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Qualifying "Fit": The Performance Dynamics of Firms' Change Tracks through Organizational Configurations

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Abstract: Organizational configurations, sets of firms with similarities in a number of essential characteristics, provide important insights into the synergies inherent to certain combinations of structural attributes and the performance effects of firms' retention of, adaptation to, or decoupling from high-performing configurations. The fundamental assumption is that the better a firm's "fit" with an ideal type configuration, the higher its performance. Although configurations are multidimensional constructs, researchers often simplify the dynamics of structural changes of configurations and the movement of firms within and between them. This simplification risks mis-specifying the organizational changes necessary for firms to achieve high performance. Using a mix of set-theoretic and econometric methods, we analyze a balanced panel of 244 Swiss firms in 2005, 2008, and 2011. We identify four temporally stable high-performing configurations: the "professional service firm," the "organic," the "mechanistic," and the "small bureaucracy," and demonstrate that even within this relatively short period, firms are exceptionally versatile in their change tracks. Thus high-performing configurations appear enduring not despite but because of firms' movements through these configurations. Furthermore, we demonstrate the complexity of the fit-performance association and argue that firms with a good fit will not only benefit from implementing an efficient yet firm-unspecific organizational structure, but will—through this configuration—additionally improve their ability to exploit inimitable firm-specific resources.

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THE PERFORMANCE DYNAMICS OF FIRMS' CHANGE TRACKS THROUGH ORGANIZATIONAL CONFIGURATIONS

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ABSTRACT

Organizational configurations, sets of firms with similarities in a number of essential characteristics, provide important insights into the synergies inherent to certain combinations of structural attributes and the performance effects of firms' retention of, adaptation to, or decoupling from high-performing configurations. The fundamental assumption is that the better a firm's "fit" with an ideal type configuration, the higher its performance. Although configurations are multidimensional constructs, researchers often simplify the dynamics of structural changes of configurations and the movement of firms within and between them. This simplification risks mis-specifying the organizational changes necessary for firms to achieve high performance. Using a mix of set-theoretic and econometric methods, we analyze a balanced panel of 244 Swiss firms in 2005, 2008, and 2011. We identify four temporally stable high-performing configurations: the "professional service firm," the "organic," the "mechanistic," and the "small bureaucracy," and demonstrate that even within this relatively short period, firms are exceptionally versatile in their change tracks. Thus high-performing configurations appear enduring not despite but because of firms' movements through these configurations. Furthermore, we demonstrate the complexity of the fit-performance association and argue that firms with a good fit will not only benefit from implementing an efficient yet firm-unspecific organizational structure, but will— through this configuration—additionally improve their ability to exploit inimitable firm-specific resources.

INTRODUCTION

Organizational configurations have a long been an important topic in management research (Fiss, 2007; Fox-Wolfgramm, Boal, & Hunt, 1998; Ketchen et al., 1997; Ketchen, Thomas, & Snow, 1993; Miller, 1987; Short, Payne, & Ketchen, 2008). These ideal types constitute unique combinations of organizational features (Short et al., 2008) that have been adopted by sets of firms that share these key characteristics (Meyer, Tsui, & Hinings, 1993). Organizational configurations are elements of typologies and have been studied along with similar configurational concepts such as strategic groups (Cool & Dierickx, 1993), generic strategies (Porter, 1980), and archetypes (Ambos & Birkinshaw, 2010; Greenwood & Hinings, 1993). Scholars conceptualize organizational configurations as multidimensional systems that by aligning organizational feature, create synergies allowing firms to achieve high performance.

A dominant objective of research on organizational configurations is to explain how firms may achieve superior performance by adopting sets of structural characteristics (Short et al., 2008). The performance-"fit" assumption in theories on organizational configurations stipulates that the better the fit of the firm with the organizational configuration, the higher the performance of the firm (Drazin & van de Ven, 1985). A plethora of studies provide evidence showing that a firm's close resemblance with an organizational configuration is consistently associated with higher performance (e.g., Leask & Parker, 2007; McNamara, Deephouse & Luce, 2003; Nair & Kotha, 2001; Short et al., 2007). Yet most such research suffers from two limitations.

First, although researchers increasingly acknowledge the multidimensional nature of configurations (e.g., Fiss, 2011; Payne, 2006), most studies conceptualize configurations using single structural variables, such as size (e.g., Mas-Ruiz et al., 2005) or uni-dimensional industrial or product-market distinctions (Hsu & Hannan, 2005). Second, although some

researchers have explored changes among configurations over time, theses studies tend to remain qualitative (e.g., Fox-Wolfgramm et al., 1998). They do not simultaneously consider changes at the higher level of organizational configurations and changes at the lower level of firms' structures and strategies (Short et al., 2008). This neglect is problematic because once a sufficiently large number of firms adopt different structural and strategic properties, patterns of organizational configurations may likewise change. Thus, an interdependency exists between the combinations of structural and strategic elements that firms adopt and the patterns of configurations they share. We thus argue that by neglecting to conceptualize organizational configurations as multidimensional systems, or to examine the dynamic interplay between changes on both firm and configurational levels have prevented researchers from developing a clearer view of the performance implications of organizational configurations.

These theoretical considerations lead us to pose three questions central to research on organizational configurations; questions that have thus far received only limited attention. First, when simultaneously examining and effectively isolating changes at the firm level from changes at the configurational level, do the same, or at least similar, high-performing configurations remain stable over time? Second, assuming at least a minimum level of dynamism at the configurational level, in what patterns do firms move within and across changing organizational configurations? Third, what are the performance-fit dynamics for firms that change within or between high-performing configurations?

In this study, we seek to answers these questions. We analyze a balanced panel of 244 Swiss firms in 2005, 2008, and 2011 and methodologically integrate set-theoretic analysis and econometric analysis (Fiss, Sharapov, & Cronqvist, 2013). First, following Fiss (2011), we use fuzzy- set Qualitative Comparative Analysis (fsQCA) to identify high-performing configurations in each of the three years. In contrast to traditional methods used in most research on organizational configurations, fsQCA focuses not on isolating independent effects of individual explanatory factors but on revealing combinatory patterns that explain a certain

outcome (Ragin, 2008b). fsQCA thereby allows us to conceptualize and measure configurations as multidimensional phenomena. This conceptualization is necessary for holistically examining changes at the configurational level. Second, we capitalize on the set-theoretic foundation of fsQCA to precisely measure—in the form of set membership scores—the extent to which firms resemble high-performing configurations. Changes in membership scores then define and quantify the change tracks of firms, i.e. their "temporal association with one or more" high-performing configurations (Greenwood & Hinnings, 1993: 1071) from one year to another. We use regression analysis to estimate the effects of different change tracks both on the performance level and on the performance changes of firms through high-performing configurations.

In so doing, we contribute to the literature on organizational configurations in at least three important ways. First, we show that, even when examining only a relatively short period, organizational configurations are temporally stable. This finding is important for research on organizational configurations (Short, Palmer, & Ketchen, 2003) and the closely related field of typology theorization (Delbridge & Fiss, 2013; Doty & Glick, 1994; Snow & Ketchen, 2013) because it provides strong support for one of the central assumption of configurational theories: were organizational configurations not stable over time, one could not possibly develop theories on such a phenomenon because any description, explanation, or prescription would lack general truth.

Second, we demonstrate that in contrast to the temporal stability of configurations, the population of firms is extremely volatile in its movement through these configurations. We thus question the two most common explanations for the stability of configurations: "structural inertia," the theory of difficult to change organizational structures advocated by the population ecology literature (Hannan & Freeman, 1984), and "internal consistency," the theory that all elements of a configuration are important, advocated by the configuration theory literature (Fiss, 2011; McPhee & Poole, 2001). We argue instead, that the temporal stability of

configurations is the result of three factors: a configuration having a lean structural design that can easily be mimicked, the existence of firms that are both prototypical for a configuration and highly visible, and firms' continuous experimentation with a configuration.

Third, we show that—as expected—while radically decoupling from a high-performing configuration entails negative performance effects, retaining a high-performing configuration entails positive performance effects. However, we also find that firms retaining a configurations over time, do not merely maintain high absolute levels of performance. More importantly, these firms also show significantly stronger performance growth. We therefore argue that the performance benefits of "fit" begin to accrue only when a firm has achieved a sufficiently high degree of consistency. Beyond this point, performance increases exponentially with fit.

THEORETICAL BACKGROUND

The Multidimensional Nature of Organizational Configurations

Research on organizational configurations plays a prominent role in the organizational theory and strategic management literature (Fiss, 2011; Meyer et al., 1993; Short et al., 2008). The underlying assumption in configurational research is that, revealing themes common to groups of firms, will provide insights into the synergies inherent to the internal structures of configurations (Short et al., 2008). As these configurations are ideal types that uniquely determine an outcome of interest (Doty & Glick, 1994), the dominant explanatory value of configurational research lies in providing predictions for why sets of firms that closely resemble an ideal type will have a higher performance than firms that deviate from such ideal types (Doty & Glick, 1994; McKelvey, 1982). Because the findings of configurational research identify—among all possible complex alternative structures—those that research has shown to be most promising, and because these findings offer alternatives for managers seeking to

improve the competitive position of their firm, all such findings are useful for managerial purposes.

Most scholars conceptualize organizational configurations as multidimensional systems, i.e., unique combinations of structural elements that, by being sufficiently aligned, create synergies allowing firms to achieve high performance. Three notions are therefore central to research on organizational configurations. First, configurations contain causally complex relationships among structural elements (Fiss, 2007). This view distinguishes between structural elements, i.e., the "core" of a configuration, and other elements that are merely peripheral and support the structural core (Hannan & Freeman, 1984; McPhee & Poole, 2001). Whereas core elements are essential, the peripheral elements that surround and support the core are dispensable.

Second, configurations appear equifinal, i.e., there are multiple, equally effective organizational configurations that represent alternatives from which firms can choose (Doty, Glick, & Huber, 1993; Hsu & Hannan, 2005; Payne, 2006). Equifinality is the state of achieving a particular outcome through different types of organizational configurations (Drazin & van de Ven, 1985; Gresov & Drazin, 1997; Payne, 2006). Most visibly, equifinality is basic to the most prominent typologies of organizational forms. For example, Burns and Stalker's (1961) typology contains two ideal types, the "organic" organization that is flexible and open to outside knowledge, and the "mechanistic" organization that is hierarchical and specialized. Similarly, Miles and Snow's (1978) typology differentiates between the "Prospector," small and decentralized firms with low degrees of formalization, the "Defender," typically large, centralized and formalized firms, and the "Analyzer," highly complex firms that structurally lie between the prospector and defender type.[1] Likewise, Porter's (1980) typology offers two ideal type strategies: "Cost leadership," based on economies of scales for rather large firms with

[1] Miles and Snow (1978) also describe the "Reactor" firm, an ideal type that they consider inefficient because it lacks the necessary inherent consistency in its structure and strategy to be successful.

imitable products, and "Differentiation," based on tailoring products to consumer preferences for smaller firms with unique resources and inimitable products. These theoretically derived models of multiple effective organizational systems have been important instruments for theorization in the management literature over the past forty years (Delbridge & Fiss, 2013; Snow & Ketchen, 2013).

Third, configurations represent internally consistent combinations of structural elements that allow firms to achieve a high performance (Doty & Glick, 1994; Mintzberg, 1979). This notion of internal consistency, or fit (Doty et al., 1993; Parker & van Witteloostuijn, 2010) refers to firms' experimenting with different constellations of various elements and learning which configuration is best for achieving effective outcomes (Fiss, 2007). Thus, because organizational configurations can also be considered ideal types for efficient organization, any deviation from these ideal types will result in a less beneficial outcome (Doty et al., 1993; Drazin & van de Ven, 1985; Parker & van Witteloostuijn, 2010).

That a high degree of fit with an organizational configuration allows firms to achieve high performance has long been demonstrated in the literature. Research on strategic groups, a more context-specific organizational configuration (Short et al., 2008), shows that membership in a strategic group is positively related to firm performance (e.g., Nair & Kotha, 2011; Short et al., 2007; Leask & Parker, 2007). Similarly, studies either based on or testing Miles and Snow's (1978) typology also provide evidence for the positive association of organizational configurations with performance (see, e.g., Fiss, 2011; Fox-Wolfgramm, Boal, & Hunt, 1998; Hambrick, 1983; Peng, Tan, & Tong, 2004; Shortell & Zajac, 1990).

The Distinction between Firm- and Configurational Levels

Most previous research on organizational configurations has adopted the firm as the unit of analysis. For example, Doty, Glick, and Huber (1993) develop categorical definitions of configurations and use deviation analysis to examine the association between the distance, or the fit, of a firm from a predefined configuration and the firm's financial performance. Segev,

Raveh, and Farjoun (1999) analyze 25 U.S. business schools in 1994 and, employing the co-plot method, identify five distinct configurations of MBA program structures. Fiss (2011) examines 205 firms and uses fsQCA to identify four configurations associated with high-financial performance, and two associated with very high-financial performance. Researching organizational configurations from the firm perspective is not only in line with the dominant definitions of organizational configurations but also represents an attractive approach for deriving managerial implications.

Yet some scholars have argued that understanding and analyzing the level of the configuration is also critical. (Nair & Kotha, 2001; Rouse & Daellenbach, 1999; Short, Ketchen, Palmer, & Hult, 2007). That one of the central predictions of configurational theories is derived from firms' deviation from ideal type configurations shows that the two levels of analysis are theoretically interdependent (Doty et al., 1993; Drazin & van de Ven, 1985; Fiss, 2011). Thus far, however, most researcher adopt a static conceptualization of the configurational level. For example, Forte et al. (2000) analyzing 235 hospitals between 1981-83, use cluster analysis to study the effects of between- and within-form changes. In their model, changes on the firm level are possible while changes on the configuration level are implicitly excluded. Indeed, irrespective of whether research on configurations is approached in an inductive (Fiss, 2011; Fox-Wolfgramm et al., 1998; Miles & Snow, 1978) or deductive (Ketchen et al., 1997; Leask & Parker, 2007) manner, most research assumes that configurations are static and temporally stable.

However, only focusing on the firm level has important drawbacks. Indeed, precisely because the two levels of analysis are theoretically connected, the connection between changes at the firm and the configurational levels is not static, nor is their interdependence necessarily symmetric. When a number of firms share a sufficient number of characteristics, they represent a specific organizational configuration. However, if these firms were to change their essential structural attributes, the organizational configuration would likewise change.

For example, a firm may retain the structure of a defender over time, while all other defender type firms change structural features (Miles & Snow, 1978). Thus only one firm keeps the original defender type configuration but all other firms now represent a new organizational configuration. In this case, the defender firm loses fit and will likely suffer performance losses because of its inability to benefit from the synergies inherent in a new organizational configuration. Greenwood et al. (2010) discuss such a change at the configurational level for the case of the "transnational service firm" configuration, arguing that this new configuration represents a "promising organizational design for the 21st century" with "*the* key to sustainable corporate success [emphasis in original]" (Greenwood et al., 2010: 173, 181).

The complex interdependency between the level of the firm and the level of the configuration becomes even more exacerbated when one allows for the equifinality of organizational configurations. Equifinality exists when, among a population of firms, various configurations explain the relevant outcome. For example, Fiss (2011) studying a sample of 205 firms identifies four configurations that are equally effective for firms if they are to achieve high financial performance: Due to the close link between research on organizational configurations and typology theorization (Delbridge & Fiss, 2013; Doty & Glick, 1994; Fiss, 2007; Miles & Snow, 1978), equifinality has received considerable attention in this line of research. The two following scenarios demonstrate how the integration of equifinality in the interdependency between the firm and the configurational level complicates the picture.

In scenario one, a firm's structure perfectly corresponds to an organizational configuration, so that it benefits the most from the inherent synergies and consequently achieves a high level of performance. As later structural changes at the firm level correspond perfectly to changes at the configurational level, the firm will ultimately retain its fit *throughout* the change. The performance implication of such a change, from a theoretical perspective, is the firm's maintenance of a high level of performance relative to its competitors.

In scenario two, a firm's original structure does not correspond to any of the existing high-performing ideal type configurations. Later changes at the configurational level taking place because other firms have altered their internal structures in a way more closely matching the structure of the first firm, may effectively result in the emergence of an organizational configuration that closely resemble the first firm's original structure. Such a shift at the configurational level may take place for environmental reasons. In contrast to the first scenario, this firm would retain its fit through inertia. Thus, for example, the "landscape" of ideal types may change independently from structural changes within an individual firms. As to the performance implications, the firm in scenario two should experience an increase in its level of performance because it is able to benefit from the synergies inherent in its original structure only because of a shift at the configurational level.

The Uncertainty of the Performance Implications of Change Tracks

The literature on organizational change provides valuable insights into the ways in which firms move between and within organizational configurations. Hinings & Greenwood (1988) developed a theory of "change tracks", i.e., paths of firms that reveal the extent to which firms approximate a possible configurational ideal type. They argue that firms may either retain the "assumptions and parameters" of an ideal type, or move away and decouple from the internal logic of an ideal type. More specifically, a firm's convergence around a prevailing organizational configuration has been coined “first-order change” or “inertia” as the firm largely retains the structural features of an organizational configuration (Hinings & Greenwood, 1988). For reasons of strategic re-orientation and inertia, scholars have assumed that first-order change occurs most frequently. More atypical is "second-order change", or "re-orientation", which occurs when a firm shifts from one organizational configuration to another. Thus, this line of literature provides valuable insights into the change tracks of firms through configurations. Even so, most analyses of change tracks either view configurations as static,

i.e., the starting and end points of a given change track (e.g., Forte et al., 2000), or ignore the performance effects of change tracks (e.g., For-Wolfgramm et al., 1998).

Thus the two levels of analysis are neither statically linked nor is their interdependence necessarily symmetric. We argue that uncertainty in the performance implications of theories on organizational configurations arise from three possible sources. The first is a uni-dimensional conceptualization of organizational configurations, a simplification that risks overemphasizing changes in the observed dimension to the detriment of other, possible more relevant structural elements. The second is a time-invariant, static examination of organizational configurations, that neglects changes at both the firm and configurational levels. The third is a merely implicit conceptualization of changes at either the firm or the configurational level. For these three reasons, scholarly understanding of the performance implications of organizational configurations remains limited.

Thus some scholars have asked for research into organizational configurations (Rouse & Daellenbach, 1999; Short et al., 2007; Short et al., 2008) for a better understanding of the configuration as a level of analysis. Only simultaneously examining the firm level and the configurational level at the same time can isolate sources of competitive advantage. Ignoring the dynamism between the firm and the configurational level raises questions about the performance implications of research on organizational configurations. Yet only few studies have effectively isolated the firm level and the configurational level of analysis (e.g., Short et al., 2007; Forte et al. 2000).

DATA AND METHODOLOGY

In this study, we use a combination of set-theoretic and econometric analysis to investigate the patterns of change at the configuration and firm levels in a balanced panel of 244 firms over a seven-year period (2005-2011). Our data is from the "Innovation Panel" of the Swiss Economic Institute (KOF). This panel has been conducted triennially since 1990. Each

wave contains two to three thousand firms and constitutes a representative sample of the Swiss economy. Firms answer questions about their demographic and structural characteristics, their business environment, and the composition of their workforce. The KOF Innovation Panel, an important database for economic and policy analysis in Switzerland, is used frequently in economic and political science research (KOF, 2013). However, it is only rarely employed in management research and has thus far not been used for analyzing multidimensional organizational configurations over time.

We identify a balanced panel of 244 firms for our analysis from the years in 2005, 2008 and 2011. Table 1 provides descriptive information on these firms.

Insert Table 1 about here

The turnover of the 244 firms in 2005 ranges between 2.8 million Swiss Francs (CHF) and 3.1 billion CHF. The firms employ on average 278 employees, the smallest with a workforce of 21 and the largest with a workforce of 5.500. The firms are between four and 655 years old. This range of firm age reflects some of the particular features of the Swiss economy which includes some very old, traditional firms and a large number of highly innovative, young firms: 59.02% of the firms in our panel are classified as traditional firms; 15.57%, as modern firms, and 25.41%, as high-tech firms. Between 2005 and 2011, the average turnover in the 244 firms increased, whereas the average size decreased. Otherwise, as expected, there is little variation in the characteristics of the firms between 2005 and 2011.

Empirical Strategy

Our empirical strategy involves three steps. First, we use fuzzy-set Qualitative Comparative Analysis (fsQCA) for identifying organizational configurations[2] in 2005, 2008, and 2011. fsQCA is a Boolean-algebraic method that has gained considerable popularity in the management literature. The two distinct features of this method are its reliance on set theory to develop a conceptual vector space that allows analyzing all possible combination of structural elements of organizational configurations, and its use of Boolean algebra for data minimization. Thus fsQCA allows us to better implement theoretical arguments on the multidimensional nature of organizational configurations in our empirical investigation. In contrast to previous research using fsQCA in the management literature (e.g., Crilly et al., 2014; Fiss, 2011; Bell et al., 2013) our objective does not primarily lie in identifying specific combinations of structural and strategic elements. Instead, our main motivation for the use of fsQCA lies in identifying those configurations that are frequently and consistently adopted by high-performing firms in each of the three years.

Second, after having conducted three *independent* fsQCA analyses for each observation year, to identify those multidimensional configurations that firms in each period frequently and consistently adopt, we compare the structural characteristics of high-performing configurations over time to assess their temporal stability. The set-theoretic basis of fsQCA allows us to measure—in the form of set membership scores—the extent to which a firm adopts an organizational configuration in one of the three years. These set membership scores range from 1, indicating full membership, to 0, indicating to full non-membership, where a membership above .5 indicates the mid-level point, i.e., firms above this point have adopted an

[2] We use the term "organizational configuration" exclusively for to those combinations of structural elements that are shared by a (larger) number of firms that achieve high performance. However, firms may also adopt different combinations of structural elements. We do not refer to these alternative combinations as "organizational configurations", because they are neither shared by a sufficiently large number of firms nor consistently associated with high performance.

organizational configuration more than not.[3] The set-theoretic foundation of fsQCA therefore enables us to uniquely group firms, and assign them to each high-performing configuration in each observation period.

Third, to substantiate the performance implications of organizational configurations we use regression analysis with the firms' movements through high-performing configurations as predictor variables for two continuous performance indicators: 1) the absolute level of financial performance, and 2) the changes in financial performance.

Following the literature on organizational change (Fox-Wolfgramm et al., 1998; Hinings & Greenwood, 1988), we define six possible change tracks that firms may pursue through high-performing configurations. In measuring the extent to which firms resemble a high-performing configuration, we distinguish between "successful" and "attempting" adopters. "Successful adopters" are those firms with a membership score of above .5 in a high-performing configuration. In contrast, "attempting adopters" are those firms that show a clear tendency to adopt, but that do not attain a sufficiently high level of coherence with a high-performing configuration.[4] We observe each firm at three points: 205, 2008, and 2011. Thus we have two periods—2005-2008 and 2008-2011—during which change can occur. For simplicity reasons we refer to these as period one and period two.

The first change track, "within-form change," describes firms that successfully retain the structural features of an organizational configuration during a period. The second change track, "between-form change," describes a firms' decoupling from a configuration at the beginning of a period and their successful adoption of a different configuration at the end of a period. The

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[3] Although technically a firm can have more than one membership score of above .5 in an organizational configuration in each year, this scenario is both rare and theoretically unproblematic. To provide an indication of the empirical relevance of this phenomenon, we examined the frequency with which firms in our dataset represent multiple configurations. From a theoretical perspective including a firm that closely resembles not only one but two (or three) high-performing configurations is unproblematic because the firm *de facto* is a theoretical representation of those configurations.

[4] Methodologically, we examine in which configuration a firms has the highest set membership score, irrespective of this value being above .5. Thus, a firm with below .5 set membership in all organizational forms is considered to be 'out of that set' and we look where the firm is (so to say) "least out".

third change track, "incremental adaptation," describes firms that have attempted to adopt a high-performing configuration at the beginning of a period but manage to successfully do so only at the end of the period. The fourth change track, "radical adaptation," describes those firms that have attempted to adopt a high-performing configuration at the beginning of a period and succeed in adopting a different high-performing configuration at the end of the period. The fifth change track, "incremental decoupling," describes firms that have successfully adopted a high-performing configuration but have deviated from that configuration at the end of the period. The sixth change track, "radical decoupling," describes firms that have successfully adopted a high-performing configuration but have deviated in such a way that they appear to be attempting to adopt a different high-performing configuration at the end of the period.

Overall, this novel empirical strategy has a number of important advantages. Longitudinal research designs with larger samples remain exceptions among research on organizational configurations (Dess, Newport, & Rasheed, 1993; Payne, 2006; Short et al., 2008). Because one of the key challenges for research on the performance implications of firms' movements through configurations is to maintain a relatively large sample over a longer period, previous research has either relied on smaller samples over longer periods (e.g., Bierly & Chakrabarti, 1996; Smith et al. 1997) or studied larger samples over a short period of time (e.g., Forte et al. 2000). In contrast, our approach effectively isolates the organizational configuration level of analysis from the implications of variation patterns at the firm level.

Moreover, whereas previous research has either conceptualized organizational configurations as uni-dimensional constructs or has relied on defining *ex ante* what combination of structural elements constitutes an organizational configuration, fsQCA allows us to circumvent both limitations. Our approach is therefore unbiased as to the particular shape of organizational configurations—and consequently is less affected by the *ex ante* judgment of researchers—and allows the conceptualization of organizational configurations as multidimensional constructs. Last, and arguably most important, our approach allows us to

allocate and track the movements of firms in a multidimensional vector space, and to specify the performance effects of different change tracks.

Calibration of Measures

In fsQCA, variables are conceptualized as membership scores within predefined sets. Researchers obtain these set membership scores through calibration (Ragin, 2008a), a measurement approach that differs from the purely numerical use of variables because it defines meaningful floors, ceilings, and anchors.[5] Table 2 summarizes the fuzzy sets, including the calibration thresholds for each set, the mean and standard deviations, and the correlations between the calibrated outcome and the explanatory measures. As the statistics indicate, although we examine the same 244 firms, the structural elements, environmental conditions, and the correlations among the measures change over the three years.

Insert Table 2 about here

Outcome Measure: Firm's Financial Performance

Our outcome measure is a firm's performance, measured as Return on Investment (ROI). Using ROI as our outcome of interest is in line with the theory on organizational configurations that proposes that aligned structures will allow firms to outperform peers. Our measure of profitability is also in line with recent studies on organizational configurations (e.g., Fiss, 2011; Misangy & Archarya, 2014). We calculate ROA as revenues minus overheads, such as salaries or expenditures on goods and services, divided by revenue. For calibrating the outcome variable, we follow Fiss (2011) and set the full membership point at the 99th percentile, the full non-membership at the 1st percentile, and the crossover point at the 50th percentile.

[5] For more information on calibration see Ragin (2008) or Fiss (2011).

Explanatory Measures: Structural and Environmental Conditions

We focus on four frequently examined dimensions of a firm's organizational structure (Fiss, 2011; Miles & Snow, 1978; Pugh, Hickson, Hinings, & Turner, 1968): firm size, centralization, hierarchy, and specialization. In addition, we include two proxies for the dynamism of a firm's business environment: the rate of change and the competition intensity. In the following subsections, we explain our approach to constructing and calibration the six sets of explanatory measures.

Firm size. We measure firm size using the number of employees of a firm. For the calibration we use the official size categories of the Swiss Federal Statistical Office (BFS) which defines micro-firms as those with between one and nine employees, small firms as those with between 10 and 49 employees, medium-sized firms as those with between 50 and 249 employees, and large firms as those with more than 250 employees. We create the *set of large size* by coding firms with more than 250 employees as fully in, those with fewer than nine employees as fully out. We set the crossover point at 50 employees.

Centralization. Our measure for centralization is based on seven survey questions eliciting the distribution of decision-making powers between the employee and the supervisor on various work-related matters, such as work tempo, task distribution, and work procedures. Items are measured on a 5-point Likert scale and combined to a single scale that shows an acceptable reliability (α =.72). Using the scale of the questionnaire, we calibrate *the set of centralized firms* as follows: Firms that allocate decision-making entirely to the employer were coded as fully in, those with decision-making on the employee side were coded as fully out, firms with, and the midpoint of the scale was taken as the crossover point.

Hierarchy. Following Fiss (2011) and Pugh et al. (1968), we measure hierarchy as the longest line between the worker and the CEO by the number of hierarchical levels. To calibrate *the set of hierarchical firms,* we set the full membership at the 90th percentile, so that firms with more than five hierarchical levels are considered fully in; full non-membership at the 10th

percentile, so that firms with only one hierarchical level between the workers and the CEO are considered out of the set; and the mean, i.e., firms with three levels of hierarchy, as the crossover point.

Specialization. We measure a firm's specialization based upon the percentage of employees with degrees in tertiary education. The Swiss education systems offers five educational degrees: Ph.D. degree, higher vocational degree, vocational education and training degree, high school degree, or apprenticeship certification. To deal with the complexity of the Swiss education system, we adapt Blau's (1977) index for measuring specialization.[6] After calculating the index, we calibrate the set of specialization as follows: Firms with a specialization above the 90th percentile are fully in, those with a specialization below the 10th percentile are fully out. The median serves as the crossover point.

In addition to the structural elements, we include two indicators measuring the rate of environmental change, and the competition intensity.

Rate of change. We measure the rate of *environmental change* by combining two items that ask respondents how the demand in the firm's main product or service market developed (in the previous three years) or would develop (in the coming three years). We combine both items and calibrate the scale to reflect the rate of change by setting the full membership at four, indicating a strong change happened in the past and is also expected in the future. We set the full non-membership at 0, with no changes during the previous three years or expected for the coming three years. We set the crossover point at 2, indicating that either one strong change happened in the past or is expected in the future, or that a small change happened in the past and is also expected in the future.

Competition intensity. Using Porter's (1980) generic strategies, we include the number of competitors a firm is facing in its main product or service markets as an indicator for the

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[6] Blau's index is defined as $BI = 1 - \sum_{j=1}^{J} p_j^2$. In our case p equals the percentages of workers with a similar educational degree.

competition intensity. The survey question asks respondents on a categorical scale how many competitors it faces (up to 5, 6-10, 11-15; 16-50, more than 50). We create the set with the full membership point when firms have more than 50 competitors, the crossover point when firms have between 11 and 15 competitors, and the full non-membership point when firms have up to 5 competitors.

RESULTS

First, we use fsQCA to identify organizational configurations of high-performing firms in Switzerland for each of the three years of observation: 2005, 2008, and 2011. For the three models, we include only organizational configurations for which we have more than six observations and a consistency threshold of at least 0.83. The level of the frequency threshold determines how generic the configuration is: the higher the threshold the more generic the configuration. These model coefficients are substantially higher than is common to fsQCA studies (Fiss, 2011; Crilly et al. 2012) and they allow us to identify organizational configurations that are sufficiently generic in that they are frequently adopted and consistently lead to high performance. These organizational configurations stand in contrast to those combinations of structural elements that are singularly associated only with high performance or that only inconsistently lead to high performance.

We present the results of our fsQCA analyses in the form of configuration charts (Fiss & Ragin, 2008) in which high-performing configurations are arranged vertically. Circles can either be filled (●, indicating that the presence of an element is associated with high performance), or crossed (⊗, indicating that the element's absence is associated with high performance). Large circles indicate core elements, those that essentially characterize an organizational configuration. Small circles represent peripheral elements, those that help explain why an organizational configuration is associated with high performance. Empty cells indicate that an element is irrelevant for explaining high performance.

High-Performing Configurations in 2005. In 2005, we identify four organizational configurations, illustrated in Figure 1. The results yield an overall solution consistency of .81, in line with standards of good practice in QCA (Ragin 2006, Fiss, 2011), and an overall coverage of .62. Overall, we identify 208 out of 244 firms that have either successfully adopted or attempted to adopt one of the four organizational configurations in 2005.

Insert Figure 1 about here

The first organizational configuration contains the absence of hierarchy and specialization as core elements. The presence of centralization, and the absence of both a volatile business environment and intense competition are peripheral elements of this organizational configuration. Overall, 58 firms adopt this organizational configuration; 28 successful adopters and 30 attempting adopters. Given the flat structure and the highly specialized workforce, we recognize this high-performing configuration a "professional service firm" (Greenwood, Hinings, & Brown, 1990; Mintzberg, 1979).

The second organizational configuration features the absence of centralization as the core element. The presence of large size, specialization, and the absence of both a volatile business environment and intense competition are peripheral elements. In total, 55 firms adopt this high-performing configuration: 21 successful adopters and 34 attempting adopters. This organizational configuration rests upon a flat hierarchy with dispersed decision-making, making it greatly resemble an "organic" configuration (Burns, 1963).

The third organizational configuration relies on the presence of both specialization and intense competition as its core elements. Additionally, we find the presence of large size, centralization, and hierarchy, and the absence of a volatile business environment to be peripheral elements of this high-performing configuration. In total, 42 firms adopt this high-performing configurations: 10 successfully adopters and 32 attempting adopters. Given in

particular the consistent presence of all structural elements, we label this the "mechanistic" configuration.

The fourth high-performing configuration is characterized by the absence of large size and the presence of hierarchy as core elements. In addition, the presence of centralization, and the absence of specialization, a volatile business environment, and intense competition are peripheral elements of this configuration. Overall, we find 53 firms adopting this high-performing configuration: eight successful adopters and 45 attempting adopters. Given its core elements, we label this high-performing configuration the "small bureaucracy."

High-Performing Configurations in 2008. Our fsQCA solution for 2008 shows an overall solution consistency of 0.80 and a coverage of 0.64, slightly higher than coverage in 2005. Whereas the previous period firms organized only into four organizational configurations, in 2008 we identify five organizational configurations, as is shown in Figure 2. We find 215 of the 244 firms organized the organizational configurations in 2008.

Insert Figure 2 about here

In 2008, the first high-performing configurations corresponds—in terms of its core and peripheral elements—precisely to the professional service firm we identify in the year 2005. In 2008, 56 firms attempt to adopt this high-performing configuration: 22 successful adopter and 34 attempting adopters for achieving high performance.

In 2008, the second configuration closely resembles the organic configuration in 2005 except that as a peripheral element is no longer present. More importantly, there are substantive changes in number of successful and attempting adopters of the organic configuration. Whereas in 2005, 21 firms successfully adopted the organic configuration, only nine did so in 2008. In contrast, the number of attempting adopters decreased from 34 in 2005 to 23 in 2008.

The third high-performing configuration in 2008 closely corresponds to the mechanistic configuration in 2005. However, changes in the structural elements of this configuration are more substantive than those in the organic configuration. In 2005, we identified specialization as a core structural element; however, in 2008, specialization is irrelevant for explaining the mechanistic configuration. Thus some adopters of the mechanistic configuration in 2008 are highly specialized, others are better described as generalists. Whereas in 2005, 42 firms adopted the high-performing configuration, 52 do so in 2008: 20 successful adopters and 32 attempting adopters.

The fourth and the fifth high-performing configurations in 2008 are neutral permutations (Fiss, 2011), i.e., instances in which the identical core structure is associated with different peripheral elements. The two neutral permutations we identify in 2008 share the absence of large size as a core condition, and the presence of centralization, and the absence of both a volatile business environment and intense competitions as peripheral conditions. These neutral permutations resemble the small bureaucracy we identified in 2005.

However, we also see two important changes in the structural elements of the small bureaucracy. First, whereas hierarchy was essential in 2005, the two corresponding organizational configurations in 2008 suggest that when is absent, it is either irrelevant or supportive for high performance. Similarly, whereas the absence of specialization contributed to high performance in 2005, this element became either irrelevant or contributing when present. Thus we consider both organizational configurations as mutations of the small bureaucracy: one in which firms experiment with an increasingly specialized workforce (the "specialized" small bureaucracy), and one in which firms experiment by lowering hierarchical levels (the "nonhierarchical" small bureaucracy). The two mutations also differ in the number of successful and attempting adopters. For the specialized small bureaucracy we identify 10 successful and 11 attempting adopters. For the nonhierarchical small bureaucracy we identify 15 successful and 39 attempting adopters.

High-Performing Configurations in 2011. The third fsQCA for 2011 shows an overall solution consistency of 0.81, similar to that in the previous two analyses, but a much lower overall solution coverage of 0.49, in contrast to 0.64 in 2008 and 0.62 in 2005. As Figure 3 shows, we identify four organizational configurations in 2011. Of the 244 firms, 210 adopt one of the organizational configurations in 2011. The substantive decrease in the coverage scores from 2005 and 2008 to 2011 suggests that after 2008 adopting one of the high-performing configurations became much more difficult.

Insert Figure 3 about here

In 2011, the first organizational configuration closely resembles the professional service firm identified in the previous two years. One notable change pertains to firm size as in 2011 only small firms were able to effectively use the professional service firm configuration. The reduction in firm size coincides with a lower importance of hierarchy. Moreover, the relationship of successful and attempting adopters is surprising: Only seven firms successfully adopt the professional service firm configuration whereas 57 firms attempt to achieve high performance through it.

The second high-performing configuration in 2011 closely matches the organic configuration identified in 2005 and 2008. As in the previous two years, the absence of centralization is a core element, and the presence of both large size and specialization, and the absence of both a volatile business environment and intense competitions are peripheral elements. However, in contrast to the organic configuration in 2008, this high-performing configuration in 2011 also features the absence of specialization as a core element. In 2011, there are 10 successful adopters but 51 attempting adopters of the organic configuration.

The third high-performing configuration in 2011 corresponds to the mechanistic configuration that we identified for the first two years. In 2011 the mechanistic structural

elements are even more pronounced as hierarchy becomes a core element, while size, centralization, and specialization remain important contributing elements. As in the previous two years, the absence of a volatile business environment is peripheral and the presence of intense competition is essential to this high-performing configuration. In total 61 firms adopt this high-performing configuration: nine successful adopters and 52 attempting adopters.

In 2011, the fourth high-performing configuration corresponds to the small bureaucracy configuration we identified in the previous two years. Moreover, the two neutral permutations of the small bureaucracy in 2008 appear in 2011 to have *regressed* into the identical original small bureaucracy configuration of 2005. Yet whereas in 2005 there were 53 adopters (eight successful adopters and 45 attempting adopters) in 2011 there were only 24 adopters (seven successful adopters and 17 attempting adopters).

The Persistence of High-Performing Configurations

Our findings across the three periods on the balanced panel of 244 firms provide important insights into the persistence of organizational configurations over time. Figures 4 to 7 summarize these structural changes of the four organizational configurations. Figure 4 illustrates the structural development of the professional service firm configuration.

Insert Figure 4 about here

The persistence of this high-performing configuration is astonishing. Across the years, a non-hierarchical structure and a specialized workforce remain characteristic of this configuration, and centralized decision-making and a relatively stable environment, with low levels of competition, describe the periphery. The only major change in the professional service firm pertains to firm size as adopters in 2011 were notably small.

Figure 5 summarizes the developments in the organic configuration. We observe a relatively stable organizational configuration in which decentralization remains the essential

feature in all three observation years. Similarly, large size and a stable business environment are characteristic for this configuration. The most substantial shift in the structure of this high-performing configuration pertains to the change in specialization. A specialized workforce mildly contributed to this configuration in 2005 and 2008 but its absence in 2011 explains the association of this configuration with high performance. One possibly corresponding shift takes place in the number of new firms adopt the organic configuration in 2011, as the number rises from 32 to 61 between 2008 and 2011.

Insert Figure 5 about here

Figure 6 illustrates the development of the "mechanistic" configuration. As in the previous two organizational configurations, we observe a high level of persistence. Albeit with minor changes, all structural element—large size, centralization, hierarchy, and to some extent specialization—are present among those firms achieving high performance through the mechanistic configuration. Similarly, a stable business environment, but most notably a highly competitive environment, are characteristic for this configuration. The number of successful adopters and attempting adopters constantly rises from 42 in 2005 to 61 in 2011. Overall, the mechanistic configuration appears to be highly stable over time.

Insert Figure 6 about here

Figure 7 summarizes our findings for the small bureaucracy. Firms that achieve high performance through this configuration are consistently small and centralized, operating in a stable, non-competitive environment. In particular, we observe changes in the hierarchical layers and the degree of specialization of firms adopting this form. Additionally, while the number of successful or attempting adopters of this configuration appears relatively stable

between 2005 and 2008 (if one were to combine the two permutations in 2008), we find a significant drop in 2011. Overall, the small bureaucracy configuration appears to be the least stable of the high-performing configurations.

Insert Figure 7 about here

The persistence of high-performing configurations between 2005 and 2011 supports the large body of literature that has developed or employed generic typologies of organizational configurations (Short et al., 2008). Structural inertia or population ecology theories (Greve, 1999; Hannan & Freeman, 1984) argue that firms will find making radical changes to their established organizational practices difficult. Furthermore, those firms capitalizing on the internal and external fit of their organizational structure in outperforming competitors will fare better if they maintain this fit (Drazin & van de Ven, 1985; Gresov, 1989; Parker & van Witteloostuijn, 2010; Siggelkow, 2002). Overall, these theories suggest that firms will incrementally adopt one configuration and maintain it over time.

However, our descriptive information on the number of successful or attempting adopters of high-performing configurations suggests substantive patterns of change within the population of firms. Similar to Lee and Penning's (2002) approach, we examine changes in the number of successful and attempting adopters, thereby providing the first insights into how actively firms change structural conditions to approximate or deviate from high-performing configurations.

For the mechanistic configuration, the total number of firms adopting or attempting to adopt this configuration remains relatively stable across the three years. Yet the ratio of adopting firms to attempting adopters increases from 2005 to 2008, then decreases from 2008 to 2011. In contrast, for the small bureaucracy, the percentage of firms adopting this forms increases from 21.7% in 2005 to 30.7% in 2008, then plummets in 2011 to only 9.8%. This

major decrease in the number of firms using this configuration stems mainly from the attempting adopters, suggesting that this high-performing configuration is less attractive.

We also observe for case of the professional-service firm configuration that while the overall number of adopters remains stable over time (23.8% in 2005, 23.0% in 2008, and 23.2% in 2011), an increasing split occurs between the number of successful and attempting adopters. In 2005, 48.3% of the firms adopting the professional service firm do so successfully. In 2011, only 11.0% of firms successfully adopt this configurations.

Overall, our findings on the number of successful and attempting adopters of one of the four high-performing configurations provide initial insights into the active movements of firms.

Firms' Change Tracks Through Organizational Configurations

The unique nature of our data, in the form of a balanced panel, allows us to precisely identify whether a firm changes into, out of, or in between high-performing configurations between 2005 and 2008, and between 2008 and 2011. Changes in membership scores of firms in the high-performing configurations provide the basis for our analysis of change tracks. Specifically, we examine six change tracks: (1) within-form change, (2) between-form change, (3) incremental adaptation, (4) radical adaptation, (5) incremental decoupling, (6) radical decoupling. Table 3 shows the number and percentage of firms in each of the six possible change tracks from 2005 to 2008, from 2008 to 2011, and across both periods.

Insert Table 3 about here

In the first period (between 2005 and 2008) 95 firms (38.93%) are on change tracks associated with high-performing configurations, whereas 149 firms (61.07%) are not. In contrast, in the second period (between 2008 and 2011), only 80 firms (32.79%) are on change tracks with high-performing configurations and 164 (67.21%) are not. While these aggregate

numbers suggest only few differences between the movements of firms in the first period and those in the second period, the data on the actual change tracks provide more nuanced insights.

For example, the number of firms remaining in one of the high-performing configurations drops from 17 (17.89%) in the first period to only 7 (8.75%) in the second period. Moreover, and arguably more remarkable, the number of firms associated with either an incremental or radical adaptive change track drops from 36 firms (37.9%) in the first period to only 13 (16.25%) in the second. In contrast, the number of firms on a decoupling track climbs from merely 30 firms (31.58%) in the first period to 52 (65.00%) in the second. Thus, while fewer firms between 2008 and 2011 are on change tracks associated with high-performing configurations, most of them lose touch with the ideal types.

The Performance Dynamic of Change Tracks through High-Performing Configurations

What then are the performance dynamics for firms moving through high-performing configurations? To provide more nuanced insights into the performance-fit assumption central to research on organizational configurations we estimate a pooled regression analysis. We use two different performance dynamic indicators as our dependent variable, the absolute performance level and the changes in performance, and the changes in membership scores within each of the six change tracks as our independent variables. The results of the three separate regression analysis appear in Table 4.

Insert Table 4 about here

In the first specification of Table 4 we test the association of the six change tracks with absolute firm performance. The results show that, although none of the change tracks is significantly associated with a firm's absolute performance level, those firms retaining a high-performing configuration are positively associated with overall performance. Thus, although

the first specification fails to explain the overall level of performance sufficiently well, the results appear in line with the theory on ideal types.[7]

The second specification analyzes the association of a change track with a change in performance. In contrast to the first specification, this specification has strong explanatory power. The change tracks thus explain performance changes well. The results show that a within-form change is associated with an increase in performance. Moreover, our results indicate that a radical decoupling form a high-performing configuration is associated with a decrease in performance. The F-test of the joint significance of the change tracks shows that they are jointly significant when compared to a null model.

The results of change-track analysis show that firms benefit from adopting a high-performing configuration and adjusting this configuration incrementally over time. In contrast, firms that radically decouple from high performing configuration and attempt to adopt a different high-performing configuration strongly decrease in performance. These results indicate that fit with a high-performing configuration yields a sustainable high performance as long as firms can generate competitive advantages from idiosyncratic adjustments of these configurations.

DISCUSSION AND CONCLUSION

Much of the previous research on the performance implications of organizational configurations has treated configurations in a simplified manner, neglecting the dynamic association between alterations in the design of high-performing configurations and firms' retention of, adaptation to, or decoupling from high-performing configurations. We have

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[7] We argue that the low test statistics for the significance of the coefficient and the explanatory power of the model are driven by the remaining change tracks. As we cannot determine at which stage of the transition process an adopting or dislodging firm is, performance implications are ambiguous. Some firms might recently have completed the radical adoption process and begun benefitting from synergies of the high-performing configuration. As we measure performance at the same point, these synergies may not have affected the performance measure. The F-statistic punishes the inclusion of variables with low explanatory power. Thus the ambiguous performance implication of the remaining change tracks could explain the poor model fit in the first specification.

argued that these simplifications risk a mis-specification of the performance implications of organizational configurations. In other words, how firms may capitalize on the performance opportunities that arise from closer resemblance or non-resemblance to high-performing configurations, remains unclear.

The findings of our analysis complement previous research on organizational configurations and provide three important insights for better understanding the performance implication of configurations. First, we show that high-performing configurations appear remarkably persistent over time. This findings holds even when conceptualizing configurations as multidimensional by nature, and when examining a short period. Our finding therefore largely confirms the assumption of temporal stability central to theories of organizational configurations.

At the same time, we reveal differences in the structural persistence of high-performing configurations. We find sporadic and irregular changes in the role of core conditions. For example, whereas in 2005 and 2008 firm size proved irrelevant for the success of the professional service firm, in 2008 only small firms were able to achieve high performance by adopting this configuration. Moreover, as the small bureaucracy configuration in 2008 indicates, high-performing configurations may even "temporally divide" (Siggelkow & Levinthal, 2003) into neutral permutations and recombine at a later time.

These findings carry important implications for theories on the evolution of organizational configurations. For example, Fox-Wolfgram et al. (1998) argue that organizational configurations may remain stable over time for different reasons. We complement this line of research by suggesting that the temporal stability of configurations is the result of a lean structural design that can easily be mimicked, the existence of firms that are highly visible and prototypical for a configuration, and firms' continuous experimentation with a configuration. At the same time, our findings also suggest that those permutations of high-performing configurations that develop stronger idiosyncratic features will justify the

recognition of a distinct design. Evidence-based examples, such as the "transnational professional service firm" (Greenwood, Fairclough, Morris, & Boussebaa, 2010) or the "partner association" (Lee & Pennings, 2002), may be considered a new permutation only for a certain time but may eventually be acknowledged as a distinct configuration in its own right. Overall, our results on the temporal stability of organizational configurations allow moderate conclusions for the sources of their stability but also on the conditions under which new high-performing configurations may emerge.

Second, we find an immensely versatile population of firms approximating or deviating from high-performing configurations over time. This finding, which is a by-product of our analysis, is remarkable because it questions two theoretical arguments that would lead us to expect otherwise. The argument of structural inertia (that firms that tend to retain their internal arrangements will find it difficult to adjust structural conditions) predicts that firms only "seldom succeed in making radical changes in strategy and structure" (Hannan and Freeman, 1984: 149). In contrast, the argument of inherent consistency offers a different explanation but a similar prediction: That inherent consistency (the highly consistent alignment of structural and strategic elements) constitutes the source of synergies that make configurations so attractive for firms to gain competitive advantages (Fiss, 2011). Consequently, and in accordance with the structural inertia explanation, the inherent consistency argument would lead us to expect that firms will continuously attempt to even more closely resemble one of the existing high-performing configurations.

Yet our findings suggest that configurations appear temporally stable not in spite of but because of firms' movements through configurations. Thus rather than a structure- or efficiency-based argument, we argue that the temporal stability results from firms' experimenting with high-performing configurations. We speculate that experimentation is facilitated when configurations feature a lean structural design and when firms are not only archetypical for a high-performing configuration but also highly visible.

Third, and most importantly, our findings significantly contribute to understanding the performance implications of high-performing configurations. The dominant viewpoint in the literature on organizational configurations is that the more closely a firm resembles a high-performing configurations, the higher its level of performance. For example, Greenwood and Hinings (1993: 1071) conclude that their "results reasonably support the idea of organizations evolving from incoherence to coherence". Similarly, Forte et al. (2000: 753) conclude that "organizations systematically move toward the higher-performing forms." Thus a firms identical to a high-performing configuration would maximally capitalize on the performance benefits accruing from a configurations. We would therefore expect such a firm to continuously exhibit high levels of performance but not necessarily strong performance changes. In contrast, we would expect a firm that successfully experiments, eventually identifies the constellation of structural elements with inherent synergies, and consequently adopts a high-performing configuration to exhibit not necessarily continuously high levels of performance but strong performance increases during its phase of adaptation.

Two of our findings appear at first glance to confirm this viewpoint. The coefficients for within- and for between-form change on the absolute level of performance, as reported in Table 4, are positive and show some statistical power. This finding indicates that firms that remain high-performing configurations exhibit comparably high levels of financial performance. Furthermore, the coefficient for radical decoupling for performance change is negative and statistically significant. This finding confirms the idea that firms deviating from high-performing configurations will suffer from severe performance losses.

At the same time, however, our findings also reveal performance dynamics substantively different from the dominant viewpoint. We thereby qualify the performance-fit assumption in research on organizational configurations in two important ways. First, neither incremental nor radical adaptation are significantly associated with positive changes in performance. This finding holds even though firms pursuing these two paths initially show relatively low levels of

performance. The positive performance consequences of high-performing configurations thus at best unfold indirectly and in a delayed fashion. In other words, while a firm may have already successfully adopted a high-performing configuration, the actual performance benefits may only accrue later. Our model does not provide more precise information on the duration of the point at which on a firm will begin reaping the benefits of configurational adoption.

Second, within-form change (when firms retain a high-performing configuration over time) is not only associated with relatively high levels of absolute performance—as expected—but also significantly associated with positive performance gains. This finding is perplexing because it essentially means that firms that maintain a high-performing configuration not only maintain high levels of performance but also manage to grow stronger than firms that are in the process of adapting to a high-performing configuration. Thus, for those firms that have successfully adopted a high-performing configuration—and only for those—the performance gains resulting from adaptation are not linear but exponential. Earlier efforts of attempting adopters to more closely resemble a high-performing configurations will then certainly result in improvements in performance. But as firms become even more similar to a configurational ideal type, the performance gains become even more pronounced. Thus, the performance benefits entailed in approximating a high-performing configuration increase the higher the fit with a high-performing configuration.

Limitations and Future Research

The findings reported in this article are limited in four important ways. First, although our conceptual specifications are much in line with previous research on organizational configurations as we have tried to capture as many of the explanatory measures discussed previously, other conditions may also matter. Likewise, we used one particular performance measure—return on investment—that is frequently considered in this literature. A related methodological limitation pertains to our inability to measure more precisely—beyond the distinction between core and peripheral elements offered in the context of fsQCA—what

conditions become more or less relevant. Thus future research may probe in more detail into the bundles of structural and environmental conditions of firms, examine different outcomes of interest, or develop the means for more precisely specifying the relative importance of individual elements of configurations.

Second, while our results provide strong evidence for the temporal stability of organizational configurations, thereby contributing to this line of literature in an important way (Short et al., 2008), we do not touch upon the question of why configurations appear durable. Given that we observe firms to be extremely volatile in their change track within and between high-performing configurations the arguments of structural inertia and inherent consistency provide only partly explain the persistence of high-performing configurations.

Third, an important step in our empirical strategy is the comparison and summary of the configurations of the three years with each other, a coding that subsequently determines the change tracks we define later on. In this article, we use a qualitative approach that compares core and contributing conditions. Future research, however, may develop better indicators for measuring the similarity of configurations over time.

Contributions

Our study contributes to research on typologies in general and to research on organizational configurations more specifically. First, our findings qualify the fit-performance assumption central to research on organizational configuration. In particular, we demonstrate that the fit-performance association is more complex than formerly understood and argue that the performance benefits from adopting high-performing configurations will accrue time-displaced and only after the firm has achieved a critical level of fit. Beyond this point, performance benefits will increase exponentially. Thus firms with a good fit with a high-performing configurations will not only benefit from implementing an internally consistent, efficient yet firm-unspecific organizational structure, but will additionally through this structure improve its ability to capitalize on its inimitable firm-specific resources (Barney, 1991).

Second, our study also contributes to typology research, an important form of theorizing (Delbridge & Fiss, 2013; McKinney, 1966; Snow & Ketchen, 2013) prominent in many areas of management research, ranging from organization theory or strategic management (Zajac, Kraatz, & Bresser, 2000), innovation management (Damanpour, Walker, & Avellaneda, 2009), corporate governance (Bell, Filatotchev, & Aguilera, 2013; Misangyi & Acharya, 2014) or HRM (Gerhart, 2007; Wright & Snell, 1998). In particular, we argue that while typologies help to identify and describe important ideal types, drawing implications from typologies is risky for researchers and managers alike.

Without sufficient research establishing the precise nature of the temporal stability of different ideals contained in a typology, both researchers and managers may mis-interpret the role of core and peripheral elements. For managers, such a misinterpretation may result in investing efforts to change the structure of the firm in a way irrelevant or at least insignificant for achieving a relevant outcome. For researchers, incorrectly diagnosing elements as either central or peripheral for achieving a certain end may lead to an unproductive shift in the focus of future research. Similarly, without a sufficient understanding of the stability of configurations of typologies, researchers and managers may use typologies for pursuing temporally precarious paths. Finally, without a thorough understanding of the association between ideal type fit and a desired outcome, firms may derive managerial suboptimal implication.

Third, by integrating fsQCA with econometric analysis, we also make a methodological contributions. Although scholars increasingly suggest that such methodological combinations l provide important research opportunities (Fiss et al., 2013; Greckhamer, Misangyi, Elms, & Lacey, 2008) only few studies have actually implemented such a combination (see, e.g., Chuang et al., 2012). In this study fsQCA allowed us to adequately translate the theorized multidimensional nature of high-performing configurations and thereby to model and observe possible change tracks of firms through configurations over time. However, only the integration

of fsQCA with econometric analysis offered means to estimate the association of changes in membership scores with financial performance measures. Thus, our study shows how the integration of fsQCA with econometric analysis can fruitfully be used for improving our theoretical understanding of the nature, temporal stability, and performance dynamics of organizational configurations.

Conclusion

Despite the considerable attention paid to the study of organizational configurations and their performance implications, research thus far has relied on an over-simplification of the performance-fit assumption central to configurational research. In this study we integrate fsQCA with econometric analysis to analyze a balanced panel of 244 firms in Switzerland over the period of nine years. We demonstrate that high-performing configurations are temporally stable while firms are astonishingly versatile in their movements through configurations over time. Our findings on the performance implications of change tracks qualify the performance-fit assumption, suggesting that firms may benefit from the synergies inherent to organizational configurations only after having surpassed a certain resemblance-threshold, and that beyond this threshold the performance gains from adapting to a high-performing configuration accrue exponentially. We argue that more than merely implementing an efficient, firm-unspecific configuration, a high level of fit improves a firm's ability to exploit its inimitable firm-specific resources.

TABLES AND FIGURES

TABLE 1 Descriptive Information on the 244 Firms in the Balanced Panel in 2005, 2008, and 2011

Year	**2005**				**2008**				**2011**			
Number of observations	244				244				244			
	Min.	**Max.**	**Mean**	**s.d.**	**Min.**	**Max.**	**Mean**	**s.d.**	**Min.**	**Max.**	**Mean**	**s.d.**
Turnover (in Million CHF)	2.80	3,120.00	108.00	306.00	2.50	4,520.00	118.00	335.00	2.50	4,350.00	117.00	331.00
Size	21.00	5,500.00	278.32	665.08	23.00	5,682.00	279.75	611.90	23.00	5,876.00	274.08	587.02
Age	4.00	655.00	71.23	58.93	7.00	658.00	74.23	58.93	10.00	661.00	77.23	58.93
Sector												
Traditional	144		59.02%		144		59.02%		144		59.02%	
Modern	38		15.57%		38		15.57%		38		15.57%	
High-tech	62		25.41%		62		25.41%		62		25.41%	

TABLE 2 Descriptive Statistics

		Calibration	Calibration	Calibration										
		Fully in	**Fully in**	**Fully in**	**Mean**	**s.d.**	**Min**	**Max**	**1**	**2**	**3**	**4**	**5**	**6**
2005	1) High Performance	0.83	0.83	0.83	0.44	0.22	0.05	0.97						
	2) Large firm	250.00	250.00	250.00	0.68	0.26	0.11	1.00	0.01					
									0.82					
	3) Centralization	5.00	5.00	5.00	0.67	0.17	0.18	0.95	-0.02	-0.15				
									0.81	*0.02*				
	4) Hierarchy	4.00	4.00	4.00	0.48	0.33	0.01	1.00	0.09	0.41	-0.03			
									0.14	*0.00*	*0.62*			
	5) Specialization	0.69	0.69	0.69	0.54	0.33	0.00	0.99	0.14	0.09	-0.22	0.10		
									0.03	*0.15*	*0.00*	*0.11*		
	6) Rate of change	4.00	4.00	4.00	0.34	0.26	0.05	0.95	0.11	0.08	-0.05	0.02	-0.04	
									0.08	*0.20*	*0.43*	*0.77*	*0.55*	
	7) Comp. intensity	5.00	5.00	5.00	0.33	0.33	0.05	0.95	-0.06	-0.06	0.12	-0.05	0.03	-0.02
									0.33	*0.34*	*0.07*	*0.47*	*0.65*	*0.79*
2008	1) High Performance	0.69	0.69	0.69	0.46	0.24	0.05	0.98						
	2) Large firm	250.00	250.00	250.00	0.70	0.26	0.12	1.00	-0.06					
									0.33					
	3) Centralization	5.00	5.00	5.00	0.68	0.14	0.22	0.95	-0.03	-0.17				
									0.60	*0.01*				
	4) Hierarchy	4.00	4.00	4.00	0.51	0.33	0.01	1.00	0.10	0.25	0.01			
									0.13	*0.00*	*0.89*			
	5) Specialization	0.69	0.69	0.69	0.53	0.34	0.00	1.00	0.10	0.10	-0.10	0.14		
									0.12	*0.12*	*0.13*	*0.03*		
	6) Rate of change	4.00	4.00	4.00	0.40	0.24	0.05	0.95	0.11	0.11	-0.04	-0.02	-0.02	
									0.10	*0.08*	*0.49*	*0.80*	*0.79*	
	7) Comp. intensity	5.00	5.00	5.00	0.30	0.32	0.05	0.95	-0.15	-0.05	0.07	0.01	0.04	-0.01
									0.02	*0.43*	*0.27*	*0.84*	*0.50*	*0.86*
2011	1) High Performance	0.62	0.62	0.62	0.46	0.26	0.05	0.99						
	2) Large firm	250.00	250.00	250.00	0.70	0.26	0.12	1.00	-0.08					
									0.19					
	3) Centralization	5.00	5.00	5.00	0.69	0.15	0.22	0.95	0.07	-0.17				
									0.28	*0.01*				
	4) Hierarchy	4.00	4.00	4.00	0.50	0.32	0.05	1.00	0.00	0.30	-0.05			
									0.98	*0.00*	*0.43*			
	5) Specialization	0.68	0.68	0.68	0.51	0.33	0.00	1.00	0.03	0.16	-0.05	0.07		
									0.66	*0.01*	*0.40*	*0.27*		
	6) Rate of change	4.00	4.00	4.00	0.35	0.24	0.05	0.95	0.10	0.18	-0.01	0.09	0.03	
									0.12	*0.00*	*0.90*	*0.15*	*0.61*	
	7) Comp. intensity	5.00	5.00	5.00	0.32	0.32	0.05	0.95	0.00	-0.11	0.03	-0.08	0.09	-0.06
									0.94	*0.08*	*0.69*	*0.24*	*0.18*	*0.32*

2005	*Professional Service Firm*	*Organic*	*Mechanistic*	*Small bureaucracy*
Organizational structure				
Large size		●	●	⊗
Centralization	●	⊗	●	●
Hierarchy	⊗		●	●
Specialization	●	●	●	⊗
Business environment				
Rate of change	⊗	⊗	⊗	⊗
Competition Intensity	⊗	⊗	●	⊗
Total no. of firms (n=208/244)	**58 (23.8%)**	**55 (22.5%)**	**42 (17.2%)**	**53 (21.7%)**
Successful adopters	28 (48.3%)	21 (38.2%)	10 (23.8%)	8 (15.1%)
Attempting adopters	30 (51.7%)	34 (61.8%)	32 (76.2%)	45 (85.9%)
Consistency	0.86	0.87	0.88	0.86
Raw Coverage	0.42	0.41	0.27	0.27
Unique Coverage	0.08	0.04	0.07	0.07
Overall Solution Consistency	**0,81**			
Overall Solution Coverage	**0,62**			

FIGURE 1 High-performing Configurations in 2005

2008	*Professional Service Firm*	*Organic*	*Mechanistic*	*Specialized small bureaucrcay*	*Nonhierarchical small bureaucracy*
Organizational structure					
Large size		●	●	⊗	⊗
Centralization	●	⊗	●	●	●
Hierarchy	⊗	●	●		⊗
Specialization	●	●		●	
Business environment					
Rate of change	⊗	⊗	⊗	⊗	⊗
Competition Intensity	⊗	⊗	●	⊗	⊗
Total no. of firms (n=215/244)	**56 (23.0%)**	**32 (13.1%)**	**52 (21.3%)**	**21 (8.6%)**	**54 (22.1%)**
Successful adopters	22 (39.3%)	9 (28.1%)	20 (38.5%)	10 (47.6%)	15 (27.8%)
Attempting adopters	34 (60.7%)	23 (71.9%)	32 (61.5%)	11 (52.4%)	39 (72.2%)
Consistency	0.86	0.88	0.85	0.87	0.89
Raw Coverage	0.39	0.31	0.29	0.34	0.31
Unique Coverage	0.06	0.04	0.06	0.06	0.02
Overall Solution Consistency	**0,80**				
Overall Solution Coverage	**0,64**				

FIGRE 2 High-performing Configurations in 2008

2011	*Professional Service Firm*	*Organic*	*Mechanistic*	*Small bureaucracy*
Organizational structure				
Large size	⊗	●	●	⊗
Centralization	●	⊗	●	●
Hierarchy	⊗	●	●	●
Specialization	●	⊗	●	⊗
Business environment				
Rate of change	⊗	⊗	⊗	⊗
Competition Intensity	⊗	⊗	●	⊗
Total no. of firms (n=210/244)	**64 (23.2%)**	**61 (25.0%)**	**61 (25.0%)**	**24 (9.8%)**
Successful adopters	7 (11.0%)	10 (16.4%)	9 (14.8%)	7 (29.2%)
Attempting adopters	57 (89.0%)	51 (83.6%)	52 (85.2%)	17 (70.8%)
Consistency	0.88	0.84	0.87	0.84
Raw Coverage	0.25	0.28	0.26	0.23
Unique Coverage	0.09	0.05	0.08	0.02
Overall Solution Consistency	**0,81**			
Overall Solution Coverage	**0,49**			

FIGURE 3 High-performing Configurations in 2011

PSF (Professional Service Firms)	*2005*	*2008*	*2011*
Organizational structure			
Large size			⊗
Centralization	●	●	●
Hierarchy	⊗	⊗	⊗
Specialization	●	●	●
Business environment			
Rate of change	⊗	⊗	⊗
Competition Intensity	⊗	⊗	⊗
Total no. of firms	**58 (23.8%)**	**56 (23.0%)**	**64 (23.2%)**
Successful adopters	28 (48.3%)	22 (39.3%)	7 (11.0%)
Attempting adopters	30 (51.7%)	34 (60.7%)	57 (89.0%)

FIGURE 4 The Professional Service Firm Configuration between 2005-2011

Organic	*2005*	*2008*	*2011*
Organizational structure			
Large size	●	●	●
Centralization	⊗	⊗	⊗
Hierarchy		●	●
Specialization	●	●	⊗
Business environment			
Rate of change	⊗	⊗	⊗
Competition Intensity	⊗	⊗	⊗
Total no. of firms	**55 (22.5%)**	**32 (13.1%)**	**61 (25.0%)**
Successful adopters	21 (38.2%)	9 (28.1%)	10 (16.4%)
Attempting adopters	34 (61.8%)	23 (71.9%)	51 (83.6%)

FIGURE 5: The Organic Configuration between 2005 - 2011

Mechanistic	*2005*	*2008*	*2011*
Organizational structure			
Large size	●	●	●
Centralization	●	●	●
Hierarchy	●	●	⬤
Specialization	⬤		●
Business environment			
Rate of change	⊗	⊗	⊗
Competition Intensity	⬤	⬤	⬤
Total no. of firms	**42 (17.2%)**	**52 (21.3%)**	**61 (25.0%)**
Successful adopters	10 (23.8%)	20 (38.5%)	9 (14.8%)
Attempting adopters	32 (76.2%)	32 (61.5%)	52 (85.2%)

FIGURE 6 The Mechanistic Configuration between 2005-2011

SB **(Small bureaucracy)**	*2005*	*2008 [Specialized]*	*2008 [Hierarchical]*	*2011*
Organizational structure				
Large size	⊗	⊗	⊗	⊗
Centralization	●	●	●	●
Hierarchy	⬤		⊗	⬤
Specialization	⊗	●		⊗
Business environment				
Rate of change	⊗	⊗	⊗	⊗
Competition Intensity	⊗	⊗	⊗	⊗
Total no. of firms	**53 (21.7%)**	**21 (8.6%)**	**54 (22.1%)**	**24 (9.8%)**
Successful adopters	8 (15.1%)	10 (47.6%)	15 (27.8%)	7 (29.2%)
Attempting adopters	45 (85.9%)	11 (52.4%)	39 (72.2%)	17 (70.8%)

FIGURE 7 The Small Bureaucracy Configuration between 2005-2011

TABLE 3 Frequency of Change Tracks

	2005 -> 2008		2008 -> 2011		Total	
	no.	(%)	no.	(%)	no.	(%)
Within-form change	17	(17.89)	7	(8.75)	24	(13.71)
Between-form change	12	(12.63)	8	(10.00)	20	(11.43)
Incremental adaptation	21	(22.11)	5	(6.25)	26	(14.86)
Radical adaptation	15	(15.79)	8	(10.00)	23	(13.14)
Incremental dislodgment	18	(18.95)	32	(40.00)	50	(28.57)
Radical dislogment	12	(12.63)	20	(25.00)	32	(18.29)
Total	*95*	*(100.00)*	*80*	*(100.00)*	*175*	*(100.00)*
Firms in change tracks associated with high-performing configurations	95	(38.93)	80	(32.79)	175	(35.86)
Firms in change tracks *not* associated with high-performing configurations	149	(61.07)	164	(67.21)	313	(64.14)
Total	*244*	*(100.00)*	*244*	*(100.00)*	*488*	*(100.00)*

TABLE 4 Regression Analysis of the Effect of Change Tracks on the Level and the Change in Firms' Performance

	Performance Level (ROA)	Performance Change (Δ ROA)
Within-form change	0.036 (0.025)	0.065*** (0.023)
Between-form change	0.021 (0.031)	0.03 (0.025)
Incremental adaptation	-0.000 (0.026)	0.02 (0.021)
Radical adaptation	-0.002 (0.032)	0.014 (0.024)
Incremental dislodgment	-0.002 (0.021)	0.003 (0.022)
Radical dislogment	-0.001 (0.027)	-0.048* (0.034)
_cons	0.219*** (0.008)	-0.01 (0.008)
F(6, 481)	0.42	1.99
Prob > F	0.86	0.07
R-squared	0.004	0.02

Data based on 488 firm change tracks. Values are unstandardized regression coefficients with standard errors in parentheses. * Statistically significant at the 0.1 level; ** at the 0.05 level; *** at the 0.01 level.

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