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# The Organizational Impact of Business Model Innovation: Assessing the Person-Organization Fit

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**ABSTRACT** Studies on business model innovation (BMI) have largely focused on firm performance, neglecting outcomes of BMI beyond financial performance indicators. Research lacks empirical findings from the internal organizational dynamics following the inherent transformation process induced by BMI. Rooting our analysis in configuration theory, the purpose of this paper is to shed light on the organizational impact of BMI. We employ the person-organization fit concept and assess (unintentional) changes in the fit relationship subsequent to BMI. Our findings suggest that incremental BMI enhances fit whereas radical BMI decreases it. We further discuss the theoretical and practical implications of our study.

**Keywords:** business model innovation, organizational impact, configuration theory, momentum period, transition period, person-organization fit

## INTRODUCTION

Changing business environments challenge existing organizations as product life cycles shorten (Chesbrough, 2007), novel technologies emerge (Baden-Fuller and Haefliger, 2013), profit margins melt (Amit and Zott, 2010), and digitalization jeopardizes existing businesses (Bleicher and Stanley, 2019). Scholars consider business model innovation (BMI) a method for incumbents to respond to these changing conditions, seize opportunities for new businesses, and remain competitive in the core business (e.g., Amit and Zott, 2012; Mitchell and Coles, 2003). Defining BMI as ‘changes to the key elements of a firm’s business model and/or the architecture linking these elements’ (Foss and Saebi, 2017, p. 201) leads to perceiving the business model as the cognitive structure

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that provides the ‘theory of a business’ (Doz and Kosonen, 2010) and is itself subject to innovation (Massa and Tucci, 2014; Schneider and Spieth, 2013). Although the tenor of strategic management research frequently proclaims an ‘innovate or die’ mentality (Lemon and Sahota, 2004, p. 483) and generally associates BMI with sustained firm performance (e.g., Amit and Zott, 2010; Chesbrough, 2007; Zott et al., 2011), many attempts fail (Christensen et al., 2016; Johnson et al., 2008; Koen et al., 2011). However, research explaining the potential pitfalls of BMI in light of the organizational context is sparse.

In this paper, we depart from conceptual and anecdotal BMI-outcome narratives (Hock et al., 2016) and analyse more deeply the internal transformation outcomes of BMI. Thereby, we follow the calls of scholars who criticize the BMI literature for neglecting fundamental elements that make up a firm’s organizational context, such as culture, values, and people (e.g., Markides, 2013), emphasizing that the impact of these contextual features on the internal adoption and implementation of BMI requires further investigation (e.g., Spieth et al., 2014). Foss and Saebi (2017) argue that holistic organizational transformations depend on both formal and informal aspects of a firm’s organization – for example, the employees’ perception of roles and structures. However reasonable both proactive and reactive business model changes may be, ‘cognitive barriers’ to the model might exist within an organization (Chesbrough, 2010, p. 358), thus impairing the internal fit (Miller, 1992). From a strategic management perspective, individual behaviour and employee commitment are crucial during change (Achtenhagen et al., 2013; Robertson et al., 1993; Shin et al., 2012) and may influence post-change organizational performance (Kim and Mauborgne, 2003). This motivates us to use the person-organization fit (POF) concept to enrich our understanding of BMI’s internal transformation outcomes.

POF refers to the congruence between the values and norms of an individual and the prevalent organizational culture, as well as the reciprocal matching of the demand and supply between an organization and an individual (e.g., skills the organization requires and employees can offer) (Kristof, 1996). The POF literature argues that such congruence affects individual attitudes and behaviours (Afsar et al., 2015; O’Reilly et al., 1991; Westermann and Cyr, 2004) and drives positive outcomes (Chatman, 1989; O’Reilly et al., 1991) and firm success (Farooqui and Nagendra, 2014; Silverthorne, 2004). In the context of business model change, alterations may induce modification of an employee’s perception of the organization (Dutton et al., 1994). However, in most cases, organizational research has considered POF as static rather than dynamic and not as an outcome of change (Caldwell et al., 2004). The existing research on the impact of organizational change on POF stops at individual case studies (e.g., Meyer et al., 2010) or sector-specific findings (e.g., Teo et al., 2016) and lacks a theoretical discussion and empirical investigation of the effects of different degrees of change on POF. Thus, Kristof’s (1996) and Jansen and Shipp’s (2013) predictions on the (negative) effects of organizational change on POF remain untested. Furthermore, despite the importance of POF for corporate transformations and organizational outcomes (Caldwell et al., 2004; Jansen and Shipp, 2013; Kristof, 1996), the question of whether BMI-induced change affects POF has been neglected. This is important because BMI-induced change is not only distinct from other types of

organizational transformations (e.g., new top management, process optimization, organizational restructuring), due to the cognitive character of a business model as a 'theory of a business'. It also provides an opportunity to compare different degrees of change in a certain period. These shortcomings display theoretical, empirical, and practical research gaps.

We address these gaps by considering BMI activities as an impetus for organizational change, concentrating on the congruence between individuals and their organizations following business model changes, and investigating the BMI-POF relationship in detail. To do so, we captured approximately 2500 BMI events from 69 German prime-standard listed corporations and assessed their impact on the POF of the respective organizations, in a longitudinal setting of 11 years (2007–17). For our study purposes, we took an element-based perspective and treated BMI as a heterogeneous construct, where the multiple underlying sub-elements of the model capture changes (Baden-Fuller and Haefliger, 2013; Johnson et al., 2008). As we would expect the degree of change to influence perceptions of congruence (Caldwell et al., 2004), we followed configuration theory (Miller and Friesen, 1980; Romanelli and Tushman, 1994) and distinguished the extent of the organizational change, by differentiating between momentum periods (which incremental changes to business models induce) and transition periods (which extensive and diverse changes to business models induce).

Our study makes several essential contributions to the literature. First, we contribute to the research stream on the consequences of BMI and the theoretical discourse on the BMI-outcome relationship, beyond financial indicators. Our empirical models assess the organizational outcomes that BMI induces and reveal contrasting effects, depending on the degree of BMI-induced change. On the one hand, periods of extensive and diverse BMI lead to a decrease in POF, providing a potential theoretical explanation for the barriers and failures of certain BMI endeavours. On the other hand, POF increases in periods of incremental BMI. Second, we contribute to the research stream on BMI in the context of organizational change. Novel in the BMI research, our longitudinal analysis empirically links the POF construct to BMI and enables an assessment of the POF relationship as a dynamic function of organizational changes that BMI induces. Third, our research contributes to the POF literature, which has so far primarily focused on individuals' fit with their organization prior to entry or at early stages of employment, rather than viewing it as an outcome of change (Caldwell et al., 2004; Jansen and Shipp, 2013; Meyer et al., 2010). That is, we address the research's neglect of theoretical development and empirical investigation of the effects of varying degrees of organizational change on POF. By focusing on BMI as the trigger of organizational change, we not only introduce a unique component to the existing research but can also contribute to closing the research gap.

The remainder of this study is structured as follows. In the 'Theoretical Background', we outline the conceptual background of BMI and POF and develop our research hypotheses. In 'Methodology' we explain the research design and present our research results in 'Results'. We discuss the key findings and highlight our contribution to the literature and practice in 'Results', followed by the 'Conclusion'.

## THEORETICAL BACKGROUND

### Business Model Innovation and Organizational Transformations

In addition to determining how firms ‘do business’, business models describe the design of value creation, value proposition, and value capture mechanisms (e.g., Amit and Zott, 2012; Spieth and Schneider, 2016; Teece, 2010). Accordingly, cognitive representations or knowledge structures in the minds of a company’s managers and employees reflect their business model (Doz and Kosonen, 2010). The basic assumptions and rules of these ‘theories of a business’ (Drucker, 1994) serve as heuristics enabling managers fasten the decision-making process (Kahneman, 2011). Business models matter, especially for commercializing innovations; the idea or technology itself does not yield returns. The more appropriate a business model is for commercializing an innovation, the more the innovation will outperform other possibilities (Chesbrough, 2007, 2010). Consequently, the business model appears as a ‘manipulable device’ and represents itself as a new dimension of innovation (Massa and Tucci, 2014, p. 424). Scholars have introduced the term ‘BMI’ as an ‘alternative or complement to product or process innovation’ (Amit and Zott, 2012, p. 36), involving the search for a new business logic or ‘theory of the firm’ to define value (e.g., Casadesus-Masanell and Zhu, 2013; Johnson et al., 2008; Schneider and Spieth, 2013). BMI redesigns the firm’s existing activity system (Amit and Zott, 2010) and, thus, changes the cognitive representations in the minds of managers and employees (e.g., Martins et al., 2015). For the purposes of this study, we consider BMI as changes to or novel creations of the three core dimensions of a business model – value creation, value proposition, and value capture (Clauss, 2017; Foss and Saebi, 2017; Teece, 2010).

These business model changes can provoke organizational changes in the form of reconfiguring activities (Santos et al., 2009) and restructuring organizational elements (Zott and Amit, 2010). In our understanding, configuration theory provides an angle on describing the underlying dynamics of BMI and the resulting organizational changes (e.g., Berends et al., 2016; Massa and Tucci, 2014). Configuration theory attempts to describe the appearance of organizations and their behaviour in and reactions to their internal and external environment. Configurations ‘are composed of tight constellations of mutually supportive elements’ (Miller, 1986, p. 236) that capture the complex nature of organizations and are subject to the congruency of their imperative driving forces – environment, structure, leadership, and strategy (Miller, 1987; Ward et al., 1996). The notion of fit is fundamental for strategy deployment (Porter, 1996), organizational design (Burton et al., 2000), and strategic management research in general (Venkatraman, 1989). Developing configurations with a high degree of fit is the main design objective of configuration theory (e.g., Khandwalla, 1973; Miller, 1981, 1987). Zott and Amit (2008) consider business models an important contingency factor for the strategy-performance relationship, noting the existence of optimal fits between business models and strategies. Furthermore, scholars consider the business model itself as a configuration (Baden-Fuller and Mangematin, 2013; Berends et al., 2016; Morris et al., 2005; Saebi, 2014). In this

case, consistency (fit) refers internally to the congruent and reinforcing effects between elements, attributes, governance, and key activities within the firm and externally to the compatibility with environmental conditions (Demil and Lecocq, 2010; Morris et al., 2005).

Regarding organizational change, the configuration approach suggests that organizations follow a pattern of punctuated equilibrium, with phases of momentum and transition (e.g., Miller and Friesen, 1980; Romanelli and Tushman, 1994). This differentiation between phases of momentum as periods of incremental change and phases of transition as periods of radical change parallels other distinctions in organizational change, such as first-order and second-order change (see Gaba and Meyer, 2021). In momentum periods, an organization's configuration remains in equilibrium, with a strong fit among its various components (e.g., strategy, structure, environment). When environmental conditions change, a tendency toward momentum still exists, giving momentum periods a persistent character. However, during momentum periods, adoption might begin to lag (Weick and Quinn, 1999) and excesses and deficiencies might build up, leading to a misfit that requires a reversal to restore equilibrium (Miller and Friesen, 1980). Thus, in contrast to the strong alignment during momentum periods, transition periods are short passages of considerable change (Romanelli and Tushman, 1994) when organizations destroy old configurations and build new ones, reversing structural and strategic variables (Gersick, 1991; Miller, 1987; Miller and Friesen, 1980).

The adoption of innovation can respond to either internal inefficiency or external opportunities and constraints (Damanpour and Schneider, 2006). Firms may anticipate environmental change and proactively adapt their business model (Saebi, 2014), or they might drive changes to the business environment itself. Regardless of the origin of what drives it, we view changes to or novel creations of a business model as sources of organizational change, and the resulting fit determines post-change performance (Kranich and Wald, 2017).

As changes or novel creations of a business model, BMI may trigger organizational transformations, spanning from a reconfiguration of activities (Santos et al., 2009) and organizational and technological capabilities (Massa and Tucci, 2014), to changes to the internal organizational structure and control (Zott and Amit, 2015), firm boundaries, and even organizational culture (Bohnsack et al., 2021; Leih et al., 2015). The latter highlights the decisive difference between changes to the business model and mere organizational change, as the business model contains an additional cognitive component. This phenomenon describes the organization's values, norms, and beliefs that drive a firm's decision-making and actions (Tikkanen et al., 2005). In incumbent firms, managers make sense of the company's business model by continuously developing cognitive representations of it. Changing the business model entails a change in the belief system regarding 'how a business is run'. This change also relates to changing norms and values. The cognitive component of an incremental or radical change in the 'theory of a business' is unique to business model change and distinguishes it from other types of organizational transformation.

Moreover, Berends et al. (2016) argue that the configurational nature of business models and the inherent interactions among their elements further complicate the BMI process. The more components change, the more that change may affect their potential interactions.



Therefore, analysing changes to the business model as a function of its degree links the BMI literature to configuration theory. Thus, following Miller and Friesen (1980), we consider periods with lower degrees of change to the business model as periods of momentum; higher degrees of change to the business model represent periods of transition.

### **The Impact of Organizational Transformations on Person-Organization Fit**

Following Cavalcante (2014) in emphasizing the substantial role that individual members of an organization play in the transformation process that BMI prompts, we review particular concerns that changes in the congruence of individuals and their respective organizations cause. We use the POF concept to assess how business model changes affect the person-organization fit supporting the configuration approach at the individual level (Meyer et al., 1993).

POF examines the antecedents and consequences of the fit between individuals and their employing organizations (Kristof-Brown et al., 2005). The ‘fit’ is the ‘congruence between the norms and values’ (Chatman, 1989, p. 339) as well as the match of two parties engaging in supply and demand (Kristof, 1996). Thus, POF describes a situation where ‘at least one entity [individual/organization] provides what the other needs [match of supply/demand], or they share similar fundamental characteristics [congruence between values and norms], or both’ (Kristof, 1996, p. 4). Thereby, POF delineates similarities between the respective values and personal characteristics of individuals and organizations and elucidates the work environment’s congruence with the employees’ needs and resource endowments (e.g., time, knowledge, skills, abilities) (Westermann and Cyr, 2004). Regarding antecedents, scholars agree that the selection process preceding organizational membership enhances POF reciprocally. Following entry, an individual’s work-related values change in response to work experiences, and organizational socialization reinforces POF (e.g., Chatman, 1989; O’Reilly et al., 1991; Westermann and Cyr, 2004). Among the consequences, POF is attributable to determining extra-role behaviour in the context of organizational citizenship (O’Reilly and Chatman, 1986), work satisfaction and organizational commitment (Westermann and Cyr, 2004), and work performance (Farooqui and Nagendra, 2014; Judge, 1994; Tziner, 1987). Concerning organizational transformations, members commit to change more comprehensively when the fit is strong (Meyer et al., 2010). In other words, high-level congruence is ‘beneficial for individuals and organizations’ (Chatman, 1989, p. 343) and, thus, a state worth achieving and maintaining.

In times of organizational change, reassessments of the fit relationship presumably take place ‘far beyond the early employment period’, re-evaluating the fit of individuals with their organizations and their jobs (Caldwell et al., 2004, p. 868). Similarly, Jansen and Shipp (2013, p. 207) identify organizational change as a research gap in the POF literature, stating that ‘fit may change after large-scale organizational change, job redesign, or a promotion’. Thus, a previous value congruence can erode through an organizational change that a period of (radical) changes to the business model initiates. Smith and Lewis (2011) reason that belonging (identity) tensions become salient through organizational change, aligning with Cheng et al. (2010), who find that organizational change stemming from process innovations relates positively to conflicts within the organization. The authors argue that process innovation constitutes

a fundamental organizational change. In their longitudinal case study of the Truffle Suite, Green and Cluley (2014) observed a digital design firm that ran through an organizational transformation. They found that members amended their perception of the company due to changing work experiences.

In summary, existing studies suggest that organizational transformations impact processes, structures, practices, routines, work experiences, and a sense of belonging, thus forming the perception of the organization. This might conflict with the ex-ante compatibility between people and organizations (Kristof, 1996) or interfere with the ongoing organizational socialization processes. Thus, organizational transformation may lead to a change in POF. Next, we discuss the consequences of this relationship in the context of BMI-induced change.

### **Hypotheses: The Impact of Business Model Innovation on Person-Organization Fit**

The bottom line of the preceding sections, reflecting both the underlying main hypotheses and the object of our investigation, is this: Do changes to the business model affect POF and, if so, does BMI-induced change affect POF for better or worse? Empirical research on the organizational effects of BMI initiatives is scarce (Spieth et al., 2016) and, thus, constitutes a research gap. As POF has been a relevant factor in organizational outcomes (e.g., Afsar, 2016; Chatman, 1989; O'Reilly et al., 1991; O'Reilly and Chatman, 1986; Tziner, 1987), the BMI-POF link advances our understanding of BMI success factors and outcomes.

Strategic management research has a long tradition of applying the configuration approach to investigations that assess the interdependencies of firm elements (e.g., Birkinshaw and Morrison, 1995; Miller, 1987; Mintzberg, 1979). Configuration theory allows organizational research to analyse the interface of its many interrelated components (Dess et al., 1993). As we seek to assess whether changes to the business model affect the congruence between organizations and their members, we derive our hypotheses from applications of configuration theory and POF. Through BMI, organizations adjust their configuration to achieve a novel 'optimal' fit and remain successful under new conditions (Birkinshaw and Morrison, 1995; Harms et al., 2009). BMI activities might thereby affect one's immediate work setting and thus the perception of person-organization congruence at the individual level. Arguing that the magnitude of this effect might depend on the degree of change, Caldwell et al. (2004) identified the characteristics of the change process, e.g., the extent of change, as decisive for the perceived fit that followed. We take up Miller and Friesen's (1980) notion of momentum and transition to structure our arguments.

According to Miller (1987), organizations change during periods of momentum by sticking to an established guiding theme – that is, they change in a non-disruptive, evolutionary manner. This implies that periods of incremental change to the business model neither destroy nor rebuild configurations. The impact on the individual's workplace may be limited or directly affect only a fraction of an organization's workforce. Thus, due to the enduring character of the driving environmental conditions, the configuration of an organization experiences temporal momentum that produces considerable stability (Dess et al., 1993; Miller, 1987; Miller and Friesen, 1980). Regarding



POF, the momentum establishes and stabilizes a fit between individuals and their respective organizations – for example, the constant environmental conditions contribute to maintaining contentment (Dormann and Zapf, 2001). These constant conditions allow employees to better adapt to their organizational environment and socialize their employer's goals and values (Kristof, 1996). Socialization among members of an organization leads to congruence of values, norms, and goals and to increased POF (Cable and Parsons, 2001). Furthermore, skill-based training focused on the current business model and the organizational configuration can lead to improved fit through a perceived match of supply (e.g., employee skills) and demand (e.g., organization skill requirements). POF increases in this sense because members of the organization perceive a perpetuation of their skills and competencies (Jansen and Shipp, 2013). In their work on organizational change in the context of public services, Teo et al. (2016) identify change-induced stressors that can lead to a decline in POF. The authors understand potential stressors, e.g., the lack of time or individual resources to accomplish a new task. We expect low levels of employee stress in momentum phases; the developments are incremental and do not exacerbate a lack of time or individual resources.

In summary, we expect limited influence by change-induced stress in the context of momentum periods. Moreover, the self-reinforcing nature of socialization (greater goal and value congruence) and the mutual reliance on provided supply and expected demand (greater matching of supply and demand) lead to higher POF levels. In such periods, employees expect their previous investments in education and training to be of value to their careers in the (near) future. As the perception and individual assurance of reinforcing organizational configurations, the socialization process, and the matching of supply and demand all take place over time (Dutton et al., 1994), we expect delayed enhancement of POF.

*Hypothesis 1:* BMI-induced momentum periods have a positive, yet lagged effect on person-organization fit.

Higher degrees of change in the business model initiate transition periods (Miller and Friesen, 1980) and disrupt POF congruence. Thereby, many elements, attributes, and key activities might experience a reversal in the customary direction of change and an abandonment of the familiar evolutionary path of momentum (Miller, 1987). Moreover, when internal requirements conflict with external demands, organizations must choose between achieving internal or external fit. For example, internal fit may decrease the appropriateness of the overall configuration as external fit decreases (Siggelkow, 2001). Conversely, external fit may 'violate the dictates of internal consistency' (Miller, 1992, p. 159). Thus, for organization members, we argue that higher levels of BMI-induced organizational change impair POF.

First, the individual's values and beliefs represent an integral part of robust configurations. A business model is a cognitive phenomenon that describes the systemic meaning structures or the belief systems an organization's members maintain (Tikkanen et al., 2005). Therefore, individuals resist major changes to the business model that clash with their convictions, goals, decision-making patterns, and management philosophy (Chesbrough, 2010; Miller, 1990) and entail sunk costs (Harms et al., 2009).

Higher degrees of change to the business model must break this system-inherent resistance to achieve the transition. This aligns with the argument of Hodgkinson and Healey (2014) that radical innovation constitutes behavioural challenges for individuals within their organizations. Those whom organizational transformations affect consider their identity threatened and raise emotional barriers against functional adaptation. The influence of BMI on norms and values becomes clear in the context of connected cars in the automotive industry. Developing business models to tap into the value streams for connected cars requires automotive manufacturers to adapt their organizational values to be more agile and customer-centred (see Bohnsack et al., 2021). In the context of radical BMI, established organizations can face identity dissonance, whereby members of the organization struggle to define the domain in which they operate (Kammerlander et al., 2018).

Second, major change might more directly affect each individual's workplace and concern a larger share of an organization's workforce. Furthermore, transition periods require major efforts, in the form of disruptive, turbulent, and costly transactions (Miller and Friesen, 1982). Thus, radical changes to the business model also pose major capacitive challenges for an organization's workforce. They could lead to an increased workload, ambiguity, and stress. For example, individuals may perceive their own corporate roles as ambiguous due to organizational change, or directions and given tasks may appear contradictory and/or unable to be completed simultaneously. Moreover, the need to learn new competencies or the risk that the previously envisioned career path will not be completed are additional change-induced stressors. Scholars have largely argued that ambiguity and stress constrain a positive association with the organization (Brashear et al., 2003; Moura et al., 2014; Vandenberghe et al., 2010). Consequently, these challenges negatively affect POF (Teo et al., 2016).

From a temporal perspective, radical changes display a complex process of organizational transformation that requires time, e.g., for the structural alignment of resources and activities. Thus, outcomes are predictably delayed (Clauss et al., 2019; Foss and Saebi, 2017; Frankenberger et al., 2013). As individuals' perceptions of their employing organizations are subject to their experiences over time (Dutton et al., 1994) or to the information they receive via formal and informal communication channels, after a significant change, 'it may take time before new organizational values emerge and become consensually shared' (Kristof, 1996, p. 35). It may also take time before consequences for the individual's values, goals, and competencies can be anticipated. Thus, negative changes in POF are likely to set in with a delay.

*Hypothesis 2:* BMI-induced transition periods have a negative, yet lagged effect on the person-organization fit.

## METHODOLOGY

### Data and Sample Selection

*Sample.* We chose a cross-industry, longitudinal setting for our study. Our hand-collected sample captures publicly traded companies ( $n = 69$ ) listed in the German

stock indices DAX, MDAX, and SDAX, from 2007 to 2017. These firms must perform comprehensive quarterly reporting, satisfy international accounting standards, and issue ad hoc disclosures. As these firms must be transparent about their BMI-relevant actions, we identified approximately 2500 BMI activities, based on the analysis of 35,000 press releases and ad hoc disclosures; thus, we compiled *BMI Scores* at the firm level. Regarding POF, the leading German career intelligence website, *Kununu*<sup>[1]</sup> (<https://www.kununu.com/>), provided crowdsourced employer ratings for our investigated companies from their respective workforces concerning various organizational attributes. The novel approach of leveraging data from platforms with crowdsourced employer evaluations is gaining increasing importance in academia (see Campbell and Shang, 2022; Corritore et al., 2020; Lee et al., 2021). Furthermore, we obtained firm-specific data and financial performance indicators from the *Thomson Reuters DataStream* and the *S&P Capital IQ* database. Our sample allowed us to regress BMI activities against POF in a longitudinal setting, to capture potential shifts in POF following BMI.

*Dependent variable.* Regarding POF measurement, Kristof (1996) distinguishes between indirect and direct measures of fit. Indirect measures assess actual or objective fit and compare separately rated individual and organizational characteristics. However, as individual behaviour and commitment are crucial in times of change, and change-related attitudes determine change success (Kim and Mauborgne, 2003; Shin et al., 2012), direct measures, i.e., subjective or perceived fit, appear appropriate, in the context of BMI, as an impetus for organizational change: ‘[...] perceived fit, that is, if fit is conceptualized as the judgment that a person fits well in an organization. Using this conceptualization, good fit is said to exist as long as it is perceived to exist, regardless of whether or not the person has similar characteristics to, or complements/is complemented by, the organization. [...] Direct measures are beneficial if the construct under investigation is subjective or perceived fit’ (Kristof, 1996, p. 11).

To operationalize POF, we leverage a unique dataset from the leading German career intelligence website, *Kununu*, which provides crowdsourcing-based firm ratings for companies in the German market for discrete years. Hence, *Kununu* allows employees to evaluate their firms by rating their organization across several categories, using a 5-point Likert scale. The *Kununu Score* displays an appropriate measure for perceived POF for several reasons. First, the score reflects a direct measurement of a perceived-fit operationalization of POF. When individuals rate their organization, they implicitly compare individual personalities, values, goals, and needs with what their respective organization offers. Computation of firm-level POF should reflect the aggregation of individuals’ impressions of their employing organizations (Kristof, 1996); thus, the *Kununu Score* displays aggregate POF perceptions. The different *Kununu* categories, in which individuals assess whether they appreciate certain attributes of their organization, display a broader measurement of POF and comply with the construct’s inherent multidimensionality (see Table I). Consequently, individual *Kununu* ratings present evaluations regarding certain dimensions. The evaluations integrate the individual’s expectations regarding the organization in the overall *Kununu Score*. The individual employee makes an implicit comparison between expectations and perceptions

Table I. Categories from the German corporate networking platform *Kununu*

<i>Kununu category</i>	<i>Description</i>	<i>Source (excerpt)</i>
Working atmosphere/ work climate	In this category, employees rate typical factors influencing the working atmosphere: Do superiors praise their employees? Does the company contribute to a working atmosphere that is characterized by fairness and trust?	Ambrose et al., 2008; Downey et al., 1975; O'Reilly et al., 1991; Sims and Keon, 1997
Communication	In this category, employees rate whether they are informed regularly about firm results, e.g., successes, profit; or whether they receive the information they need for their work/ tasks.	Cable and Parsons, 2001; Kim et al., 2005; Kristof, 1996; O'Reilly et al., 1991
Co-worker cohesion	In this category, employees rate whether colleagues cooperate effectively and work well together and deal honestly and directly with one another.	Kristof-Brown et al., 2005; O'Reilly et al., 1991; Vancouver and Schmitt, 1991
Supervisor behaviour	In this category, employees rate how their superiors behave in conflict situations, whether they set realistic goals and make clear and comprehensible decisions, and whether they involve employees in making decisions.	Kristof, 1996; Kristof-Brown et al., 2005; Vancouver and Schmitt, 1991; Vancouver et al., 1994
Interesting tasks	In this category, employees rate whether the workload is fairly distributed and whether they can influence their own range of tasks and area of responsibility.	Chatman, 1989; Cherrington and England, 1980; Kristof, 1996; Scroggins, 2008
(Gender) equality	In this category, employees rate whether women have the same career advancement opportunities, whether they are valued as egalitarian employees, and whether those returning to work (e.g., after maternity leave) are disadvantaged.	Madera et al., 2018; Ng and Burke, 2005; Young and Hurlic, 2007
Dealing with older employees	In this category, employees rate whether older employees are being hired and whether long-serving colleagues are valued and supported.	Armstrong-Stassen and Lee, 2009; Gibson and Barron, 2003; Yamada et al., 2005
Work conditions	In this category, employees rate the working conditions in their organization: Do working locations and equipment correspond to the tasks? Are they state-of-the-art? Are ventilation, lighting, and noise levels comfortable?	Bright, 2007; Farooqui and Nagendra, 2014; Iqbal, 2010

(Continues)

Table I. (Continued)

<i>Kununu category</i>	<i>Description</i>	<i>Source (excerpt)</i>
Environmental/ social awareness	In this category, employees rate their organization's environmental and social awareness: Does the organization pay attention to environmental and climate protection? Does the company support fair trade?	Choi and Yu, 2014; Coldwell et al., 2008; Lamm et al., 2015; Zhang and Gowan, 2012
Image	In this category employees rate the image of their organization: Do employees talk about their own company well? Does the image reflect reality?	Alniacik et al., 2011; Carmeli et al., 2006; Dutton et al., 1994; Kcon et al., 1982
Career prospects/ training opportunities	In this category, employees evaluate the career prospects in their organization, whether the criteria for career advancement are transparent, whether employees are supported by training possibilities, and whether the company offers good opportunities for personal development.	Jans, 1989; Kristof, 1996; Rynes et al., 1991; Tansky and Cohen, 2001

while forming an opinion/evaluation; this implicit comparison qualifies the *Kununu Score* as an appropriate measure for perceived POF.

Second, the most effective method to assess the perception of an organization is to survey all members across all departments and hierarchy levels (Gregory et al., 2009). *Kununu's* platform allows for an anonymous evaluation of the organization by all members of the respective firm, independent of rank or job description. With approximately 500 ratings per company,<sup>[2]</sup> a broad and complete image of the respective firm-level POF emerges. Appendix 1 summarizes the *Kununu Score's* participant statistics from our sample and demonstrates that the participants constitute a representative picture regarding corporate functions and corporate hierarchy levels across organizations. The valuation method, based on the European Foundation for Quality Management (EFQM) model for qualitative firm ratings, aims to consider organizations holistically and includes control mechanisms to impede manipulation, thus supporting the integrity of the *Kununu Score* (Kununu, 2021). Third, a growing number of pioneering studies operationalize crowdsourcing-based firm ratings as secondary data sources for research in the organizational context. Scholars demonstrate that the ratings from the corporate networking site *Glassdoor*, a direct competitor of *Kununu* that uses the same rating mechanisms, represent a valid measurement of employees' perceptions of their organizations (e.g., Corritore et al., 2020; Das Swain et al., 2020; Landers et al., 2019; Lee et al., 2021; Schmiedel et al., 2019). Last, a comparison between the *Kununu Score* and the 9-item perceived POF measurement scale that Cable and DeRue (2002) applied, using primary survey data, confirmed a strong and significant correlation between the two scales ( $\rho = 0.73$ ; obs. = 234;  $p < 0.0001$ ).<sup>[3]</sup> This confirms our use of the *Kununu Score* as an operationalization of perceived POF.

Consequently, the operationalization of POF based on our secondary data seems valid.

*Independent variable.* We operationalize BMI using the formative measurement index that Clauss (2017) systematically developed, based on the three-dimensional structure of BMI and comprising value creation innovation, value proposition innovation, and value capture innovation, and respective sub-elements.<sup>[4]</sup> Table II displays the deployed measurement scale, including the associated sub-elements of BMI. In this formative construct, the alteration of a single sub-element may cause a change in the latent variable of the business model, while not necessarily changing all elements within the construct (Diamantopoulos and Winklhofer, 2001). As the three main dimensions consist of multiple underlying activities (Baden-Fuller and Haeffliger, 2013; Johnson et al., 2008), measuring BMI requires capturing changes in these sub-constructs (Clauss, 2017). Our element-based operationalization of the business model provides us with the unique opportunity to directly compare incremental changes with radical changes in cognitive representations. Table II elaborates the three core dimensions of BMI and their underlying sub-elements that, on a firm level, constitute the basis for our data collection.

For our comprehensive hand-collected dataset, we evaluated 35,000 press releases, ad hoc disclosures, and financial statements regarding BMI-relevant activities over 11 years (2007–17).<sup>[5]</sup> Thus, we determined the initial situation of each firm, to define the business model baseline at the beginning of the respective period under review, containing (among others) industry-setting and firm-level specifics, such as initial product portfolio, value creation, and revenue and cost-structure particularities. Thereupon, we identified 2500 BMI-relevant disclosures. Due to the large number of press releases the firms from our sample disclosed within these 11 years, the coding of the BMI scores took several months. This time and effort were necessary as most of the firms issued several press releases per month, reporting besides BMI-relevant information personnel changes of their top management, quarterly financial statements, marketing campaigns, presentations at industry fairs, reactions to the public press, and benefits for their employees, to name just a few. Hence, for each BMI-relevant activity that concerns the BMI core dimensions by fundamentally affecting the underlying sub-elements Table II describes, we awarded a point score for the dimension and the year, respectively. Last, for each firm, the final score points were summed by dimension and year.

Prior to coding, through several workshops, the authors of this study jointly developed and agreed on a coding procedure, containing a codebook, coding spreadsheets, and the coding procedure itself. A manual coding process was preferred over an algorithm-based approach, to guarantee connecting BMI activities to discrete years and avoid double-counting activities. For the coding procedure described above, we agreed on a three-step approach to catering to inter-rater bias: (1) Baseline determination, (2) BMI scoring, and (3) Discussion of borderline cases. We measured inter-rater reliability in the second step (BMI scoring) at two stages. The first stage (review of press releases/ disclosures, and identification and documentation of BMI events based on the BMI scoring model) revealed almost perfect accord between the raters



Table II. Measurement scale developed by Clauss (2017) with 3 core dimensions and 10 sub elements

<i>BMI core dimension</i>	<i>BMI sub element</i>	<i>Description</i>	<i>Source (excerpt)</i>
Value Creation Innovation	New capabilities	<ul style="list-style-type: none"> <li>Development of a core competency/expertise by oneself, e.g., skill development; from outside sources, e.g., through mergers and acquisitions of firms with new, complementary capabilities; cooperation/ partnership to jointly develop a competence</li> </ul>	Achtenhagen et al., 2013; Clauss, 2017; Morris et al., 2005
	New technology/ equipment	<ul style="list-style-type: none"> <li>New technology in product/ process with strategic relevance/ leading to competitive advantages developed/ innovated by oneself, e.g., internal R&amp;D department; acquired from outside sources, e.g., through mergers and acquisitions, new partnerships, licence agreements, explicit purchase transactions.</li> <li>New equipment/ infrastructure (in relevant size) developed internally/acquired externally</li> </ul>	Baden-Fuller and Haefliger, 2013; Bleicher and Stanley, 2019; Johnson et al., 2008; Teece, 2010
	New processes/ structures	<ul style="list-style-type: none"> <li>New core activity of firm's value creation</li> <li>Significant/ substantial change in depth of added value/ value creation network, e.g., via vertical integration</li> <li>Introduction of new and innovative processes, e.g. opening of development platform, open source, co-creation</li> <li>Extensive process improvement through synergies, technology or efficiency increase</li> <li>Process-related integration of partners or customers, e.g. following mergers/ acquisitions</li> <li>Significant change in organizational structure, e.g. creation of new business segments</li> </ul>	Cavalcante et al., 2011; Clauss, 2017; Frankenberger et al., 2013
	New partnerships	<ul style="list-style-type: none"> <li>Cooperative agreement/ partnership/ strategic alliance with external partners/ institutions/ communities/ public bodies with strategic/ business model implications, e.g., realization of product and services, joint ventures, market entries, economies of scale/ scope, joint infrastructure/ innovation/ research;</li> <li>Development of a product and service ecosystem requiring new partner/ network configuration/ organizational partner integration</li> </ul>	Bohnsack et al., 2014; Osterwalder et al., 2005; Teece, 2010; Zott et al., 2011

Table II. (Continued)

<i>BMI core dimension</i>	<i>BMI sub element</i>	<i>Description</i>	<i>Source (excerpt)</i>
Value Proposition Innovation	New product and service offerings	<ul style="list-style-type: none"> <li>• New-to-the-firm or -industry products and services, addressing customer demand/ pain</li> <li>• New-to-the-firm or -industry product and service innovations, e.g., in the context of internet/ digital platforms and ecosystems</li> <li>• Complementary extension/ diversification/ significant change in product and service portfolio</li> <li>• Development of new field of businesses, e.g. servitization</li> </ul>	Amit and Zott, 2010; Frankenberger et al., 2013; Johnson et al., 2008; Osterwalder, 2004
	New customer segments/ markets	<ul style="list-style-type: none"> <li>• Addressing of a new, currently not served customer segment/ new customer group, e.g., customer tier, generation, price class</li> <li>• Addressing of a new, currently not served market segment, e.g., new products or services</li> <li>• Addressing of/ extending into a new, currently not served market/ region of significant size, entailing substantial structural/ organizational changes or calling for new skills, e.g., entering the Asian/ Chinese market</li> <li>• Significant change in positioning, e.g., new competitive strategy/ diversification</li> </ul>	Aspara et al., 2010; Frankenberger et al., 2013, Osterwalder et al., 2005, Zott and Amit, 2008
	New product and service delivery	<ul style="list-style-type: none"> <li>• New distribution channels e.g. via introduction of online shop/ new store concept (flagship stores, shop-in-shop)</li> <li>• Significant change in distribution structure, e.g., engagement of new distribution partners</li> <li>• Significant change in the portfolio of deployed distribution channels</li> <li>• Significant change in depth of value added in sales, e.g., via switching to direct sales</li> </ul>	Clauss, 2017; Morris et al., 2005; Osterwalder et al., 2005
	New customer relationships	<ul style="list-style-type: none"> <li>• Significant increase in customer loyalty/ retention/ repurchase rates, e.g., loyalty programs</li> <li>• Significant increase in customer satisfaction, e.g., through enhancement of customer journey, feedback in consumer rankings</li> <li>• Deliberate change in customer relationship, e.g., lock-in effects, razor and blade strategy</li> <li>• Change in customer relation/ interaction, e.g., through inclusion in value creation via crowd sourcing/ open innovation; new delivery channels in the form of direct selling</li> <li>• Increased and substantiated willingness-to-pay</li> </ul>	Amit and Zott, 2010; Chesbrough, 2007; Morris et al., 2005; Osterwalder et al., 2005

(Continues)

Table II. (Continued)

<i>BMI core dimension</i>	<i>BMI sub element</i>	<i>Description</i>	<i>Source (excerpt)</i>
Value Capture Innovation	New logic of earnings	<ul style="list-style-type: none"> <li>• Opening up/ generation of new sources of revenue, e.g., through cross-selling, affiliate products, complementary products, integrated service contracts, licences</li> <li>• Change in payment system/ streams of revenue, e.g., rent instead of sale, subscription</li> <li>• New pricing strategy, e.g., flat rate, free-mium, add-ons</li> </ul>	Amit and Zott, 2010; Frankenberger et al., 2013
	New logic of costs	<ul style="list-style-type: none"> <li>• Realization of significant economies of scale, e.g., via bringing together business units/ partner integration/ joint use of infrastructure and resources</li> <li>• Significant change in cost structure, e.g., in the context of a new product-to-market strategy</li> <li>• Significant cost reduction/ synergies, e.g., through outsourcing, restructuring, or significant price-effects through an enhanced sourcing strategy</li> <li>• Efficiency-enhancing process innovation in the context of IT/ digitalization/ automation/ organization</li> </ul>	Bohnsack et al., 2014; Morris et al., 2005

regarding the pre-selection of BMI-relevant disclosures ( $K > 0.8$ ). The second stage (setting of annual BMI scores per firm) revealed substantial agreement between the raters ( $K > 0.6$ ). To address the lower but still substantial inter-rater reliability observed in the second stage, we utilized the third step (i.e., discussing borderline cases), in case of mismatch between raters, to discuss the contents of the BMI activities within the whole research team and agree on the final setting of the annual BMI scores.

*Coding example: Jungheinrich AG.* The SDAX-listed Jungheinrich AG is one of the largest European companies operating in the material-handling equipment, warehousing, and material flow engineering sectors. Founded in 1953, it employs 18,000 staff, generates annual revenues of 3.81 billion EUR (all numbers from 2020), and well represents the German industrial landscape. Appendix 2 displays an extract from our Jungheinrich AG BMI coding and shows that BMI events may affect single dimensions only or multiple dimensions at once. For example, Jungheinrich AG's introduction of a solution to identify and trace back pallets affected only the value proposition innovation dimension. As the food and beverage industries in particular require trace-back functions, this new offering solves a fundamental customer problem (Johnson et al., 2008) and, thus, constitutes a value proposition innovation. Multiple dimensions were affected when Jungheinrich AG founded a joint venture in China for

renting industrial trucks, changing the firm's value creation, value proposition, and value capture simultaneously. The resultant BMI score in annual tranches appears in [Appendix 3](#). The extract highlights that Jungheinrich AG changed its value proposition innovation by significantly extending its product and service offerings and sales channels during the observation period.

*Operationalization of momentum and transition periods.* The operationalization of Miller and Friesen's (1980) momentum and transition periods required a classification reflecting the degree of changes to the business model. Although several studies have discussed the extent of BMI (e.g., Bourreau et al., 2012; Bucherer et al., 2012; Foss and Saebi, 2017; Rayna and Striukova, 2016), the suggested classifications have yet to be operationalized in large-scale, longitudinal empirical investigations.

Striving for both cumulativeness in BMI research and applicability to empirical operationalization, we operationalize BMI-induced momentum and transition periods by considering important aspects of BMI, namely, the scope and intensity of BMI endeavours. First, we follow Foss and Saebi's (2017) notion of scope and build on the definition of the business model's construct, considering the three dimensions of value creation, value proposition, and value capture (Johnson et al., 2008; Spieth and Schneider, 2016; Teece, 2010). We consider *BMI scope* – the number of business model dimensions that innovative activities affect in a certain period – as one important aspect of distinguishing BMI-induced momentum and transition periods. This aligns with previous studies that delineate BMI classifications along dimensions (e.g., Koen et al., 2011) and levels of change in the business model, according to components or items (e.g., Karimi and Walter, 2016). Concordantly, Abdelkafi et al. (2013), Rayna and Striukova (2016), and Taran et al. (2015) consider BMI as radical when more than one value dimension or building block changes at one time. Second, we consider *BMI intensity*, the number of activities changing the business model within one period, as decisive for the extent of BMI. The conceptualization of intensity aligns with that of Brink and Holmén (2009), who note that radical BMI requires numerous simultaneous changes. It also reflects Miller and Friesen's (1980, 1982) and Romanelli and Tushman's (1994) notion of punctuated transition periods, in which the modification of many of a firm's structural and strategy-determining variables occurs. [Figure 1](#) presents our classification of BMI-induced

	BMI-induced momentum periods	BMI-induced transition periods
<b>BMI intensity</b> [number of BMI activities within one period]	Low	High
<b>BMI scope</b> [dimensions affected by BMI activities within one period]	Low	High

Figure 1. Classification of BMI-induced periods of organizational change

*Note:* This table presents the business model innovation classification, characterizing the extent of BMI as a function of BMI scope and BMI intensity. We differentiate between 'periods with incremental BMI' (n = 198), assigning Miller and Friesen's (1980) periods of 'momentum', and 'periods with radical BMI' (n = 168), assigning Miller and Friesen's (1980) periods of 'transition'.

periods of change, considering both the scope and intensity of BMI activities. Following this model, BMI-induced *momentum periods* appear through low-level changes in scope and intensity (incremental BMI). High levels of scope and intensity (radical BMI) characterize BMI-induced *transition periods*.

In accordance with our hypotheses and the classification reflecting the extent of BMI-induced change, our research design entails subsamples, categorizing the annual BMI events of the subject corporations as a function of their annual BMI scope and intensity. *BMI intensity* measures the number of BMI activities within one period, distinguishing between *low BMI intensity* and *high BMI intensity*, depending on the overall sample median of BMI activities per year. *BMI scope* describes whether BMI activities span multiple business model dimensions (*high BMI scope*) or remain only one-dimensional (*low BMI scope*) (see Figure 1). Consequently, *momentum periods* contain corporations that display both low BMI intensity and low BMI scope, meaning that they conduct few BMI activities and perform them within a single dimension only. We utilize this subsample to test hypothesis 1, positing BMI-induced change leading to positive changes in POF. *Transition periods* include those in which corporations display high BMI intensity and high BMI scope, meaning that they conduct numerous BMI activities and perform them within multiple dimensions. We utilize this subsample to test hypothesis 2, which posits BMI-induced changes leading to negative POF effects. Referring to the number of ratings from the *Kununu Score*, we find no worrying imbalance between our two subsamples, in light of the approximately even distribution of the number of ratings per employee for the two groups.

*Control variables.* We include further factors that might influence POF as control variables. In their longitudinal study, Schneider et al. (2003) found that internal performance measures and external financial market performance affect employee attitudes. Similarly, focusing on corporations in Germany, Dunbar and Schwalbach (2000) report that prior financial performance, in terms of accounting performance and market measures of financial performance, strongly affects subsequent reputation. Corporate reputation researchers support their findings with evidence that financial performance predicts the public perception of firms (e.g., McGuire et al., 1990; Roberts and Dowling, 2002). Dutton et al. (1994) and Tsui et al. (1992) suggest that based on their corporate organization membership, individuals in a corporate context shape their self-concept.

Hence, we argue that firm performance influences POF. For example, Carmeli et al. (2007, p. 975) detect an association between perceived market and financial performance and organizational identification. Moreover, ‘part of an individual’s self-conception and self-esteem stems from the status and prestige attributed to the organization in which he or she is employed’. In turn, perceived external economic prestige enhances the individual’s perception of the employing organization (Carmeli, 2005). From an internal perspective, perceived organizational effectiveness shapes individuals’ perceptions of the respective corporate culture (Shockley-Zalabak and Ellis, 2000) and significantly impacts their attitudes and behaviours (Zeffane and Melhem, 2017). Therefore, we follow Schneider et al. (2003) and Dunbar and Schwalbach (2000) in controlling for *financial market performance* (measured by market

capitalization) and *firm productivity* (measured by revenue per employee) to account for externally and internally perceived firm performance that may potentially affect POE. Especially in our setting of publicly traded firms, we consider market capitalization an appropriate external performance indicator.

Regarding firm specifics, innovativeness (among other characteristics) drives corporate attractiveness (Backhaus and Tikoo, 2004). For example, Sommer et al. (2016) found that an innovative product portfolio and an innovation culture enhance a corporation's attractiveness. As R&D activities relate positively to innovative outcomes, such as patents (Artz et al., 2010) and firm performance (Belderbos et al., 2004), we further control for *R&D expenditure* to account for non-BMI-related innovation activities affecting POE. From a cultural perspective, organizations emphasizing innovation might generate a positive attitude toward changes to the business model, even radical BMI. Therefore, we consider the business model design (novelty-centred vs. efficiency-centred – see, for example, Zott and Amit, 2008) a decisive influencing factor, potentially affecting POE. We apply the aspect of *new product and service offering* to our model, to control for novelty-centred design choices that focus on creating new types of transactions by developing new products and services and capturing new markets (Hock et al., 2016). Our annual BMI score measures *new product and service offerings*, reflecting the number of activities the organization undertakes to target them (see Table II). We extract the activities from the corporate press releases and disclosures in the respective year.

As organizational tenure and the process of socialization increase POE over time (Chatman, 1989; Kristof, 1996), *firm age* may contribute to explaining changes in POE. For example, in young firms, the characteristics and values of individuals and their organization might not have had sufficient time to converge. Conversely, as firms grow older and develop inertia (Coada et al., 2013), perceived decreases in self-efficacy and productivity might lead to a decrease in POE. Thus, we apply *firm age* to control for these gradual processes. Table III summarizes our described variables, indicating their respective operationalization and data sources.

## Descriptive Statistics

Table IV summarizes the descriptive statistics. POE is operationalized via the firm-level *Kununu Scores* and ranges from 1 point (very low/ very poor) to 5 points (very good/ very high), averaging 3.42 points and deviating by 0.63 points. BMI displays the annual BMI-relevant activities per firm and ranges from 0 to 41, averaging 4.59 activities per year. Regarding financial-market performance, market capitalization ranges from a minimum of 24 million EUR to a maximum of 112.6 billion EUR, averaging around 14.8 billion EUR. Internal firm productivity (i.e., revenue per employee) ranges from 31 thousand EUR to 6.36 million EUR per employee, averaging 386 thousand EUR per employee. R&D expenditure ranges from 0 to 11.9 billion EUR and averages 465 million EUR. The heterogeneity and skewness to the left of the financial indicators appropriately reflect the peculiarities of the German industrial landscape, which accommodates both large multinationals and a surplus of small- and medium-sized enterprises. Firm age ranges from 5 to 170 years, with an average of 82 years, indicating that German stock-market indices contain both newcomers and long-established incumbents.



Table III. Variables and operationalization

<i>Type</i>	<i>Variable</i>	<i>Measurement</i>	<i>Time frame</i>	<i>Data source</i>	<i>Literature Source (excerpt)</i>
Dependent Variables	Person-Organization Fit	Crowdsourced annual employer ratings	2007–17	<i>Kinunu</i> Score	Chatman, 1989; Kristof, 1996; O'Reilly et al., 1991; Westermann and Cyr, 2004
Independent Variable	Business Model Innovation	Annual score of business model innovation events in the dimensions of value creation innovation, value proposition innovation, and value capture innovation	2007–17	Hand collected <i>BMI Score</i> , based on press releases, annual/quarterly reports	Clauss, 2017; Johnson et al., 2008; Morris et al., 2005; Spieth et al., 2014; Spieth and Schneider, 2016; Teece, 2010
Control Variables	Financial Market Performance	Market capitalization measured as annual mean of number of shares times share price per trading day in thousand EUR per year	2007–17	Thomson Reuters DataStream	Carmeli et al., 2007; Dunbar and Schwalbach, 2000; Schneider et al., 2003
	Firm Productivity	Annual revenue in million EUR per year divided by the number of full-time employees per year	2007–17	S&P Capital IQ	Carmeli et al., 2007; Dunbar and Schwalbach, 2000; Schneider et al., 2003
	Firm age	Number of years since firm's founding per year	2007–17	S&P Capital IQ	Chatman, 1989; Kristof, 1996; Coada et al., 2013
	R&D expenditure	Total amount of money spent in R&D in million EUR per year	2007–17	S&P Capital IQ	Artz et al., 2010; Backhaus and Tikoo, 2004; Belderbos et al., 2004; Sommer et al., 2016
	New products and service offering	Annual score of events regarding new product and service offering	2007–17	Hand collected event, based on press releases, annual/quarterly reports Hand collected event, based on press releases, annual/quarterly reports	Hock et al., 2016

*Note:* This table shows the variables of interest, operationalization, and data sources.

Table IV. Descriptive statistics

<i>Variable</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>Min</i>	<i>Max</i>	<i>Observations</i>
Person-Organization Fit					
Overall	3.422	0.629	1.281	4.991	N = 537
Between		0.303	2.885	4.058	n = 69
Within		0.551	1.374	5.207	T-bar = 7.783
Business Model Innovation					
Overall	4.59	4.811	0	41	N = 537
Between		4.016	0.4	23.667	n = 69
Within		3.175	-5.957	29.922	T-bar = 7.783
Financial Market Performance					
Overall	14819.94	20491.81	24.307	112632.8	N = 537
Between		19915.21	226.013	100099.8	n = 69
Within		6810.524	-1,159,284	63106.2	T-bar = 7.783
Firm Productivity					
Overall	0.386	0.617	0.031	6.358	N = 537
Between		0.685	0.031	5.675	n = 69
Within		0.116	-0.116	2.145	T-bar = 7.783
R&D Expenditure					
Overall	464.8	1353.773	0	11,853	N = 537
Between		1653.231	0	11658.67	n = 69
Within		220.856	-867.166	2837.834	T-bar = 7.783
New products and service offering					
Overall	0.624	1.051	0	6	N = 537
Between		0.639	0	2.75	n = 69
Within		0.840	-2.126	4.791	T-bar = 7.783
Firm age					
Overall	82.26	48.554	5	170	N = 537
Between		48.800	7	166	n = 69
Within		2.595	76.821	87.121	T-bar = 7.783

*Note:* This table shows descriptive data on 69 German Prime Standard listed firms from 2007 to 2017.

Table V displays the correlation matrix of our dataset and shows no worrying correlations ( $r < 0.7$ ) for any variable. BMI positively correlates with R&D expenditure ( $r = 0.43$ ). The dependent variable POF shows low but positive bivariate correlations with the independent variable BMI ( $r = 0.09$ ) and the remaining control variables.

## Empirical Approach

BMI is a process that requires time to materialize (e.g., Frankenberger et al., 2013). Hence, to empirically test BMI-outcome relations, scholars suggest a longitudinal research design

Table V. Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	Person-Organization Fit	1.000						
(2)	Business Model Innovation	0.088	1.000					
(3)	Financial Market Performance	−0.002	0.038	1.000				
(4)	Firm Productivity	0.087	−0.043	−0.080	1.000			
(5)	R&D Expenditure	0.142	0.434	−0.057	−0.027	1.000		
(6)	New products and service offering	0.063	0.637	0.023	−0.043	−0.200	1.000	
(7)	Firm age	0.022	0.050	−0.022	−0.069	0.134	0.012	1.000

Note: This table reports the correlation coefficients among the dependent, independent, and control variables employed in our regressions.

(e.g., Clauss et al., 2019; Foss and Saebi, 2017). For our cross-industry study, we thus deploy a linear panel regression approach, within a timeframe of 11 years (2007–2017). The regression model statistically controls for *industry effects* as our applied panel data approach with fixed-effects (FE) controls for firm- and time-invariant variables (Baltagi, 2008). Thus, omitted time-invariant characteristics, such as industrial setting, do not bias the coefficients of the FE model (Kohler and Kreuter, 2005). We align with Dutton et al. (1994), who argue that individuals gradually change the image they have of their organization, based on work experiences they live to see over time. Thus, we expect changes in POF to occur with a delay and apply in addition to the model without lagged effects time lags of one to three years for our independent variable BMI. Besides our full sample (*Model Ia–d*), the two previously defined subsamples of interest (both BMI-induced momentum and BMI-induced transition periods) enter the regression in separate estimation models (*Models IIa–d and Models IIIa–d*):

$$Y_{i,t} = \beta_0 + \beta_1 \text{Business model innovation}_{i,t-l} + \beta_2 \text{Firm performance}_{i,t} + \beta_3 \text{Business model design choice}_{i,t} + \beta_4 \text{Firmspecifics}_{i,t} + \varepsilon$$

where  $Y_{i,t}$  is the firm-level POF of firm  $i$  in year  $t$ ;  $l$  constitutes the time lag for the independent variables with  $l \in \{0, 1, 2, 3\}$  years. *Business model innovation* contains the score of the BMI activities of firm  $i$  in year  $t$ . *Firm performance* is the vector containing the control variables *financial market performance* and *firm productivity*. *Business model design choice* is a vector containing the novelty-centred business model control variable *new product & service offering*. *Firm specifics* is the vector containing the control variables *R&D expenditure* and *firm age*, all assumed to affect POF independent of BMI.

## Robustness

Regarding the error term  $\varepsilon$ , we conducted several econometric tests to obtain robust standard errors. As suggested for panel data, we used the *Hausman Test* to assess whether the

firm's error terms correlate with the predictor or outcome variables (see Baltagi, 2008; Hoechele, 2007; Wooldridge, 2002). With  $\text{Chi} < 0.001$ , we reject the null hypothesis that the difference in coefficients is non-systematic and, thus, we conclude that an FE model is most appropriate for our regression approach. In panel data, the FE model removes the effect of unobserved, firm- and time-invariant characteristics, such as macroeconomics, industry-specific effects, and firm-level differences (e.g., Baltagi, 2008; Kohler and Kreuter, 2005). Further testing for time-fixed effects, we found that the coefficients for all years are jointly different from zero and, thus, applied year dummies in our regression models. Furthermore, a modified *Wald Test* reveals heteroskedasticity in our FE model (Greene, 2002). The *Wooldridge Test* for autocorrelation in the panel data rejects the null hypothesis that no first-order autocorrelation is present. Therefore, we applied the *Rogers* standard errors, which extend the *Huber/White/Sandwich* VCE estimators to obtain robust standard errors, controlling for both heteroskedasticity and autocorrelation (Hoechele, 2007; Rogers, 1993).

To test the robustness of our findings, we create another subsample of our dataset, excluding the firms operating in multi-business environments. With this approach, we attempt to address a potential limitation to our findings from measuring BMI and POF at the level of the overall corporation, as the concepts we are trying to capture might occur at the level of particular business units. Hence, we exclude firms with high degrees of business diversification, commonly measured by four-digit Standard Industrial Classification (SIC) codes that identify the industries in which firms operate (Knecht, 2013). We extracted the SIC codes from the S&P Capital IQ database and aggregated the number of four-digit SIC codes in which the firms operate, differentiating between above-average and below-average diversified business activities within our sample. We argue that for firms with a low level of business diversification (below average within our sample), the corporate level and business-unit level tend to coincide. Finally, to further assess the robustness of the estimates, we use a *Jackknife* algorithm, a resampling scheme that distorts the actual sample by leaving out observations and then recomputes artificial samples (Efron and Stein, 1981; Rodgers, 1999).

## RESULTS

Table VI shows the results from our panel regressions of the models with our full sample (*Model Ia–Model Id*) and the two subsamples (*Model IIa–Model IIId*). In the model with our full sample (*Model Ia–Model Id*), BMI yielded a significant lagged, negative effect on POF in year 2 (*Model Ic*:  $\beta = -0.0132$ ;  $p < 0.05$ ) and, thus, motivated our more thorough analysis, considering phases of momentum and transition. Regarding the two subsamples representing BMI-induced momentum periods and BMI-induced transition periods, hypothesis 1 and 2 are confirmed. BMI-induced momentum periods yield a positive, yet lagged effect on POF in year 1 (*Model IIb*:  $\beta = 0.0375$ ;  $p < 0.1$ ) and, thus, confirm hypothesis 1. Conversely, the regression results for BMI-induced transition periods yield a negative, lagged effect of BMI-induced change on POF in year 2 (*Model IIId*:  $\beta = 0.025$ ;  $p < 0.05$ ) and, thus, confirm hypothesis 2.

Our results largely support the POF-determining effect of our deployed control variables, though with different levels of significance for the subsamples. *Firm age* positively affects POF throughout almost all models (e.g., *Model Ic*:  $\beta = 0.0925$ ;  $p < 0.01$ ),

Table VI. Full model assessing impact of business model innovation on person-organization fit

Variables	Full Sample				Momentum periods				Transition periods			
	Model Ia (0 Lag)	Model Ib (1 Lag)	Model Ic (2 Lags)	Model Id (3 Lags)	Model IIa (0 Lag)	Model IIb (1 Lag)	Model IIc (2 Lags)	Model IId (3 Lags)	Model IIIa (0 Lag)	Model IIIb (1 Lag)	Model IIId (2 Lags)	Model IIId (3 Lags)
Business Model Innovation	0.0052 (0.010)	0.0007 (0.006)	-0.0132* (0.006)	0.0102 (0.007)	0.0186 (0.064)	0.0375 <sup>†</sup> (0.021)	-0.0178 (0.020)	-0.0315 (0.026)	-0.0076 (0.011)	-0.0003 (0.007)	-0.025* (0.011)	-0.0041 (0.004)
Financial Market Performance	13 × 10 <sup>-8</sup> (0.00001)	16 × 10 <sup>-8</sup> (0.00001)	19 × 10 <sup>-8</sup> (0.00001)	9 × 10 <sup>-8</sup> (0.00001)	18 × 10 <sup>-8</sup> (0.00001)	13 × 10 <sup>-8</sup> (0.00001)	16 × 10 <sup>-8</sup> (0.00001)	10 × 10 <sup>-8</sup> (0.00001)	17 × 10 <sup>-8</sup> (0.00001)	22 × 10 <sup>-8</sup> (0.00001)	28 × 10 <sup>-8</sup> (0.00001)	11 × 10 <sup>-8</sup> (0.00001)
Firm	0.0418 (0.283)	0.0305 (0.297)	0.0710 (0.391)	-0.0203 (0.390)	2.951** (0.922)	3.047** (0.908)	2.916** (0.928)	2.813* (0.907)	0.907 (0.835)	0.218 (0.717)	1.621 (1.100)	0.134 (0.970)
Productivity	21 × 10 <sup>-5</sup> (0.0007)	37 × 10 <sup>-5</sup> (0.0007)	17 × 10 <sup>-5</sup> (0.0007)	12 × 10 <sup>-5</sup> (0.0006)	53 × 10 <sup>-5</sup> (0.0005)	46 × 10 <sup>-5</sup> (0.0007)	31 × 10 <sup>-5</sup> (0.0007)	10 × 10 <sup>-5</sup> (0.0009)	17 × 10 <sup>-5</sup> (0.0010)	25 × 10 <sup>-5</sup> (0.0010)	75 × 10 <sup>-5</sup> (0.0010)	84 × 10 <sup>-5</sup> (0.0008)
Expenditure	0.0131 (0.033)	0.0284 (0.025)	0.0210 (0.028)	0.0168 (0.021)	0.155 (0.112)	0.076 (0.102)	<b>0.211*</b> (0.102)	<b>0.227<sup>†</sup></b> (0.114)	-0.002 (0.042)	0.042 (0.029)	0.036 (0.030)	0.001 (0.024)
New products and service offering	0.0637* (0.028)	0.0429* (0.017)	0.0925** (0.020)	0.1210** (0.021)	0.0266 (0.047)	-0.0036 (0.040)	0.108** (0.051)	0.108** (0.015)	0.058** (0.015)	0.053 <sup>†</sup> (0.028)	0.069 (0.043)	0.098** (0.028)
Firm Age	YES*	YES**	YES**	YES**	YES*	YES**	YES*	YES <sup>†</sup>	YES**	YES*	YES*	YES**
Year Effects	537	510	465	422	198	181	168	158	168	160	142	124
N	0.260	0.268	0.313	0.276	0.415	0.404	0.433	0.417	0.340	0.423	0.476	0.430
R <sup>2</sup>												

Note: This table reports the results of our panel regression. We rely on a sample of 69 German Prime Standard listed firms for the years 2007 to 2017. The dependent variable is person-organization fit. Robust standard errors in parentheses.

<sup>†</sup>0.05 ≤ p < 0.1;

\*0.01 ≤ p < 0.05;

\*\*p < 0.01;

\*\*\*p < 0.001.

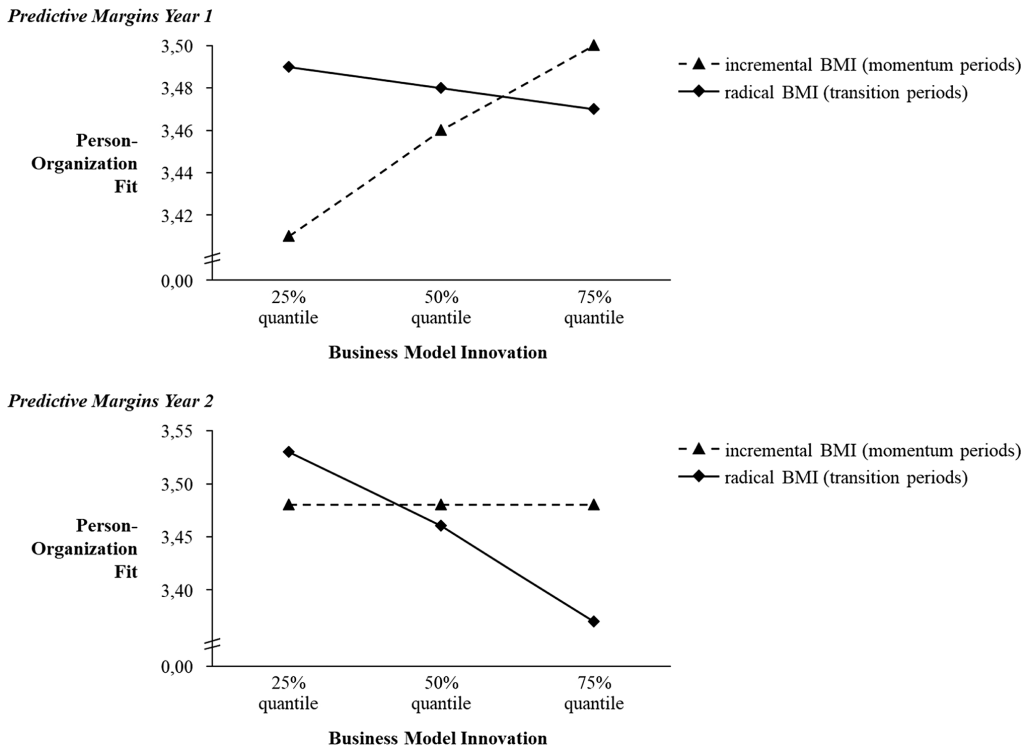


Figure 2. Predictive margins for Year 1 and Year 2

Note: This figure presents the predictive margins for the models with the lagged effect of BMI-induced change on POF for one lag (Year 1) and two lags (Year 2).

thus affirming the ongoing selection and socialization support that Chatman (1989) and Kristof (1996) hypothesized. Regarding BMI-induced momentum periods, *firm productivity*, *new products & service offering*, and *firm age* positively affect POF with different degrees of significance. For all samples, the models without lagged effects (*Model Ia*, *Model IIa*, and *Model IIIa*) do not yield any significance for the independent variable BMI. Furthermore, no models reveal any significant effects of the independent variable BMI on POF in the third year, subsequent to BMI-induced changes. All models are statistically highly significant ( $p < 0.001$ ), and we find the variance is considerably explained, with  $R^2$  values ranging from  $R^2 = 0.260$  to  $R^2 = 0.476$ , depending on the subsample and the respective sample size.

Figure 2 illustrates the predictive margins of the BMI-POF relationship for the subsamples of BMI-induced momentum and transition periods. For the subsample-inherent quantiles, influences of BMI activities on POF are visualized for year 1 and year 2. We chose the 25 per cent, 50 per cent, and 75 per cent quantile for each subsample, to obtain three data points at different degrees of effort to change the business model within each subsample group. Taking BMI-induced momentum periods in year 1 as an example, the margin plots indicate that any additional BMI activity (meaning that the effort to change the business model increases, though only to the



degree that the firm remains within the same subsample for the respective period) enhances subsequent POF. In contrast, for the subsample describing BMI-induced transition periods, any additional BMI activity deteriorates POF in the subsequent periods (year 1 and year 2).

The results of the robustness tests confirm our findings.<sup>[6]</sup> The summary of the regression results for the subsample with below-average industry diversification appears in [Appendix 4](#). They support our findings on hypothesis 1, with a positive lagged effect of BMI-induced momentum periods on POF in year 1 (*Model Vb*:  $\beta = 0.070$ ;  $p < 0.05$ ), as well as our findings on hypothesis 2, with a negative, lagged effect of BMI-induced transition periods on POF in year 2 (*Model VIc*:  $\beta = -0.039$ ;  $p < 0.05$ ). The results of the *Jackknife* algorithm also largely support our findings, and a summary appears in [Appendix 5](#).

## DISCUSSION

### Key Findings

In this study, we aimed to understand the impact of BMI beyond financial performance indicators and assessed the internal dynamics that organizational transformation induced for different degrees of change in the business model for incumbent firms. Although scholars highlight the importance of BMI remaining competitive (e.g., Amit and Zott, 2010; Bleicher and Stanley, 2019; Chesbrough, 2007; Doz and Kosonen, 2010), the consequences for internal organizational outcomes, such as POF, remain unexamined. Our results show that BMI internally ‘produces both winners and losers’ (Foss and Saebi, 2017, 2018) as different extents of BMI yield varying outcomes for the relationship between individuals and their employing organizations.

Periods of incremental changes to the business model improve the fit between organizations and their members, as the self-reinforcing relationship between members and their organizations during the phase of momentum sets in. The results from our sample confirm this, with firms experiencing periods of incremental BMI as their POF increased one year after BMI. Our findings align with those of Sommer et al. (2016), who find that innovation per se leads to positive and affirmative associations with an organization, as well as with those of Lambert and Hogan (2010), who argue that perceived organizational innovation positively affects how employees evaluate the relationship with their organization. From a configuration perspective, our results for periods with incremental BMI confirm the theory of the self-reinforcing relationships of the various links between the elements, attributes, and activities of the configuration in phases of momentum (Miller, 1987; Porter, 1996). While the organization conducts incremental BMI, changes occur within the present guiding themes, and the harmony of the overall configuration remains unimpaired. Consequently, reinforcement sets in, with respect to organizational configurations (Miller, 1987), indirectly enhancing POF and, through the ongoing processes of pre-entry selection and post-entry socialization (Chatman, 1989; Kristof, 1996), directly increasing POF.

Regarding periods of radical BMI negatively affecting POF, our results indicate that the breaking up of existing configurations in the course of significant change destroys the equilibrium of an organization’s configuration (Miller and Friesen, 1980; Romanelli and

Tushman, 1994) and impairs internal fit. Furthermore, this effect outperforms the generally positive association with innovation. This aligns with Miller (1992), who argued that firms may require the disruption of internal harmony to maintain external fit. In addition, radical BMI might affect each individual's workplace more directly, concern a larger share of an organization's workforce, and provoke change-induced stressors (Teo et al., 2016). Previous findings on role stress (Iranmanesh et al., 2017), role ambiguity (Brashear et al., 2003), and role conflict (e.g., Moura et al., 2014; Vandenberghe et al., 2010) support our findings and ultimately demonstrate that radical BMI deteriorates POF.

Finally, our results for the lagged effects of BMI on POF, setting in one year after periods of incremental change and two years after periods of radical change, further confirm that POF describes an ongoing process of association and matching of individuals' norms and values with the cultural traits of their respective organizations. We did not observe any instant significant effects in the same period in which the changes to the business model started and were reported. Thus, POF is a dynamic construct that the organizations' behaviours and the members' work-related experiences determine over time (e.g., the perceived security that competencies meet the needs of the organization, or the increase in competencies through skill-based training). The increase of POF following incremental changes to the business model reflects this only one year after the change. Regarding radical changes, established organizations face identity dissonance (Kammerlander et al., 2018), and it takes time before new values become mutually shared (Kristof, 1996). As radical changes to the business model require more time to materialize and to see employees experiencing any work-related change (e.g., stressors or breaking up with the belief system), the negative impact on POF is also delayed.

## Theoretical Contributions

Our contribution to the literature is threefold. First, we contribute to the theoretical discourse on the consequences of BMI in incumbent firms, by assessing outcome relations beyond financial performance indicators. Our results reveal contrasting effects, depending on the degree of change in the business model, and suggest that incremental BMI remains within a phase of momentum, whereas, in contrast, radical BMI destroys the existing configuration and carries an organization into a phase of transition. Despite a wide consensus that BMI is key to firm performance (Zott et al., 2011), our study of POF adds to our understanding of the impact of BMI on organizational effectiveness. POF has been acknowledged as determining individual behaviour and attitudes (Afsar et al., 2015; Cable and DeRue, 2002; O'Reilly and Chatman, 1986; Westermann and Cyr, 2004) as well as work performance (Farooqui and Nagendra, 2014; Judge, 1994; Tziner, 1987). The negative impact on POF of periods that include radical changes to the business model might not only jeopardize subsequent firm performance but also will likely impede the success of the BMI-inherent organizational transformation itself (Shin et al., 2012). In conclusion, our findings respond to the call from previous scholars to assess the organizational context of BMI (Foss and Saebi, 2017; Markides, 2013; Spieth et al., 2014) and, for radical BMI, provide a potential explanation for the failure of extensive BMI attempts (e.g., Christensen et al., 2016; Foss et al., 2012).

Second, we contribute to broadening the understanding of BMI in the context of organizational change. To assess the internal organizational consequences of BMI, we operationalize the notion of POF, a concept that supports configuration theory (Meyer et al., 1993) and, thus, links the construct to the BMI literature. By combining the two unique datasets of crowdsourcing-based firm ratings and hand-collected BMI activities, this becomes the first study of its kind to assess the POF relationship as a dynamic function of periods of BMI-induced organizational change in a longitudinal setting. Our results demonstrate that the scope and intensity of BMI periods have a strong impact on internal organizational outcomes. This conceptualization is in line with configuration theory and builds upon the work of previous scholars who considered business models as configurations (Baden-Fuller and Mangematin, 2013; Berends et al., 2016; Demil and Lecocq, 2010; Morris et al., 2005; Saebi, 2014) and systems of activities (Zott et al., 2011). Furthermore, our research links lesser degrees of change to the business model in a period to that which configuration theory calls ‘momentum’, and higher degrees of business model change to a period of ‘transition’ (e.g., Miller and Friesen, 1980). The idea of BMI scope is consistent with the idea of breaking with the prevalent configuration (Miller, 1987). The notion of BMI intensity aligns with Miller and Friesen’s (1980, 1982) and Romanelli and Tushman’s (1994) findings of punctuated phases of concerted transformations, featuring changes occurring in many elements simultaneously.

Third, this study contributes to the POF literature by taking a dynamic perspective on perceived POF. By assessing POF as an outcome of organizational change, we empirically help to close the research gap that previous scholars identified (e.g., Caldwell et al., 2004; Jansen and Shipp, 2013), namely, the single case studies or sector-specific findings to which prior studies had been limited (e.g., Meyer et al., 2010; Teo et al., 2016). We thereby confirm the decisive factor of the degree of change. Notably, changes to the business model display a more thorough change to the organization than mere organizational restructuring or process optimization because it involves a change in the ‘theory of the business’. Our operationalization of a BMI classification, differentiating periods of incremental and radical changes to the business model, enables us to assess the resulting fit within different types of organizational change. Thus, the negative effect of radical changes to the business model on perceived POF also reflects the break with the firm’s predominant logic and belief system. Furthermore, one critique of research on organizational change is that most of it focuses solely on a particular level of analysis, e.g., the individual, group, organization, or organizational field (Gaba and Meyer, 2021). Our research leverages POF as a bridge between the micro level of the individual and the macro level of the organization, the aggregate of the individual measurements of perceived POF at the organizational level. The coupling of these two levels can help change both management theorists and practitioners, to improve the understanding of organizational change.

## Managerial Implications

Our findings propose several implications for managers and suggest the importance of the adequate management of the BMI process, considering the right timing and speed and ensuring support from change-management initiatives. As perceived POF

enhances employees' attitudes toward change (Meyer et al., 2010), the concept has the potential to serve as a leading indicator for evaluating the success of organizational change. Thus, it is a potential metric with which to design specific change interventions, such as BMI.

First, regarding the harmonization of the internal and external fit of their organization, managers should factor in the different velocities. Radical BMI appears to deteriorate the fit between individuals and their employing organization, maintaining or regaining external fit with the environment and outpacing employees, which provokes internal misfit. In that case, the organization is 'moving faster' than its members. Incremental BMI maintains fit as individuals and organizations evolve simultaneously, 'at the same pace'.

Second, to avoid radical BMI at the expense of POF, successful BMI appears to require appropriate management of the transformation process. To prevent a heavy workload, role ambiguity, and role conflict, managers should pay attention to individuals, balance tasks, and provide clarity when the scope of work changes through BMI. Furthermore, to provide targeted change-management initiatives, managers should consider changes in recipients' individual dispositional characteristics and personal traits (Oreg et al., 2011). BMI relates to substantial challenges and barriers, and Frankenberger et al. (2013) argue that the overarching character of BMI makes the management of its organizational change more challenging. As BMI might entail possible career consequences, scholars emphasize the crucial role of successful change leadership, to define responsibilities and select suitable middle managers as change advocates (e.g., Chesbrough, 2010). Managers should further communicate openly and explain the new business model's benefits and operating principles (Frankenberger et al., 2013; Heikkilä and Heikkilä, 2013).

Third, managers should consider the right timing for radical BMI. To a certain extent, incremental BMI might be a method for maintaining both internal and external fit, highlighting the importance of such dynamic capabilities as constant sensing and seizing of environmental conditions (Teece, 2007). Consequently, managers might hold back radical BMI until pressure prevails and the benefits are likely to exceed the costs. This aligns with Miller's (1982) argument that successful firms should move through transitions as quickly as possible.

## Limitations

This research is subject to several limitations. First, as with most empirical studies, the operationalization our study applies is not exempt from bias. Regarding the crowd-sourced operationalization of POF, individuals give ratings of their respective organizations voluntarily; thus, we cannot exclude the possibility that some employees of a firm – e.g., frustrated or upset members – evaluate their organization or else give ratings tendentiously. However, as the valuation method grants the integrity of the *Kununu Score*, including control mechanisms, the *Kununu Score*'s participants display a representative distribution across corporate hierarchy levels and functions, and the *Kununu Scores* yield a large number of ratings, thus relativizing the extremes. Second, the firms' setting in the German market, characterizing our sample of publicly

traded companies, limits our results' generalizability. Regarding the BMI activities our scoring model captures, this study deals only with publicly transparent information. Third, regarding content, changes in POF only cover a partial aspect of the organizational change that BMI induces. Future research should illuminate further aspects of the organizational transformation, to generate a holistic understanding of BMI outcomes. Fourth, within our hypotheses development, we refer to concepts stemming from the POF literature to develop the rationale for the assumptions to be tested. These include socialization between members as a POF-enhancing mechanism during momentum periods and change-induced stressors as a POF-reducing mechanism during transition periods. However, many of the explanatory variables are not explicitly tested within our model and demand future research in this area. Fifth, in a similar vein, our model does not account for internal change-management activities that accompany the BMI-induced organizational change. Future research should further assess the moderating effect of change management on BMI-induced organizational changes and POF. This avenue of research could clarify whether POF can function as a leading indicator to manage change. Sixth, both BMI and POF are the variables measured at the level of the overall corporation. However, the concept of BMI potentially occurs at the level of individual business units, and the concept of POF figures at the individual level. However, our robustness tests confirm our results for non-multibusiness firms with a low level of business diversification, assuming that the corporate level and business unit level tend to coincide.

## CONCLUSION

Although a substantial body of research has addressed the impact of BMI on firm performance, we know little about the internal organizational consequences. Our empirical study enriches the literature by providing nuanced insights into the organizational dynamics that BMI induces. Novel to BMI research, we root our operationalization in configuration theory and take a dynamic perspective on POF, by viewing the fit relationship as a function of changes to the business model. Although periods of incremental change enhance fit, periods of radical change to the business model decrease it.

Our study examines a partial aspect of organizational change and covers the fit relationship between individuals and their organizations. Future research should generate a more holistic view of organizational change and further analyse the internal organizational outcomes that BMI induces. Although we reveal changes in the POF subsequent to BMI, the fit itself remains a black box. Therefore, future research should examine the construct of the fit relationship and assess its effects on internal congruence. Finally, the negative impact of periods of radical BMI on POF challenges the implementation success of higher degrees of BMI. Thus, future research should analyse the factors that determine the success or failure of radical BMI endeavours—for example, by assessing the moderating effect of effective change management.

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## NOTES

- [1] Kununu is the leading German equivalent of the international company rating website Glassdoor, where current and former employees anonymously review companies.
- [2] Rating contains evaluations from former and current members of the organization; evaluations from applicants, interns, and students are excluded.
- [3] We tested the validity of our POF measure by using the professional opinion-polling service provider, SurveyMonkey (<https://www.surveymonkey.com>). To match the setting of our study sample, we commissioned a survey that accepted only employees from German firms as opinion polling participants (fully employed in the last 2 years, excluding public service, aged from 25 to 60, to exclude students and pensioners). Despite 245 respondents fully completing the survey and matching our criteria, we eliminated 11 responses due to suspiciously fast response time for the survey (answering time below 1 minute), and a standard deviation of 0, revealing participants who clicked through the questionnaire and always chose the same value. The Shapiro-Wilk W-Test revealed the absence of normal distribution of the variables. Thus, we applied the Spearman correlation test between the individual average scores of both operationalizations, namely, POF via the Kununu Score and POF via Cable and DeRue (2002). The Spearman's rho coefficient confirmed the strong and significant correlation between the two scales ( $\rho = 0.73$ ; obs. = 234;  $p < 0.0001$ ). More information on the post-hoc tests, the survey questions comprising the 9-items POF measure from Cable and DeRue (2002), the tests scatter plot as well as further theoretical considerations are provided in the supplementary online material.
- [4] Clauss (2017) follows the thorough scale-development procedure of Churchill Jr (1979). The domain and dimensionality specification of BMI is based on a broad BMI literature review, reflecting the BMI definitions, conceptualizations, and components/items from renowned BMI scholars (e.g., Achtenhagen et al., 2013; Casadesus-Masanell and Ricart, 2010; Chesbrough, 2010; Demil and Lecocq, 2010; Johnson et al., 2008; Osterwalder et al., 2005; Teece, 2010; Zott and Amit, 2010). Spieth and Schneider (2016), who separately developed a formative measure for BMI that covers the same main dimensions and sub-elements of BMI, further confirm Clauss's (2017) measurement scale.
- [5] We exclusively considered original press releases/disclosures from the firms' websites. The firms from our sample either kept their press archives available on their websites, or their public relations department provided them to us upon our request.
- [6] The issue of reverse causality could be ruled out, as we additionally tested the effect of POF on BMI by applying BMI as the dependent variable and our POF measure as the independent variable. Both for the full sample and the applied subsamples for momentum and transition periods, utilizing different time lags, no statistically significant relationship between POF and BMI could be detected. The respective regression table is provided in the supplementary online material.

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## SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article at the publisher's web site:

### APPENDIX 1

#### Distribution of corporate functions and hierarchy levels represented in the *Kununu Score*

<i>Corporate function</i>	<i>Number of responses from Kununu Score</i>	<i>Percentage of responses from Kununu Score</i>
Sales	6846	15.84%
IT	6790	15.71%
Research and Development	5040	11.66%
Production	4194	9.70%
Human Resources	2809	6.50%
Administration	2601	6.02%
Finance/ controlling	2485	5.75%
Marketing/ Product management	2272	5.26%
Logistics	1435	3.32%
Procurement	1233	2.85%
Public relations/ communications	632	1.46%
Design	476	1.10%
Executives	393	0.91%
Legal and taxes	362	0.84%
Not stated	5664	13.10%
<b>Sum</b>	<b>43,232</b>	<b>100%</b>

(Continues)

## Appendix 1. (Continued)

<i>Corporate hierarchy level</i>	<i>Number of responses from <b>Kununu Score</b></i>	<i>Percentage of responses from <b>Kununu Score</b></i>
Manager/ executive	8224	19.02%
Employee	35,008	80.98%
<b>Sum</b>	<b>43,232</b>	<b>100%</b>

*Note:* This table reports the distribution of corporate functions and corporate hierarchy levels across the responses from our *Kununu Score*.

**APPENDIX 2****Extract from *Jungheinrich AG* BMI coding including excluded borderline cases (2008–12)**

<i>Year</i>	<i>Description of BMI event (based on press releases)</i>	<i>Evaluation</i>		
		<i>Value Creation</i>	<i>Value Proposition</i>	<i>Value Capture</i>
2008	Application of RFID warehouse navigation which allows for communication with the warehouse management system	YES: New technology harnessed		
2008	Introduction of a multi-function steering wheel		NO: further development of existing features	
2009	Introduction of a solution to identify and trace back pallets		YES: customer problem solved, e.g., requirement from food and beverages industries	
2009	Rack inspection according to new DIN requirement offered as a service		YES: new service to solve a customer problem (DIN requirement) offered	YES: new sources of revenue generated: service revenues
2009	Externalization of distribution structure in region North America (service partner: Mitsubishi Caterpillar Forklift America)		YES: new product and service delivery through a partner network with increased coverage in a relevant market	

(Continues)



## Appendix 2. (Continued)

Year	Description of BMI event (based on press releases)	Evaluation		
		Value Creation	Value Proposition	Value Capture
2010	Introduction of a new warehouse management system and the respective services (process consulting, system integration, commissioning, operating services)		YES: new product and service offered	YES: new sources of revenue generated: service revenues
2011	Introduction of a new navigation module		NO: merely an additional software module offered	
2011	Build-up of own dealer network in China	YES: new processes and structures set up	YES: new product and service delivery through own dealer network in a relevant market	
2011	Introduction of holistic fleet management system		YES: new customer problem solved	YES: new sources of revenue generated: licence fee
2012	Enhancement of web presence with significant expansion of online sales through the introduction of shop functions and target group oriented leads		YES: new product and service delivery (online sales and leads)	

**APPENDIX 3****Extract from Jungheinrich AG BMI Scoring (2008–12)**

Firm	Year	BMI Scoring		
		Value Creation	Value Proposition	Value Capture
Jungheinrich AG	2008	1	0	0
	2009	0	3	1
	2010	0	1	1
	2011	1	2	1
	2012	0	1	0

APPENDIX 4  
Robustness test with below-average diversified firms (subsample)

Variables	Full Sample				Momentum periods				Transition periods			
	Model IVa (0 Lag)	Model IVb (1 Lag)	Model IVc (2 Lags)	Model IVd (3 Lags)	Model Va (0 Lag)	Model Vb (1 Lag)	Model Vc (2 Lags)	Model Vd (3 Lags)	Model VIa (0 Lag)	Model VIb (1 Lag)	Model VIc (2 Lags)	Model VId (3 Lags)
Business Model	-0.0042 (0.016)	0.0006 (0.011)	-0.0191* (0.010)	0.0207 (0.015)	0.117 (0.086)	0.070* (0.028)	0.001 (0.026)	0.104*** (0.022)	-0.0070 (0.050)	-0.0003 (0.002)	-0.039* (0.015)	-0.005 (0.011)
Innovation												
Financial	$2 \times 10^{-8}$	$5 \times 10^{-8}$	$8 \times 10^{-8}$	$1 \times 10^{-8}$	$3 \times 10^{-8}$	$1 \times 10^{-8}$	$1 \times 10^{-8}$	$1 \times 10^{-8}$	$20 \times 10^{-8}$	$27 \times 10^{-8}$	$43 \times 10^{-8}$	$11 \times 10^{-8}$
Market Performance	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Firm	0.833 (0.814)	0.758 (0.831)	0.828 (0.884)	0.677 (0.886)	3.083*** (0.975)	3.300*** (0.925)	3.151*** (0.867)	2.841*** (0.565)	0.811 (1.239)	-0.372 (0.928)	3.116 <sup>†</sup> (1.765)	0.875 (1.462)
Productivity												
R&D	$13 \times 10^{-5}$	$22 \times 10^{-5}$	$15 \times 10^{-5}$	$14 \times 10^{-5}$	$99 \times 10^{-5}$	$12 \times 10^{-5}$	$39 \times 10^{-5}$	$19 \times 10^{-5}$	$40 \times 10^{-5}$	$72 \times 10^{-5}$	$92 \times 10^{-5}$ **	$37 \times 10^{-5}$
Expenditure	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0006)	(0.0009)	(0.0009)	(0.0010)	(0.0008)	(0.0003)	(0.0002)	(0.0003)
New products and service offering	0.0410 (0.051)	0.0462 (0.040)	0.0478 (0.049)	0.0159 (0.044)	0.129 (0.156)	-0.034 (0.146)	0.213 (0.153)	0.254 <sup>†</sup> (0.142)	0.0148 (0.096)	0.086 (0.059)	0.078* (0.037)	-0.040 (0.059)
Firm Age	0.0428 (0.040)	0.0273 (0.026)	0.0915*** (0.029)	0.123*** (0.030)	0.100 (0.060)	0.0196 (0.064)	0.166*** (0.060)	0.298*** (0.037)	0.029 (0.035)	0.046 (0.057)	0.009 (0.050)	-0.0213 (0.040)
Year Effects	YES <sup>†</sup>	YES***	YES*	YES***	YES <sup>†</sup>	YES*	YES	YES <sup>†</sup>	YES	YES <sup>†</sup>	YES	YES**
N	300	287	263	241	120	116	107	103	81	77	67	55
R <sup>2</sup>	0.207	0.222	0.281	0.227	0.455	0.455	0.495	0.590	0.203	0.342	0.488	0.253

Note: This table reports the results of our robustness test including only a subsample of firms with below-average business diversification. We thus rely on a subsample of 36 German Prime Standard listed firms for the years 2007 to 2017, which, compared to our overall sample, display below-average business diversification. The dependent variable is person-organization-fit. Robust standard errors are in parentheses.

<sup>†</sup>0.05 ≤ p < 0.1; \*0.01 ≤ p < 0.05; \*\*p < 0.01; \*\*\* p < 0.001.

APPENDIX 5  
Robustness test with *Jackknife* algorithm

Variables	Full Sample				Momentum periods				Transition periods			
	Model VIIa (0 Lag)	Model VIIb (1 Lag)	Model VIIc (2 Lags)	Model VIId (3 Lags)	Model VIIa (0 Lag)	Model VIIb (1 Lag)	Model VIIc (2 Lags)	Model VIId (3 Lags)	Model IXa (0 Lag)	Model IXb (1 Lag)	Model IXc (2 Lags)	Model IXd (3 Lags)
Business Model Innovation	0.0052 (0.013)	0.0007 (0.006)	-0.0132 <sup>†</sup> (0.007)	0.0102 (0.007)	0.0261 (0.067)	0.0543* (0.024)	-0.0232 (0.020)	0.0345 (0.024)	0.0025 (0.011)	0.0005 (0.008)	-0.0274 <sup>†</sup> (0.014)	-0.0050 (0.008)
Financial Market Performance	12 × 10 <sup>-8</sup> (0.00001)	16 × 10 <sup>-8</sup> (0.00001)	19 × 10 <sup>-8</sup> (0.00002)	9 × 10 <sup>-8</sup> (0.00001)	17 × 10 <sup>-8</sup> (0.00003)	13 × 10 <sup>-8</sup> (0.00003)	21 × 10 <sup>-8</sup> (0.00003)	15 × 10 <sup>-8</sup> (0.00003)	20 × 10 <sup>-8</sup> (0.00001)	25 × 10 <sup>-8</sup> (0.00001)	30 × 10 <sup>-8</sup> (0.00001)	8 × 10 <sup>-8</sup> (0.00002)
Firm Productivity	0.0418 (0.463)	0.0305 (0.529)	0.0710 (0.937)	-0.0203 (0.956)	2.916 <sup>†</sup> (1.670)	2.992 <sup>†</sup> (1.695)	2.758 (1.697)	2.615 (1.693)	0.775 (1.003)	0.0638 (0.808)	1.320 (1.491)	-0.0961 (1.338)
R&D Expenditure	21 × 10 <sup>-5</sup> (0.0008)	35 × 10 <sup>-5</sup> (0.0009)	17 × 10 <sup>-5</sup> (0.0001)	12 × 10 <sup>-5</sup> (0.0007)	25 × 10 <sup>-5</sup> (0.0008)	11 × 10 <sup>-5</sup> (0.001)	40 × 10 <sup>-5</sup> (0.002)	89 × 10 <sup>-5</sup> (0.0001)	15 × 10 <sup>-5</sup> (0.0001)	16 × 10 <sup>-5</sup> (0.0001)	42 × 10 <sup>-5</sup> (0.0001)	20 × 10 <sup>-5</sup> (0.0001)
New products and service offering	0.0131 (0.035)	0.0284 (0.027)	0.0212 (0.030)	0.0168 (0.023)	0.088 (0.125)	-0.0171 (0.122)	0.117 (0.127)	0.106 (0.141)	-0.0012 (0.051)	0.0300 (0.037)	0.0319 (0.032)	0.0041 (0.026)
Firm Age	0.0637* (0.031)	0.0429* (0.018)	0.0925** (0.023)	0.121** (0.023)	0.0728** (0.026)	0.0703** (0.026)	0.109** (0.028)	0.123** (0.017)	0.0744** (0.017)	0.0831** (0.014)	0.0788** (0.021)	0.0814** (0.024)
Year Effects	YES <sup>†</sup> 537	YES** 510	YES* 465	YES** 422	YES <sup>†</sup> 189	YES* 181	YES* 168	YES <sup>†</sup> 158	YES 168	YES <sup>†</sup> 160	YES* 142	YES** 124
N	537	510	465	422	189	181	168	158	168	160	142	124
R <sup>2</sup>	0.260	0.268	0.314	0.276	0.415	0.404	0.433	0.417	0.34	0.42	0.48	0.43

*Note:* This table reports the results of our robustness test with the *Jackknife* algorithm. We rely on a sample of 69 German Prime Standard listed firms for the years 2007 to 2017. The dependent variable is person-organization-fit. Robust standard errors in parentheses.  
<sup>†</sup>0.05 ≤ p < 0.1; \*0.01 ≤ p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.