been supported in numerous studies (e.g., Kwan & Walker, 2004; McDermott & Stock, 1999; Yazici, 2009). Second, by focusing on the CVF, we directly build on the much-cited meta-analysis by Hartnell and colleagues (2011). While CVF theory proposes that the four culture domains of the CVF (which are outlined below) are, as the name suggests, competing, the meta-analytical results indicated that the domains are much less contradictory than originally proposed. Instead, the researchers found that "… culture types in different quadrants are not competing or paradoxical. Instead, they coexist and work together" (Hartnell et al., 2011, p. 687). For this reason, Hartnell and colleagues conclude with an explicit call for analyzing the CVF domains by using configurational approaches.

The CVF builds on two underlying bipolar axes: The vertical axis reflects the competing demands of change and flexibility versus stability and control, while the horizontal axis differentiates between an internal, integration-oriented focus and an external, differentiation-oriented focus. These two axes thus form a four-quadrant model of organizational culture with the cultural domains named as clan, adhocracy, market, and hierarchy (Cameron & Quinn, 2006).

The clan domain is internally oriented and characterized by a flexible organizational structure. It has a focus on human affiliation, and collaboration, trust, and support are highly valued. Teamwork, employee involvement, and open communication are typically observed behaviors in clannish organizations. The adhocracy domain is externally oriented and supported by a flexible organizational structure. It emphasizes change and flexibility with a primary focus on the external environment. Core values are, for example, adaptability,

creativity, and autonomy. The market domain is externally oriented with a stable organizational structure. An important underlying assumption is that a strong focus on achievement leads to a competitive advantage. Typically observed behaviors include goal setting, rigorous planning, and aggressiveness towards competitors. Finally, the hierarchy domain is internally oriented and is supported by a stable organizational structure. A basic assumption is that control and stability foster effectiveness. Efficiency, timeliness, and smooth processes are very important in hierarchical organizations, with routinization and predictability being core values (Cameron & Quinn, 2006).

5.4.2 General Hypotheses Regarding CVF Configurations and Organizational Effectiveness

Our hypotheses link the CFV domains to two criteria of organizational effectiveness that are most frequently associated with organizational culture, namely employee-related criteria and financial performance criteria (Hartnell et al., 2011). With regard to employee-related criteria, we focused on employee turnover. Turnover is a consequence of attitudinal and cognitive factors, such as organizational commitment, job satisfaction, or turnover intentions (e.g., Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Mowday, Porter, & Steers, 2013; Tett & Meyer, 1993). However, in contrast to these factors, actual turnover is an objective, bottom-line outcome and thus potentially more informative (Nishii & Mayer, 2009). With regard to financial criteria, we focused on actual sales performance, which also has the advantage of being objective, bottom-line indicators.

Since today's organizations usually operate in dynamic environments, it is unlikely that any of the CVF domains in isolation provides an organization with the cultural foundation that is needed to successfully operate. Instead, it is more reasonable to assume that organizations will be confronted with diverse challenges that require different cultural values to be overcome (Gregory et al., 2009). Although CVF theory initially proposed that the CVF domains are competing, its developers suggested from the very beginning that the key to

success might be to combine the seemingly contradictory domains into a cultural profile that meets various internal and external demands (Quinn, 1988; Quinn & Rohrbaugh, 1983). Focusing exclusively on one specific domain can have negative consequences when the environment requires behaviors that are fostered by one of the neglected domains (Gregory et al., 2009; Quinn, 1988). The idea that not the maximization of one specific cultural element, but rather the proper relation between different elements is the key to success is in line with other influential theories of organizational culture (e.g., Denison & Mishra, 1995; Schein, 1985) and also (as discussed in more detail above) with a set-theoretic perspective, which suggests that it is not the single "ingredient", but the whole "recipe" that leads to a given outcome. Recall that according to set theory, it is not just the presence of variables that constitutes a given recipe, but also the absence and the degrees to which variables are present or absent (that is, whether variables are core or peripheral conditions). We therefore propose:

Hypothesis 1: The individual CVF domains are not associated with (a) low employee turnover and (b) high sales performance in isolation, but only in specific configurations with the presence or absence of other domains that are of core or peripheral importance in leading to the outcome.

In line with the idea of equifinality, it is also likely that more than one configuration is associated with organizational effectiveness outcomes. There are many empirical studies showing that different cultural domains are associated with employee-related criteria and financial performance. Lund (2003), for example, found that both the clan and the adhocracy domain were related to employee satisfaction, while Zavyalova and Kucherov (2010) found that all four CVF domains were positively associated with (different facets) of job satisfaction. Denison, Haaland, and Goelzer (2004) found all four dimensions of the Denison Organizational Culture Survey (DOCS) – which are very similar to the four CVF domains (Ostroff et al., 2013) – to be positively related to financial performance, while Kotrba and

colleagues (2012) found that only three DOCS dimensions (mission, adaptability, and involvement) were positively related to financial performance, and that these relationships were moderated by the fourth dimension (consistency). In light of these findings[7], it can be assumed that there are many ways in which cultural elements (or rather configurations thereof) can influence organizational effectiveness. This assumption is also valid from an intra-organizational perspective. There is, for example, a considerable stream of research which suggests that larger organizations are often ambidextrous (e.g., Gupta, Smith, & Shalley, 2006; Tushman & O'Reilly, 1996). These organizations feature loosely coupled subunits that specialize in either exploitive tasks that are coined by consistency and efficiency or explorative tasks that are coined by innovation and agility (Gupta et al., 2006). It is obvious that these subunits probably need different cultural foundations in order to achieve effectiveness outcomes such as low turnover and high sales performance. We therefore propose:

Hypothesis 2: More than one configuration of CVF domains are associated with (a) low employee turnover and (b) high sales performance.

5.4.3 Specific Hypotheses Regarding CVF Configurations and Organizational Effectiveness

While the first two hypotheses are rather broad, this study also aimed at testing hypotheses regarding more specific cultural configurations. Although theory-driven propositions and empirical knowledge on how exactly cultural elements need to be combined in order to foster specific outcomes are very rare (Ostroff & Schulte, 2014), there is some evidence in the literature that we drew on.

Configurations leading to low employee turnover. A clan culture represents a family-type organization, in which a strong general sense of togetherness prevails. Leaders are

[7] These are just some selected examples to underline that there are many different, partially inconsistent findings regarding the link between organizational culture and effectiveness. For a detailed review, we recommend Sackmann (2011).

thought of as mentors and the major task of management is to develop employees and to foster satisfaction and loyalty (Cameron & Quinn, 2006). Employees working in clan cultures are thus likely to trust and support the organization and to feel a strong sense of attachment and affiliation. Behaviors that are typically valued in clannish organizations, such as supporting each other and participating in decision making, create a sense of ownership and responsibility (Denison & Mishra, 1995) and thus lead to positive employee attitudes and strong commitment (Hartnell et al., 2011). In sum, the cultural elements that constitute the clan domain are, in comparison to the other three domains, most directly geared towards fostering employee commitment and loyalty. Empirical results support this assumption (Hartnell et al., 2011), which is why across all configurations leading to low employee turnover, the clan domain should be the most important cultural domain (i.e., it is of core importance in most configurations).

The CVF domain that shows the second-strongest empirical relationship to positive employee attitudes, following the clan domain, is adhocracy (Hartnell et al., 2011). Adhocracy cultures are coined by high degrees of freedom. Management motivates the employees to think in an entrepreneurial fashion, and errors are not interpreted as failures, but as opportunities to grow (Cameron & Quinn, 2006). We know from research on job design that this kind of autonomy strengthens employees' commitment towards the organization since it leads to experienced meaningfulness and responsibility (e.g., Hackman & Oldham, 1976; Humphrey, Nahrgang, & Morgeson, 2007). A configuration that combines these features with the typical features of a clannish organization should thus be associated with high levels of employees' overall satisfaction and very positive attitudes towards the workplace, which is likely to result in low turnover rates.

On the other hand, it is also conceivable that configurations in which the clan domain is combined with elements of the hierarchy domain lead to high loyalty and low turnover. In

a hierarchy culture, rules and proven processes provide orientation and reliability. Employees know what exactly is expected from them and who is accountable for which kinds of tasks (Cameron & Quinn, 2006). When combined with the strong sense of cohesion and the high levels of trust and support that prevail in clannish organizations, hierarchy-oriented organizations are thus likely to be seen as a safe, comfortable, and highly familiar workplace that employees are committed and loyal to. Gordon (1991), for example, observed that utilities, which are generally considered to be strictly hierarchical organizations, also featured typically clannish characteristics, such as listening to the opinion of employees before making important decisions. According to Gordon, this combination resulted in strong loyalty that helped these organizations to meet their primary mission, which was reliability of service. When combining these thoughts and findings with the propositions underlying hypothesis 2, it can be assumed that either the adhocracy or the hierarchy domain can complement the clan domain in leading to low employee turnover. The market domain, however, is likely to play an ambivalent role in this context. While it is possible that the achievement of ambitious goals, which is fostered by a market-oriented culture, drives employee satisfaction, it is also possible that aggressiveness and competition, which are also core elements of the market domain, erode trust and collaboration and thus have a negative impact on employee attitudes (Hartnell et al., 2011). We therefore propose:

Hypothesis 3: Across all configurations associated with low employee turnover, the clan domain is the most important one (i.e., it is of core importance in most configurations) and can be complemented by the presence of either adhocratic or hierarchical elements. Market-oriented elements can be either present or absent in these configurations.

Configurations leading to high sales performance. The CVF domain that is empirically most strongly related to financial effectiveness is the market domain (Hartnell et al., 2011). According to CVF theory, organizations with a market culture are very results-

oriented with a major focus on profitability and bottom-line results. In order to achieve this, they intensely solicit new customers and set ambitious goals to maintain a leading financial position in the marketplace (Cameron & Quinn, 2006). In sum, the cultural elements that constitute the market domain are, in comparison to the other three domains, most directly geared towards yielding strong financial results.

Reasonable complements to market-oriented cultures could be adhocratic elements. In adhocratic cultures, constantly scanning the external environment enables employees to identify new customer needs, develop cutting-edge products, and generate new ways of providing services to clients (Cameron & Quinn, 2006; Hartnell et al., 2011). In other words, adhocracy-oriented cultures are strongly focused on discovering and seizing new business opportunities. When combined with the typical features of a market-oriented culture, these opportunities can consequently be exploited, new products can aggressively be marketed, and newly discovered business niches can quickly be developed. In combination, this should lead to strong financial results.

However, it is also reasonable to assume that a configuration which combines features of the market domain with features of the hierarchy domain would lead to high financial performance. As noted above, a core assumption in hierarchical cultures is that stability and predictability foster efficiency. Combining these values with the typical features of a market-culture would mean that the aggressiveness, with which customers are targeted and profits are pursued in a market culture, are backed by efficient, smoothly running processes, leading most likely to strong financial results that are consistent and predictable. In combination with the propositions underlying hypothesis 2, it is thus reasonable to assume that either the adhocracy or the hierarchy domain can complement the market domain in leading to strong sales performance. With regard to clan-oriented values, the high commitment, which is typical for clannish organizations is likely to lead to highly motivated employees (Meyer, Becker, &

Vandenberghe, 2004), which, in turn should be beneficial for achieving high financial performance. On the other hand, due to their rather internal focus, clan cultures are less focused on satisfying customer needs and can be susceptible to group-think and inertia, which is supposedly obstructive for achieving ambitious sales goals (Hartnell et al., 2011). We propose:

Hypothesis 4: Across all configurations associated with high sales performance, the market domain is the most important one (i.e., it is of core importance in most configurations) and can be complemented by the presence of either adhocratic or hierarchical elements. Clan-oriented elements can be either present or absent in these configurations.

5.5 Sample 1 – Method, Results, and Discussion

5.5.1 Sample

Data collection took place in a German company offering financial services to business clients. All employees were asked to fill out an online survey which could be completed during company time. Management encouraged participation and confirmed confidentiality. The final sample consisted of 1170 employees, which is equivalent to 77% of the company's total workforce. The participating employees were grouped in 89 work units, which is equivalent to 100% of the organization's work units. Unit sizes ranged from 5 to 41 employees, with an average of 12. Of the 89 units, 51 were sales units and 38 had internal tasks. 58% thirds of the participants were male and the average age was 41 years.

5.5.2 Measures

Organizational culture. Organizational culture was assessed with the Competing Values Framework (Cameron and Quinn, 2006). We used a German version of the instrument, following a translation-back translation procedure (Brislin, 1970). The CVF

consists of 24 items that are distributed across four scales representing the CVF domains that were described above: clan (sample item: “The management style in the organization is characterized by teamwork, consensus, and participation.”; Cronbach’s alpha .86), adhocracy (sample item: “The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.”; Cronbach’s alpha .87), market (sample item: “The organization emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.”; Cronbach’s alpha .79), and hierarchy (sample item: “The organization is a very controlled and structured place. Formal procedures generally govern what people do.”; Cronbach’s alpha .78).

The individual scores for the CVF scales were aggregated to the workgroup level. Average ICC(1) values across the four CVF scales values were .13 (ranging from .11 to.17), while average ICC(2) values were .67 (ranging from .61 to .72). Average RWG(J) values were .75 for clan, .79 for adhocracy, .81 for market, and .80 for hierarchy. These figures indicate acceptable between-unit variability and within-group agreement (LeBreton and Senter, 2008), and were thus considered high enough to justify aggregation.

Employee turnover. Data on turnover was provided by the sponsoring organization. It was operationalized per work unit as the number of employees leaving in relation to the average headcount during the year prior to the study.

Sales performance. Sales figures were available for 51 out of 89 units and were also provided by the sponsoring organization. More specifically, we used the degree to which predefined sales targets were met (in percentage). It is a relative measure that is defined based on previous sales, the size of the sales units, as well as the size and the buying power of the market that these units target. This measure therefore allows for comparisons across different sales units.

5.5.3 Analysis

Fuzzy set QCA proceeds in four steps[8]. As noted above, fsQCA focuses on analyzing the membership of cases (which are, in the context of this study, work units) in given sets of interest representing outcome and independent variables (e.g., the set of work units with a highly developed clan culture or with low turnover rates, see below). Thus, in a first step, these sets need to be constructed through a process of calibration. We used the direct method of calibration that was recommended by Ragin (2008) and applied in several recent studies (e.g., Fiss, 2011; Greckhamer, 2011, Misangyi & Acharya, 2014). Using this method, the researcher specifies for each variable three values that correspond to three substantively meaningful qualitative thresholds (called breakpoints) that structure a fuzzy set: full membership, full nonmembership, and the crossover point, which indicates the point of maximum ambiguity or "fuzziness" regarding the assessment of whether a case is more in or out of a given set (Ragin, 2008). These three breakpoints are then used to transform the original values to fuzzy membership scores. The central idea underlying this kind of calibration is that it rescales a variable using the crossover point as an anchor from which deviation scores are calculated, taking the values of full membership and full non-membership as the upper and lower bounds (with the intermediate step of transforming these deviation scores into the metric of log odds). The rescaled measures range from 0 to 1, and the converted scores are tied to the thresholds of full membership, full nonmembership, and the crossover point (Fiss, 2011). The result is a fine-grained calibration of the degree of membership of cases in sets, with fuzzy set score of 0.05 or lower indicating full nonmembership, a score of 0.95 indicating full membership, and a score above (below) the

[8] It is beyond the scope of this paper to explain the principles, advantages, and disadvantages of fsQCA in full detail. The interested reader is referred, for example, to Fiss (2007; 2011), Ragin (2008), Rihoux and Ragin (2009), or Legewie (2013).

crossover point of 0.5 indicating that a case is more in (out) than out (in) of a given set. For a detailed description of the calibration process, see Ragin (2008).

With regard to organizational culture, we calibrated four sets that represented (1) a highly pronounced clan culture, (2) a highly pronounced adhocracy culture, (3) a highly pronounced market culture, and (4) a highly pronounced hierarchy culture. Lacking a definition or established knowledge of what constitutes "highly" pronounced CVF domains, we followed Greckhamer (2011) and considered having a highly pronounced culture a relative quality measured against the overall culture of the organization. We thus anchored breakpoints as cross-organizational reference points and considered the top 10% of the work units with the highest scores on the respective CVF scales fully in of the set, assuming that in these units the cultural values of the respective CVF domains were undoubtedly relatively strongly pronounced. Conversely, the 10% of the work units with the lowest scores were considered fully out of the set, assuming that in these units the cultural values of the respective CVF domains were clearly relatively lowly pronounced. The medians were set as cross-over points[9].

With regard to effectiveness criteria, we calibrated a set for low employee turnover using breakpoints that were informed by discussions with experts from the sponsoring organization. The experts considered work units with a turnover rate of 5% or less as having a definitely low turnover rate, while they considered units with a turnover rate of 15% or higher as having a clearly high turnover rate. Moreover, we calibrated a set for high sales performance. Again, the setting of breakpoints was based on evaluations from experts from the sponsoring organization. They considered the top 10% of the work units as clearly high performing units and the lowest 15% of the work units as clearly low performing units. The

[9] We conducted sensitivity analyses to examine whether the findings reported below are robust to the use of alternative calibrations. Specifically, we varied the crossover points by lowering them from the fifth percentile (median) to the fourth percentile and raising them to the sixth percentile. Minor changes in the results were observed, but the interpretation of the results remained largely unchanged.

medians were set as crossover points in both cases. All breakpoints for the variables used in this study are displayed in Table A in Appendix A.

In a second step, these set measures are used to construct a so-called truth table with 2k rows, where k stands for the number of variables (in the case of our study: the cultural domains of the CVF) that are potentially associated with the outcome of interest used in the analysis. Each row of the truth table represents specific configurations of variables. The table lists all possible configurations, regardless of whether they are actually represented in the data or not. The actual empirical cases are then matched to the rows of the table, with some rows containing many cases, some rows just a few, and some rows containing no cases if there is no empirical case that features the particular configuration of variables associated with a given row (Fiss, 2011).

Third, fsQCA investigates causal patterns by focusing on set-subset relationships. For example, to analyze which configurations lead to low employee turnover, it examines the cases that are members of the set of "low turnover" work units and then identifies the configurations of variables (i.e., cultural domains) of these cases associated with the outcome (low turnover). For this purpose, the number of truth table rows is reduced based on two thresholds, the consistency threshold and the frequency threshold. Consistency, in this context, refers to the number of cases that feature a specific configuration of variables and the outcome divided by the number of cases that feature the same configuration but do not feature the outcome (Fiss, 2011). A perfect consistency of 1 would mean that all cases sharing a specific configuration also share the outcome. Thus, consistency should be as close to 1 as possible, which would mean that cases featuring the same configurations of variables are consistently associated with the outcome and thus enable inferences that a subset relationship actually exists (Greckhamer, 2011). The frequency threshold is defined based on the number of cases that are associated with the truth table's rows. If there are rows with few associated

cases, the empirical evidence that is related to the configuration of variables that these rows stand for is vague and might be considered insufficient for an assessment of consistency. We set the threshold for the lowest acceptable consistency at 0.80, which is above the minimum recommended threshold of 0.75 (Fiss, 2011; Ragin, 2008). The frequency threshold was set at two, which is a recommended cutoff value for our sample sizes (Legewie, 2013; Ragin, 2008). Using this threshold, more than 80% of the cases assigned to configurations were captured.

Fourth, algorithms based on Boolean algebra are used to logically reduce the remaining configurations that passed these thresholds into a reduced set of simplified configurations that lead to the outcome. As the end product of this minimization process, fsQCA identifies "causal recipes" – configurations of conditions that are generalizations of the patterns that exist in the data set and are minimized in their complexity (Legewie, 2013). The current study uses the truth table algorithm described by Ragin (2008), which has the advantage of allowing for a categorization of causal conditions into core and peripheral causes based on counterfactual analysis. More specifically, core and peripheral conditions are identified based on "easy" and "difficult" counterfactuals, which are simplifying assumptions that further condense the configurations provided by the truth table algorithm (Ragin, 2008). Easy counterfactuals refer to situations in which a redundant causal condition is added to a set of conditions that by themselves already lead to the outcome in question, while difficult counterfactuals refer to situations in which a condition is removed from a set of conditions leading to an outcome, assuming that this condition is redundant. Distinguishing between easy and difficult counterfactuals yields two kinds of solutions. The first is a parsimonious solution that includes all simplifying assumptions regardless of whether they are based on easy or difficult counterfactuals. The second is an intermediate solution that only includes simplifying assumptions based on easy counterfactuals. The determination of whether a condition is of

core or peripheral importance is based on these solutions (Fiss, 2011). Core conditions are those that are part of both parsimonious and intermediate solutions. They are considered to be more "decisive causal ingredients" because they remain part of the solution after the inclusion of all simplifying assumptions, based on both easy and difficult counterfactuals (Misangyi et al., 2017). Peripheral conditions are those that are eliminated in the parsimonious solution and thus only appear in the intermediate solution. Accordingly, this approach defines causal coreness in terms of the strength of the evidence relative to the outcome (Fiss, 2011). For more detailed discussions of counterfactual analysis, see, for example, Ragin (2008) or Schneider and Wagemann (2012).

5.5.4 Results

Table 4.1 presents descriptive statistics and correlations for all measures. The table shows the expected moderate to strong correlations between the four CVF domains, between the clan domain and employee turnover (negative), and between the market domain and financial performance (positive). Moreover, the clan domain is positively correlated with sales performance, and the adhocracy domain is correlated with both sales performance (positively) and turnover (negatively).

Table 4.1
Sample 1: Descriptive Statistics and Correlations (N = 89)

			Correlation					
Variable	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**
Clan	3.46	0.51	–					
Adhocracy	3.73	0.37	.70**	–				
Market	3.40	0.52	.39**	.55**	–			
Hierarchy	3.49	0.38	.42**	.35**	.43**	–		
Employee turnover	8.42	5.57	-.46**	-.30**	-.17	-.28**	–	
Sales performance[a]	101.17	26.27	.31**	.39**	.46**	.04	-.08	–

[a] data on sales performance was available for 51 units

* $p < .05$ ** $p < .01$

Table 4.2 shows the results of the fuzzy set analysis for low employee turnover and high sales performance. We use the notation recommended by Ragin and Fiss (2008), which was recently used by a variety of set-theoretic based studies (e.g., Bell et al., 2014; Crilly, 2011; Greckhamer, 2011; Misangyi & Acharya, 2014). According to this notation, black circles indicate the presence of a condition, and crossed out circles indicate its absence. Furthermore, large circles indicate core conditions, while small circles refer to peripheral conditions. Blank spaces in a configuration indicate a situation in which the causal condition has no relevance for the outcome, that is, it may be either present or absent. It is important to note that the table only lists configurations that consistently lead to the outcome of interest. Thus, the table neither includes configurations that do not lead to low turnover or high sales performance, nor does it include configurations that did not pass the frequency threshold or that showed no consistent pattern and thus did not pass the consistency threshold.

Table 4.2
Sample 1: Cultural Configurations for Achieving Low Turnover and High Sales Performance[a]

	Low turnover				High sales performance	
Configuration	**IA**	**IB**	**II**	**III**	**I**	**II**
Clan	●	●	●		●	⊗
Adhocracy		●		●	●	
Market	⊗	⊗	●	●	●	●
Hierarchy	⊗		●	●		⊗
Consistency	0.81	0.83	0.85	0.83	0.81	0.77
Raw coverage	0.25	0.27	0.45	0.43	0.59	0.34
Unique coverage	0.03	0.01	0.04	0.02	0.38	0.13
Overall solution consistency		0.80			0.77	
Overall solution coverage		0.58			0.71	

[a] Black circles indicate the presence of a condition; crossed out circles indicate its absence. Large circles indicate core conditions; small circles indicate peripheral conditions. Blank spaces indicate that the particular causal condition is not relevant within that configuration. The presence (absence) of a condition means that the degree of set membership is over (below) the crossover point (i.e., membership higher than 0.5)

Employee turnover. With regard to employee turnover, the fuzzy set analysis yields four configurations that exhibit acceptable consistency (≥ 0.80). All four configurations contain both core and peripheral conditions, thus lending support to hypothesis 1a, which stated that no CVF domain in isolation will lead to low turnover. The presence of four overall configurations suggests a so-called first-order equifinality and supports hypothesis 2a, which proposed that more than one configuration will lead to low turnover. Moreover, Configuration IA and IB exhibit a so-called second-order equifinality (or "neutral permutation"), since identical causal core conditions are surrounded by different peripheral conditions (Fiss, 2011). Interestingly, the two peripheral conditions in Configuration IA and IB can be regarded as

substitutes: Configuration IB indicates that when a strong clan focus is combined with the absence of market-related elements, the additional presence of adhocracy-related values leads to low turnover regardless of whether hierarchy-oriented values are present or not (as indicated by the blank space for the hierarchy domain), while Configuration IA indicates that when hierarchy-oriented values are absent, it is irrelevant whether adhocracy-oriented elements are present or not.

Hypothesis 3a stated that across all configurations leading to low employee turnover, the clan domain is the most important one (i.e., it is of core importance in most configurations) and can be complemented by the presence of either adhocratic or hierarchical elements, while market-oriented elements can be either present or absent in these configurations. The results support this hypothesis, since clannish values are a core condition in three out of four configurations. In Configuration 1B, the clan focus is complemented by adhocratic values (as a peripheral condition), while in Configuration II, it is complemented by hierarchy-oriented values (as a second core condition). Market-oriented values are absent (core condition) in Configuration IB and present (peripheral condition) in Configuration II. There are two more findings which do not support our hypothesis. While hierarchy complements clan as a core condition in Configuration II, it is the absence of both hierarchy-oriented and market-oriented elements which complement the clan domain in Configuration IA. Finally, both hierarchy and adhocracy are core conditions in Configuration III, with market as a peripheral condition. This finding is surprising and will be illuminated in more detail in the discussion section.

The overall coverage of the combined configurations is 0.58, which means that they collectively account for about 58 percent of membership in the outcome. This value is substantive, but also indicates considerable elements of randomness within configurations that lead to low turnover (Fiss, 2011). Finally, it should be noted that the results indicate the

existence of four sufficient configurations, but no necessary condition for achieving low turnover, since there are no conditions that are shared across all four configurations.

Sales performance. Table 4.2 shows two configurations with acceptable consistency (≥ 0.77) leading to high sales performance, which suggests first-order equifinality. Both configurations contain two core conditions and one peripheral condition. The results thus support hypotheses 1b and 2b.

Hypothesis 4 stated that across all configurations leading to high sales performance, the market domain is the most important one (meaning that it is of core importance in most configurations) and can be complemented by the presence of either adhocratic or hierarchical elements, while clan-oriented elements can be either present or absent in these configurations.. The results partially support this hypothesis. Since market is a core condition in both configurations leading to high financial performance, it even is a possible necessary condition. However, it should be kept in mind that there are other configurations that did not pass the frequency or consistency thresholds but may also lead to high sales performance, which is why necessity cannot be implied. In Configuration I, the market domain is complemented by adhocracy as a second core condition and clan as a peripheral condition, while clannish values are absent in Configuration II. However, there is no configuration in which hierarchy complements the market domain. To the contrary, it is the absence of hierarchy that complements the market domain in Configuration II, a finding which will be further discussed below.

5.5.5 Discussion

The pattern of results is generally consistent with our predictions. With regard to both outcome variables, the more general hypotheses (i.e., H1a, H1b, H2a, and H2b) were fully supported. There is no single cultural domain of the CVF that is solely “responsible” for the outcomes. If this had been the case, fsQCA would have yielded a configuration in which one

domain is present as a core condition and the other cells are blank, indicating that it is irrelevant whether the other cultural elements are highly or weakly pronounced as long as the one crucial condition is fulfilled. Instead, the results indicate that only specific configurations of cultural elements (which include both core and peripheral elements and also reflect the presence and/or absence of these elements) lead to low employee turnover and high sales performance. Consistent with the concept of equifinality, the analysis yielded four configurations leading to low turnover and two configurations leading to high sales performance.

With regard to the more specific hypotheses 3 and 4, the results were also largely consistent with our predictions. Across all configurations leading to low turnover, the clan domain was the most dominant one (being a core condition in three out of four configurations), and the market domain was the most dominant one in terms of financial performance (being a core condition in two out of two configurations). While these results are not that surprising given the existing empirical evidence that links the clan domain to employee commitment and the market domain to financial success (e.g, Hartnell, 2011; Sackmann, 2011; Schneider et al., 2013), it is the combinations with the complementing cultural elements that are particularly interesting. As predicted, the clan domain can be complemented by either adhocratic or hierarchy-oriented values to lead to low turnover. If adhocracy is present, such as in Configuration IB (or hierarchy is absent, such as in Configuration IA), it is important that market-oriented values are absent. On the other hand, if hierarchy is present, such as in Configuration II, the additional presence of market-related values seems to be beneficial for low turnover. The reason for these results could lie in the orientation-providing role of the hierarchy domain. One of the central functions of organizational culture, as a whole, is to provide security by defining what employees should pay attention to and what actions to take in various kinds of situations (Ostroff et al., 2013;

Schein, 2010). This kind of guidance is particularly strongly reflected in the hierarchy domain with its focus on routines and proven processes. Thus, it is conceivable that hierarchy complements the market domain positively because in such a constellation, employees do not only have ambitious goals (market), but also know exactly what is expected from them to reach these (hierarchy). However, if hierarchical elements are absent and/or adhocratic elements (which emphasize freedom and attenuate standards) prevail, it might be more beneficial for achieving low turnover rates if the challenging goals that are characteristic of the market domain are absent in order to not create pressure that employees do not know exactly how to cope with.

A surprising finding with regard to low employee turnover was Configuration III, which combines clannish values with both adhocratic and hierarchical values. While the latter two cultural elements seem to be difficult to reconcile intuitively, there is some research (e.g., Chatman, Caldwell, & O'Reilly, 2014; Khahazanchi, Lewis, and Boyer, 2007; Kotrba et al., 2012) which suggests that these two facets can positively complement each other. In line with these studies, we assume that hierarchical and adhocratic facets need not be mutually exclusive. Instead, it is also conceivable that stable routines facilitate trust in employees to innovate and adapt within appropriate boundaries (Khahazanchi et al., 2007), which, in turn, can positively influence employee commitment and satisfaction, thus leading to low turnover.

With regard to sales performance, it is obviously highly beneficial if a strong market focus is combined with a strong focus on adhocracy or at least the absence of hierarchy, as both configurations leading to high sales performance suggest. Contrary to what we assumed, there is no alternative configuration that combines market-oriented and hierarchy-oriented values and leads to strong sales performance. The reason for this could lie in the nature of the business of the sponsoring organization. As a financial services provider for business clients, the business is complex, the demands of the clients are constantly changing, and no two deals

are the same, which requires flexibility and a certain risk disposition to be successful (Head of Human Resources, personal communication, March 7, 2016). These success factors are clearly fostered by adhocracy-oriented cultural elements, while the presence of hierarchy-oriented elements could create some barriers in this regard.

While these findings are largely in line with our hypotheses, they should be interpreted with caution, since we tested our hypotheses within a single organization in a single industry. To address this issue, we conducted a second analysis using a sample from a different organization in a different industry in order to provide a constructive replication of the results.

5.6 Sample 2 – Method, Results, and Discussion

5.6.1 Sample

Data collection took place in a German organization operating in the fashion industry. As with sample 1, management encouraged participation and confirmed confidentiality. Since not all employees had reliable access to a computer workstation, the surveys were distributed in an online version and in a paper-based format. The final sample consisted of 998 employees, of which 635 (64%) completed the online survey and 363 (36%) returned the paper-based version. The participating employees were grouped in 49 work units, which is equivalent to 100% of the organization's units. Unit sizes ranged from 5 to 60 employees, with an average of 17. Of the 49 work units, 24 were sales units and 25 had internal tasks. 61% of the participants were female and the average age was 38 years.

5.6.2 Analysis

The analysis followed the same steps as described above for sample 1. The consistency threshold was again set at 0.80, and the frequency threshold was set at two for the sample that was used to investigate employee turnover (N = 49). As the sample that was used

to investigate financial performance was rather small (N=24), the frequency threshold was reduced to one (Legewie, 2013; Ragin, 2008). Again, using these thresholds ensured that more than 80% of the cases assigned to configurations were captured.

5.6.3 Measures and Set Calibration

Organizational culture. As for sample 1, organizational culture was assessed with the CVF, with all scales showing satisfying reliabilities (clan = .86; adhocracy = .80; market = .81; hierarchy = .80). Average ICC(1) values across the four CVF scales values were .11 (ranging from .08 to.12), while average ICC(2) values were .63 (ranging from .59 to .68). Average RWG(J) values were .78 for clan, .82 for adhocracy, .80 for market, and .77 for hierarchy. Again, the results suggest that aggregating the individual CVF scores to the group level was justified. The setting of breakpoints for calibrating the four CVF scales followed the same line of reasoning as described above for sample 1. Thus, breakpoints were again set at the upper decile for full set membership and at the lower decile for full nonmembership. The medians were set as cross-over points.

Employee turnover and sales performance. Data on turnover and sales performance were provided by the sponsoring organization and were operationalized as for sample 1. Sales performance data was available for 24 out of 49 work units. Again, breakpoints were informed by discussions with experts from the sponsoring organization. With regard to employee turnover, the experts considered work units with a turnover rate below 5% as having a definitely low turnover rate, while they considered work units with a turnover rate of 20% or higher as having a clearly high turnover rate. With regard to financial performance, they considered the top three work units (12,5%) as clearly high performing and the three weakest units (12,5%) as clearly low performing. The medians were set as cross-over points for both sets.

5.6.4 Results

Table 4.3 presents descriptive statistics and correlations for all measures. In general, the results showed considerable similarities to those obtained from sample 1. As with sample 1, there are moderate to strong correlations between the four CVF domains. Moreover, there is a significant positive correlation between the market domain and sales performance and moderate, but non-significant correlations between adhocracy and sales performance (positive), clan and employee turnover (negative), and hierarchy and sales performance (positive) and turnover (negative).

Table 4.3
Sample 2: Descriptive Statistics and Correlations (N = 49)

			Correlation					
Variable	***M***	***SD***	**1**	**2**	**3**	**4**	**5**	**6**
Clan	3.50	0.49	–					
Adhocracy	3.55	0.47	.41**	–				
Market	3.41	0.41	.49**	.29*	–			
Hierarchy	3.51	0.37	.58**	.15	.28	–		
Employee turnover	9.66	7.51	-.26	-.17	.07	-.25	–	
Sales performance[a]	105.88	20.22	.10	.25	.49*	.40	.07	–

[a] data on sales performance was available for 24 units

* $p < .05$ ** $p < .01$

Employee turnover. Table 4.4 shows three configurations that lead to low turnover and exhibit acceptable consistency (≥ 0.83). All configurations contain both core and peripheral conditions, thus lending support to hypothesis 1a. Moreover, in support of hypothesis 2a, first-order equifinality can be assumed across the three configurations, while Configuration IA and IB exhibit second-order equifinality (identical causal core conditions are surrounded by different peripheral conditions). Again, the two peripheral conditions in Configuration IA

and IB can be regarded as substitutes: Configuration IB indicates that when a strong focus on the hierarchy domain is combined with the absence of market-related cultural values, the additional presence of clannish values leads to low turnover regardless of whether adhocracy-oriented values are present or not, while Configuration IA indicates that when adhocratic values are absent, it is irrelevant whether clannish values are present or not.

Hypothesis 3 is also supported. Clan is a core or peripheral condition in two out of three configurations and the only condition that only leads to low turnover when it is present (compared to the other three domains which are present in some configurations and absent in others). In Configuration II, the clan domain is complemented by the presence of adhocratic values, while it is complemented by the presence of hierarchy-oriented values in Configuration IB. The market domain is present in one configuration (II), but absent in the other one (IB). Finally, Configuration Ia, which features a strong focus on hierarchy with the absence of both market-oriented values and adhocratic values does not correspond to any of our hypotheses.

Table 4.4
Sample 2: Cultural Configurations for Achieving Low Turnover and High Sales Performance[a]

	Low turnover			High sales performance		
Configuration	**IA**	**IB**	**II**	**I**	**II**	**III**
Clan		●	⬤	●	⊗	⬤
Adhocracy	⊗		●		⊗	⊗
Market	⊗	⊗	●	⬤	⬤	
Hierarchy	⬤	⬤	⊗	⬤		●
Consistency	0.84	0.90	0.82	0.82	0.88	0.82
Raw coverage	0.33	0.34	0.28	0.48	0.28	0.29
Unique coverage	0.09	0.07	0.12	0.22	0.08	0.02
Overall solution consistency		0.83			0.82	
Overall solution coverage		0.56			0.60	

[a] Black circles indicate the presence of a condition; crossed out circles indicate its absence. Large circles indicate core conditions; small circles indicate peripheral conditions. Blank spaces indicate that the particular causal condition is not relevant within that configuration. The presence (absence) of a condition means that the degree of set membership is over (below) the crossover point (i.e., membership higher than 0.5).

Sales performance. As can be seen in Table 4.4, the fuzzy set analysis yielded three configurations with acceptable consistency (≥ 0.82) leading to high sales performance. All three configurations contain multiple core and peripheral causal conditions. These results support hypotheses 1b and 2b. Hypothesis 4 is partially supported by the results, since market is a core condition in two out of three configurations, and the market domain is complemented by hierarchy as a second core condition and clan as a peripheral condition in Configuration I, while clannish values are absent in Configuration II. However, there is no configuration in which adhocracy complements the market domain. Finally, Configuration III reflects an alternative path to achieving high sales performance, which includes the presence of clannish

values and the absence of adhocratic values in combination with a peripheral focus on hierarchy. In this configuration, it is irrelevant whether market-related values are highly or weakly pronounced, as indicated by the blank space in the market cell.

5.6.5 Discussion

Sample 2 allowed us to test the same hypotheses as with sample 1, but with data from a different organization in a different industry. The pattern of results showed some similarities and some dissimilarities to that from the first sample. Results were similar in that the hypotheses were again largely supported. There were different configurations consisting of multiple conditions that led to low turnover and high sales performance. Clan was the most important domain with regards to low turnover, while market was the most important domain with regard to sales performance. In the configurations leading to low turnover, the clan domain was again complemented by either adhocratic (Configuration II) or hierarchy-oriented values (Configuration IB), and market-related values could be either present or absent in these configurations. Interestingly, while clannish and adhocratic values combined with the absence of market-related values led to low turnover in sample 1, it was the presence of market-related values in combination with clannish and adhocratic elements that led to low turnover in sample 2. Conversely, clannish and hierarchy-oriented values combined with the presence of market-related values led to low turnover in sample 1, while it was the absence of market-related values combined with clannish and hierarchy-oriented values that led to low turnover in sample 2. Obviously, the positive complimentary role of hierarchy and the negative complimentary role of adhocracy are reversed in sample 2. A possible reason for this interesting result could be the fact that in organization 2 (unlike in organization 1), hierarchy is an important element for driving financial performance (see below). Combined with a market-focus, hierarchical elements could therefore create strong pressure to perform among employees, while adhocratic elements might provide a possibility to emancipate oneself from

too rigid, highly performance-driven structures, thus leading to higher satisfaction and low turnover. We will deepen this line of thought in the general discussion.

Finally, and in contrast to sample 1, it was the combination of market-oriented and hierarchy-oriented values (with clannish values as peripheral conditions) that showed the strongest paths to high sales performance, while adhocratic values seemed to be a hindrance in this regard. Again, the reason for this result could lie in the nature of the business of the sponsoring organization. As a fashion retailer operating in the low-price segment, the processes in the sales branches must be handled efficiently and with the lowest possible staff level in order to increase sales and be profitable (Head of Organizational Development, personal communication, May 12, 2016). An emphasis on hierarchy-oriented cultural elements could be very helpful in this regard. At the same time, prices, product ranges, and even the way the products are displayed in the shops are standardized, and most customers require little or no advice (Head of Organizational Development, personal communication, May 12, 2016), which is why job discretion is not necessary and adhocratic elements are probably not that important for achieving high sales performance.

5.7 General Discussion

Applying a set-theoretic perspective, we used fsQCA to identify cultural configurations and their links to organizational effectiveness in two organizations. Our findings suggest that none of the CVF domains alone lead to organizational effectiveness. Instead, it is the combination of specific cultural elements that leads to both low turnover rates and high sales performance. In line with the notion of equifinality, different kinds of combinations proved equally effective in leading to these outcomes. Further, across both samples, the clan domain appeared to be most important for achieving low turnover rates, while the market domain appeared to be most important for sales performance. With regard to

the more specific configurations leading to these outcomes, the results from both studies showed considerable similarities, but also interesting contrasts. In the following, these findings are discussed with regard to the study's theoretical and practical implications as well as strengths, limitations and future research directions.

5.7.1 Theoretical Implications

In this study, we have proposed an alternative theoretical perspective for investigating organizational culture that shifts the focus toward the analysis of cultural configurations. In addition, we introduced fsQCA to the field of organizational culture as a corresponding method for a better understanding of which elements of a cultural configuration are relevant for an outcome and how these elements combine to achieve specific effects. In combining this theoretical approach and a novel methodology, the current study thus represents an important step towards assessing organizational culture in a way that is closely aligned with the theoretical roots of the construct. This approach enables to depict organizational culture as a complex entity which consists of multiple facets that are interlinked and mutually influence each other. This holistic perspective is strongly emphasized in virtually all of the seminal definitions and discussions of the construct (e.g., Denison, 1996; Martin, 2002; Pettigrew, 1979; Schein, 1985; Smircich, 1983; Trice & Beyer, 1993), but has been widely neglected in empirical research (Ostroff & Schulte, 2014).

Furthermore, the study illuminates the interplay of the cultural domains of the CVF in unprecedented detail, thus shedding new light on one of the most frequently applied theories of organizational culture. Our study support critical voices (e.g., Ashkanasy, Broadfoot, & Falkus, 2000; Denison, Nieminen, & Kotrba, 2014; Jung et al, 2009; Hartnell et al., 2011; Schneider et al., 2013) regarding the proposed internal structure of the CVF, which suggests that the cultural domains of the CVF are contradictory. Our results indicate that the CVF domains are neither "competing", nor is it necessarily desirable to create a culture in which all

domains are strongly pronounced, as some other studies have proposed (e.g., Carlos Pinho, Rodrigues, & Dibb, 2014; Gregory et al., 2009). Instead, our results strongly suggest that the CVF domains complement each other in a highly differentiated manner, that the way they complement each other differs depending on the kind of effectiveness criterion that is investigated, and that there are usually different kinds of complimentary configurations that are equally effective in leading to the same outcome (equifinality).

With respect to the specific configurations leading to low turnover and high sales performance, there were considerable similarities across both samples. In both cases, the clan domain was the most relevant domain with regard to low turnover, and the market domain was the most relevant domain with regard to sales performance. Within the same organization, these domains could be complemented by different other cultural elements (e.g., adhocratic or hierarchy-oriented values) for leading to these outcomes. These findings suggest both intra-organizational equifinality (several configurations within the same organization lead to the same outcome) and causal asymmetry (a variable that is causally related in one configuration may be unrelated or even inversely related in another). Thus, the findings support recent theories regarding intra-organizational "cultural ambidexterity" by Moon, Quigley, and Marr (2012) and Wang and Rafiq (2014). Building on the general theory of organizational ambidexterity (e.g., Gupta et al., 2006; Tushman & O'Reilly, 1996), these researchers suggest that organizational cultures can be ambidextrous, meaning that within organizations, there are some units that need subcultures that are geared towards exploration (i.e., the cultural values foster adaptability, creativity, and innovation) in order to be successful, while others require very different subcultures that are, for example, geared towards exploitation (i.e., cultural values foster stability and efficiency). At the overall organizational level, these different cultural orientations can complement each other and

enhance overall organizational effectiveness if they are properly aligned with the overall organizational goals (Ostroff et al., 2013).

Even more interesting is the finding that the patterns in which adhocracy and hierarchy complemented the clan and the market domain were to some extent inverse. In the first sample, the domain that complemented the market domain in leading to sales performance (adhocracy) was only a positive complement to the clan domain in leading to low turnover if market-related values were absent. In contrast, the domain that did not complement the market domain in leading to financial success (hierarchy) was a positive complement to the clan domain in leading to low turnover if market-related values were present. In the second sample, this pattern was basically repeated, but with adhocracy and hierarchy changing roles. These results suggest that if one of the core conditions for high sales performance is present in a configuration, it is possible that this configuration leads to low turnover, but only if the other core condition for high sales performance is not present as well, but replaced by a "cultural counterweight" that diminishes the focus on high performance, sales, and profitability. These assumptions are in line with empirical research that demonstrates that (too much) emphasis on achievement and pressure to perform are sources of stress (Beehr, 2014; Parker & DeCotiis, 1983), which, in turn, is one of the most important predictors for employee turnover (e.g., Griffeth, Hom, & Gaertner, 2000). Given the fact that this pattern is yet to be replicated in other studies (and that there were other configurations which deviated from this pattern), these thoughts should best be interpreted as tentative theoretical impulses that are certainly prone for further theoretical development and empirical analyses (possibly also by complementing quantitative with qualitative methods that can shed additional light on how exactly the effects of these specific cultural configurations unfold).

5.7.2 Practical Implications

Our results bear some relevance for practitioners intending to change or shape their organization's culture. Our study clearly supports the notion that organizational culture has multiple facets that mutually influence each other, which is why it is probably unreasonable to change specific culture dimensions in isolation. Instead, more complex cultural configurations need to be taken into account in any change effort. Further, organizations operate in multiple performance domains and are rarely able to be effective in all of them (Quinn, 1988; Quinn & Rohrbaugh, 1983). Thus, interventions aiming at optimizing organizational culture need to have a clear understanding of the desired outcomes of such an optimization, since our results suggest that different cultural configurations are related to different effectiveness criteria. This presents an interesting challenge for practitioners, who need to prioritize the most important organizational goals and make sure that cultural configurations are properly aligned with these goals. Moreover, our results imply that, in line with the idea of equifinality, practitioners should be aware that there is probably more than one possible way to achieve this kind of alignment. As developing or changing organizational culture requires significant investments (Barney, 1986), decision makers will most likely face trade-off decisions between which culture dimensions should be developed, which amount of resources they are willing to invest in these dimensions, and the possible positive outcomes this might generate.

At the same time, our findings imply that not all facets of organizational culture need to be highly pronounced in order to achieve organizational effectiveness, and that in some cases, it might be the absence of specific cultural facets that are crucial in leading to a desired outcome. Practitioners in organizations thus not only need to care about which cultural facets should be pronounced, but also which should be deliberately not pronounced.

5.7.3 Strengths, Limitations, and Implications for Future Research

Apart from introducing new theoretical and methodological aspects (of which the advantages are discussed above) to the field of organizational culture, it is a central strength of our study that we investigated organizational culture by surveying all organizational members (in both samples). This is the most difficult but also the most effective and representative method in assessing organizational culture (Gregory et al., 2009) and sets our study apart from other studies which mostly rely on key informants (usually from the upper management levels). A second strength is that we obtained objective criteria of organizational effectiveness in both samples, thus avoiding issues related to common method bias. Third, investigating a second sample with the same hypotheses and the same measures enabled us to check for the robustness of the results in a different organization that operates in a different industry and enabled direct comparisons between the findings.

However, the concentration on two organizations is, at the same time, the major limitation of our study. Research has suggested that both organizational cultures (Adkins & Caldwell, 2004; Chatman & Jehn, 1994) and the effectiveness of organizational configurations (Ketchen et al., 1997) are industry-specific. This means that, in spite of the replication, the generalizability of our results is still questionable and should be examined in other organizational and industry settings.

A second limitation is the fact that we focused on only four possible causal conditions (i.e., the four domains of the CVF) and two outcome variables. Although this design was well-suited for fulfilling the main purpose of this study, which was to assess the effectiveness of configurations of the most frequently investigated cultural domains, future research could include other variables in the analysis. For example, some of the dimensions of the Organizational Culture Inventory (Cooke & Lafferty, 1989), which is also a widely-used instrument for measuring organizational culture, have a clearly negative connotation. From a

configurational, set-theoretic perspective, it would be particularly interesting to analyze how these dimensions are reflected in the results (e.g., whether the absence of these dimensions is a core condition in configurations leading to high effectiveness). Also, it could be interesting to include less-frequently investigated culture variables in the configurational analysis, such as ethical culture (e.g., Zhang, Chiu, & Wei, 2009) or error culture (e.g., van Dyck, Frese, Baer, & Sonnentag, 2005). Regarding the latter cultural variable, it is imaginable, for example, that a configuration in which error management is complemented by adhocracy or hierarchy might be particularly effective. In the first case, effectiveness might be based on quick reactions to past mistakes and an eagerness to learn from them. In the second case, effectiveness might be enhanced by clear guidelines and proven processes that help employees to handle serious mistakes.

Finally, with regard to the outcome variables that were assessed in this study, we only investigated one specific level of low turnover and high sales performance, respectively. However, it is one of the strengths of set-theoretic methods that they also allow for investigating if and how different configurations are associated with different levels of the same outcome. For example, it might be possible that configurations that are associated with low turnover are quite different from configurations that are related to very low turnover, which can be regarded as a special case of causal asymmetry. Fiss (2011), for example, has demonstrated this kind of causal asymmetry in a study that analyzed organizational configurations based on the popular organizational framework by Miles and colleagues (1978). It would be an interesting avenue for future research to adapt this approach for the field of organizational culture.

5.8 References

Adkins, B., & Caldwell, D. (2004). Firm or subgroup culture: where does fitting in matter most?. *Journal of Organizational Behavior, 25*, 969-978. doi:10.1002/job.291

Ashkanasy, N. M., Broadfoot, L., & Falkus, S. (2000). Questionnaire measures of organizational culture. In N. M. Ashkanasy, C. P. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (1st ed., pp. 131–162). Thousand Oaks, CA: Sage.

Barney, J. B. (1986). Organizational culture: can it be a source of sustained competitive advantage?. *Academy of Management Review*, *11*, 656-665. doi:10.5465/AMR.1986.4306261

Beehr, T. A. (2014). *Psychological stress in the workplace (psychology revivals)*. New York: Routledge.

Bell, R. G., Filatotchev, I., & Aguilera, R. V. (2014). Corporate governance and investors' perceptions of foreign IPO value: An institutional perspective. *Academy of Management Journal*, *57*, 301-320. doi:10.5465/amj.2011.0146

Berson, Y., Oreg, S., & Dvir, T. (2008). CEO values, organizational culture and firm outcomes. *Journal of Organizational Behavior, 29,* 615-633. doi:10.1002/job.499

Bezrukova, K., Thatcher, S., Jehn, K. A., & Spell, C. S. (2012). The effects of alignments: examining group faultlines, organizational cultures, and performance. *Journal of Applied Psychology*, *97*, 77-92. doi:10.1037/a0023684

Boyce, A. S., Nieminen, L. R., Gillespie, M. A., Ryan, A. M., & Denison, D. R. (2015). Which comes first, organizational culture or performance? A longitudinal study of causal priority with automobile dealerships. *Journal of Organizational Behavior, 36,* 339-359. doi:10.1002/job.1985

Brazil, K., Wakefield, D. B., Cloutier, M. M., Tennen, H. & Hall, C. B. (2010). Organizational culture predicts job satisfaction and perceived clinical effectiveness in pediatric primary care practices. *Health Care Management Review, 35,* 365–371. doi:10.1097/HMR.0b013e3181edd957

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1,* 185–216. doi:10.1177/135910457000100301

Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture based on the competing values framework*. Hoboken, NJ: John Wiley & Sons.

Carlos Pinho, J., Paula Rodrigues, A., & Dibb, S. (2014). The role of corporate culture, market orientation and organisational commitment in organisational performance: the case of non-profit organisations. *Journal of Management Development*, *33*, 374-398. doi:10.1108/JMD-03-2013-0036

Chan, L. M., Shaffer, M. A., & Snape, E. (2004). In search of sustained competitive advantage: The impact of organizational culture, competitive strategy and human resource management practices on firm performance. *The International Journal of Human Resource Management, 15*, 17-35. doi:10.1080/0958519032000157320

Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2014). Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms. *Journal of Organizational Behavior, 35,* 785-808. doi:10.1002/job.1928

Chatman, J. A., & Jehn, K. A. (1994). Assessing the relationship between industry characteristics and organizational culture: how different can you be?. *Academy of Management Journal*, *37*, 522-553. doi:10.2307/256699

Cooke, R. A., & Lafferty, J. C. (1989). *Organizational culture inventory*. Plymouth: Human Synergistics.

Crilly, D. (2011). Predicting stakeholder orientation in the multinational enterprise: A mid-range theory. *Journal of International Business Studies*, *42*, 694-717. doi:10.1057/jibs.2010.57

Crozier, M. (1964). *The bureaucratic phenomenon*. Chicago: University of Chicago Press.

Dalton, M. (1959). *Men who manage*. New York: Wiley.

Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, *39*, 802-835. doi:10.2307/256713

Denison, D. R. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review*, *21*, 619-654. doi:10.5465/AMR.1996.9702100310

Denison. D. R., Haaland, S. & Goelzer, P. (2004). Corporate culture and organizational effectiveness: Is Asia different from the rest of the world? *Organizational Dynamics, 33,* 98-109. doi:10.1016/j.orgdyn.2003.11.008

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and performance. *Organization Science, 6*, 204-223. doi:10.1287/orsc.6.2.204

Denison, D., Nieminen, L., & Kotrba, L. (2014). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work and Organizational Psychology, 23,* 145–161. doi:10.1080/1359432X.2012.713173

Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review, 25*, 850-863. doi:10.5465/AMR.2000.3707740

Doty, D. H., Glick, W. H., & Huber, G. P. (1993). Fit, equifinality, and organizational effectiveness: A test of two configurational theories. *Academy of Management Journal*, *36*, 1196-1250. doi:10.2307/256810

Fey, C., & Denison, D. R. (2003). Organizational culture and performance: Can an American theory be applied in Russia? *Organization Science, 14,* 686-706. doi:10.1287/orsc.14.6.686.24868

Fiss, P. C. (2007). A set-theoretic approach to organizational configurations. *Academy of Management Review, 32*, 1180-1198. doi:10.5465/AMR.2007.26586092

Fiss, P. C. (2011). Building better causal theories: A fuzzy set approach to typologies in organizational research. *Academy of Management Journal, 54*, 393-420. doi:10.5465/AMJ.2011.60263120

Garcia-Castro, R., & Aguilera, R. V. (2014). Family involvement in business and financial performance: A set-theoretic cross-national inquiry. *Journal of Family Business Strategy*, *5*, 85-96. doi:10.1016/j.jfbs.2014.01.006

Gordon, G.G. (1991). Industry determinants of organizational culture. *Academy of Management Review, 16*, 396-415. doi:10.5465/AMR.1991.4278959

Greckhamer, T. (2011). Cross-cultural differences in compensation level and inequality across occupations: A set-theoretic analysis. *Organization Studies*, *32*, 85-115. doi:10.1177/0170840610380806

Greckhamer, T., Misangyi, V. F., Elms, H., & Lacey, R. (2008). Using QCA in strategic management research: An examination of combinations of industry, corporate, and business unit effects. *Organizational Research Methods, 11*, 695-726. doi:10.1177/1094428107302907

Gregory, B. T., Harris, S. G., Armenakis, A. A., & Shook, C. L. (2009). Organizational culture and effectiveness: A study of values, attitudes, and organizational outcomes. *Journal of Business Research, 62*, 673-679. doi:10.1016/j.jbusres.2008.05.021

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management*, *26*, 463-488. doi:10.1177/014920630002600305

Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, *49*, 693-706. doi:10.5465/AMJ.2006.22083026

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, *16*, 250-279. doi:10.1016/0030-5073(76)90016-7

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational performance: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*, 677-694. doi:10.1037/a0021987

Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology*, *92*, 1332-1356. doi:10.1037/0021-9010.92.5.1332

Jaques, E. (1951). *The changing culture of a factory*. New York: Dryden Press.

Jung, T., Scott, T., Davies, Huw T. O., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review, 69,* 1087–1096. doi: 10.1111/j.1540-6210.2009.02066.x

Ketchen, D. J., Combs, J. G., Russell, C. J., Shook, C., Dean, M. A., Runge, J., ... & Beckstein, B. A. (1997). Organizational configurations and performance: A meta-analysis. *Academy of Management Journal*, *40*, 223-240. doi: 10.2307/257028

Khazanchi, S., Lewis, M. W., & Boyer, K. K. (2007). Innovation-supportive culture: The impact of organizational values on process innovation. *Journal of Operations Management, 25*, 871-884. doi:10.1016/j.jom.2006.08.003

Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A., & Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human Relations, 65*, 241-262. doi:10.1177/0018726711426352

Kwan, P., & Walker, A. (2004). Validating the competing values model as a representation of organizational culture through inter-institutional comparisons. *Organizational Analysis*, *12*, 21-37. doi:10.1108/eb028984

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods, 11,* 815-852. doi:10.1177/1094428106296642

Legewie, N. (2013, September). An introduction to applied data analysis with qualitative comparative analysis. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (Vol. 14, No. 3).

Lim, B. (1995). Examining the organizational culture and organizational performance link. *Leadership and Organization Development Journal, 16*, 16-21. doi:10.1108/01437739510088491

Lund, D. B. (2003). Organizational culture and job satisfaction. *Journal of Business & Industrial Marketing*, *18*, 219-236. doi:10.1108/0885862031047313.

Martin, J. (2002). *Organizational culture: Mapping the terrain.* Thousand Oaks, CA: Sage Publications.

McDermott, C. M., & Stock, G. N. (1999). Organizational culture and advanced manufacturing technology implementation. *Journal of Operations Management*, *17*, 521-533. doi:10.1016/S0272-6963(99)00008-X

Meyer, J. P., Becker, T. E., & Vandenberghe, C. (2004). Employee commitment and motivation: a conceptual analysis and integrative model. *Journal of Applied Psychology*, *89*, 991. doi:10.1037/0021-9010.89.6.991

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, *61*, 20-52. doi:10.1006/jvbe.2001.1842

Meyer, A. D., Tsui, A. S., & Hinings, C. R. (1993). Configurational approaches to organizational analysis. *Academy of Management journal*, *36*, 1175-1195. doi:10.2307/256809

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J. (1978). Organizational strategy, structure, and process. *Academy of Management Review, 3*, 546-562. doi:10.5465/AMR.1978.4305755

Mintzberg, H. 1979. *The structuring of organizations: A synthesis of research*. Englewood Cliffs, NJ: Prentice-Hall.

Misangyi, V. F., & Acharya, A. G. (2014). Substitutes or complements? A configurational examination of corporate governance mechanisms. *Academy of Management Journal*, *57*, 1681-1705. doi:10.5465/amj.2012.0728

Misangyi, V. F., Greckhamer, T., Furnari, S., Fiss, P. C., Crilly, D., & Aguilera, R. (2017). Embracing Causal Complexity: The emergence of a neo-configurational perspective. *Journal of Management*, *43*, 255-282. doi:10.1177/0149206316679252

Moon, H., Quigley, N. R., & Marr, J. C. (2012). How interpersonal motives explain the influence of organizational culture on organizational productivity, creativity, and adaptation: The ambidextrous interpersonal motives (AIM) model of organizational culture. *Organizational Psychology Review, 2,* 109-128. doi:10.1177/2041386611433085

Mowday, R. T., Porter, L. W., & Steers, R. M. (2013). *Employee—organization linkages: The psychology of commitment, absenteeism, and turnover*. New York: Academic Press.

Naqshbandi, M. M., Kaur, S., & Ma, P. (2015). What organizational culture types enable and retard open innovation?. *Quality & Quantity, 49,* 2123-2144. doi:10.1007/s11135-014-0097-5

Nishii, L. H., & Mayer, D. M. (2009). Do inclusive leaders help to reduce turnover in diverse groups? The moderating role of leader–member exchange in the diversity to turnover relationship. *Journal of Applied Psychology, 94,* 1412-1426. doi:10.1037/a0017190

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal, 34*, 487-516. doi:10.2307/256404

Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In N. W. Schmitt, S. Highhouse, & I. B. Weiner (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, 2nd ed., pp. 643-676). Hoboken, NJ: John Wiley & Sons.

Ostroff, C., & Schulte, M. (2014). A configural approach to the study of organizational culture and climate. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 532-552). New York, NY: Oxford University Press.

Pandey, S. K., & Moynihan, D. P. (2006). Bureaucratic red tape and organizational performance: testing the moderating role of culture and political support. In G. A. Boyne,

K. J. Meier, L. J. O'Toole, & R. M. Walker (Eds.), *Public service performance* (pp. 130-151). Cambridge, England: Cambridge University Press.

Parker, D. F., & DeCotiis, T. A. (1983). Organizational determinants of job stress. *Organizational Behavior and Human Performance*, *32*, 160-177. doi:10.1016/0030-5073(83)90145-9

Payne, G. T. (2006). Examining configurations and firm performance in a suboptimal equifinality context. *Organization Science, 17*, 756-770. doi:10.1287/orsc.1060.0203

Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly, 24,* 570-581. doi: 10.2307/2392363

Porter, M. 1980. *Competitive strategy*. New York: Free Press.

Quinn, R. E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance*. San Francisco: Jossey-Bass.

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science, 29*, 363-377. doi:10.1287/mnsc.29.3.363

Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press.

Rihoux, B., & Ragin, C. C. (2009). *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques*. Thousand Oaks, CA: Sage.

Sackmann, S. A. (2011). Culture and performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (2nd ed., pp. 188-224). Thousand Oaks, CA: Sage.

Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies, 15*, 145-158. doi:10.1177/1548051808324100

Schein, E. H. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco: Jossey-Bass.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361-388. doi:10.1146/annurev-psych-113011-143809

Schneider, C. Q., & Wagemann, C. (2012). *Set-theoretic methods for the social sciences: A guide to qualitative comparative analysis*. Cambridge, England: Cambridge University Press.

Schulte, M., Ostroff, C., Shmulyian, S., & Kinicki, A. (2009). Organizational climate configurations: relationships to collective attitudes, customer satisfaction, and financial performance. *Journal of Applied Psychology*, *94*, 618-634. doi:10.1037/a0014365

Short, J. C., Payne, G. T., & Ketchen, D. J. (2008). Research on organizational configurations: Past accomplishments and future challenges. *Journal of Management, 34*, 1053-1079. doi:10.1177/0149206308324324

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28,* 339-358. doi:10.2307/2392246

Taylor, S., Levy, O., Boyacigiller, N. A. & Beechler, S. (2008). Employee commitment in MNCs: Impacts of organizational culture, HRM and top management orientations. *The International Journal of Human Resource Management, 19,* 501–527. doi:10.1080/09585190801953491

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology*, *46*, 259-293. doi:10.1111/j.1744-6570.1993.tb00874.x

Trice, H., & Beyer, J. (1993). *The cultures of work organizations*. Englewood Cliffs, NJ: Simon & Schuster.

Tsui, A. S., Wang, H., & Xin, K. R. (2006). Organizational culture in China: An analysis of culture dimensions and culture types. *Management and Organization Review, 2*, 345–376. doi:10.1111/j.1740-8784.2006.00050.x

Tushman, M. L., & O'Reilly, C. A. (1996). The ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, *38*, 8-30. doi:10.2307/41165852

van Dyck, C., Frese, M., Baer, M., & Sonnentag, S. (2005). Organizational error management culture and its impact on performance: A two-study replication. *Journal of Applied Psychology, 90*, 1228-1240. doi:10.1037/0021-9010.90.6.1228

Wang, C. L., & Rafiq, M. (2014). Ambidextrous organizational culture, contextual ambidexterity and new product innovation: a comparative study of UK and Chinese high-tech firms. *British Journal of Management*, *25*, 58-76. doi:10.1111/j.1467-8551.2012.00832.x

Wilderom, C. P., Glunk, U., & Maslowski, R. (2000). Organizational culture as a predictor of organizational performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (pp. 193-209). Thousand Oaks, CA: Sage.

Xenikou, A., & Simosi, M. (2006). Organizational culture and transformational leadership as predictors of business unit performance. *Journal of Managerial Psychology, 21*, 566–79. doi:10.1108/02683940610684409

Yazici, H. J. (2009). The role of project management maturity and organizational culture in perceived performance. *Project Management Journal*, *40*, 14-33. doi:10.1002/pmj

Zavyalova, E., & Kucherov, D. (2010). Relationship between organizational culture and job satisfaction in Russian business enterprises. *Human Resource Development International*, *13*, 225-235. doi:10.1080/13678861003703740

Zhang, J., Chiu, R., & Wei, L. Q. (2009). On whistleblowing judgment and intention: The roles of positive mood and organizational ethical culture. *Journal of Managerial Psychology, 24,* 627-649.doi:10.1108/02683940910989020

Appendix A

Table A
Breakpoints for Calibrating Fuzzy Sets

Set	Lower limit	Cross-over point	Upper limit
Sample 1			
High clan culture	2.89	3.57	4.10
High adhocracy culture	2.79	3.48	3.99
High market culture	3.27	3.76	4.13
High hierarchy culture	3.00	3.54	3.98
Low employee turnover	15%	8%	5%
High sales performance	76%	101%	135%
Sample 2			
High clan culture	2.80	3.56	4.08
High adhocracy culture	2.80	3.47	3.93
High market culture	2.96	3.53	4.14
High hierarchy culture	3.07	3.52	3.96
Low employee turnover	20%	9%	5%
High sales performance	78%	103%	129%

6. General Discussion

The introduction of the concept of culture from anthropology into the domain of management was fostered by the belief that culture has an influence on organizational effectiveness (Sackmann, 2011). In the last 15 to 20 years, considerable empirical evidence has been accumulated that supports this belief, and it has been widely acknowledged that organizational culture indeed is an important driver of organizational effectiveness. However, existing studies tend to focus on investigating the links between individual, isolated culture dimensions and effectiveness outcomes (Hartnell, Ou, & Kinicki, 2011; Ostroff & Schulte, 2014). This approach is at odds with the theoretical roots of organizational culture, which strongly emphasize the multifacetedness and complexity of the construct (e.g., Pettigrew, 1979; Schein, 1985; Smircich, 1983). Moreover, it is likely to lead to fragmented, simplified conclusions regarding the culture-effectiveness link (Kotrba et al., 2012) and thus does not do justice to the complex reality that most organizations face as they usually have to deal with a large number of diverging external and internal challenges.

In my dissertation, I focus on this and related issues by outlining and applying new perspectives for investigating the relationship between organizational culture and organizational effectiveness. The dissertation addresses the leading question of how organizational culture can be examined in a manner that is closer to its theoretical roots and linked to organizational effectiveness outcomes under consideration of the complex challenges that organizations encounter. This last chapter of the dissertation discusses its main findings (6.1), implications for theory (6.2), implications for practice (6.3), strengths, limitations, and future research directions (6.4), and provides a conclusion (6.5).

6.1 Overview of Main Findings

The following section summarizes the main findings of each of the four studies that this dissertation is comprised of.

Study 1 ("The assessment of organizational culture in cross-cultural settings: Investigating the psychometric quality and cultural equivalence of three quantitative instruments") aimed at testing the applicability of the Denison Organizational Culture Survey (DOCS), the Organizational Culture Profile (OCP), and the GLOBE survey for organizational culture in a German context. An analysis of the psychometric quality and the cultural equivalence of these three instruments that were originally developed in the U.S. suggested that the German versions of the DOCS and the OCP performed satisfactorily, while results regarding the scale reliabilities and the proposed factor structure of the GLOBE survey fell short of expectations. Given the fact that organizational culture measures that are validated in non-Anglo-American countries are very rare, this study makes an important contribution to facilitating research on organizational culture in international, cross-border settings.

Study 2 ("Holistic approaches to investigating organizational culture and its link to effectiveness – A review and research agenda") reviewed the literature on the link between organizational culture and organizational effectiveness with a special focus on studies that deviate from the common practice of investigating isolated culture dimensions, but instead treat organizational culture as a holistic phenomenon. The review results yielded different kinds of holistic approaches that were grouped in four broad categories: aggregation-based approaches, agreement-based approaches, moderation- or mediation-based approaches, and configuration-based approaches. Apart from providing overviews of the main findings, methodological aspects, and theoretical foundations with regard to each approach, the study contributes in particular to the advancement of the field as it addresses numerous specific

research questions that researchers can build on to align quantitative studies on the culture-effectiveness link more closely with the theoretical roots of organizational culture.

Study 3 ("Towards more positive employee attitudes in merger and acquisition projects: The importance of perceived cultural stability and the moderating roles of workgroup-level leader-member exchange and individual change-related self-efficacy beliefs") was based on the assumption that a drastic change of organizational culture (as it is induced by an M&A project) disturbs the complex value system of an organization and thus negatively impacts employee commitment. The findings suggested that individuals perceive cultural change differently, that perceived cultural stability is positively related to the degree of employee commitment, and that this relationship is moderated by group-level leader-member exchange and individual self-efficacy beliefs. The study thus contributes to the cultural change and the M&A literature by enabling a more nuanced understanding of how cultural change affects employee-related effectiveness factors and by illuminating important contextual factors at the group and the individual level.

Study 4 ("Look at the forest, not just the trees: A configurational approach to investigating the relationship between organizational culture and organizational effectiveness using fuzzy-set analysis") introduced a new theoretical perspective (set theory) and a novel methodology (fuzzy set qualitative comparative analysis) to the field of organizational culture. The results of the study showed that culture dimensions do not operate in isolation, but jointly work together in achieving different effectiveness outcomes. The results further suggested that several cultural configurations can be equally effective in reaching the same outcome, and that a clan culture is most relevant for achieving low employee turnover, while a market-oriented culture is most relevant for achieving financial effectiveness. The study contributes to the literature by offering new theoretical and methodological impulses that can help researchers to analyze organizational culture (and its link to effectiveness) in a manner

that is more closely aligned with its theoretical roots compared to conventional approaches and acknowledges the complex reality that most organizations face.

In sum, these findings (and especially the findings of study 3 and 4) are in line with the theoretical assumption that organizational culture can in fact function as a behavioral compass that tells the members of an organization how to cope with challenges and overcome obstacles in the organization's best interest by defining what employees should pay attention to, how to react emotionally, and what actions to take in various kinds of situations (Ostroff et al., 2013, Schein, 2010). The findings suggest that culture can take on this role as an "invisible guidebook" at an overall macro-level and at a more detailed micro-level. At the macro-level, organizational culture as a whole seems to set an overall framework, which provides security and stability to employees and supports them in their daily tasks by reducing complexity and providing orientation. At the micro-level, the findings indicate that understanding the way in which this overall culture is composed and the specific elements that it consists of are highly important for analyzing the link between culture and specific effectiveness outcomes (see also the second paragraph of the following section on theoretical implications). It is precisely this kind of twofold perspective that oscillates between looking at culture as a sum of its parts and looking at the parts that this sum consists of which is emphasized in the classic theoretical definitions of the construct by, for example, Pettigrew (1979) or Schein (1985) and that the results of this dissertation draw a line to.

6.2 Theoretical Implications

In the following, the theoretical implications of this dissertation are discussed. The focus of this section is on theoretical insights and impulses that can be derived from the dissertation as a whole, not on recapitulating the theoretical implications for each of the four studies that are already outlined in the previous chapters. The first three implications refer to

theoretical perspectives that can be drawn on for a better understanding of the complex mechanisms that connect organizational culture and effectiveness outcomes, while the fourth implication addresses perspectives that the findings have for the general literature beyond organizational culture with a focus on organizational climate and human resource management research.

First, the findings of this dissertation support recent theory which suggests that organizational culture can affect effectiveness outcomes via its *content* or via its *normative*, unifying function that is actually completely independent from any specific cultural content (Chatman & O'Reilly, 2016; Chatman, Caldwell, O'Reilly, & Doerr, 2014). The distinction between cultural norms and cultural content is theoretically meaningful and is supposed to be illustrated by the theoretical foundations and results of Study 3 and 4. Study 3 showed that changing an organization's culture has a negative impact on employee attitudes, regardless of the actual kind or direction of this change. The study did not focus on whether employees experienced differences with regard to specific culture dimension (e.g., whether they perceived the "clan" culture domain to be higher or lower pronounced compared to the status quo prior to the M&A project). Instead, it was argued that it is the overall stability of organizational culture as a whole that is positively related to employee commitment. This line of reasoning follows the theoretical assumption that culture, regardless of the actual elements that it consists of, always has a strongly normative function that provides guidance and reduces uncertainty by defining what employees should pay attention to and how to react in various kinds of situations (Chatman & O'Reilly, 2016; Denison, Nieminen, & Kotrba, 2014; Schein, 2010). Destabilizing the complex social system of shared norms that define what is important leads to anxiety and defense mechanisms among organizational members (Ostroff, Kinicki, & Muhammad, 2013). To contrast, Study 4 focused exclusively on what Chatman and O'Reilly (2016) call the substance of a cultural norm or, in other words, cultural content.

While analyzing specific culture dimensions was not relevant in the context of Study 3, it was precisely the configurations of specific cultural elements that were investigated (and found to be related to effectiveness outcomes) in Study 4. Chatman and colleagues (Chatman & O'Reilly, 2016; Chatman et al., 2014) argue that culture research has frequently confounded these perspectives and offer a theoretical perspective that differentiates among *consensus* (the extent to which employees agree about the system of cultural norms), *intensity* (the force with which cultural norms are held), and cultural *content* (the actual substance of cultural norms). By parsing organizational culture into these component parts and then considering them simultaneously, researchers may be able to explore in a more nuanced way how cultural elements operate within organizations. The insights that are provided by this dissertation suggest that this might be a promising perspective for the future.

Second, this dissertation enables a better understanding of the role organizational culture plays at different organizational levels. On the one hand, culture is essentially a property of the collective and thus an organizational-level construct. On the other hand, employees perceive, make sense of, and derive meaning from the context that culture provides, thus translating cultural values and assumptions into tangible behavior (Ostroff & Schulte, 2014). The results of Study 3 support scholars (e.g., Buono et al., 1985; Elsass & Veiga, 1994) who claim that these cultural perceptions and sense-making processes might differ considerably between individual organizational members. Further, the findings of this dissertation indicate that organizational subunits can develop distinct subcultures (Study 4) and that contextual factor at the sub-unit and the individual level can influence the way cultural issues are perceived by employees (Study 3). Collectively, the results suggest that more detailed theoretical considerations are needed in this regard. While there is some other empirical evidence regarding the existence of subcultures (e.g., Adkins & Caldwell, 2004; Li & Jones, 2010), there is no comprehensive theoretical framework that focuses on how culture

affects outcomes at different organizational levels, from the individual level to the group and team level to the overall organizational level. Schein's (1985; 2010) influential framework is not helpful in this regard, since the „levels" that Schein refers to do not represent organizational levels but rather different degrees to which cultural elements are observable. A more suitable theoretical lens for this issue is provided by Martin (2002) who suggested three perspectives for studying culture that also take into account cultural differences between organizational levels (see chapter 1.1.1 of this dissertation for a more detailed description). However, the main focus on Martin's theory is on the degree to which cultural values are shared among organizational members, and not on cultural manifestations at different organizational levels and the interactions between them. In particular, it does not address the important question of how different subcultures at different levels can be aligned in a way that fosters overall organizational effectiveness (Ostroff et al., 2013), which is why this area is certainly ripe for further theoretical development.

Third, the findings regarding subcultures in Study 4 reinvigorate the idea that the link between organizational culture and effectiveness can be explained with the resource-based view. This perspective assumes that organizational culture leads to sustainable competitive advantage if it is valuable, rare, and imperfectly imitable (Barney, 1986). The resource-based view is frequently drawn on for theoretically explaining the relationship between culture and effectiveness (Schneider et al., 2013). However, if organizational effectiveness is dependent on single culture dimensions (as it is explicitly or implicitly assumed in most existing studies on the culture-effectiveness link), it is hard to imagine how organizations should create these kinds of cultures, since individual cultural elements are most likely neither rare nor difficult to imitate. From a configurational perspective, however, the assumptions of the resource based view seem much more applicable. If effectiveness is not associated with isolated culture dimensions but rather with complex configurations that are defined by the presence and

absence of specific cultural elements, it is much more likely that these configurations are rare (i.e., they are not to be found ubiquitously in all kinds of organization) and difficult to imitate. This is probably even more the case when different "ambidextrous" subcultures (Study 4) exist in parallel, which are associated with different kinds of effectiveness outcomes and thus collectively contribute to the overall organizational success.

Fourth, especially the theoretical approach and the findings from study four have implications beyond the organizational culture literature and may serve to inform adjacent fields of research, such as organizational climate or human resource management.

Similar to culture research, climate research has mostly focused on investigating single, strategically focused climate dimensions (Schneider, 2013). However, this approach is potentially limiting since it fractionates a construct whose primary theoretical utility is in drawing attention to the holistic aspect of the organizational phenomenon (Schulte, Ostroff, Shmulyian, & Kinicki, 2009). First attempts regarding a more holistic investigation of organizational climate dimensions exist (e.g., Ostroff & Schulte, 2014; Schulte et al., 2009) and could certainly be enriched and developed further by using set-theoretic perspectives and methods.

In the field of human resource management (HRM), it is widely recognized that an organization's HRM system (i.e., a specific bundle of HRM practices) is of critical strategic importance for a given organization's success (e.g., Huselid, 1995; Wright & McMahan, 1992). Consequently, the search for configurations of HRM practices that lead to high performance has become an important research issue of that field (e.g., Delery & Doty, 1996; Guest, 1997; Paré & Tremblay, 2007). Again, set theoretic approaches could be useful in this regard as they could foster a more fine-grained understanding of just how different HRM practices work together to achieve specific outcomes.

6.3 Implications for Practice

A recent study in Germany (Leitl & Sackmann, 2010) showed that more than ever before, top and middle line managers as well as human resources managers consider organizational culture as a critical organizational success factor. Moreover, they believe that the importance of culture in this regard will even increase in the future. Recently, the media landscape has also turned to organizational culture as an important driver for organizational effectiveness and is, for example, increasingly judging newly appointed Chief Executive Officers by their ability to "turn around" a given organization's culture (e.g., Bloomberg, 2016; Pontefract, 2015; Varnholt, 2016). However, changing organizational culture is difficult and can be regarded as change management's supreme discipline since it is more latent than manifest and resides deeply in the cognitions of the organization and its members (Burke, 2014). The results of this dissertation offer a number of practical implications that can help to address this challenging task.

First, practitioners should apply well-validated measures of organizational culture that yield reliable, credible results, since a sound assessment of the cultural status quo should be the starting point for any change effort (Burke, 2014; Cameron & Quinn, 2006). This implication might seem as a matter of course, but recent reviews show that poorly validated ad-hoc measures of culture still abound (Jung et al., 2009; Sackmann, 2011). In particular, translated versions of instruments that were developed in Anglo-American countries should be validated in the specific cultural context of the country they are supposed to be applied, since equivalence cannot be taken for granted (Study 1).

Second, practitioners should be aware that changing an organization's culture poses substantial challenges to organizational members, as the function of culture as an invisible foundation on which employees' attitudes and behaviors are based is inevitably disturbed (Study 3). It is likely to assume that the more radical and externally enforced the change is,

the stronger the cultural destabilization and the negative effects on employee attitudes will be. Evolutionary approaches are thus probably much more appropriate for changing organizational culture than revolutionary ones (Weick, 2001; Weick & Quinn, 1999).

Third, the results of this dissertation strongly suggest that in order to shape a "high-performance culture", it is, for various reasons, not sufficient to simply single out one specific culture dimension that is assumed to foster organizational effectiveness. Instead, practitioners should conceive culture as a complex pattern of interrelated dimensions and shift their attention to specific configurations of cultural elements (both in terms of being present and absent). Given the fact that different configurations are associated with different kinds of effectiveness outcomes (Study 4), organizations should clearly prioritize the importance of the goals they seek to achieve and shape cultural patterns that are closely aligned with these goals.

Fourth, practitioners need to move away from the idea that culture can be changed by applying generic "one-size-fits-all" approaches. The results of this dissertation largely confirm theoretical assumptions which imply that culture manifests itself within the organization in complex ways that are inextricably interwoven with the larger organizational context. Organizational members perceive and interpret culture differently (Study 3), the way culture change is dealt with is affected by context factors at the group and at the individual level (Study 3), and different subunits within the organization need different (sub)cultural configurations in order to be successful (Study 4). Differentiated, fine-grained culture change approaches that take into account the specific needs and context factors of different organizational units and members are thus probably more expedient.

In sum, these implications underscore that practitioners should be aware that changing an organization's culture is a complex and lengthy endeavor that requires dedication, perseverance, and an eye for detail without losing sight of the big picture. It is thus hardly

surprising that successful culture change is usually matter of years (e.g., Paul & Fenlason, 2014; Small & Newton, 2014), while superficial, precipitate change efforts are mostly bound to fail (Heskett, 2011; Kotter, 1995).

6.4 Strengths, Limitations, and Future Research Directions

This dissertation has various strengths. First, all four studies included in the dissertation address relevant and current issues that have recently been debated in the field of organizational culture research. Study 1 focuses on the assessment of culture in international settings and acknowledges the fact that globalization is an important element of the complexity that most larger organizations face, which is why research on the culture-effectiveness link must take cross-cultural issues into account in order to keep pace with this economic and political megatrend (Lundby, Moriarty, & Lee, 2014; Sackmann, 2011). Study 2 reviews and discusses approaches for studying the culture-effectiveness link in a more holistic way, thus responding to recent calls for a stronger emphasis on approaches that deviate from the conventional practice of linking individual culture dimensions to different effectiveness criteria (e.g., Hartnell et al., 2011; Kotrba et al., 2012; Ostroff & Schulte, 2014). Study 3 and 4 follow up on selected avenues for future research that were suggested in Study 2. Study 3 focuses on the need for a better understanding of how changing the complex system of cultural values that make up organizational culture as a whole affects individual organizational members (Frantz, 2015) and of which contextual factors influence this relationship (Bauer & Matzler, 2014), while Study 4 addresses the need for a more detailed analysis of the complex interplay of different cultural elements in achieving different effectiveness outcomes (Hartnell et al., 2011). Thus, following the leading research question of how the culture-effectiveness link can be investigated in a way that mirrors the complexity of organizational culture theory and organizational reality, the four studies complement each

other well in offering various perspectives on this issue which collectively contribute to a better understanding of this topic.

Second, the dissertation does not only address the important issues just mentioned, but also advances the field by pointing out options for researchers who aim at breaking new ground by investigating the relationship between organizational culture and effectiveness from innovative perspectives and with cutting-edge methods. This applies in particular for Study 2, which opens up various new angles and offers numerous specific research questions that scholars can build on, and for Study 4, which introduces a new theoretical frame and a novel methodology for studying culture configurations, thus providing exciting possibilities for a more holistic investigation of the culture-effectiveness link.

Third, all three empirical studies (Study 1, 3, and 4) relied on comprehensive samples of the large majority of employees in all departments and at all hierarchical levels, thus being very representative of the organizations under study. This is an important advantage compared to most other studies in the field, which generally rely on few key informants from the top management levels (Gregory, Harris, Armenakis, & Shook, 2009; Sackmann, 2011). However, culture is not just a top-level phenomenon, but manifests itself at all organizational levels and in all organizational units. The sampling strategy thus effectively complemented the aim of this dissertation to investigate the concept of organizational culture in all its richness and complexity.

Despite the strengths of this dissertation, certain limitations need to be considered. While the specific limitations of each of the four studies have already been discussed in the previous chapters, some overarching shortcomings can be identified, which suggest interesting avenues for future research. First, the results of the empirical studies are based on samples from single organizations (Study 1 and 3) or, respectively, two organizations (Study 4). Focusing on few organizations was a conscious decision, which, as noted above, allowed

for obtaining very comprehensive samples from these organizations (versus investigating many organizations in a rather superficial manner). In spite of this advantage, the generalizability of the results is obviously limited. To provide evidence of generalizability, future research within other organizations and other industries is needed that attempts to replicate the findings of this dissertation.

Second, the empirical studies in this dissertation are cross-sectional and measured cultural variables as well as outcome variables at one specific point in time. However, although organizational culture is relatively stable compared to, for example, organizational climate (Ostroff et al., 2013), it is a dynamic construct that does evolve over time (Schein, 2010). Therefore, future studies should put more emphasis on longitudinal studies, which are still very rare in the field of organizational culture research (with some notable exceptions, such as Berson et al., [2008] or Boyce et al., [2015]). Longitudinal studies should collect comparable data over different points of measurement, thus providing deeper insights about culture and effectiveness dynamics over time. In line with the central assumptions of configurational theory (which are discussed in detail in Study 4), it is for example conceivable that for achieving long-term effectiveness, organizations need different combinations of cultural elements that are aligned with the different phases of the organizational lifecycle (Moon, Quigley, & Marr, 2012). Moreover, it would be worthwhile examining how employees deal with cultural change that is not enforced (as it was investigated in Study 3), but that naturally evolves in the course of time. Researchers aiming at enlarging upon this topic are referred to a recently presented model by Flamholtz and Randle (2014), which explicitly illuminates the role organizational culture plays at each phase of the organizational lifecycle.

Third, the measures that are used in the different studies of the dissertation obviously represent only a small fraction of what is, in fact, a wide range of available organizational

culture surveys. Although using established culture measures certainly has many advantages and was a defined goal of this dissertation (in particular with regard to Study 3 and 4), it narrows the focus down to few cultural facets. However, organizational culture is a very complex, many-faceted construct, as I emphasized throughout this dissertation. Future research could therefore include additional cultural elements that are still underrepresented in the current literature. One field of research that seems to be particularly interesting in this regard is the investigation of dysfunctional cultural elements. While most models of organizational culture explicitly or implicitly assume that each cultural dimension is linked to different but in general still positive outcomes (e.g., Cameron & Quinn, 2006; Denison & Mishra, 1995; Sarros, Gray, Densten & Cooper, 2005), there is some research (e.g., Ashkanasy & Härtel, 2014; Balthazard, Cooke, & Potter, 2006) as well as considerable anecdotal evidence (e.g., Flamholtz & Randle, 2011; Heskett, 2011) which suggests that organizational culture can contain elements that are decidedly negative. Especially from a configurational, set-theoretic point of view, it could be interesting to examine this kind of negative cultural elements and to test, for example, whether these elements are absent in configurations that are associated with high effectiveness or whether there are specific culture dimensions that can buffer negative effects.

Fourth, the quantitative surveys that were used for the studies that this dissertation consists of are necessarily limited to surface-level facets of culture that are observable and can be consciously experienced by organizational members (Ostroff & Schulte, 2014; Sackmann, 2011). The underlying mechanisms and details of how exactly organizational culture affects employee attitudes, behaviors, and ultimately organizational effectiveness remain elusive when relying on purely survey-based approaches. Thus, future research could complement quantitative data with more detailed information obtained by qualitative approaches, such as in-depth interviews or ethnographic methods.

6.5 Conclusion

In 1993, Trice and Beyer commented on the prevalent approach of quantitatively investigating single, isolated culture dimensions and their links to effectiveness outcomes as follows:

"In an effort to be scientific, organizational researchers had reduced their phenomenon to such simplistic models that it had lost its richness and human character. Managers were understandably suspicious of the relevance of such abstracted research that ignored many of the specificities their experience told them were important; so they did not use its results." (Trice & Beyer, 1993, p. 31).

More than 30 years later, research on organizational culture (and its link to effectiveness outcomes) has advanced significantly. However, although the field has reached much higher levels of sophistication, the general problem that is addressed by Trice and Beyer in the quote above still exists, as I have argued throughout this dissertation.

Hence, approaches are needed that combine the advantages of quantitative methods with the holistic, rich, and multifaceted perspective that is a central feature of organizational culture theory, thus accounting for the considerable complexity that characterizes organizational reality. This dissertation offers some of these approaches. It contributes to facilitating the assessment of organizational culture in international contexts, enables a better understanding of the consequences of changing the complex system of organizational culture values as a whole, and illuminates how multiple cultural elements interact for achieving specific effectiveness outcomes. It thus provides insights that practitioners can identify with since they relate to the actual complex challenges they face. At the same time, the dissertation offers numerous new theoretical and methodological impulses that researchers who aim at applying alternative, more holistic approaches to investigating organizational culture as a predictor for effectiveness outcomes can build on.

6.6 References

Adkins, B., & Caldwell, D. (2004). Firm or subgroup culture: where does fitting in matter most?. *Journal of Organizational Behavior, 25*, 969-978. doi:10.1002/job.291

Ashkanasy, N. M., & Härtel, C. E. J. (2014). Positive and negative affective climate and culture: The good, the bad, and the ugly. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 136-152). New York, NY: Oxford University Press.

Balthazard, P. A., Cooke, R. A., & Potter, R. E. (2006). Dysfunctional culture, dysfunctional organization: Capturing the behavioral norms that form organizational culture and drive performance. *Journal of Managerial Psychology*, *21*, 709-732. doi:10.1108/02683940610713253

Barney, J. B. (1986). Organizational culture: can it be a source of sustained competitive advantage?. *Academy of Management Review*, *11*, 656-665. doi:10.5465/AMR.1986.4306261

Bauer, F., & Matzler, K. (2014). Antecedents of M&A success: The role of strategic complementarity, cultural fit, and degree and speed of integration. *Strategic Management Journal, 35,* 269-291. doi:10.1002/smj.2091

Berson, Y., Oreg, S., & Dvir, T. (2008). CEO values, organizational culture and firm outcomes. *Journal of Organizational Behavior, 29,* 615-633. doi:10.1002/job.499

Bloomberg (2016, June 8). *Can CEO John Cryan bring culture change to Deutsche Bank?* Retrieved from http://www.bloomberg.com/news/videos/2015-06-08/can-ceo-john-cryan-bring-culture-change-to-deutsche-bank

Boyce, A. S., Nieminen, L. R., Gillespie, M. A., Ryan, A. M., & Denison, D. R. (2015). Which comes first, organizational culture or performance? A longitudinal study of causal

priority with automobile dealerships. *Journal of Organizational Behavior, 36,* 339-359. doi:10.1002/job.1985

Buono, A. F., Bowditch, J. L., & Lewis, J. W. (1985). When cultures collide: The anatomy of a merger. *Human Relations*, *38*, 477-500. doi:10.1177/001872678503800506

Burke, W. W. (2014). Organizational change. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 457-484). New York, NY: Oxford University Press.

Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture based on the competing values framework*. Hoboken, NJ: John Wiley & Sons.

Chatman, J. A., & O'Reilly, C. A. (2016). Paradigm lost: Reinvigorating the study of organizational culture. *Research in Organizational Behavior, 36,* 199-226. doi:10.1016/j.riob.2016.11.004

Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2014). Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms. *Journal of Organizational Behavior, 35,* 785-808. doi:10.1002/job.1928

Delery, J. E., & Doty, D. H. (1996). Modes of theorizing in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, *39*, 802-835. doi:10.2307/256713

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and performance. *Organization Science, 6*, 204-223. doi:10.1287/orsc.6.2.204

Denison, D., Nieminen, L., & Kotrba, L. (2014). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work and Organizational Psychology, 23,* 145–161. doi:10.1080/1359432X.2012.713173

Elsass, P. M., & Veiga, J. F. (1994). Acculturation in acquired organizations: A force-field perspective. *Human Relations*, *47*, 431-453. doi.org/10.1177/001872679404700404

Flamholtz, E. G., & Randle, Y. (2014). Implications of organizational life cycles for corporate culture and climate. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 235-256). New York, NY: Oxford University Press.

Frantz, T.L. (2015). Post-merger integration: Looking under the haziness of culture conflict. In C. L. Cooper & S. Finkelstein (Eds.), *Advances in Mergers and Acquisitions* (pp. 103-127). Bingley, UK: Emerald.

Gregory, B. T., Harris, S. G., Armenakis, A. A., & Shook, C. L. (2009). Organizational culture and effectiveness: A study of values, attitudes, and organizational outcomes. *Journal of Business Research, 62*, 673-679. doi:10.1016/j.jbusres.2008.05.021

Guest, D. E. (1997). Human resource management and performance: a review and research agenda. *International Journal of Human Resource Management, 8*, 263-276. doi.org/10.1080/095851997341630

Hartnell, C. A., Ou, A. Y., & Kinicki, A. (2011). Organizational culture and organizational performance: A meta-analytic investigation of the competing values framework's theoretical suppositions. *Journal of Applied Psychology, 96*, 677-694. doi:10.1037/a0021987

Heskett, J. (2011). *The culture cycle: How to shape the unseen force that transforms performance*. Upper Saddle River, NJ: FT Press.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal, 38*, 635-672. doi: 10.2307/256741

Jung, T., Scott, T., Davies, Huw T. O., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review, 69,* 1087–1096. doi: 10.1111/j.1540-6210.2009.02066.x

Kotrba, L. M., Gillespie, M. A., Schmidt, A. M., Smerek, R. E., Ritchie, S. A., & Denison, D. R. (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. *Human Relations, 65*, 241-262. doi:10.1177/0018726711426352

Kotter, J. P. (1995) *Leading change*. Boston: Harvard Business Press.

Leitl, M., & Sackmann, S. (2010). Erfolgsfaktor Unternehmenskultur [Success factor corporate culture]. *Harvard Business Manager*, *32*, 36-45.

Li, S. K., & Jones, G. (2010). A study of the effect of functional subcultures on the performance of Hong Kong construction companies. *Systemic Practice and Action Research*, *23*, 509-528. doi:10.1007/s11213-010-9170-8

Lundby, K., Moriarty, R., & Lee, W. C. (2014). A tall order and some practical advice for globale leaders: Managing across cultures and geographies. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 658-678). New York, NY: Oxford University Press.

Martin, J. (2002). *Organizational culture: Mapping the terrain.* Thousand Oaks, CA: Sage Publications.

Moon, H., Quigley, N. R., & Marr, J. C. (2012). How interpersonal motives explain the influence of organizational culture on organizational productivity, creativity, and adaptation: The ambidextrous interpersonal motives (AIM) model of organizational culture. *Organizational Psychology Review, 2,* 109-128. doi:10.1177/2041386611433085

Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In N. W. Schmitt, S. Highhouse, & I. B. Weiner (Eds.), *Handbook of psychology: Industrial*

and organizational psychology (Vol. 12, 2nd ed., pp. 643-676). Hoboken, NJ: John Wiley & Sons.

Ostroff, C., & Schulte, M. (2014). A configural approach to the study of organizational culture and climate. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 532-552). New York, NY: Oxford University Press.

Paré, G., & Tremblay, M. (2007). The influence of high-involvement human resources practices, procedural justice, organizational commitment, and citizenship behaviors on information technology professionals' turnover intentions. *Group & Organization Management, 32*, 326-357. doi.org/10.1177/1059601106286875

Paul, K. B, & Fenlason, K. J. (2014). Transforming a legacy culture at 3M: Teaching an elephant how to dance. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 569-583). New York, NY: Oxford University Press.

Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly, 24,* 570-581. doi:10.2307/2392363

Pontefract, D. (2015, October 10). *United Airlines attempts to unite its corporate culture under new CEO Oscar Muñoz.* Retrieved from http://www.forbes.com/sites/danpontefract/2015/10/02/united-airlines-attempts-to-unite-its-corporate-culture-under-new-ceo-oscar-munoz/

Sackmann, S. A. (2011). Culture and performance. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *The handbook of organizational culture and climate* (2nd ed., pp. 188-224). Thousand Oaks, CA: Sage.

Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership & Organizational Studies, 15*, 145-158. doi:10.1177/1548051808324100

Schein, E. H. (1985). *Organizational culture and leadership*. San Francisco: Jossey-Bass.

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). San Francisco: Jossey-Bass.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology, 64*, 361-388. doi:10.1146/annurev-psych-113011-143809

Schulte, M., Ostroff, C., Shmulyian, S., & Kinicki, A. (2009). Organizational climate configurations: relationships to collective attitudes, customer satisfaction, and financial performance. *Journal of Applied Psychology*, *94*, 618-634. doi:10.1037/a0014365

Small, D., & Newton, J. (2014). From "Hamburger Hell" to "I'm lovin' it": How organizational culture contributed to McDonald's turnaround. In B. Schneider & K. M. Barbera (Eds.), *The Oxford handbook of organizational climate and culture* (pp. 620-634). New York, NY: Oxford University Press.

Smircich, L. (1983). Concepts of culture and organizational analysis. *Administrative Science Quarterly, 28,* 339-358. doi:10.2307/2392246

Trice, H., & Beyer, J. (1993). *The cultures of work organizations*. Englewood Cliffs, NJ: Simon & Schuster.

Varnholt, H. (2016, September 28). *Volkswagen's new CEO says car maker must change its corporate culture*. Retrieved from http://www.wsj.com/articles/volkswagens-new-ceo-says-car-maker-must-change-its-corporate-culture-1443464516

Weick, K. E. (2001). *Making sense of the organization*. Malden, MA: Blackwell.

Weick, K. E., & Quinn, R. E. (1999). Organizational change and development. *Annual Review of Psychology*, *50*, 361-386. doi:10.1146/annurev.psych.50.1.361

Wright, P. M., & McMahan, G. C. (1992). Theoretical perspectives for strategic human resource management. *Journal of Management, 18*, 295-320. doi.org/10.1177/014920639201800205