

Antecedents, Interpretations and Consequences of Strategic Change: A Business Model Perspective

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Index of Abbreviations

AVE	
BM	Business Model
BMI	Business Model Innovation
CEO	Chief Executive Officer
CR	Composite Reliability
CIO	Chief Information Officer
CSR	Corporate Social Responsibility
CTO	Chief Technology Officer
DT	Digital Transformation
GEE	Generalized Estimating Equation
HTMT	Heterotrait-monotrait
LIWC	Linguistic Inquiry Word Count
PLS	Partial Least Squares
R&D	Research and Development
RMI	Revenue Model Innovation
SD	Standard Deviation
SE	Social Enterprise
SEM	Structural Equation Modeling
SME	Small and Medium Enterprise
SOR	Stimulus Organism Response
SPO	Social Purpose Organization
VAI	Value Architecture Innovation
VIF	Variance Inflation Factor
VOI	Value Offering Innovation

1 Introduction

“I am convinced that we have to redefine capitalism. We do not only have to take into account finance capital, but also social capital, natural capital and human capital. Companies that want to be successful today must incorporate all of these components into their strategy.”

Klaus Schwab (2020), Founder and Executive Chairman of the World Economic Forum

As Klaus Schwab mentioned in the quote above, companies need to consider diverse and complex demands to be successful. However, multiple changes in a firm’s environment account for increasing complexity, whereas change is usually referred to process of “replacing something with something new or different” (Oxford dictionary). Challenges arise from changing customer preferences, technological change, globalization, or new, disruptive business models. For instance, there is a growing debate regarding the role and, primarily, the responsibility of companies for contributing to a sustainable development (Markman, Russo, Lumpkin, Jennings, & Mair, 2016). Recently, even new organizational forms like social businesses evolve (Battilana & Lee, 2014; Dacin, Dacin, & Tracey, 2011; Santos, Pache, & Birkholz, 2015; Yunus, Moingeon, & Lehmann-Ortega, 2010). Similarly, technological change and new digital technologies can facilitate innovation and the development of new products, services, and business models (Baden-Fuller & Haefliger, 2013; Teece, 2010). For instance, digital transformation offers firms the possibility of outperforming competitors (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2014; Hess, Matt, Benlian, & Wiesböck, 2016). On the other side, start-ups using digital technologies increasingly challenge established incumbents with disruptive business models having the potential to shift industries and alter the rules of the game. For instance, consider the case of Airbnb. Internet-based digital technologies enabled the founders to develop a business model that allows turning a private apartment into a bed and breakfast and customers to benefit from a wide range of accommodations. Consequently,

Airbnb disrupted the tourism market and challenge established companies (Foss & Saebi, 2017).

Accordingly, strategic decision-makers need to be aware of their business model and the aforementioned challenges to be competitive and successful, and, subsequently, react to changes in their technological, competitive, and institutional environment (Pfarrer et al., 2019; Pollock & Rindova, 2003; Scott, 1995). Thus, strategic decision-makers might shift a firm's strategy in response (Kunisch, Bartunek, Mueller, & Huy, 2017) and innovate their business models (Foss & Saebi, 2017). Overall, strategic change and innovation is essential for the survival of firms in highly dynamic environments (D'Aveni, Dagnino, & Smith, 2010; D'Aveni & Gunther, 1994), but a “multifaceted, dynamic process involving various actors” (Kunisch et al., 2017, p. 1008), indicating high complexity.

Despite practical evidence demonstrating the need for scholarly investigations of firm internal and external changes, strategic management and innovation scholars seek to understand how firms can differentiate from rivals and gain a competitive advantage (D'Aveni & Gunther, 1994; Eisenhardt & Martin, 2000; Makadok, 2001), and how to outperform others and maintain success (Bowman & Helfat, 2001; Caves & Porter, 1977; Porter, 1980). Consequently, theories and empirical findings from strategic management and innovation literature explain how firms act and react in fast-changing environments (Teece, Pisano, & Shuen, 1997).

However, with the emergence and commercial use of the internet and with the aforementioned dynamic environmental context, also a new concept – the business model – emerged in practice and academia to describe firm activities concerning value creation and capture and how firms change their ways of doing business (Zott & Amit, 2010). Subsequently, a vital research field seeking to explain strategic management and innovation issues emerged (Massa, Tucci, & Afuah, 2017; Spieth, Schneckenberg, & Matzler, 2016). However, alongside this research field's progress, there is a frequent debate between researchers on the value and usefulness of

the business model concept for strategic management research (Bigelow & Barney, 2020; Lanzolla & Markides, 2020; Massa et al., 2017). Despite the controversial debate between strategy, innovation, and business model scholars, the business model concept offers some features that contribute to understanding the complex issues around strategic innovation and change, extending established theories in strategic management. The discrepancy between the need for understanding strategic innovation and change and the (contested) surplus of the business model concept induces the motivation for this dissertation. Consequently, this dissertation aims to investigate broad strategic and innovative change from a business model perspective.

1.1 The Business Model as an Emergent but Contested Concept in Strategy Research

In the last two decades, the business model concept gained wide prominence for both practice and management research (Spieth et al., 2016; Wirtz, Pistoia, Ullrich, & Göttel, 2016), mostly since the commercial use of the internet facilitated the development of new business models (BMs) (Zott & Amit, 2010). For practitioners and entrepreneurs, the BM offers a useful (cognitive) template to generate new value offers and business models, for instance, by using the business model canvas, developed by Osterwalder and Pigneur (2010).

In line with the advantages of the concept in practice (Bigelow & Barney, 2020), a distinct research field evolved and established, thereby seeking to grasp the concept of business models by conceptualizing, defining (Teece, 2010; Zott & Amit, 2010), and positioning it on the broader literature and theory (Spieth et al., 2016). Thus, scholars suggested several conceptualizations (Foss & Saebi, 2017; Wirtz et al., 2016). For instance, Teece (2010, p. 172) defines the BM as “a firm’s design or architecture of the value creation, delivery, and capture mechanisms”. Zott and Amit (2010, p. 216) describe the BM as an activity system, a “system of interdependent activities that transcends the focal firm and spans its boundaries”.

With this conceptualization, Zott and Amit (2010) highlight interdependencies between activities that contribute to value creation and value capturing. Furthermore, the concept integrates the demand-side with the supply-side view, highlighting the role of the customer for value creation and value capturing (Demil & Lecocq, 2010; George & Bock, 2011; Priem, Wenzel, & Koch, 2018). Therefore, researchers argue that the BM can be a valuable concept for enriching strategic management and entrepreneurship literature (Demil & Lecocq, 2010; Lanzolla & Markides, 2020; Massa et al., 2017; Spieth et al., 2016).

Recently, empirical studies used the BM concept in different contexts. Thus, its contribution to different research streams within the (strategic) management literature is incontestable. For instance, innovation management research uses the business model as unit of analysis, i.e., as a subject of innovation itself, extending the scope of innovation management beyond products, services, or processes. Thus, early researchers in innovation management on business models defined the constituting elements of a BM, which also lays the ground for investigating BMI (Foss & Saebi, 2017; Martins, Rindova, & Greenbaum, 2015; Schneider & Spieth, 2013). As such, we refer to BMI as “designed, novel, nontrivial changes to the key elements of a firm’s business model and/or the architecture linking these elements.” (Foss & Saebi, 2017, p. 201). Based on this definition, BMI also falls within the definition of strategic change as a “multifaceted, dynamic process involving various actors (...) which allows firms to seize (new) opportunities” (Kunisch et al., 2017, p. 1008). Subsequently, operationalizing BMI and validating quantitative measurements (Clauss, 2017; Spieth & Schneider, 2016) opened the path for identifying its antecedents and consequences (Foss & Saebi, 2017; Schneider & Spieth, 2013).

On the other side, the BM is appropriate for exploring new organizational forms like hybrid organizations that seek to balance economic and social and/or sustainability (i.e., Social Purpose Organizations) (Santos et al., 2015). Thus, the BM is frequently used to analyze social

value creation (Massa et al., 2017). In the context of a general shift towards sustainability within the society and with the emergence of SPOs (Dacin et al., 2011; Haigh, Walker, Bacq, & Kickul, 2015), researchers used the business model lens to describe and analyze those firms (Yunus et al., 2010). However, much research focused on identifying the constituting elements of business models of SPOs. In contrast, different terms exist, such as the business model for sustainability (Schaltegger, Lüdeke-Freund, & Hansen, 2016), sustainable business models (Bocken, Short, Rana, & Evans, 2014), social business model (Yunus et al., 2010), or hybrid business models (Santos et al., 2015). However, most of the previous conceptualizations have in common that these businesses aim for economic and social/sustainable values. Beyond describing these archetypes (Bocken et al., 2014; Yunus et al., 2010), scholars engaged in identifying the differences between the business models of SPOs and traditional commercial businesses. For instance, Spieth, Schneider, Clauß, and Eichenberg (2019) use the BM perspective to analyze the value drivers of social enterprises in relation to commercial firms.

Furthermore, the BM is widely associated with technological developments, as new technologies can be a significant driver of new BMs and BMI (Baden-Fuller & Haefliger, 2013; Teece, 2010). For instance, the internet facilitated the development of new BMs capable of disrupting established markets (e.g., eBay, Netflix) or even created new markets (e.g., Airbnb, Amazon) (Foss & Saebi, 2017). Thus, the development of digital technologies constitutes an essential driver of emerging businesses, using novel BMs that contribute to differentiation and outperforming of established firms. Ultimately, the BM can also explain differences in the performance of firms (Aspara, Hietanen, & Tikkanen, 2010; Zott & Amit, 2007).

1.2 Research Opportunities

The BM concept made some fruitful contributions to several research streams. However, as a new research field, the business model concept initiated a controversial discussion between scholars regarding the contribution of the BM concept to established theories in the strategic

management and innovation literature like the resource-based view or the transaction cost theory (Bigelow & Barney, 2020). The debate mainly rests on two arguments: first, the distinction between strategy and the BM concept and, subsequently, its newness, and, second, its contribution to innovation and strategic management literature.

Within this discussion, Bigelow and Barney (2020) argue that the BM concept theoretically remains difficult to distinguish from conventional strategy, although they highlight the usefulness for managers and entrepreneurs in practice. Furthermore, they posit that most of the characteristics of the BM concept are already contained in established theories, and, therefore, not a new theory. They further ground their position on inconsistent definitions of BMs and contradict the views of, for instance, Casadesus-Masanell and Ricart (2010) or Zott and Amit (2007). In contrast, these authors posit that the BM is distinct from strategy, as the BM reflects the realized strategy (Casadesus-Masanell & Ricart, 2010). Similarly, Lanzolla and Markides (2020) emphasize that the BM is distinctive and complementary to strategy theories like the resource-based view. By highlighting the integration of demand-side and supply-side theories of strategy, they illustrate the value-added of the BM concept beyond established theories and support prior scholars' conclusions (e.g., Massa et al., 2017).

The traditional issues addressed by strategic management literature seek to explain why some firms outperform others and how they can sustain their success over time (Porter, 1980). Another critical issue researchers investigate concerns how firm activities, capabilities, and resources can contribute to gain a competitive advantage and how to differentiate from competitors (D'Aveni & Gunther, 1994; e.g., Teece et al., 1997). As mentioned above, there is a vital discussion on the theoretical contributions the BM concept can make and its distinction to strategy. However, empirical studies show that the BM and especially the innovation of the BM can explain variance in firm performance and can drive superior performance (Aspara et al., 2010; Bock, Opsahl, George, & Gann, 2012; Foss & Saebi, 2017; Wei, Yang, Sun, & Gu,

2014; Zott & Amit, 2007). Thus, the BM indeed contributes to addressing an essential question in strategic management research. I follow the argumentation of Lanzolla and Markides (2020, p. 3) and agree that the business model concept can develop new insights, as the most promising feature is the focus on “interdependencies among internal and external activities that link value creation to value capturing.” Therefore, the aim of this dissertation is not in conceptualizing the BM concept, but to use it to enrich strategic management literature. In the next paragraph, I will outline the research opportunities that arise from using the business model concept in strategic management issues. Given the discussion above, I identify and address three research opportunities that motivated the studies in this dissertation: (I) connecting insights from BM, innovation, and strategic management research, (II) investigating the drivers of strategic, innovative change with the use of the BM(I) concept, and (III) exploring the consequences of initiated change with the use of the BM(I) concept.

Connecting Insights from Business Model, Innovation, and Strategic Management Research

Despite controversial views on the newness of the BM concept concerning strategy theories (Bigelow & Barney, 2020; Massa et al., 2017), there is a vital discussion among researchers whether the BM and strategy are distinct concepts. However, researchers justify their point of view in this discussion mainly with conceptual argumentation. Here, Bigelow and Barney (2020) posit a significant similarity between strategy and the BM, questioning the newness and the surplus for academia of the BM concept.

However, conceptual differences are highlighted among BM scholars (Casadesus-Masanell & Ricart, 2010; Lanzolla & Markides, 2020; Massa et al., 2017; Zott & Amit, 2008). For instance, Casadesus-Masanell and Ricart (2010, p. 201) conclude that “the particular set of choices an organization makes (...) – and their associated consequences – are the organization’s business model”. Thus, the authors view the BM as the realization of a strategy. Subsequently, they illustrate their perspective with a model of strategic choices and consequences that are

reflected in the BM. Another distinct feature of the BM concept builds on its emphasis on the demand and supply-side for value creation. Thus, a BM can contribute to a competitive advantage based on resources and activities, extending the resource-based view (Markides & Charitou, 2004; Massa et al., 2017). However, despite these conceptual approaches (Demil, Lecocq, Ricart, & Zott, 2015), empirical research linking strategy and the business model is rare (Spieth et al., 2016). For instance, Zott and Amit (2008) investigate the relationship between product market strategies and different BMs. Based on their empirical analysis, they suggest that “a firm’s product market strategy and its business model are distinct constructs that affect the firm’s market value” (Zott & Amit, 2008, p. 19). Thus, understanding the causality and dependencies between strategy and a firm’s business model (Spieth et al., 2016) can contribute to the debate of the distinction between strategy and the BM (Bigelow & Barney, 2020). In sum, research lacks empirical investigations of this relationship, which offers an interesting research opportunity to contribute to the controversial debate that is mainly based on conceptual argumentation. Therefore, I seek to shed light on the relationship between the BM concept and strategy with an empirical investigation of strategic decisions and its consequences.

Despite the controversial debate on the relationship between strategy and BMs, scholars used the BM concept in different research streams yielding novel insights in innovation management. For instance, the BM helps to explain issues in innovation management (Chesbrough, 2010; Foss & Saebi, 2017; Spieth, Roeth, & Meissner, 2019), technological disruption (Baden-Fuller & Haefliger, 2013; Osiyevskyy & Dewald, 2015; Teece, 2010), and social purpose organizations (Santos et al., 2015). The broad use of the BM concept also enriched the understanding of the business model concept and its conceptualization. Furthermore, the BM concept enabled initial scholarly investigations to create a basic understanding of new digital business models leading to superior performance (Vial, 2019) or social business models seeking

to create value differently to commercial firms (Markman et al., 2016). In detail, the investigations of strategy and strategic decisions leading to changes in the BM of a firm or even to business model innovations represent a promising research opportunity. Several drivers of BMI, like new technologies (Teece, 2010), sustainability (Foss & Saebi, 2017), or emerging external threats (Saebi, Lien, & Foss, 2016), have been suggested. For instance, radical sustainability innovations can specifically lead to new business models, as they often comprise new combinations of products and services, as well as the value that new business models capture (Juntunen, Halme, Korsunova, & Rajala, 2018; Watson, Wilson, Smart, & Macdonald, 2018). In addition, the BM research investigates novel forms of value like sustainability or social value resulting in a new conceptualization of value creation and its associated activities and drivers (Spieth, Schneider et al., 2019). However, most studies concern external drivers and do not discuss the role of the firm's strategy and internal drivers (Foss & Saebi, 2017).

Therefore, understanding the influence of strategy on the BM of a firm as internal drivers and the influence of external stakeholders constitutes a research opportunity that can enrich innovation and strategic management research, connecting insights from both research streams.

Investigating the Drivers of Strategic, Innovative Change

With rising interconnectedness and dynamic environments, disrupting technologies and new, competing business models, firms need to consider changing their strategy or business model for firms survival (D'Aveni et al., 2010; Zott & Amit, 2013). Like business model innovation, strategic change represents a highly complex process (Foss & Saebi, 2017; Spieth et al., 2016). As prior research indicates, strategic change and BMI can contribute to differentiate and to outperform competitors (Aspara et al., 2010; Casadesus-Masanell & Zhu, 2013; Zott & Amit, 2010). Due to these beneficial implications, it is evident to understand the drivers, facilitators, and potential barriers of BMI and strategic change on an organizational level (Amit & Zott, 2015; Foss & Saebi, 2017; Schneider, 2019). However, research still lacks a comprehensive

understanding of how BMI and strategic change evolve. Given the complex interaction of factors that drive strategic change (Kunisch et al., 2017), the internal and external antecedents of BMI and strategic change need further research. Although prior research broadly investigated drivers of innovation, BMI is much broader than product or service innovation (Spieth et al., 2016), highlighting the need for investigating its drivers separately. A literature review of BMI's antecedents reveals the domination of studies concerning the external drivers of BMI like technologies (Berman, 2012; Sabatier, Craig-Kennard, & Mangematin, 2012; Wirtz, Schilke, & Ullrich, 2010) or stakeholder demands (Ferreira, Proença, Spencer, & Cova, 2013; Miller, McAdam, & McAdam, 2014). However, research on BMI's internal drivers is rare, despite some research on cognitive approaches of managers (Martins et al., 2015; Osiyevskyy & Dewald, 2015; Schneckenberg, Velamuri, & Comberg, 2018). In conclusion, the investigation of BMI's internal facilitators and drivers yields a promising research opportunity.

Although prior research identified several external drivers of strategic change and BMI, a review of prior literature shows still some research gaps that need to be addressed to gain a better understanding of change. As outlined before, strategic change and often BMI constitutes a reaction to changes in the firm's dynamic environment (Balogun, Bartunek, & Do, 2015; D'Aveni et al., 2010). Prior research identified broad external drivers of innovation and shifts in strategies like governmental regulations (Ginsberg & Buchholtz, 1990), customer demands, competitors (Hoskisson, Cannella, Tihanyi, & Faraci, 2004), technologies, and uncertainty (Kraatz & Zajac, 2001). Thus, much research focused on firm or executive characteristics leading to strategic change (Carpenter, 2000; Hambrick & Mason, 1984) and (business model) innovation (Berends, Smits, Reymen, & Podoyntsyna, 2016; Bock et al., 2012; Teece, 2010). Although prior research shows that stakeholder like the media might exert pressures on firms, influencing firm behavior (Deephouse, 2000a; Pollock & Rindova, 2003; Wiesenfeld, Wurthmann, & Hambrick, 2008), the relationship with innovation and strategic change gained

less attention. In consequence, the influence of stakeholders outside the focal organization on firm behavior still reveals some open questions offering an exciting future research opportunity (Bednar, Boivie, & Prince, 2013; Hawn, 2020; Rowley, Shipilov, & Greve, 2017).

In sum, the investigation of BMI and strategic change internal and external drivers creates a more comprehensive understanding of how innovation and strategic change evolve. Although investigating the drivers represents an important research field, a strategic change like BMI has much broader implications, involving different actors and stakeholders vital for success in a dynamic environment (Balogun et al., 2015; Pfarrer et al., 2019). Therefore, exploring the consequences of change depicts another research opportunity.

Exploring the Consequences of Initiated change

In highly interconnected markets and fast-changing environments, firms also need to consider the consequences of a strategic change initiative. Hence, innovative change also involves strategic decision-makers' interpretation and assessment of external events, firm-internal factors, and other stakeholders' evaluations of firm activities (Kunisch et al., 2017). Despite explaining heterogeneity in firm performance, strategic management and innovation scholars broadened the scope of research questions in the last decades by examining the role of different market participants and their influence on firm behavior (Pfarrer et al., 2019). Hence, researchers gained new insights on how stakeholders, strategic decision-makers, and other participants “perceive, interpret, attribute, and make sense of an organization’s strategic processes, actions, and related outcomes” (Pfarrer et al., 2019, p. 768) by and called for applying a sociocognitive view in strategic innovation research.

In this sense, a multifaceted strategic change like BMI affects the “structure, identity or strategy” of a firm (Kunisch et al., 2017, p. 1007) concerning different individuals and groups of stakeholders. Thus, a strategic change initiated by executives also impacts others than executives and shareholders (Balogun et al., 2015). Consequently, stakeholders react to these

changes, but successful innovation and strategic change require all stakeholders' support, indicating the need to consider stakeholders' demands and opinions. However, these change recipients are often not involved in the decision-making process leading to BMI and strategic change, which evokes a specific reaction, for instance, by employees (Balogun et al., 2015; Oreg, Vakola, & Armenakis, 2011; Sonenshein, 2010). Despite the consequences of their reactions, the interpretation and perception of an organizational innovation like BMI or strategic change largely influence the response (Fugate, Prussia, & Kinicki, 2012). In order to gain a comprehensive understanding of successful strategic change, the perception and interpretation of innovation and change play a crucial role (Balogun et al., 2015; Sonenshein, 2010). In the past, much research investigated the interpretations and sensemaking of executives that initiate and lead strategic change and BMI (Balogun et al., 2015; Gioia & Chittipeddi, 1991b; Martins et al., 2015). However, employees play a vital role in the successful implementation of broad strategic change like BMI, as these have to deal with the implementation and consequences of the change initiative. Thus, employees might support or impede the change or BMI initiated by executives (Spieth et al., 2016). However, the reaction to the complex changes requires assessing such an event (Beaudry & Pinsonneault, 2005). Here, a literature review on the perceptions of change by employees reveals several research opportunities that can be investigated (Choi, 2011; Oreg et al., 2011; Oreg, Bartunek, Lee, & Do, 2018). Prior research largely investigated affective reactions to change like anxiety (Miller, Johnson, & Grau, 1994), stress (Begley & Czajka, 1993) or pleasantness (Mossholder, Settoon, Armenakis, & Harris, 2000) and perceptions of control such as personal control (Lau & Woodman, 1995) or locus of control (Holt, Armenakis, Feild, & Harris, 2007). However, the analysis of interrelationships between antecedent variables and possible moderating effects requires further investigation (Oreg et al., 2011).

Second, research increasingly recognized the influence of stakeholders on firm behavior. Thus, studying the perceptions of firm activities by external stakeholders also provides an exciting research field. Hence, prior research indicates that stakeholders can also influence firm behavior in response to firm activities affecting performance outcomes (Bednar et al., 2013). Recently, scholarly interest concerned how stakeholders might perceive a change in strategies and interpret it as mission drift (Grimes, Williams, & Zhao, 2020; Ometto, Gegenhuber, Winter, & Greenwood, 2017; Varendh-Mansson, Wry, & Szafarz, 2020; Zhao, 2014). From a perceptual point of view, mission drift relates to the stakeholders' perceptions of an organization's inconsistent actions (Grimes, Williams, & Zhao, 2019). Consequently, changes to a firm's strategy or business model might be perceived as mission drift. However, this research is mainly conceptual and does not reveal firm activities that lead to the perception of mission drift, offering the chance to gain novel insights on the consequences of strategic change and innovation.

Regarding both research gaps, the BM offers some features that promise to enrich the strategic change and innovation management literature with empirical investigations from a sociocognitive perspective (Lanzolla & Markides, 2020). First, business model research focusses on managerial decision-making (Bigelow & Barney, 2020; Zott & Amit, 2007). Here, the business model can also act as a cognitive template for managers that influence the way managers and employees interpret their environment and internal or external events (Massa et al., 2017; Schneckenberg et al., 2018; Tripsas & Gavetti, 2000). Thus, the BM as a cognitive template might affect how managers sense and seize opportunities for value creation and capture, leading to possible competitive advantages (Teece, 2007). For instance, Martins et al. (2015) suggest that these templates can also act as cognitive devices to create new BMs, leading to BMI. As strategic decision-makers interpretation is essential for firm behavior and in BM research (Zott & Amit, 2010, 2013), using the BM conceptual lens on strategic management

issues can contribute to applying a sociocognitive view on innovation and strategic management.

Second, the BM emphasizes a multi-stakeholder perspective on value creation and focuses on boundary-spanning activities, which allows analyzing the role of stakeholders for value creation (Demil et al., 2015), making it amenable for research regarding sustainability management (Massa et al., 2017). Furthermore, the BM helps to analyze new organizational forms (Zott & Amit, 2013), for instance, social purpose organizations (Weerawardena, Sullivan Mort, Salunke, & Haigh, 2020) and hybrid organizations (Battilana & Lee, 2014; Smith & Besharov, 2017; Smith, Gonin, & Besharov, 2013).

To sum up, the business model concept comprises some features that allow gaining novel insights into how interpretations of stakeholders, employees, and strategic-decision-makers can influence firms behavior and outcomes (Pfarrer et al., 2019), explaining issues that are not fully addressed by traditional strategic management research (Lanzolla & Markides, 2020; Massa et al., 2017; Zott & Amit, 2013). Therefore, applying a sociocognitive and BM view on innovation and strategic change is promising in generating new insights.

1.3 Research Objectives and Outline of the Dissertation

This dissertation consists of four studies that contribute to innovation and strategic management literature by taking a business model perspective on recent challenges that firms, strategic decision-makers, and employees face. Hence, the four studies contribute to academic discussions with practical implications. Each study concerns strategic change like BMI or digital transformation and investigates a specific issue that arises from the aforementioned recent challenges for firms to cope with changes in the environment, like changing technologies and customer demands. Thus, I follow calls for using the BM concept to analyze strategic and innovation management issues (Lanzolla & Markides, 2020) and calls for applying a sociocognitive perspective on strategic change (Pfarrer et al., 2019). In response to the fast-

changing environments and the resulting challenges mentioned above, strategic decision-makers often need to change a firm's strategy, a central concern in strategic and innovation management research and essential for survival, especially in dynamic environments (D'Aveni & Gunther, 1994; Eisenhardt & Martin, 2000; Kunisch et al., 2017). However, this is a complex issue with many facets and actors that I seek to investigate with a BM perspective, as calls suggest further research regarding the relevant actors, processes, and tensions of strategic change (Kunisch et al., 2017).

In sum, the four studies in this dissertation address the antecedents, the perceptions and interpretations, and the consequences of strategic change and innovation. Thus, all studies in this dissertation contribute to reaching two overarching research objectives comprising the following questions: (I) What drives strategic change and business model innovation? (II) How do stakeholders perceive and react to strategic change and business model innovation? In this respect, the first and second papers address the first research objective, whereas the third and fourth papers mainly address the second research objective, building in part on the insights of papers one and two.

As mentioned above, strategic change and innovation initiation represent a complex process mostly evoked by the interaction of external and internal events and triggers. Therefore, this dissertation investigates both – internal and external drivers of innovation and strategic change. The first paper in this dissertation examines how a sustainability commitment and strategic orientations affect the BM's innovative change. Thus, the first paper concerns internal drivers of strategic change like BMI. However, by adopting a stimulus-organism-response perspective, this paper also highlights the attention to the firm's environment, indicating that firm-internal drivers need to be considered with respect to its environment. To complement the internal drivers, subsequently, the second paper investigates the influence of outside constituents on firm behavior. In particular, the paper analyzes how negative media coverage influences the

extent of strategic change and how the dominant business model moderates this relationship. Thus, the paper addresses the external drivers of strategic change and its interaction with firm-specific contextual boundaries. However, this paper also shows how outside constituents (i.e., the media) influence firm behavior with their reactions based on firm activity interpretation, demonstrating the need for investigating interpretations and perceptions of strategic change. Therefore, the next two papers seek to explore how important stakeholders interpret and react to change and how firm activities influence the perceptions of change. The third study focuses on the individual employee during organizational change, i.e., digital transformation. The study analyzes the effect of different dispositional traits of employees on the acceptance of change, using the BM concept as a cognitive representation of the perceived extent of change. Hence, this paper concerns the implementation of change initiatives and how employees interpret and react to them. Ultimately, the fourth paper uses the BM concept to analyze strategic choices and their consequences for Social Purpose Organizations (SPO) aiming for social and economic value creation. In particular, the fourth paper investigates how these strategic choices can facilitate or hinder strategic changes that can be perceived as mission drift by outside evaluators (i.e., stakeholders). Thus, it ultimately addresses the consequences of strategic changes with respect to its interpretation. Figure 1 presents the dissertation's structure and course of action.

The first study in this dissertation investigates firm internal antecedents of BMI. It uses a sociocognitive perspective as it concerns the strategic decision-makers' interpretation of sustainability issues and subsequent consequences for the BM. Firms increasingly commit to and integrate sustainability in their business processes and operations. For instance, challenges like governmental regulations (Campbell, 2007), and the mass media's influence (Nikolaeva & Bicho, 2011) pressurized companies to integrate a comprehensive understanding of sustainability as the balancing of social, environmental, and economic goals (Elkington, 1997; Hall, Daneke, & Lenox, 2010).

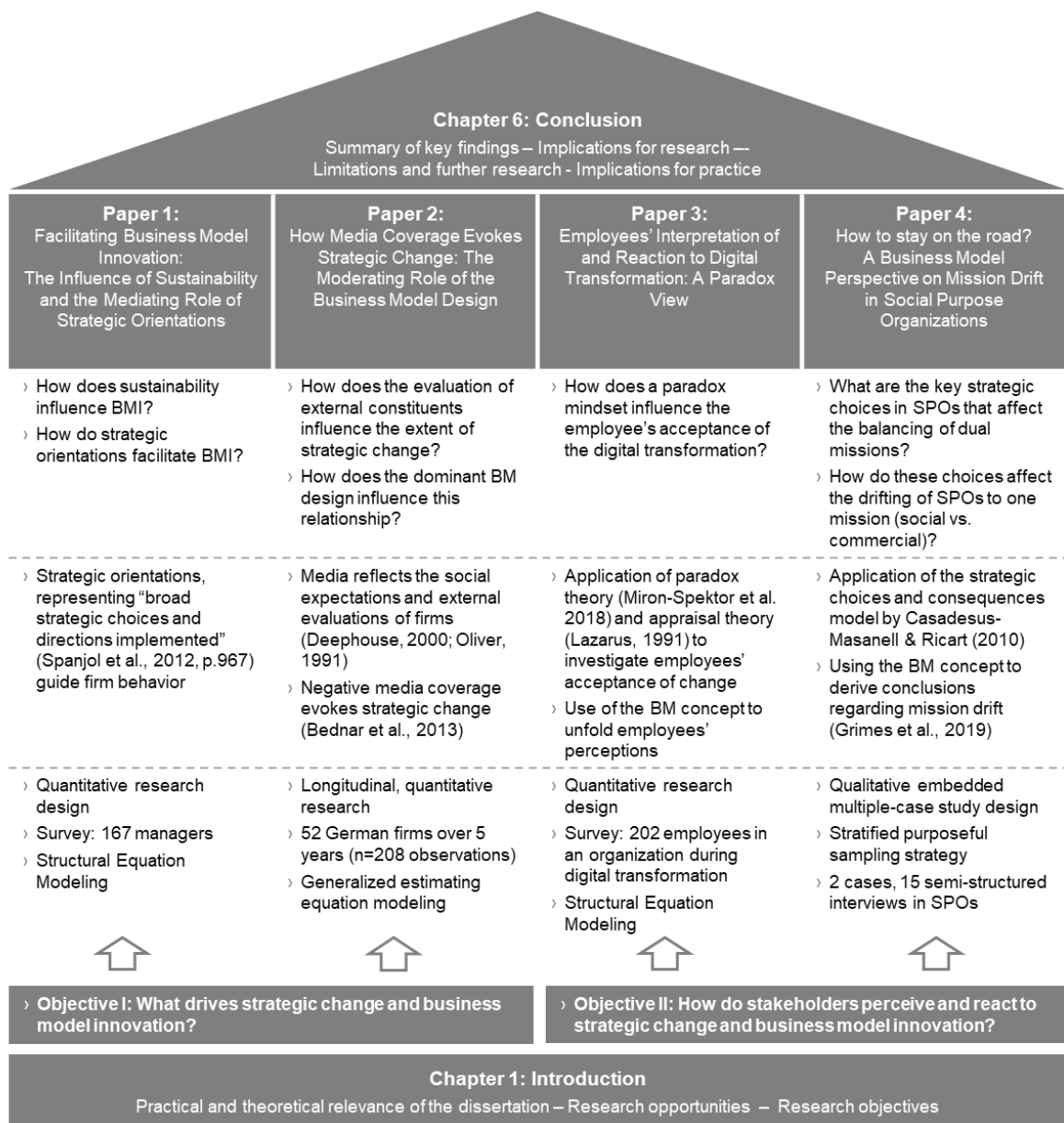


Figure 1: Course of the Dissertation's Action

While findings from previous studies suggest that sustainability may drive business model innovation (BMI) (Foss & Saebi, 2017), it still lacks empirical evidence on whether and how sustainability may influence the evolvement of BMI. Relying on the stimulus-organism-response (SOR) framework (Mehrabian & Russell, 1974), we address these shortcomings and argue that sustainability commitment influences certain strategic orientations (Spanjol, Mühlmeier, & Tomczak, 2012) that increase the propensity of innovating a business model

(BM). Using a sample of 167 German manufacturing firms, we empirically investigate these relationships. Our results from structural equation modeling show that sustainability commitment has no direct effect on the innovation of any constituting element of a BM, such as the value offering and value creation architecture, as well as the revenue model. Our mediation analysis does, however, reveal that sustainability commitment has complex indirect effects driving BMI through its strategic orientations, namely the firm's market, technology and entrepreneurial orientation. By uncovering the mechanisms through which sustainability commitment drives BMI, our findings provide new impetus on BMI's internal drivers and highlight the important role of certain strategic behaviors that guide managers' interpretation and strategic choices when planning to innovate a business model.

Consequently, this paper applies a sociocognitive perspective and identifies internal drivers of BMI. It concerns the effects of strategic orientations that guide the manager's sensemaking (Gatignon & Xuereb, 1997; e.g., Lumpkin & Dess, 1996; Siguaw, Simpson, & Enz, 2006). Here, the contribution to strategic management and innovation literature is twofold: First, we contribute to the discussion regarding the distinctiveness of strategy and the BM. Second, by analyzing the drivers of BMI, we also suggest drivers of gaining a potential competitive advantage, as the innovation of BMs is often linked to superior performance (Foss & Saebi, 2017).

The second paper addresses the research objective by analyzing the influence of outside constituents on firm behavior, i.e., an external driver of strategic change. In detail, the study concerns how firms react to negative media coverage on firm activities and how the business model of the focal firm enables or hinders strategic change. Commonly, CEOs and executives are responsible for initiating strategic change (Kunisch et al., 2017). However, the complex interaction of internal and external events can trigger strategic change (Rowley et al., 2017). Despite broad investigations of CEO characteristics that evoke strategic change, prior research

shows that media coverage influences the extent of strategic change (Bednar et al., 2013; Shipilov, Greve, & Rowley, 2019). In this study, I argue that the extent of strategic change not only depends on the media coverage but also on the dominant BM. Thus, I investigate the influence of negative media coverage contingent on the dominant business model design on strategic change. With an intricate quantitative research design that combines different data sources, I collect secondary data for several years on 52 German firms traded at the German Stock Exchange and use trained experts to assess the dominant BM design. Subsequently, I test the hypothesized effects and interaction with a generalized estimating equations approach (Ballinger, 2004; Liang & Zeger, 1986; Lipsitz, Fitzmaurice, Orav, & Laird, 1994). The results confirm the findings of Bednar et al. (2013) and Shipilov et al. (2019) that negative media coverage influences the extent of strategic change. However, as expected, the results also show that an efficiency-centered BM negatively affects this relationship. Thus, the extent of strategic change is contingent on the dominant BM design. In conclusion, this paper enhances prior findings on how strategic change evolves and contributes to strategic management literature by using the BM construct to demonstrate the influence of the firm-specific context on the extent of strategic change.

The third paper concerns the implementation of strategic change after its initiation. In particular, we focus on the challenges of the digital transformation (Hinings, Gegenhuber, & Greenwood, 2018; Vial, 2019), as it can result in significant changes in an organization's structures, culture, and business models (Hess et al., 2016). Although executives are responsible for interpreting the need and for deciding strategic change (Kunisch et al., 2017), employees are those who are responsible for the implementation of change (Fugate et al., 2012). Thus, executives need the support of employees to receive the potential benefits of strategic and organizational change. However, research suggests that dispositional traits and individual assessments of the change affect the acceptance of change (Oreg et al., 2018). In detail, reactions to change events can

vary from resistance through passive acceptance to active support (Caldwell, Herold, & Fedor, 2004; Holt et al., 2007). Past research found various characteristics of information technologies that influence its use, but digital transformation is much more complex than implementing single digital technologies (Matt, Hess, & Benlian, 2015). However, strategic change research identified various antecedents to reactions to change. Still, these studies mostly view these antecedents as dichotomous either/or antecedents, meaning that an antecedent's high values result in support of the change and low values in resistance (Holt et al., 2007; Oreg et al., 2018). However, paradox research suggests that employees can feel comfortable with tensions and adopt both/and thinking by juxtapositioning competing demands in uncertain, challenging, or even contradicting situations that might be triggered by the digital transformation (Miron-spektor, Erez, & Naveh, 2011; Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2018; Smith & Lewis, 2011). In the third paper, we investigate the role of a paradox mindset during organizational change, using quantitative, survey-based data from a European incumbent firm undergoing a digital transformation. We find empirical support that a paradox mindset and a general attitude toward change positively affect the acceptance of the transformation. However, we also find different moderating influences of the perceived scope of change (i.e. measured as the perceived BMI), indicating the stable influence and relevant role of paradoxical thinking in coping with change. With a paradox mindset (Miron-Spektor et al., 2018), we provide a novel perspective of *both/and thinking* on change-related behavior that enriches the currently *either/or* dominated approaches and contribute to a more nuanced understanding of change recipients' reactions to change as well as its antecedents during the digital transformation. In this paper, we take a sociocognitive view of the digital transformation. We further use the BM concept as a conceptual lens to investigate the perceived scope of change, as the BM also acts as a cognitive template (Martins et al., 2015; Massa et al., 2017; Osiyevskyy & Dewald, 2015). Thus, we enrich literature concerning the successful implementation of complex strategic change by analyzing the interpretation, perception of and reaction to change by employees.

As mentioned above, paper two shows how stakeholders outside an organization can influence firm behavior. Therefore, paper four goes beyond these findings and addresses the research objective to explore interpretations by outside constituents on firm activities and strategic choices. Particularly, this paper analyzes how strategic choices can result in strategic change, leading to interpretations of mission drift. For this purpose, we analyze choices and consequences of hybrid organizations using the BM concept (Battilana & Lee, 2014; Casadesus-Masanell & Ricart, 2010). Hybrid organizations like social purpose organizations (SPOs) frequently innovate their business models (BM) due to environmental constraints aiming to create social value while striving for economic viability (Weerawardena, McDonald, & Mort, 2010). Competing demands may cause the SPO to drift to one mission, jeopardizing hybridity and the mission (Grimes et al., 2019; Ometto et al., 2017). However, research on mission drift is still in its infancy and lacks empirical evidence. We rely on a multiple-case study approach, using the BM as a unit of analysis to identify key choices and consequences concerning possible mission drift. Our findings show a complex set of choices and consequences that reinforce social value creation, facilitate and prevent mission drift in SPOs. We outline the role of stakeholders and transparency as key to prevent mission drift and to enhance legitimacy, challenging research on stakeholders' constraining nature. We argue for investigating business model innovations' consequences on mission drift (Grimes et al., 2019; Grimes et al., 2020) and contribute to the literature on SPOs and business model innovation by providing evidence of cycles of choices and consequences, risking the SPO to disregard either the social or economic mission. Mission drift concerns interpretations and sensemaking of shifts in a firm's strategy (Grimes et al., 2019; Varendh-Mansson et al., 2020). Therefore, we emphasize a sociocognitive view of the consequences of strategic change. Thus, this paper also contributes to the overarching research objectives of this dissertation to provide a comprehensive understanding of strategic change and BMI. In conclusion, the four papers in this dissertation use the BM concept to investigate central issues in innovation and strategic

management. Hence, I use the BM concept to generate new insights into the complex antecedents, processes, and consequences of strategic innovation and change.

Finally, chapter 6 summarizes the key findings of this dissertation and synthesizes the contribution of each paper to discuss the theoretical and managerial implications of this dissertation.

2 Facilitating Business Model Innovation: The Influence of Sustainability and the Mediating Role of Strategic Orientations (Paper 1)

The following chapter (paper 1) is a preversion of an article accepted for publication in “Journal of Product Innovation Management” DOI: 10.1111/JPIM.12563.

2.1 Introduction

According to the World Commission on Environment and Development (1987, p. 8), sustainability refers to business policies and practices that “meet the needs of the present without compromising the ability of future generations to meet their own needs.” Over the past decade, several studies (e.g. PriceWaterhouseCooper, 2014; McKinsey, 2011) confirmed that firms increasingly commit to and integrate sustainability in their business processes and operations. Governmental regulations (Campbell, 2007), and the mass media’s influence (Nikolaeva & Bicho, 2011) pressurized companies to integrate a comprehensive understanding of sustainability as the balancing of social, environmental, and economic goals (Elkington, 1997; Hall et al., 2010). Sustainability’s increasing importance for businesses therefore raises the question of its business case (Du, Yalcinkaya, & Bstieler, 2016). The literature provides mixed and limited findings on the effects of firms’ commitment to sustainability. Findings by Adams et al. (2016) confirmed that such commitment has a positive relationship with business performance and might help firms to differentiate themselves from their competitors. Furthermore, a study by Foss and Saebi (2017) suggests that a firms’ commitment to sustainability drives product innovation or business model innovation (BMI) respectively. Consequently, committing to sustainability may give firms an opportunity to gain a competitive advantage by changing (i.e. innovating) the current business model (BM) (Wei et al., 2014; Zott & Amit, 2007). While research on the linkage between sustainability and innovation mainly focused on how firms develop sustainable innovations, a deeper understanding of sustainability’s effects on firm-internal strategies and strategic planning processes, as well as

its other internal consequences (i.e. BMI) remain unexplored. The strategic choices and guidelines that sustainability commitment affects need to be determined to investigate sustainability's firm-internal consequences on a firm's BM and to unravel the mechanisms that leverage sustainability to achieve long-term success. Since the BM reflects a firm's realized strategy, i.e. "the particular set of choices an organization makes (...) – and their associated consequences – are the organization's business model" (Casadesus-Masanell & Ricart, 2010, p. 201), innovating a BM is likely to be dependent on these strategic choices induced by a firm's commitment to sustainability. More specifically, research has shown that firms' concrete strategic decisions differ due to their dominant strategic orientation, representing their "broad strategic choices and directions implemented" (Spanjol et al., 2012, p. 967), guiding them to create appropriate behaviors for superior long-term performance (Gatignon & Xuereb, 1997; Narver & Slater, 1990). Strategic orientations therefore set a normative frame for how to conduct business competitively (Noble, Sinha, & Kumar, 2002) and which strategy to use (Gatignon & Xuereb, 1997), i.e. which business model to apply. While past studies confirmed that strategic orientations affect companies' capability to find new ways of creating value and developing new products (Gatignon & Xuereb, 1997), prior research failed to investigate strategic orientations' roles in creating BMI. Yet, various findings from adjacent research fields suggest that different strategic orientation types, such as market orientation, technology orientation, and entrepreneurial orientation affect innovation outcomes and firm performance. However, empirical evidence on whether and how sustainability commitment affects BMI and whether and how this effect unfolds via strategic orientations is still missing.

In order to close the above mentioned research gaps, we adopt the stimulus-organism-response (SOR) framework (Mehrabian & Russell, 1974), to explain how sustainability commitment (stimulus) induces strategic orientations (organism) (i.e. the market orientation, technology orientation, and entrepreneurial orientation, which in turn affect BMI (response)). In order to

provide a comprehensive and differentiated picture of potential impacts on BMI, we further differentiate our assessment by examining effects on each constituting element of a BM, namely value offering innovation (VOI), value architecture innovation (VAI), and revenue model innovation (RMI) (Spieth & Schneider, 2016). Based on a data set of 167 companies, results from structural equation modeling confirm that a firm's sustainability commitment indeed drives BMI via the choice of different strategic orientations, whereas the mediating effect through technological orientation turned out to be the strongest one.

We contribute to sustainability (innovation) research by uncovering sustainability's previously ignored relation with internal strategic orientations and its indirect influence on innovation outcomes, i.e. BMI. Moreover, we extend previous research on the linkage between innovation and sustainability, which mainly relied on qualitative case studies (Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2016; Kennedy, Whiteman, & van den Ende, 2017), by providing empirical insights into underlying relationships from a large scale empirical study. Furthermore, we add to previous findings suggesting that sustainability is a driver of new BMs (Adams et al., 2016; Foss & Saebi, 2017) by revealing the mechanisms through which sustainability causes BMI. In addition, this article contributes to the BMI literature in various ways: First, by identifying strategic orientations that influence BMI, we respond to scholars' calls to link concepts from strategy to BMI (Spieth et al., 2016) and to provide additional insights for the ongoing debate on the relationship between strategic management and BMs (Massa et al., 2017). Second, in contrast to research on BMI's consequences and performance implications, identifying different strategic orientations' implications for BMI responds to calls for further inquiry into BMI's internal drivers (Foss & Saebi, 2017, 2018; Teece, 2018). We therefore identify guiding behavior that underlies strategic choices, fosters BMI, and helps overcome barriers to BMI. Importantly, we also provide novel insights into dynamic capabilities by finding that strategic entrepreneurial and technological behavior can facilitate the constant

sensing and seizing of opportunities, constituting an essential cornerstone of the dynamic capabilities framework (Teece, 2018). From a managerial perspective, our findings provide companies with guidelines on how to achieve the right configuration of strategic orientations when responding to sustainability issues by innovating their current business model.

The remainder of this article is structured as follows. First, we describe our study's theoretical underpinnings, develop the conceptual model, and derive the corresponding hypotheses. We thereafter evaluate and test our conceptual model in a large-scale survey. Finally, we describe our findings' implications for theory and management practice, outline the study's limitations, and discuss future research avenues.

2.2 Theoretical Background

Sustainability and BMI

Research regarding sustainability and innovation predominantly investigates how to become sustainable or focus on the outcomes of being sustainable. Du et al. (2016) find a positive relationship between sustainability commitment and NPD performance, while Claudy, Peterson, and Pagell (2016) find that sustainability commitment has a positive effect on NPD success due to the efficiency gains they allow and the firm being differentiated from its competitors. Radical sustainability innovations can specifically lead to new business models, as they often comprise new combinations of products and services, as well as the value that new business models capture (Juntunen et al., 2018; Watson et al., 2018). In conclusion, prior research on sustainability and innovation contend that reaching sustainability goals may call for BMI. However, research on antecedents of BMI has been dominated by a search for external antecedents. Most studies focus on the relevance of new technologies for innovating a BM, like cloud computing (Berman, 2012) or the Internet, which resulted in new BMs that changed an industry's value creation logic and value capture (Wirtz et al., 2010). Other scholars focused on the importance and influence of external stakeholders' demands to innovate a BM (Ferreira et

al., 2013). Miller, McAdam, and McAdam (2014), for example, show that universities change their BMs due to various stakeholder groups' influence, especially as a reaction to governmental policies. Despite the number of studies on potential antecedents that drive BMI, research lacks a deep understanding of internal drivers in general, and how sustainability may or may not relate to BMI. More specifically, prior BMI research has been limited to the exploration and description of BMs for sustainability (Bocken et al., 2014) and has neglected the circumstances in which sustainability changes a BM innovatively (Foss & Saebi, 2017). Consequently, the internal mechanisms that facilitate BMI as a response to sustainability challenges remain a blind spot in BMI and sustainability research. In the following we thus draw on the Stimulus-Organism-Response model to shed first light on how a firm's sustainability commitment may affect BMI.

Stimulus-Organism-Response Perspective on Sustainability and BMI

The stimulus-organism-response (SOR) model (Hebb & Donderi, 1987; Mehrabian & Russell, 1974) explains behavior as a response to a certain stimulus (e.g. from the environment), which an organism processes internally, thereby mediating the relationship between a stimulus and a response. The perception of external stimuli, its assessment and evaluation of its importance can be partly explained by broad, overarching viewpoints of managers concerning the general direction of the organization like a commitment to sustainability values (the "S" in the framework). As such, in line with Jansson, Nilsson, Modig, and Hed Vall (2017, p. 71), we define sustainability commitment as an "overarching viewpoint that sustainability is an important component in several of the firm's processes and procedures." A commitment to sustainability guides manager's focus on stimuli not per se linked to the market, technologies etc., that are directly related to the firms' products, processes or strategies. Within the SOR framework, the broad viewpoint influences the awareness and selection of external stimuli that are processed and interpreted in the organization. However, firms committing to sustainability

nevertheless interpret the perceived stimuli (i.e. information) strategically in order to gain a competitive advantage, influencing the firm's competitive mindset (the "O" in the framework). Generally, a mindset helps to interpret complex information and is reflected by general behavior within a firm (Gupta & Govindarajan, 2002). Differences between firms regarding the processing, interpretation, and implementation of the gathered information, partly depends on their adopted strategic orientation (Spanjol et al., 2012). Firms usually adopt strategic orientations in order to gain competitive advantages and "to create the proper behaviors for the continuous superior performance [by] employing" (Gatignon & Xuereb, 1997, p. 78) a market orientation (Narver, Slater, & MacLachlan, 2004; Noble et al., 2002), a technology orientation (Gatignon & Xuereb, 1997; Zhou, Yim, & Tse, 2005), or an entrepreneurial orientation (Lumpkin & Dess, 1996). Accordingly, a sustainability-related issue like plastic waste in the oceans might, depending on the firms' commitment to sustainability, act as stimulus and thus trigger internal assessments to find a solution for this issue. Thereby companies might approach their customers (i.e. market orientation), scan for new technologies (technology orientation) or search for new market opportunities (entrepreneurial orientation) to find this potential solution by employing analogical reasoning, conceptual combination, and deductive/inductive reasoning. Either way, the company will have to adapt their BM as the processing of the sustainability issue based on a firm's strategic orientation will change their target customers, product portfolio, value chains, or revenue models. In conclusion, the SOR framework suggests that external stimuli are selected, based on general attitudes like a firm's sustainability commitment, which triggers further processing behavior and interpretation (i.e. analogical reasoning, conceptual combination, and deductive/inductive reasoning) via different strategic orientations (i.e. market, technological and entrepreneurial orientation), resulting in strategic responses unfolded in changes of the current BM (i.e. BMI).

2.3 Hypotheses Development

Sustainability Commitment's (Direct) Effect on BMI

The SOR perspective suggests that the level of sustainability commitment influences the gathering and interpretation of information, i.e. the competitive mindset reflected in different strategic orientations, which subsequently influences the response to sustainability in terms of changes in the current BM leading to BMI as final response. However, explicit empirical evidence on potential effects of a firms' sustainability commitment on BMI is missing. Yet, recent research has proposed a positive relationship between sustainability and product innovation (Varadarajan, 2017). Claudy et al. (2016) showed that sustainability practices lead to increased NPD success due to efficiency gains. Likewise, findings from Foss and Saebi (2017) confirmed that a firms' commitment to sustainability at least drives product innovations. Furthermore, with respect to effects on BMI prior research at least suggests that sustainability commitment may give firms an opportunity to gain a competitive advantage by changing (i.e. innovating) the current business model (BM) (Wei et al., 2014; Zott & Amit, 2007).

Hence, in line with the positive performance implications of a firm's sustainability commitment with respect to sole product innovations, we expect similar effects with regard to BMI. More specifically, in line with Spieth and Schneider's (2016) we expect these changes to unfold in innovations within the three constituting elements of BMI. A value offering innovation (VOI) refers to changes in the value delivered to the target customers as well as changes in the product and service offering. A value architecture innovation (VAI) describes changes to internal and external activities, resources, and competencies that are necessary for value creation as well as to changes in the distribution channels. A revenue model innovation (RMI) refers to changes in the cost drivers of and the mechanisms for revenue generation (Spieth & Schneider, 2016).

In conclusion, we thus propose:

H1: Sustainability commitment drives business model innovations (BMI)

H1a: Sustainability commitment drives value offering innovations (VOI)

H1b: Sustainability commitment drives value architecture innovations (VAI)

H1c: Sustainability commitment drives revenue model innovations (RMI)

The Mediating Role of Strategic Orientations

The effects of market orientation, technology orientation, and entrepreneurial orientation on BMI

According to the SOR model, we argue that sustainability commitment (stimulus) influences different strategic orientations (organism), inducing different strategic responses – i.e., in this case, an innovative change in the value offering, value architecture, and revenue model. Hence, in line with the SOR model we expect that strategic orientations fully mediate the effect of sustainability commitment on BMI, as firms striving to adapt their BM to develop a competitive advantage grounded in sustainability need to deepen their market and technology knowledge (Kennedy et al., 2017) and be more open to new business opportunities (Mousavi, Bossink, & van Vliet, 2019). However, in order to better understand this mediation effect, and how it unfolds in changes of the firm's BM, we need to understand how different types of strategic orientations relate to both sustainability commitment and BMI. While there are plenty of different types of strategic orientations available in prior literature, market orientation, technology orientation and entrepreneurial orientation are consistently reported as the most influential ones with regard to innovation outcomes (Achtenhagen, Melin, and Naldi, 2013(Baker & Sinkula, 2007; Paladino, 2007)).

Market orientation refers to efforts to acquire and disseminate knowledge about existing customers and competitors throughout a firm (Jaworski & Kohli, 1993). Marketing orientation

therefore seeks to respond to customer needs and to provide superior customer value (Narver & Slater, 1990; Zhou et al., 2005). Market-oriented firms therefore accumulate market-based knowledge about their competitors and existing customers in order to integrate their customers' voices into their daily business activities (Narver & Slater, 1990). Since issues regarding sustainability often stem from external stakeholders such as customers and competitors, firms committed to sustainability consistently have to deepen their knowledge about the market and their existing customers' needs to adequately respond to those issues (Du et al., 2016). Accordingly, research shows that firms committed to sustainability engage in market research in order to address sustainability issues (Hoffmann, 2007). For instance, Kennedy et al. (2017) found that firms seek to integrate customers in order to test and optimize products based on sustainability efforts. Likewise, Claudy et al. (2016) recently found that firms with a sustainability focus enhance their market knowledge processes. With respect to potential effects on BMI as outcome, previous studies indicate that market orientation has positive performance implications with regard to innovation activities (Baker & Sinkula, 2007; Paladino, 2007). A study by Hurley and Hult (1998) for example confirmed that market orientation provides the firm with effective sources for new ideas, leading to the introduction of new value offerings. Likewise, shifts in consumer demand due to sustainability issues might also require new internal processes or distribution channels as well as new revenue models. Hence, market orientation seems to be positively related to both a firm's sustainability commitment and BMI.

Technology orientation refers to a constant monitoring of technological developments and a constant search for new technologies beyond current products and market boundaries (Gatignon & Xuereb, 1997). Sustainability issues might require new technologies to solve them and to create a competitive advantage. For example, in a case study, Kennedy et al. (2017) found that the choice to increase sustainability efforts (i.e. greater commitment to sustainability) intensifies technological knowledge in order to develop solutions to sustainability issues and

gain possible competitive advantages. Likewise, new technologies could create opportunities to conform with governmental regulations regarding material usage, energy usage, and production emissions, which might be required to avoid fines (Nikolaeva & Bicho, 2011). Being committed to sustainability thus often requires to be technology oriented. With respect to effects of technology orientation on BMI, prior research shows that technology-oriented firms promote creativity and encourage employees to think ‘outside the box’ to trace new ideas (Zhou et al., 2005). New BMs may be required to capture value from technologies and create a competitive advantage, in order to realize a technology’s commercial potential (Wei et al., 2014; Zott, Amit, & Massa, 2011). Likewise, new technologies can also change internal processes (e.g. production or distribution) and the way a firm does business. Internet technologies, for example, might enable new distribution channels (Teece 2010) and may develop the potential to change the value creation architecture. The BM literature has also described emerging technologies that have changed current revenue models (i.e. sources of revenue and cost structures), such as new technical systems for payment that led to new revenue models (Clauss 2017), and the advent of computers and digital devices that provided new revenue and cost distribution opportunities (Teece 2010). Thus, technology orientation seems to be positively related to both a firm’s sustainability commitment and BMI.

Entrepreneurial orientation is refers to a risk-taking behavior that comprises proactiveness and aggressiveness toward competitors in search for new opportunities to achieve a competitive advantage (Lumpkin & Dess, 1996). Entrepreneurial-oriented firms have a tendency and willingness to take risks and are proactive in order to explore and exploit opportunities (Lumpkin & Dess, 1996). Such firms seek opportunities to capture value and to create a competitive advantage. Murillo-Luna, Garcés-Ayerbe, and Rivera-Torres (2008) found that the more firms are committed to sustainability, the more likely it was that they implemented a more proactive environmental strategy. Likewise, a high commitment to sustainability also fosters

the search for new opportunities (Du et al., 2016). With respect to potential effects on BMI as response, past research highlights the importance of experimentation in order to innovate a BM (Achtenhagen, Melin, & Naldi, 2013; McGrath, 2010; Teece, 2010), which requires a high level of risk tolerance and proactivity. Scholars have identified trial-and-error learning (Sosna, Trevinyo-Rodríguez, & Velamuri, 2010) and the identification, experimentation, and exploitation of opportunities and ideas (Achtenhagen et al., 2013), which occur in entrepreneurial-oriented firms, as the key driving factors of BMI. As such, being proactive in collaboration with new partners (e.g. start-ups) can be risky, but could change the way value is created (value architecture innovation). Likewise, entrepreneurial firms continuously challenge established structures leading to constant changes in their internal and external architecture (McGrath, 2010). Thus, entrepreneurial orientation seems to be positively related to both a firm's sustainability commitment and BMI.

The discussion of the relationships of the different types of strategic orientations in the previous sections indicates that strategic orientations mediate the positive effect of sustainability commitment on the constituting BMI elements. Thus, based on the arguments presented above we hypothesize:

H2: Strategic orientations (i.e. market orientation, technology orientation, entrepreneurial orientation) mediate the positive effects of sustainability commitment on BMI

H2a: Sustainability commitment is positively related to strategic orientations

H2b: Strategic orientations are positively related to value offering innovations

H2c: Strategic orientations are positively related to value architecture innovations

H2d: Strategic orientations are positively related to revenue model Innovations

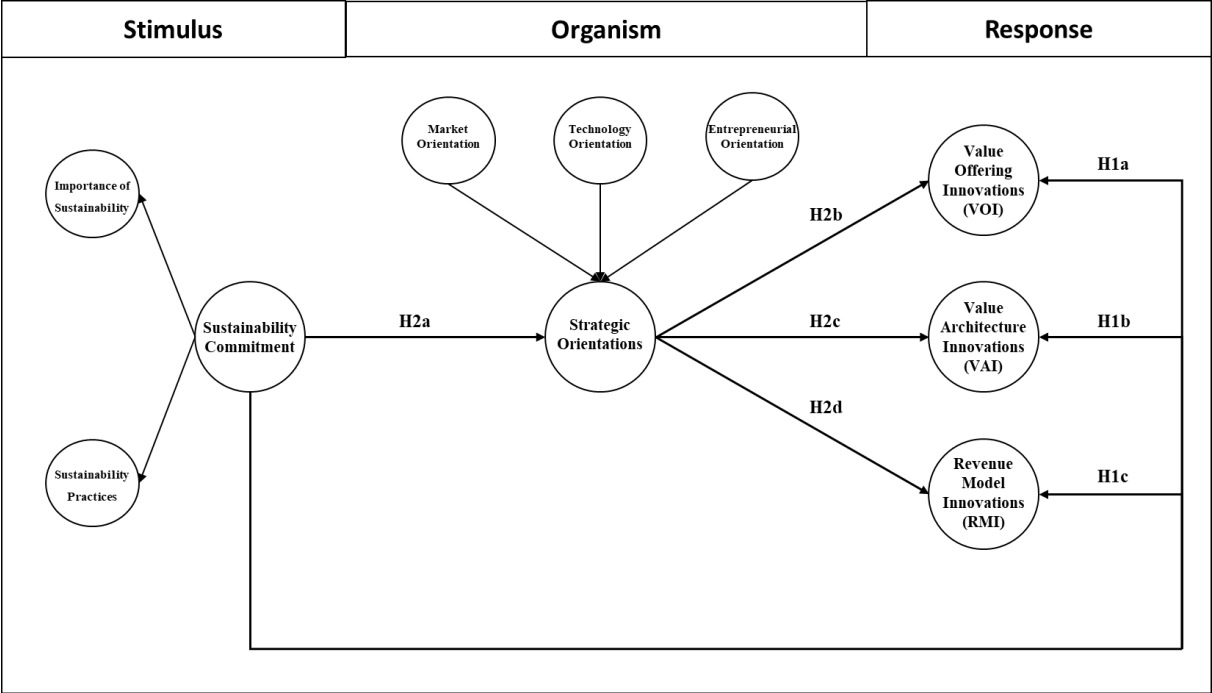


Figure 2: Research Model

2.4 Method

Sample

We chose a quantitative, survey-based research design to answer the research question because of the following considerations. First, we aimed to provide generalizable statements about the mechanisms that are triggered by a firm’s sustainability commitment and then unfold into significant changes of the BM as response to sustainability issues. Our aim was therefore not to develop new theory inductively; instead, we aimed to test deductively for relationships that could be derived from previous research, especially from research on the antecedents of BMI. Since a firm’s top management team is involved in strategic decisions and shapes the firm’s strategic orientation (Noble et al., 2002; Talke, Salomo, & Kock, 2011), and middle managers execute strategic decisions, they seem both adequate informants for assessing a firm’s strategic orientations and their BM. Consequently, we surveyed middle and top managers, who had been

shown to be knowledgeable key informants in similar research contexts (Gatignon & Xuereb, 1997; Spanjol et al., 2012; Zhou et al., 2005). While prior research has confirmed that such respondents are uniquely qualified to evaluate the strategic orientations and changes in a firm's business model (Kortmann, 2015), we still employed different criteria to ensure the appropriateness of the respondents. More specifically, we used a commercial panel provider who approached respondents in German manufacturing firms (27% medium-sized and 73% large companies), ensuring that the firms operated in a similar institutional environment. The participating firms came from five manufacturing industries (according to the STOXX industry classification): Chemical (14.4%), Industrial Goods (35.3%), Consumer Goods (34.1%), Health Care (4.2%), and others (12%). We instructed the provider to identify only middle and top-level manager in their database. We double-checked by asking the respondents to provide their current job title and describe their job experience. Relying on this information, the sample consisted of high-level executives (57.5% CEOs, CTOs, Marketing Managers, and Production Managers) and 34.1% middle managers (mainly project managers), resulting in 167 respondents (others / no answer 8.4%). Most had strong work experience in their company (more than 60% had worked in the company for more than 10 years). Owing to their hierarchical position and their work experience, our respondents were deemed as appropriate key informants regarding firm strategy and BMs.

Measures

Independent and Dependent Variables

We based the chosen constructs on existing and established measurement scales. In line with relevant research (Claudy et al., 2016; Du et al., 2016), we conceptualized and measured the exogenous latent variable sustainability commitment as a molecular second-order construct, consisting of two first-order constructs, the importance of sustainability and sustainability practices, each comprising three items (Claudy et al., 2016). These items stem from the 2012

PDMA CPAS survey (Markham & Lee, 2013), which other empirical studies have recently validated (Claudy et al., 2016; Du et al., 2016). We asked the participants to assess the importance of different sustainability criteria in their company (e.g. *Measuring new product progress on sustainability*), as well as sustainability practices on a seven-point Likert scale (1 = *not at all important* to 7 = *extremely important*). Strategic orientations was operationalized as molar second-order construct with three dimensions, all capturing different configuration that might promote innovation outcomes, i.e. market, technology and entrepreneurial orientation. We measured market orientation with six items adapted from Narver and Slater's (1990) scales for customer and competitor orientation. In line with previous studies, we excluded inter-functional coordination from our market orientation construct (Frambach, Prabhu, & Verhallen, 2003; Ozkaya, Droge, Hult, Calantone, & Ozkaya, 2015), instead employing a behavioral view of market orientation, since research suggests that inter-functional collaboration has a moderating role (Gatignon & Xuereb, 1997). We measured technology orientation with four items from Gatignon and Xuereb (1997). Further, we measured entrepreneurial orientation's components by using three items each for proactiveness and risk-taking developed by Covin and Slevin (1989). In line with Spanjol et al. (2012), we omitted the items for innovativeness (part of entrepreneurial orientation) owing to its close overlap with the dependent variable in the innovation context.

We measured the dependent variable by using the formative first-order dimensions VOI, VAI, and RMI from the BM innovativeness scale that Spieth and Schneider (2016) developed. This scale has the advantage of measuring whether there is an innovation new to the firm in one of the constituting elements of BMs. Capturing innovations new to the industry is quite challenging, since respondents may overestimate their firm's innovations compared to their competitors' business model innovations and the industry boundaries may become increasingly blurred, which make the scale developed by Spieth and Schneider (2016) the most suitable for

answering the research question. We asked the respondents to indicate whether different aspects of the BMI dimensions changed during the previous three years. The participants indicated their agreement on a seven-point Likert scale (from 1 = *strongly disagree* to 7 = *strongly agree*).

Control Variables

In line with the literature on strategic orientations and innovation (Spanjol et al., 2012), we included several control variables: environmental turbulence (Jaworski & Kohli, 1993), the organization size and R&D intensity. We chose environmental turbulence to control for external influences on BMI, as the amount of new technologies as well as the volatility of customer preferences in the firm's environment may influence the propensity to innovate the existing BM of a firm (Foss & Saebi, 2017). More specifically, we operationalized environmental turbulence as formative construct with one item measuring market turbulence and one item measuring technological turbulence from the measurement inventory of Jaworski and Kohli (1993). We further used annual revenues as a proxy for organization size, instead of more traditional measures like numbers of employees. BMI is more likely to depend on financial resources than on human resources, since BMI involves major changes to the value creation and architecture, which can be cost-intensive (Teece, 2018). Accordingly, we also included R&D intensity as a percentage of the total sales per year.

Common Method Bias

Since our survey data is based on single informants' responses, there might be a potential risk of a common method bias (Podsakoff et al. 2003); however, we applied several techniques to control for this in our research both prior to our data collection and by means of statistical tests in the analysis. More specifically, we explained to the respondents that there were no correct or wrong answers, and that their responses would be anonymous; we also relied on established measures (Podsakoff et al. 2003). Furthermore, and in line with previous publications (e.g.

Mauerhoefer et al. 2017), we additionally tested for pathological collinearity as indication for common method bias employing the full collinearity assessment approach (Kock, 2015). The highest variance inflation factor (VIFs) of all the constructs turned out to be 2.864 and thus well below the conservative threshold of 3.3, indicating absence of a common method bias (Kock, 2015). In addition, we performed Harman's single-factor test to assess common method variance's possible impact, finding no single factor to explain more than half of the variance. Based on these two tests, we concluded that common method bias did not threaten our results. Additionally, we also tested for pathological collinearity as indication for common method bias using the full collinearity assessment approach (Kock, 2015). All factor-level VIFs resulting from the full collinearity test were well below 3.3. Hence, we consider the model free of common method bias (Kock, 2015).

Accounting for Endogeneity of Sustainability Commitment

A possible concern in estimating the effect of a firm's sustainability commitment on market orientation is that the error term of market orientation might be correlated with a sustainability commitment. Thus, we addressed the potential for endogeneity by performing a two-stage least squares (2SLS) regression analysis, following the procedure suggested by Bascle (2008). Thus, we instrumented sustainability commitment with two instruments. The two instrumental variables (IV) are "technology opportunities" and "technological developments". We assume that both influence sustainability commitment. The first IV consists of two items, e.g. asking to assess if "technological changes provide big opportunities in our industry" The second IV "technological development" asks for past technological developments in the industry, e.g. "a large number of new product ideas have been made possible through technological breakthroughs in our industry". We used Stata 16.0 for calculation and the command IVREG2 in combination with the ffirst option (Baum, Schaffer, and Stillman, 2007) for our analyses, based on the procedure suggested by Bascle (2008). The first-stage F-statistics, in which

predicted values for endogenous variables are generated, shows that the F-value exceeds the commonly used threshold of 10 (F-value: 13.39) as suggested by Stock, Wright, and Yogo (2002). For testing the exogeneity of the two instrumental variables, we used the `first` and `orthog` commands. We found the Sargan/Hansen's J-statistic (chi-square: 0.834, $p=0.3612$) and the Basman test nonsignificant (chi-square: 0.818, $p=0.3658$). Thus, we assume that the instrumental variables fulfill the exogeneity condition. The IV model showed regression coefficients that are consistent with the ones reported in our model. Subsequently, we ran the `IVENDOG` command to conduct the Durbin-Wu-Hausmann test. Nonsignificant F and chi-square tests suggest unbiased estimators. Overall, the results of the 2SLS regressions analysis indicate that endogeneity is not a concern.

2.5 Analysis and Results

Statistical Analysis

We used structural equation modeling (SEM), specifically partial least squares SEM (PLS-SEM), for our analysis and calculation. In contrast to covariance-based SEM, PLS-SEM is a variance-based approach primarily used for the explorative identification of relationships (Hair et al. 2017). We selected this approach rather than a covariance-based approach for the following reasons: First, it is suitable for simultaneously calculating interrelationships between different constructs (Hair et al. 2017). Second, PLS-SEM allows the calculation of formatively measured higher-order constructs (Chin, 2010). Third, it allows a bootstrapping approach for testing the mediation hypothesis (Hair, Hult, & Ringle, 2017). Furthermore, PLS-SEM is suitable for generating insights based on small- to mid-sized samples (Henseler et al. 2009) and provides higher levels of statistical power in respect of small sample sizes compared to covariance-based approaches (Reinartz et al 2009). The required sample size for PLS-SEM is ten times the maximum number of exogenous constructs loading on an endogenous construct, i.e. structural paths that load on a specific construct (Chin 1998; Hair et al. 2017). As our

intended sample consists of top-level managers, who are hard to access, PLS-SEM allows for high statistical power.

We applied SmartPLS 3.2.7 to estimate the model's parameters, using a path weighting scheme with 300 iterations and a stop criterion of 10^{-7} (Hair, Ringle, & Sarstedt, 2013). Subsequently, we applied a non-parametric bootstrapping procedure (no sign changes) with 5,000 subsamples for significance testing in the measurement model (item and indicator loadings) and in the structural model (path coefficients) (Hair et al., 2017). To implement the higher-order construct for sustainability commitment, we used the repeated indicator approach, while for strategic orientations the two stage approach was employed (Hair et al., 2017). For testing the proposed mediation effect, we applied the bootstrapping approach suggested by Hair, Hult, and Ringle (2017).

Results

Measurement Model Results

In order to validate the measurement model, we first evaluated all reflective constructs by assessing the internal consistency, the convergent and discriminant validity, the indicator and construct reliability. We evaluated the internal consistency reliability by considering the composite reliability (Hair et al., 2013). Since all the constructs' estimations for composite reliability were above .7, we could assume internal consistency (Bagozzi & Yi, 1988). All the reflective items' outer loadings were significant, and all standardized outer loadings, except those of two items referring to proactiveness, were above .7. The latter two items were not considered to jeopardize the convergent validity.

Table 1: First-order Measurement Model Results: Reflective Items

First-order construct	Item	Loadings	Significance (bootstrapping; n = 5,000)
Importance of Sustainability Mean = 4.93 SD = 1.27 CR = .923 AVE = .801	How important are the following to your company?		
	Environmental sustainability	.854	24.603
	Measuring new product progress on sustainability	.909	43.102
	Future importance of sustainability criteria types	.920	54.890
Sustainability practices Mean = 4.76 SD = 1.37 CR = .939 AVE = .837	To what extent does your company do the following?		
	Manage your product's carbon footprint.	.924	61.560
	Use the triple bottom line for product planning.	.936	71.526
	Select suppliers and partners based on sustainability criteria.	.884	29.577
Market orientation Mean = 5.17 SD = .99 CR = .908 AVE = .623	Our objectives are driven primarily by customer satisfaction.	.810	25.382
	Our strategy for competitive advantage is based on our understanding of our customers' needs.	.806	19.397
	Our market strategies are driven by our understanding of possibilities for creating value for our customers.	.751	17.162
	Our salespeople regularly share information within our business concerning competitors' strategies.	.741	17.917
	We target customers and customer groups where we have or can develop a competitive advantage.		
Top management regularly discusses competitors' strengths and strategies.	.818	28.100	
		.807	27.153

Technology orientation	Technological innovation is readily accepted in our program/project management.	.854	31.765
Mean = 5.02	We use sophisticated technologies in our new product development.	.878	37.560
SD = 1.11	Our new products always use state-of-the-art technology.	.884	50.320
CR = .918	Technological innovation based on research results is readily accepted in our company.	.814	16.077
AVE = .736			
Entrepreneurial orientation	In dealing with its competitors, my firm...		
Mean = 4.57	Typically responds to actions that competitors initiate / Typically initiates actions to which competitors then respond	.476	3.586
SD = 1.04	Is very seldom / very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.	.728	12.389
CR = .854	Typically seeks to avoid competitive clashes, preferring a <i>live-and-let-live</i> stance / Typically adopts a very competitive, <i>undo-the-competitors</i> stance	.584	5.618
AVE = .502	My firm's top managers generally have...		
	A strong proclivity for low-risk projects (with normal and certain rates of return) / A strong proclivity for high-risk projects (with chances of very high returns)	.763	12.628
	My firm's top managers generally believe that...		
	Owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behavior / Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives		
	When confronted with decision-making situations involving uncertainty, my firm...	.821	19.048
	Typically adopts a cautious, wait-and-see stance in order to minimize the likelihood of making costly decisions / Typically adopts a bold, aggressive stance in order to maximize the likelihood of exploiting potential opportunities	.811	15.972

On the construct level, we assessed the convergent validity by considering the average variance extracted (AVE). Since all the constructs' AVEs were above .5, the constructs explain more than the half of their indicators' variance and confirm the convergent validity (Chin, 1998; Fornell & Larcker, 1981).

Table 2: Inter-construct Correlations

Construct	1	2	3	4	5	6	7	8	9	10
1. Sustainability Commitment	1									
2. Market Orientation	0.559**	1								
3. Technology Orientation	0.599**	0.715**	1							
4. Entrepreneurial Orientation	0.356**	0.141	0.326**	1						
5. VOI	0.233**	0.191*	0.322**	0.298**	1					
6. VAI	0.367**	0.204**	0.356**	0.393**	0.759**	1				
7. RMI	0.332**	0.238**	0.356**	0.324**	0.689**	0.774**	1			
8. Environmental Turbulence	0.315**	0.319**	0.377**	0.085	0.327**	0.373**	0.289**	1		
9. R&D Intensity	0.137	0.081	0.220**	0.029	0.091	0.135	0.045	0.052	1	
10. Company Size	0.195*	0.164*	0.216**	-0.022	0.137	0.161*	0.152*	0.106	0.309**	1

In order to evaluate discriminant validity, we assessed the correlations' heterotrait-monotrait ratio (HTMT) as the ratio of the between-trait correlations to the within-trait correlations (Henseler, Ringle, & Sarstedt, 2015). Since traditional approaches to establish discriminant validity (e.g. the Fornell-Larcker criterion or cross-loadings) may have shortcomings when assessed in models with reflective and formative constructs (Hair et al., 2017), we used the HTMT of the correlations to assess the discriminant validity. The HTMT values of all the

construct pairs were below the more conservative threshold of .85. In addition, we examined whether the HTMT values differed significantly from 1 by calculating the bias-corrected bootstrap confidence intervals. The 95% confidence intervals did not include 1 in any of the construct pairs. Consequently, we could conclude discriminant validity for the constructs (Hair et al., 2017).

Table 3: Heterotrait-Monotrait Ratio of Correlations (HTMT)

Constructs	1	2	3
(1) Sustainability commitment			
(2) Market orientation	.615		
	CI ₉₀₀ [0.488;0.724]		
(3) Technology orientation	.661	.814	
	CI ₉₀₀ [0.552;0.765]	CI ₉₀₀ [.730;0.889]	
(4) Entrepreneurial orientation	.408	.185	.373
	CI ₉₀₀ [0.255;0.551]	CI ₉₀₀ [0.156;0.353]	CI ₉₀₀ [0.237;0.513]

In the case of the formative constructs, namely the three formative BMI dimensions as well as the second-order dimensions of strategic orientations, we examined the formative indicators' outer VIFs for collinearity issues. Since the VIFs of all the indicators were below 5, we could conclude that we had no collinearity issues. To evaluate the formative indicators' significance and relevance, we applied the bootstrapping method with 5,000 subsamples. All the outer weights of environmental turbulence as well as of each BMI dimension, except that of one indicator pertaining to RMI, showed significance. Since the indicator's outer loading was sufficiently high (>.1), and theory supports this indicator's relevance (Spieth & Schneider, 2016), we chose to retain it.

Table 4: First-order Measurement Model Results: Formative Indicators

First-order construct	Indicator	Weights	Significance (bootstrapping; n = 5,000)
Value offering innovation Mean = 4.46 SD = 1.22 VIF= 2.021	Target customers have changed.	.266	3.988
	The product and service offering has changed.	.493	9.373
	The firm's positioning in the market has changed.	.411	10.109
Value architecture innovation Mean = 4.41 SD = 1.26 VIF= 2.957	The firm's core competences and resources have changed.	.239	7.302
	Internal value creation activities have changed.	.348	10.845
	The roles and involvement of partners in the value creation process have changed.	.323	9.695
	Distribution has changed.	.276	6.702
Revenue model innovation Mean = 4.66 SD = 1.38 VIF= 2.168	Revenue mechanisms have changed.	.325	1.020
	Cost mechanisms have changed.	.737	2.520
Environmental Turbulence Mean = 4.79 SD = 1.09 VIF= 1.003	In our kind of business, customers' product preferences change quite a bit over time.	.938	9.571
	Technological developments in our industry are rather minor (r).	.406	2.002

For the second-order dimensions of strategic orientations, the two outer weights showed significance, while the outer weight for market orientation fell short of significance. Yet, since the outer loading was sufficiently high ($>.1$), and theory supports its inclusion as important strategic orientation with respect to innovation outcomes (Baker & Sinkula, 2007; Paladino, 2007), we chose to retain it.

Table 5: Second-order Measurement Model Results

Second-order construct	First-order construct	Loadings/ Weights	t-values
Sustainability commitment	Importance of sustainability	.956	102.611
	Sustainability practices	.959	94.606
Mean = 4.85			
SD = 1.26			
CR = .948			
AVE = .751			
Strategic Orientations	Market orientation	.175	1.158
	Technology orientation	.600	3.915
	Entrepreneurial orientation	.492	3.934
Mean = 4.96			
SD = 0.82			
VIF = 2.290			

Structural Model Results

The results at structural model level confirmed a good fit of the estimations with the data, as the R^2 values for the endogenous construct turned out to be between 0.20 and 0.40 (0.20 for VOI, 0.21 for RMI, 0.27 for VAI, and 0.40 for strategic orientations). Employing a blindfolding approach, the predictive power of the structural model was evaluated (Fornell and Bookstein,

1982). This procedure led to a Q_2 -value of 0.25 for strategic orientations, confirming the predictive power of the structural model (Geisser, 1974; Stone, 1975). The highest VIF value at structural model turned out to be 1.736, well below the most conservative threshold of 3.00. Hence, multicollinearity should not be existent at the structural model level.

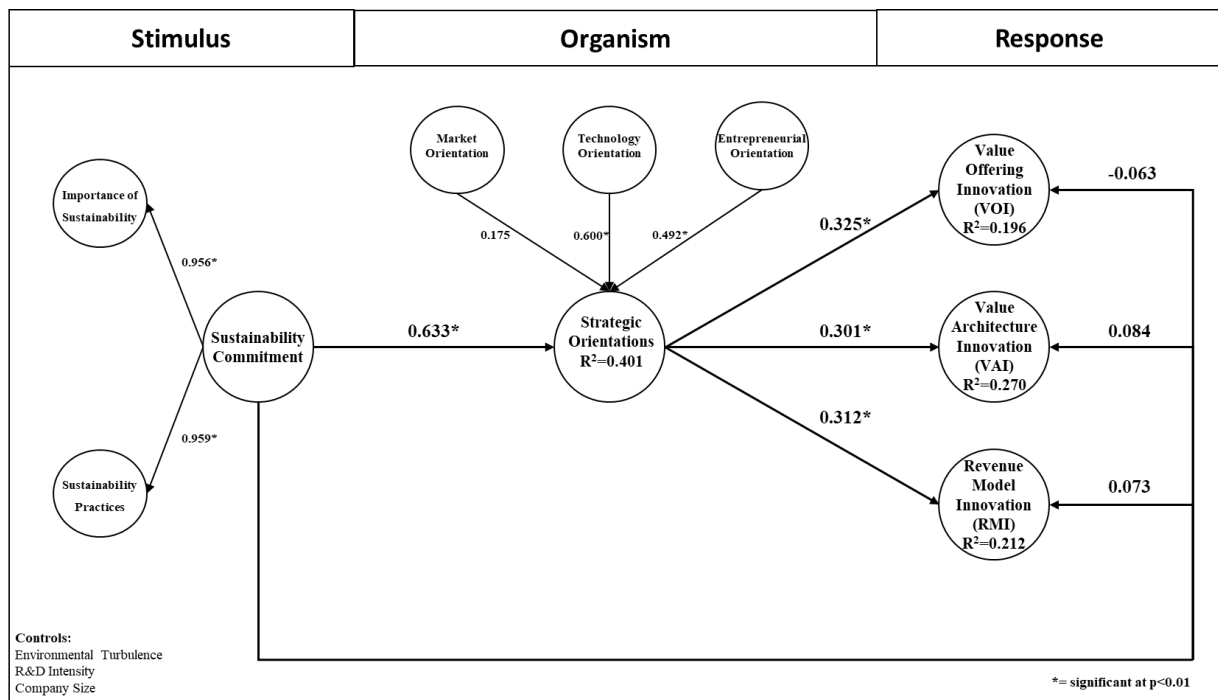


Figure 3: Structural Model Results

In our first hypothesis (H1) we proposed a direct effect of sustainability commitment on each BMI dimension, namely value offering innovation (VOI; H1a), value architecture innovation (VAI; H1b), and revenue model innovation (RMI; H1c). Contrary to our expectations proposed in H1a-c, the effects of sustainability commitment on each BMI dimension turned out nonsignificant ($\beta_{VOI} = -0.063$, n.s.; $\beta_{VAI} = 0.084$, n.s.; $\beta_{RMI} = 0.073$, n.s.). Taking the proposed mediation effect in hypothesis 2 into account, this initial finding indicates a potential full mediation of the effect of sustainability commitment on each BMI dimension by strategic orientations. In order to test the proposed mediation effect, we employed the bootstrapping approach in PLS proposed by Hair et al. (2017). In a first step, we examined whether sustainability commitment is positively related to strategic orientations as proposed in our

hypothesis H2a. In line with hypothesis 2a, our results confirmed a positive and significant effect of sustainability commitment on strategic orientations ($\beta = 0.63, p < 0.01$). In a second step, we examined whether the construct of strategic orientations is positively related to each BMI dimension. In line with hypotheses 2b-d, we found that strategic orientations exhibited a positive and significant effect on value offering innovation ($\beta = 0.33, p < 0.01$; H2b), value architecture innovation ($\beta = 0.30, p < 0.01$; H2c), and revenue model innovation ($\beta = 0.31, p < 0.01$; H2d). In a third step, we then estimated the indirect effect of sustainability commitment via strategic orientations on each BMI dimension as well as the corresponding significances of the potential mediation. In order to so, we applied the bootstrapping method for the sampling distribution of the indirect effect following Hair et al. (2017). According to our results, the indirect effects of sustainability commitment through strategic orientations on value offering innovation ($\beta = 0.21, p < 0.01$; H2b), value architecture innovation ($\beta = 0.19, p < 0.01$; H2c), as well as revenue model innovation ($\beta = 0.20, p < 0.01$; H2d) turned out to be positive and highly significant. Since sustainability commitment had no direct effect on each of the BMI dimensions, our results suggest the establishment of a full mediation. All effects of the control variables are outlined in Table 6.

Table 6: Effects of the Control Variables

Effect on	VOI	VAI	RMI
β			
(t-value)			
Environmental Turbulence	0.238 (2.476)	0.240 (2.536)	0.161 (1.628)
R&D Intensity	0.013 (0.185)	0.044 (0.653)	-0.050 (0.728)
Company Size	0.074 (0.952)	0.064 (0.934)	0.092 (1.218)

2.6 Discussion

In our conceptual model, we integrated different strategic orientations and investigated the influences of firm-internal factors on BMI. To our best knowledge, this is the first study to quantitatively analyze sustainability's role as a driver of BMI. Overall, the findings support our research model and most of the hypothesized relationships. First, our SEM analysis results indicate that sustainability commitment had no direct effect on any of the BMI elements. This might be due to the fact that most commercial firms integrate sustainability without obtaining clear benefits (Adams et al., 2016; Crittenden, Crittenden, Ferrell, Ferrell, & Pinney, 2011), which results in efficiency-centered, incremental innovations.

Second, the findings from the mediation analysis revealed that sustainability commitment, while having no direct effect, indeed has indirect effects on each BMI dimension via strategic orientations. More specifically, our hierarchical construct of strategic orientations consisted of three important orientations with regard to innovation outcomes, namely market orientation, technology orientation and entrepreneurial orientation. According to our results, these

orientations as formative second-order dimensions act solely or in combination as mediator for effect of sustainability commitment on each BMI dimension. Accordingly, our findings in this regard provide first empirical evidence that being sustainable extends information-gathering's scope regarding current customers and markets, as well as new technologies and opportunities for value creation. These findings are in line with previous research indicating that firms committed to sustainability engage in market research in order to address sustainability issues (Hoffmann, 2007), and that such market orientation has positive performance implications with regard to innovation activities (Baker & Sinkula, 2007; Paladino, 2007). Similarly, our findings from mediation analyses also provide further evidence for the proposition made by past studies that new technologies need new BMs for value to be captured from them (Amit & Zott, 2001a). Building a knowledge base for new developments in a firm's technological environment could achieve a shift in all three BM dimensions. Finally, our findings are also in line with research showing that a high commitment to sustainability also fosters the search for new opportunities (Du et al., 2016), and that this entrepreneurial orientation unfolds in proactiveness and risk-taking behavior (e.g. by means of a high level of experimentation) influencing value creation's internal mechanisms (Achtenhagen et al., 2013).

Theoretical Implications

This article used the stimulus-organism-response model (Hebb & Donderi, 1987; Mehrabian & Russell, 1974) to explain the specific strategic behavior through which sustainability commitment is processed into BMI. To the best of our knowledge, this is the first study to empirically investigate strategic orientations as drivers of BMI. This study had two primary goals: (1) to identify sustainability commitment's influence on strategic behavior and, (2) to examine the relationship between strategic orientations and BMI. Our findings offer novel insights into the linkage between sustainability and BMI and thereby contribute to two literature

streams: sustainability innovation research and research on BMI. Furthermore, our findings also add to the current knowledge centering around the dynamic capability theory (Teece, 2007).

First, we contribute to research on sustainability (innovation) by providing new insights into how a commitment to sustainability influences internal strategic competitive behavior. Thus, we take a different perspective than most research regarding sustainability innovation that concentrates, for example, on bottom of pyramid innovations, new organizational forms to solve sustainability issues, or on the environmental outcomes of being sustainable (Hörisch, Ortas, Schaltegger, & Álvarez, 2015). We, however, extend previous studies on sustainability management investigating sustainability's business case, thereby focusing on business performance, new product development success (Claudy et al., 2016), or other outcomes of sustainable innovation. Only few studies exist that have shifted the focus to the influence of BMI on sustainability (Pedersen, Gwozdz, & Hvass, 2018). In contrast to the mainstream literature on sustainable innovation, our study shows that sustainability commitment can lead to specific configurations of strategic behavior in established firms, i.e. market, technology as well as entrepreneurial orientation, that effectively transform sustainability issues into necessary changes in a firm's business model. In detail, the results show that sustainability commitment impacts strategic competitive behavior and facilitates behavior that has been associated with competitive advantages (Lumpkin & Dess, 1996; Narver & Slater, 1990). Subsequently, sustainability commitment might be incorporated into strategic behavior and become a strategy itself that combines competitive advantage seeking and sustainability efforts. In this regard, firms may differ in their responses to sustainability challenges, by increasing market-centric, entrepreneurial or technological strategic behavior. Researchers agree that start-ups and spin-outs are more capable of organizational transformation regarding sustainable BMs than incumbents that predominantly focus on operational sustainable efficiency (Adams et al., 2016). However, we contribute to this view by providing a rationale for why incumbents take efforts to increase efficiency first and engage in organizational transformation "delayed". This

can be partly explained with the time span that is needed in order to implement sustainability thinking into the competitive strategic mindset of a firm, i.e. the time needed to unfold strategic orientations. After successful integration, firms are able to proactively develop more sustainable BMs and innovations than being reactive to regulations. Thus, we extend extant research that neglected the relationship between sustainability and the corporate strategic context (Kennedy et al., 2017).

Although researchers argue that sustainability may be a key driver of BMI (Adams et al., 2016; Foss & Saebi, 2017), there is little knowledge of the mechanisms that allow sustainability to lead to innovation or to the evolution of BMI. Consequently, this study helps bridge this gap in knowledge by showing that firms with a commitment to sustainability do not “automatically” innovate their business models. Instead, this study suggests that sustainability is a driver to deepen technology-oriented strategic behavior, market-focused information gathering and entrepreneurial behavior, which subsequently lead to the business model’s innovation. In conclusion, this study’s theoretical contribution provides an explanation of *how* sustainability changes internal strategic behavior, rather than clarifying the measurable outcomes (e.g. sustainability outcomes and performance effects). We, therefore, provide a different perspective on sustainability and innovation, and extend the literature, which mainly discusses how firms can be more sustainable or how they can develop sustainable innovations, by pointing to a commitment to sustainability’s direct and indirect influence on internal strategic behavior and actions.

Second, we contribute to the BMI literature by identifying additional antecedents of BMI, and to by adding knowledge on the link between strategy and BMs. We have extended previous findings that a commitment to sustainability influences new product development success positively (Claudy et al., 2016; Du et al., 2016) by replicating these findings in the BMI context. To our best knowledge, the results provide first empirical evidence that strategic orientations

affect BMI, thus extending findings on market orientation and BM adaptation (Saebi et al., 2016), as well as previous work on strategic orientations in terms of new product development (Atuahene-Gima & Ko, 2001; Spanjol et al., 2012). Our findings therefore indicate that collective behavior, which is manifested via a firm's strategic stance, affects BMI. We subsequently responded to calls by Foss and Saebi (2017) and Spieth et al. (2016) to identify the antecedents of BMI by extending research that posits that drivers of BMI can also be internal if there is no exogenous change (Martins et al., 2015; Zott et al., 2011). Market, technology and entrepreneurial orientation as subdimensions of strategic orientations were shown to directly influence a firm's propensity to innovate its BM. In contrast to prior research, we did not investigate specific market research methods, technologies or experimental methods as drivers of BMI, but applied a broader, strategic perspective. We therefore extended previous research focusing on specific technologies, such as the Internet or on a firm's past technological innovations as driver of BMI (Wei et al., 2014), by showing that, rather than single technologies, a broader technological strategic stance also drives BMI. Likewise, we support previous research that found BMI to be a risky, experimental process (McGrath, 2010; Sosna et al., 2010) resulting from the entrepreneurial exploration of opportunities (Demil et al., 2015). Also in line with previous research, our study indicates that deepening a firm's knowledge about its customers and competitors (i.e. market orientation) also drives BMI, even though not that strong when looking on the second-order weight compared to the other strategic orientation dimensions. Still, our results provide further empirical evidence that consumers are a key driver of BMI (Pynnönen, Hallikas, & Ritala, 2012).

Third, we have shed light on the relationship between a firm's strategy and BMI by shedding light on how strategic orientations promote change to a firm's BM. The second-order weights of strategic orientations indicate that the orientations that guide strategic choices have different implications for the propensity to change a BM. Consequently, we confirm Casadesus-Masanell and Ricart's (2010) conceptual work and argumentation that BMs are not a strategy, but the

result of strategic choices, since the dominant behavior that the employed strategic orientation proposes, guides choices (Atuahene-Gima, Slater, & Olson, 2005). Previous research showed that BMs and strategies are distinct constructs that interactively influence firm performance (Zott & Amit, 2008); however, Zott and Amit (2008) investigated the roles of specific product market strategies and specific BMs. We have contributed to these authors' findings by providing a more holistic perspective that identifies concrete behavior that guides strategic choices, which may in turn innovate a firm's BM. Consequently, our results identify a driving behavior (i.e. strategic orientation) for BMI without focusing on concrete strategies (e.g. cost leadership or differentiation) and concrete BMs (e.g. novelty-centered or efficiency-centered). Thus, we increase the general understanding of the BMI construct and how strategy can facilitate BMI. By extending these previous findings, we contribute to the ongoing debate on whether strategy and BMs are distinct constructs or "old wine in new bottles" (Massa et al., 2017).

Finally, we contribute to the dynamic capabilities concept (Teece, 2007), specifically to the business model-dynamic capability interaction (Teece, 2018). We highlight the interdependencies between BMI and strategy, responding to the call by Teece (2018) to provide a better understanding of BMI in order to shed light on "important aspects of dynamic capabilities". As dynamic capabilities are vital in adapting the BM, we contribute to this research stream by showing that certain behavior and values drive BMI, which can be also relevant for developing strong dynamic capabilities. In detail, creating a culture of entrepreneurial, customer oriented as well as technological values might be part of to the development of highest-order dynamic capabilities, namely the sensing and seizing of opportunities, which are most relevant for innovation (Teece, 2018). By showing that entrepreneurial, market and technological orientation are effective configurations to innovate a BM, this can be a source for constantly sensing and seizing opportunities as well as

transforming the BM, and be subsequently the fundament for developing strong dynamic capabilities.

Managerial Implications

This study offers managers important insights and practical evidence. We have identified relevant strategic orientations that drive BMs' innovation. These orientations could help firms to overcome their inertia in terms of BMI and to change their BM to be more efficient. Since strategic orientations represent the guidelines for firm specific-behavior, employing strategic orientations that facilitate BMI might reduce resistance to BM change. Our results also suggest that a commitment to sustainability can lead to innovation, thus adding to a broader understanding of sustainability's business case. We therefore show managers the possible benefit of committing to sustainability, as BMI can help firms differentiate themselves from their competitors and can be a competitive advantage (Zott & Amit, 2007). Managers should therefore commit to sustainability strategically and allocate resources to increase their sustainability efforts. Furthermore, they should develop sustainability policies in order to differentiate their firms from their competitors with possible business model innovation.

Besides, this study shows that a commitment to sustainability has wider implications for the firm behavior (influencing market, technology and entrepreneurial orientations). Managers should be aware of the internal effects on firm behavior and need to monitor a high commitment's effects on sustainability, because this, for instance, influences the market-oriented behavior. Adding to this understanding, this study shows that sustainability can be an enabler of deepening technological knowledge, which in turn influences the BM. Firms that gather technological information in order to create a competitive advantage could therefore broaden their scope by committing to sustainability, which would also help foster entrepreneurial behavior, such as risk-taking and proactiveness. Sustainability thus provides an opportunity to implement behavior that allows one to identify new opportunities and enhances

innovation. Finally, managers should dedicate resources to deepen firms' technological knowledge and to promote a proactive search for technological solutions throughout the firm, not limiting this to R&D. By understanding the mechanisms that drive BMI, managers can find new value creation and capture opportunities in order to provide superior customer value, i.e. to gain a competitive advantage.

Limitations and Future Research

Despite its insights, this study also has some limitations. First, we used cross-sectional data, but since BMI is a dynamic process, longitudinal data could assess strategic orientations' impacts on BMI over time. This might shed some light on the dynamic evolution of strategic orientations and their interplay with sustainability issues and the subsequent transformation of BMs. Second, although we addressed possible endogeneity issues for the relationship between a firm's sustainability commitment and its market orientation, future research can investigate possible interdependencies and feedback loops between sustainability commitment and market orientation. Third, we considered manufacturing firms in our sample. The various strategic orientations may therefore have different implications for BMI in service firms; consequently, investigating service firms might offer future research opportunities. Although we controlled for industry effects, our results of market knowledge's influence on BMI may change in respect of other industries, where the BM depends more on customers' needs and demands, or where these demands change swiftly. Forth, we relied on the retrospective assessments of BMI by asking our respondents to indicate whether their firm's BM had changed in the previous three years. Future research could therefore examine strategic orientation's role in innovating a firm's BM in greater detail. Investigating specific strategic orientations and strategies, and the resulting BMs might be a fruitful avenue for further research to provide additional insights into the strategy and BM debate. Fifth, we did not assess BMI's performance implications in this study and although the relevant research consistently argues that BMI has positive performance

effects (Aspara et al., 2010; Foss & Saebi, 2017), it would be interesting to disentangle the BMI (value offering, value architecture, and revenue model) dimensions' performance implications. Finally, we investigated sustainability commitment, strategic orientations, and BMI's relationships, focusing on BMs new to the firm. Future research could assess different types of BMI by, for example, differentiating between BMI's scope and novelty, as suggested by Foss and Saebi (2017).

3 How Media Coverage Evokes Strategic Change: The Moderating Role of the Business Model Design (Paper 2)

3.1 Introduction

Institutional theory suggests that maintaining or gaining legitimacy influences activities, firm behavior, and strategies in organizations (Powell & DiMaggio, 1991; Scott, 1987) and contradicts the assumption of efficiency gains as exclusive *raison d'être* for strategic change. Hence, diverse institutional actors (e.g., stemming from customers, the general public, the media, employees, competitors) put pressure on firms to conform to social expectations (Guler, Guillén Mauro F., & Macpherson, 2002). Prior research indicates that firms need to continually monitor legitimacy perceptions of the media (Bednar et al., 2013). Thus, press media coverage can create pressures on firms by negatively reporting firm action (Deephouse, 2000b). For instance, consider the case of Bayer AG and Monsanto. The large German pharmaceutical company was extensively criticized in the German media in 2017 and 2018 due to the acquisition of Monsanto, a producer of genetically engineered crops and glyphosate. Recently, Bayer AG reacted to the criticism by announcing in a press release an investment of 5 billion Euros to the development of sustainable alternatives to glyphosate (Bayer AG, 2019). Hence, negative media coverage evokes firms to react to these pressures to repair legitimacy, as a loss of legitimacy is associated with negative performance implications (Deephouse & Carter, 2005; Suchman, 1995). Although there are different strategies to respond to evaluations of outside constituents, i.e., to negative media reports (Suchman, 1995), firms frequently engage in strategic change for demonstrating action in response to gain or maintain legitimacy (Bednar et al., 2013). Strategic change commonly becomes noticeable by changes in resources allocated to different functions like R&D or marketing (Haynes & Hillman, 2010). Although exposed to similar pressures, firms do not respond similarly but show heterogeneous strategic responses to these pressures (Nikolaeva & Bicho, 2011; Oliver, 1997; Powell & DiMaggio, 1991). Despite

research indicating that the media influences strategic change (Bednar et al., 2013; Deephouse, 2000b), the conditions for this relationship and the interaction with firm-specific factors gained less scholarly attention. Thus, a vast amount of prior research concentrated on the CEO and other executives' experiences, tenure, or turnover (Finkelstein & Hambrick, 1990; Henderson, Miller, & Hambrick, 2006), as executives are responsible for initiating strategic change. Bednar et al. (2013) provide evidence that governance mechanisms of a firm moderate the influence of media on strategic change. However, strategic change is highly contextualized (Kunisch et al., 2017), depending on diverse firm specific boundaries (Balogun et al., 2015; Hoskisson et al., 2004). Thus, the complex structural aspects are also likely to influence the reaction on media coverage but are rarely investigated in prior research (Murillo-Luna et al., 2008). Although researchers argue for this general influence of firm-specific contingencies (Kunisch et al., 2017) and call for investigating more factors that moderate the impact of media coverage on firms (Bednar et al., 2013), prior research is somewhat fragmented and captures marginal aspects of firm structure. For instance, firm-specific factors like organizational resources (Kraatz & Zajac, 2001), competition (Zajac & Kraatz, 1993), diversification or corporate governance (Hoskisson et al., 2004) influence the initiation of strategic change. Despite potential benefits like innovation (Herrmann & Nadkarni, 2014), strategic change also ties resources, and potentially wastes resources (Kraatz & Zajac, 2001). In sum, past research predominantly investigated firm antecedents of strategic change like resources (Kraatz & Zajac, 2001), competencies and control systems (Pathak, Hoskisson, & Johnson, 2014) in isolation without considering the firms source of value creation. Although highly influential, these findings do not account for the increasing significance of interdependencies regarding how firms create value in an interconnected world, comprising value creation in networks with manifold exchange relationships (Zott et al., 2011). Here, the business model (BM) concept might bridge this gap, as it comprises the boundary-spanning system of activities for creating value (Amit & Zott, 2001b; Zott & Amit, 2007), highlighting its activities' interdependencies (Bigelow & Barney,

2020). Consequently, the BM concept can help to gain novel insights on strategic management issues, as it comprises the firm's activities, and resources to create value and capture value beyond firm-boundaries (Lanzolla & Markides, 2020; Zott & Amit, 2013), supporting to draw a more realistic picture of organizational factors influencing strategic change (Kunisch et al., 2017).

In detail, I seek to close this gap by investigating the moderating influence of the dominant business model design of a firm on the relationship between negative media coverage and strategic change. Recently, the business model (BM) concept gained increasing attention in developing new insights for strategic management research and how to build superior strategies (Lanzolla & Markides, 2020). Hence, I seek to explain variance in strategic responses to media coverage by examining the influence of the dominant BM design (efficiency or novelty-centered) of a firm and shed light on how firms react to negative media articles by considering firm-level contingencies.

For testing the proposed influences, I apply a quantitative research design, using secondary data. With this approach, I combine different data sources such as annual reports, newspaper articles, and also connect different analysis approaches such as the ratings of trained experts for BM designs (Zott & Amit, 2007, 2008), the use of software-aided content analysis (Pennebaker, Boyd, Jordan, & Blackburn, 2015; Pennebaker, Francis, & Booth, 2001). I investigate large firms that are traded at the German stock exchange. I collect data for several years (2014-2018) to identify time-related effects, using generalized estimating equation models for testing the hypotheses (Liang & Zeger, 1986).

The results of this analysis approach confirm that negative media coverage evokes executives to change the status quo. Moreover, I find the dominant business model design theme to moderate this effect. I found a counteracting influence, in detail that the more efficiency-centered the dominant business model is, the less likely the negative media coverage will lead

to strategic change. Thus, the efficiency-centered BM design, which aims to maximize transaction efficiency (Amit & Zott, 2001b), appears to impede the potentiality to react to negative media coverage by altering resource allocation patterns. Given the results, I add to the discussion of the complex interaction of drivers that evoke strategic change. I extend prior findings of Bednar et al. (2013) and Shipilov et al. (2019) on the influence of negative media coverage on strategic change and literature regarding drivers of strategic change in general by using a new perspective (BM design) that explains heterogeneous reactions. As this paper concerns the firm's interpretation of outside constituents' assessment of firm activities, I also follow calls to use a sociocognitive perspective on strategic management (Pfarrer et al., 2019). Furthermore, I contribute to the debate of the usefulness of the BM concept to explain heterogeneous strategic responses, enriching strategic change literature (Bigelow & Barney, 2020; Lanzolla & Markides, 2020). The remainder is structured as follows: I begin by elaborating on the theoretical underpinnings and derive the hypotheses, followed by the presentation of the methodological approach. Subsequently, I present the results of the generalized estimating equations analysis. Afterward, I discuss the results in light of prior findings and elaborate on the theoretical of this study. In the end, I discuss the limitations of this study and present future research avenues.

3.2 Literature Review and Hypotheses

The institutional theory established as an essential theoretical approach to explain organization action and behavior on different levels of analysis, by accentuating that organizations are not fully rational systems of producing and selling products or services, but act in a complex environment that requires organizations to adapt to the institutional context in which they are embedded (DiMaggio & Powell, 1983; Scott, 1995). For instance, decisions regarding resource allocation may be inappropriate from an "economic-rationality" view, but appropriate from a "normative-rationality" point of view (Oliver, 1997). Thus, this theoretical lens emphasizes the

influence of the institutional context for understanding organizational behavior. The level of conforming to the complex social expectations is vital for being perceived as a “legitimate” organization (Deepphouse, 1996). Thus, adapting to social expectations is crucial for organizations to survive in the long-term, as being perceived as legitimate offers organizations several benefits. DiMaggio and Powell (1983) suggest that different types of pressures (coercive, mimetic isomorphism) influence organizations that, in turn, adapt to what they believe society expects from them, leading to institutional isomorphism (Boxenbaum & Jonsson, 2008) on the one side. On the other side, Oliver (1991) argues that firms often respond heterogeneously to these pressures. Managing these tradeoffs and pressures can subsequently result in different, complex strategic responses (Oliver, 1991), that can be identified in a company’s strategy and associated changes to resource allocation patterns (Carpenter, 2000).

Drivers of Strategic Change

Despite scholarly interest in the macro and micro consequences of strategic change, in the past, researchers largely elaborated on the manifold drivers of strategic change to understand the persistence or change of strategies over time (Kunisch et al., 2017). Regarding the definition of strategic change, I follow prior conceptualizations of strategy as a pattern of decisions and actions, which is observable and reflected in resource allocations across different functions like marketing or R&D (Geletkanycz & Hambrick, 1997; Mintzberg, 1978). Consequently, I refer in this study to the definition of Carpenter (2000, p. 1182), who defines strategic change as a change in the “pattern of a firm’s resource commitments over time, relative to its past pattern”. Although strategic change and organizational change overlap to some extent in their definitions, it is important to distinguish between both terms (Kunisch et al., 2017). As such, strategic change is in contrast to organizational change typically broad in scope and fundamental, changing major elements of a firm, and is led by executives and the top management. In

contrast, organizational change may also comprise minor changes on a less company-wide and strategic level (Kunisch et al., 2017).

A general conclusion from early strategy research is that executives prefer persistence in strategy, especially when the firm is well-performing (Greve, 1998). Thus, identifying the reasons why executives actually initiate strategic change yields an exciting research field. Prior literature concerning strategic change can be divided into different streams that focus on the drivers from an institutional perspective (e.g., conforming to social expectations), from an organizational perspective (e.g., past performance), and a stream focusing on the individual executive (e.g., change agents). In the past, scholars were interested in the characteristics of executives that are in charge of changing the strategy. Commonly, executives are more likely to engage in problemistic search (Cyert & March, 1963) when faced with problems, leading to reactions like changes to the strategy. Therefore, prior research engaged in investigating how the top management pays attention to internal as well as external factors that might drive change by adopting an attention-based view and how organizational problems become salient (Bednar et al., 2013). Investigating the factors that trigger executives is evident in understanding the decisions to change strategies and for understanding the factors that support the implementation of change (Kunisch et al., 2017). Accordingly, several findings concern how executives make sense of and interpret information that subsequently leads to a decision to change a firm's strategy (Gioia & Chittipeddi, 1991a; Sonenshein, 2010).

Consequently, strategic change largely depends on attention, characteristics, prior experiences, sensemaking, and interpretation of executives, as proposed by the upper echelon perspective (Hambrick & Mason, 1984). On the other side, the general influence of individual executives on strategic change is intertwined with the events that trigger strategic change. Hence, prior research indicates that despite the responding to external events, internal events can trigger the need for strategic change and influence the assessment of executives. For instance, the literature

shows mixed evidence for CEO turnover and succession, as some studies found a general relationship between successions of executives and strategic change and others not. Kunisch et al. (2017) argue that this general association is highly contextualized, depending on contingency factors. Therefore, the analysis of contingency factors leading to strategic change represents a fruitful research opportunity.

Accordingly, several organizational factors have been found to influence how firms respond to internal or external events that trigger strategic change (Kunisch et al., 2017). For instance, organizational resources and the performance of a firm influence the timing and arrangement of strategic change (Greve, 1998). As such, poor performance can be a trigger for strategic change associated with internal causes (Barker, V. L., III, & Barr, P. S., 2002). In consequence, executives feel the need to improve performance and engage in strategic change. On the other side, firms frequently react to external events with strategic change. These events can have diverse sources like governmental regulators, customers, investors, or NGOs. However, the assessment of stakeholders and the public represent a decisive influencing factor to react on, which is represented by the media coverage of a firm (Rowley et al., 2017).

Effect of Negative Media Coverage on Strategic Change

There are several reasons for the general relationship between media coverage and strategic change (Shipilov et al., 2019). As outlined before, a large body of research focused on firm executives and paid less attention to the role and influence of outside constituents and how their assessments and opinions of the firm's activities influence strategic change. Thus, in line with institutional theory, prior research indicates the influence of the media on firm behavior, as the media reflects the social expectations and external evaluations of firms (Deephouse, 2000b; Oliver, 1991). These expectations need to be monitored continuously by the firms for legitimacy and reputation reasons. Thus, the media can also influence public opinions and frame issues (McCombs & Shaw, 1972; Tedesco, 2001). Moreover, the media offers executives the

opportunity to receive stakeholder's views about the firm as well as feedback to their activities (Shipilov et al., 2019). Hence, the media opens stakeholder groups, which usually do not have access to firm executives, paths to become salient, and to communicate with the firm.

Furthermore, the media plays an essential role for executives to monitor the firm's external environment. Even smaller groups of stakeholders can gain a broad audience and high visibility with the help of media for their social movement, which subsequently forces the firm to react (King, 2008). Thus, the media helps to leverage the impact of outside constituents on firm behavior by serving as a platform (Bednar et al., 2013). Ultimately, media coverage can also influence the legitimacy of a firm (Kennedy, 2008). On the other side, the media can make organizational events salient to the public and discover problematic issues and scandals (Bednar et al., 2013).

However, not every firm reacts in the same way to social expectations and institutional pressures but engages in different, heterogeneous responses (Oliver, 1991). In detail, firms have different options to react to direct (negative) media coverage with diverse outcomes (Kunisch et al., 2017; Shipilov et al., 2019). In this respect, media influences outside evaluator's perception of firms and, ultimately, the firm's legitimacy (Pollock & Rindova, 2003). Despite the organizational consequences of negative media coverage like a loss of legitimacy or poor performance (Deepphouse, 2000b), several (individual) reasons why firms' executives especially react to negative media coverage exist. First, negative judgments about the firm or the executive are likely to be in mind when making decisions. From a psychological point of view, negative experiences and perceptions are more salient than positive ones (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Second, despite the attention to negative events and media, executives might fear negative consequences for themselves, such as losing reputation and potential future employment opportunities. These reasons can subsequently motivate executives to adjust the status quo responsible for negative media coverage, prompting action

(Wiesenfeld et al., 2008). For gaining legitimacy, firms need to produce concrete outcomes that are visible to outside evaluators and stakeholders. Often, these outcomes are associated with strategic change (Kunisch et al., 2017). Consequently, organizations engage in reactive responses to the potential loss of legitimacy, for instance by restructuring resource allocations or by finding new ways of value creation (Bednar et al., 2013; Pollock & Rindova, 2003; Suchman, 1995), which represents a more risk-seeking behavior (Greve, 1998). With this action, Murillo-Luna, Garcés-Ayerbe, and Rivera-Torres (2008) argue that firms seek to appease stakeholders' environmental demands by committing resources to conform to their expectations. Thus, they favor changes in resource allocation patterns rather than the persistence of strategy to demonstrate the correction of problems. For instance, Bednar et al. (2013) show empirical evidence that negative media coverage can influence critical strategic decisions like resource allocations, inducing strategic change. Similarly, Shipilov et al. (2019) provide the surprising finding that firms engage in strategic change when faced with positive media coverage and conclude that affective media coverage in general causes adjustments to strategy. Despite the source of negative media coverage, it is evident for decision-makers to consider the expectations of their environment constantly. Consequently, organizations usually favor persistence in times of high legitimacy and good performance (and subsequently low pressures to change firm behavior or strategy) and react with strategic change in times of low legitimacy and negative media coverage (Bednar, 2012). In sum, negative media coverage evokes firms to respond and to engage in a strategic change to demonstrate reactions to negative media coverage. Thus:

H1: Negative media coverage of a firm is associated with a greater extent of strategic change.

Firm-specific Factors: The Business Model Design

Although I highlight the importance of monitoring the organization's environment and assume that negative media coverage influences the extent of strategic change, firm structures and activities are likely to moderate this relationship. In this respect, researchers suggest that strategic change in response to external events depends on the organizational environment and various firm-specific factors (Kunisch et al., 2017). Hence, these contingencies account for different reactions of firms to negative media coverage. For instance, prior research found that environmental factors like technology and innovation influence the initiation of strategic change (Kunisch et al., 2017). On the other side, organizational contingencies influence the initiation, timing, and extent of strategic change. Hence, scholars argue that organizational resources (Kraatz & Zajac, 2001), past and current performance (Boeker & Goodstein, 1991), governance mechanisms (Chung & Luo, 2008), organizational size (Ginsberg & Buchholtz, 1990) or organizational age (Hannan & Freeman, 1984) influence strategic change initiation. By synthesizing these findings, organizational contingencies are likely to promote or impede strategic change, exposing a moderating influence on the association of media coverage and strategic change.

However, prior research lacks a more holistic understanding of these firm contingencies and how these different aspects interact. As Kunisch et al. (2017) describe, the effect of the external environment on strategic change is highly contextualized. Thus, we deem the business model concept most appropriate to bridge this gap as it is suitable for integrating various aspects of firm activities and structures (Lanzolla & Markides, 2020; Zott & Amit, 2013). The business model, as suggested by Zott and Amit (2010, p. 216), describes an activity system that comprises "a system of interdependent activities that transcends the focal firm and spans its boundaries". Prior research has shown that the business model is a potential source of competitive advantage (Foss & Saebi, 2017; Markides & Charitou, 2004; Spieth et al., 2016)

and is, therefore, related to a firm's strategy (Casadesus-Masanell & Ricart, 2010). However, the BM concept is in the center of a frequent debate whether it extends common theories in the strategic management seeking to explain variance in firms performances or the creation of competitive advantages (Bigelow & Barney, 2020; Lanzolla & Markides, 2020; Massa et al., 2017). Despite the discussion of the distinction between strategy and the business model concept, Lanzolla and Markides (2020) argue that the BM concept can enrich existing theories of strategy by providing a new lens on strategy that enhances the understanding of the drivers of firm performance.

Similarly, Bigelow and Barney (2020) argue that the business model concept is beneficial for analyzing heterogeneity in firm performance by focusing on connections and interdependencies of the activities within a firm. Based on the activity system definition of a BM (Zott & Amit, 2010), the BM concept comprises activities for value creation as well as value capture, which is useful for developing new insights on strategic management issues (Lanzolla & Markides, 2020). Thus, the BM of a firm is evident for strategy and enables the firm to implement specific strategies.

Early research on BMs argues that firms differ in their activities and sources of value creation and capture and how these are connected, resulting in different BM design themes (Amit & Zott, 2001b; Markides & Charitou, 2004; Zott & Amit, 2007). Consequently, a BM design theme comprises specific configurations of the content, structure, and governance of activities (Amit & Zott, 2015, p. 332). Zott and Amit (2010) identified four different BM design themes, that orchestrate and connect the elements of an activity system but are not mutually exclusive: novelty, efficiency, lock-in, and complementarities. Prior scholarly investigations of these themes mostly focused on two design themes: novelty-centered and efficiency-centered (Wei et al., 2014; Zott & Amit, 2007, 2008). According to Zott and Amit (2007), the novelty-centered BM aims for finding and adopting new ways of economic exchanges.

In contrast, the efficiency-centered BM aims less for innovation than for doing things similar to other firms by imitating existing BMs, but in a more efficient way. Thus, although these designs are not exclusive, they describe two different sources of value creation: value through innovation and value through efficiency, by providing the firm's offering at lower costs. Consequently, both designs have implications on the firm's performance. For instance, Zott and Amit (2007) found that novelty-centered BM designs influence the performance of an entrepreneurial firm. In general, there is the assumption that novel BMs and business model innovation positively affects the performance of a firm (Foss & Saebi, 2017).

Hence, the efficiency-centered BM design aims to increase the activity system's efficiency by reducing the transaction costs for the participants in the business model (Zott & Amit, 2007). This reduction of transaction costs may result from reduced complexity and transaction risk by reducing information asymmetry or coordination costs (Wei et al., 2014). This logic determines the adoption of certain activities like developing patterns of routines, speeding up transactions, and reducing inventory in order to maximize performance (Amit & Zott, 2001b; Zott & Amit, 2007). Consequently, efficiency-centered BM designs allow for demand aggregation and scalability, addressing a large pool of customers. Thus, the transaction costs for replacing customers or other stakeholders are also reduced (Zott & Amit, 2007).

Moderating Effect of the Business Model Design

Although I argue that negative media coverage evokes executives to change resource allocation patterns, the strength of this relationship may depend on the structural conditions and interdependencies of activities and the sets of exchange relationships. Thus, even when negative media prompts executives to think about altering the strategy, the business model designs might impede or enable resource reallocations. By meeting expectations, corporate leaders reduce risk-seeking behavior and support the long-term survival of the organization, while legitimization activities become routinized (Deepphouse, 2000b; Suchman, 1995). Persistent

strategic action aiming for reducing risks and increasing efficiency is also at the center of efficiency-centered BMs. Efficiency is the primary value driver of this design theme, which fosters the development and use of standardized processes, formalization, and patterns of routines (Amit & Zott, 2001b), which are stable and hard to change. Furthermore, efficiency-centered BMs rely on streamlined supply chains (Zott & Amit, 2008) and prefers default solutions (Amit & Zott, 2015). Hence, efficiency-centered BM designs are likely to promote resource rigidity (Wei et al., 2014). Previous findings on strategic change show that large firms struggle with strategic change due to inertia. Accordingly, due to this focus on routines, process, and transaction efficiency, efficiency-centered BM designs are likely to cause high inertia tendencies (Wei et al., 2014). In sum, the efficiency-centered BM design fosters resource and routine rigidity (Gilbert, 2005) and path dependencies (Amit & Zott, 2015). Consequently, I assume that the efficiency-centered BM design contradicts strategic change activities that seek to alter the resource allocation patterns, as resource deployments are relatively rigid. Therefore, I argue that the efficiency-centered BM design interacts with the efforts to engage in strategic change and posit:

H2: The effect of negative media coverage on the extent of strategic change will be weaker for firms with a (dominant) efficiency-centered business model.

On the other side, the novelty-centered BM design aims for value creation through innovation, for instance, by connecting previously unconnected parties or by linking them in new ways (Casadesus-Masanell & Zhu, 2013). Although both BM designs are not mutually exclusive, they differ substantially (Zott & Amit, 2010). In general, there is the assumption that novel BMs and business model innovation positively affect the performance of a firm (Foss & Saebi, 2017). Novelty-centered BMs can, therefore, be a source of competitive advantage through differentiation from competitors (Zott & Amit, 2013). For instance, novelty-centered designs enable firms to create novel value offerings by reorganizing the links between activities or even

by designing new activities (Casadesus-Masanell & Zhu, 2013; Wei et al., 2014). In contrast to efficiency-centered BM designs, novelty-centered BMs instead emphasize breaking with routines than establishing routines. Thus, it is likely that novelty-centered BMs reduce organizational inertia, as these foster the adoption of new activities. In addition, adopting new activities requires the ability to reallocate resources when a new opportunity to value creation arises (Teece, 2018). Therefore, firms with a novelty-centered BM design are likely to react with high strategic flexibility to changes in their environment. When organizations suffer from a loss of legitimacy, they often are confronted with resource constraints (Powell & DiMaggio, 1991), for instance, by losing partnerships within their network. Research on BM designs indicates that firms with novelty-centered BMs can deal with constraints and issues by finding innovative solutions (Amit & Zott, 2015). As outlined before, organizations often react to the loss of legitimacy with strategic change (Bednar et al., 2013), sometimes even by developing creative and innovative solutions based on resource constraints (Suchman, 1995). Thus, I assume that the BM design can foster this effect. Based on the strategies mentioned above to gain legitimacy, I propose that a novelty-centered BM design enables a firm to facilitate strategic change. Thus:

H3: The effect of negative media coverage on the extent of strategic change will be strengthened for firms with a (dominant) novelty-centered business model.

3.3 Data and Methods

Sample and Data Collection

For answering the research question, I apply a quantitative approach by assessing secondary data for publicly traded firms. For testing the relationships, as suggested in the framework, I investigate the BMs of firms from Germany with publicly available archival data. Thus, fifty-five firms were randomly selected from the German stock exchange (DAX, MDAX, and TecDAX). In light of the research question, I needed to choose firms that receive significant

media coverage with available archival data. I collected data from 2014 to 2018 for analyzing temporal effects, using the LexisNexis database for identifying media articles. Computer-aided content analysis helped to calculate the measures for positive and negative media coverage (Pennebaker et al., 2015). All measurements for strategic change were also obtained from the LexisNexis database. The information on firm age, CEO turnover, and the required information for the assessment of the business model design were collected from the company's websites, annual reports, and other available company documents. From the sample, I needed to exclude three firms due to a lack of media coverage, resulting in a final sample of 52 firms and n=208 observations (due to lagging the independent variables). For all firms in the final sample, the raters recognized continuity in their business models, indicated by a lack of major alterations to their dominant business model design. This aspect was assessed in the rating process of the BM design, which I will describe in the next section. I lagged the independent variable concerning the media coverage by two years and all control variables for one year. With this procedure, I account for possible issues of reverse causality.

Coding Negative Media Coverage

For analyzing the media coverage for the sample firms, I gathered articles in one leading daily paper ("Die Welt") and one leading business paper (Manager Magazin) from Germany. With its focus on business news, both sources depict an essential reference for managers to collect information on the business environment. Thus, I assume these newspapers represent suitable data sources for this study. For identifying and extracting relevant full-text articles, I used the company's name and the "company search" feature in Nexis. Furthermore, I included only articles that mentioned the firm in the title, headline, or leading paragraphs and excluded articles with less than 50 words. This procedure ensures to include only relevant and significant content related to the firms. In sum, I identified 9521 articles that fulfilled the search criteria. In preparation for the analysis, I converted each article into a single text file for processing and

analyzing the reports with the Linguistic Inquiry Word Count 2015 software (LIWC2015). The software, developed by Pennebaker et al. (2001) and improved by Pennebaker et al. (2015), relies on specific dictionaries to measure different constructs. I used the negative emotion dictionary to measure negative media coverage and the positive emotion dictionary for the positive media coverage variable (Bednar, 2012). For instance, the positive emotion dictionary comprises 620 different words, while the negative emotion dictionary includes 744 words (Pennebaker et al., 2015). The LIWC dictionaries have been validated by researchers and also translated to other languages, including German (see <http://liwc.wpengine.com> for further information on the internal and external validity of the dictionaries used by LIWC). Many prior researchers in the strategic management field used this software for analyzing news articles or other content (e.g. Bednar, 2012; Busenbark, Marshall, Miller, & Pfarrer, 2019; Pfarrer, Pollock, & Rindova, 2010; Shipilov et al., 2019). The LIWC software calculates a measure for each article based on these dictionaries.

Dependent Variable

The dependent variable strategic change is defined as the extent of change in a firm's strategy over time (Finkelstein & Hambrick, 1990). I follow prior research (Bednar et al., 2013; e.g. Crossland, Zyung, Hiller, & Hambrick, 2014) by examining the resource allocation patterns of firms as a form of strategic change. Subsequently and in line with prior research regarding strategic management, I operationalize resource reallocation as the absolute change in six strategic choice indicators from one year to the next: (1) advertising intensity (measured as advertising expenditures/sales); (2) R&D intensity (R&D expenditures/sales); (3) plant and equipment newness (net plant and equipment/ gross plant and equipment); (4) nonproductive overhead (selling, general, and administrative expenses/sales); (5) inventory levels (inventories/sales), and (6) financial leverage (total debt/ shareholder's equity). These indicators all reflect different aspects of a firm's strategy, for instance, advertising intensity,

R&D intensity, plant, and equipment newness as well as nonproductive overhead concern the resource allocation to important activities regarding marketing and innovation or activities regarding the expansion of capacities (Geletkanycz & Hambrick, 1997). Additionally, financial leverage concerns the firm's capital management. I took all variables from the LexisNexis database. Thus, large changes to these ratios indicate essential changes in the firm's resource allocation pattern, representing resource reallocation and, therefore, change in the strategy of a firm. On the other side, a low degree or even lack of change from one year to the next represents persistence in the resource allocation, indicating no change in the strategy. For further analysis, I needed to prepare the six variables in several steps. I first calculated the absolute difference from the prior year to the focal year. Due to skewness, I took the log of each absolute difference. Then I standardized the measures and converted them to z-scores and subsequently took the average of the six variables to create a single variable for resource reallocation for each of the years 2015-2018. In conclusion, higher scores of this measure indicate a greater extent of strategic change (Crossland et al., 2014).

Explanatory Variables

Negative media coverage was measured by using the negative emotion dictionary in the LIWC 2015 software. The software calculates a score for each article concerning negative emotion. This score is based on the extent (percentage) of negative emotional words (as included in the corresponding dictionaries) each article contains. Subsequently, I took the average of all articles for each firm and year in order to estimate the overall evaluation within a year.

For assessing the *BM designs*, an academic expert for business models and the author trained MBA students (July –August 2020) to evaluate the extent of novelty-centered and efficiency-centered BM designs using the scale suggested by Zott and Amit (2007). The academic expert in business models trained the students before the assessment and interviewed the students to test and select the most-qualified student raters from a larger pool of students (Zott & Amit,

2007, 2008). This procedure ensured the appropriateness of the raters. Thus, the selected MBA students - that are not familiar with the hypothesized relationships - searched for and analyzed secondary data like annual reports and websites in order to get familiar with the BM of a firm and to assess the BM design theme. Subsequently, when having a comprehensive understanding of a firm's business model, the raters filled in the survey items for each assigned firm. During the assessment, the academic expert assisted to answer questions but never participated in the rating procedure. All in all, 13 raters were selected for the evaluation. For reliability reasons, we randomly assigned BMs to two raters to compare the assessment of the raters and validated inter-rater reliability by conducting a pair-wise comparisons of ratings, yielding a Pearson correlation coefficient of 0.64 which is similar to ratings in prior studies (Zott & Amit, 2008). We validated and assessed the internal consistency of each subscale, using Cronbach's alpha, which is .755 for the scale for the efficiency-centered business model design and .816 for the novelty-centered business model design. Thus, both scales show appropriate internal consistency.

Control Variables

I included several control variables in the analysis that can potentially influence the extent of strategic change. First, I used the positive emotion dictionary in the LIWC software to control for *positive media coverage*. The software calculates a score for positive emotions based on the same procedure as for negative emotions outlined before. I controlled for the *firm size*, measured as the log of the number of employees for each year. As large firms on the one side might be more prone to inertia, they also might have more opportunities to acquire and reallocate resources. For similar reasons, I controlled for *firm age*, as firms might develop path dependencies that do not allow for strategic change within a short time.

Prior empirical research and upper echelon literature suggest that the CEO influences strategic decisions and, subsequently, the extent of strategic change (Hambrick & Mason, 1984). Thus,

I controlled for *CEO turnover*, as new executives might implement strategic directions in order to demonstrate the readiness and/or willingness to shape the organization and its outcomes (Kunisch et al., 2017). I measured CEO turnover in the year prior to the observation with a dummy variable.

Moreover, I controlled for the *firm performance*, measured as the return on equity (ROE). Prior research indicated that the firm performance influences the strategy and the extent of strategic change (Bednar et al., 2013). There are several reasons for this influence. First, good performance might trigger firms to maintain the status quo, as the success might confirm the beliefs about the “right” strategy, resulting in less strategic change. On the other side, poor performance might encourage executives to analyze the fit between the strategy and the firm’s environment, resulting in efforts to change the strategy in order to improve financial performance.

I also included year dummies as well as industry dummies based on the Standard Industrial Classification code to control for differences between *industries*. Finally, I controlled for the *total media coverage* for each firm. Given the potential differences in media coverage between large and small firms, I measured the total media coverage as the total number of articles for each firm in each year. Therefore, I also controlled for unbalanced media coverage between firms that are more salient for the public than others, rather than controlling solely for firm size.

Analysis

Because the sample consisted of longitudinal data on several points of time, including market performance metrics on a yearly basis, I tested the hypotheses by using a panel approach. Given the variety of the variables, namely time-varying and time-invariant as well as continuous and binary predictor and control variables, I tested the hypotheses by using generalized estimating equations (GEE) (Fitzmaurice, Laird, & Ware, 2011; Liang & Zeger, 1986). I did not use a fixed-effects model, as some control variables are time-varying, whereas others (e.g., the BM

designs) are time-invariant. By estimating GEE models, I specifically account for possible nonindependence of the observations for each firm (Liang & Zeger, 1986; Lipsitz et al., 1994). The GEE approach produces efficient and unbiased regressions estimates (Ballinger, 2004). GEE models control for potential autocorrelation and heteroscedasticity and allow to specify the nature of the dependent variable (e.g., binary, continuous, count) (Fitzmaurice et al., 2011). The GEE regression model measures within-and between firm variance while generating robust estimates of the standard errors (Fitzmaurice et al., 2011). First, I specified the models with a Gaussian distribution and an identity link function. To account for any correlation between the observations (within-subject responses), I used an unstructured correlation structure. For specifying this correlation structure, I followed the test proposed by Pan (2001) that extends Akaike's information criterion (Ballinger, 2004). Thus, I selected the correlation structure with the lowest quaslikelihood under the independence information criterion (QIC), as this is the most appropriate correlation structure (Ballinger, 2004). For instance, a first-order autoregressive working correlation structure yields a QIC of 80,542, whereas the unstructured correlation structure yields a QIC value of 77,932. Furthermore, I specified a robust estimator using the Huber-White sandwich variance estimates (Henderson et al., 2006), which helps to account for any misspecification in the assumed correlation structure. As the media influences firm activities on the one side and reflects firm action on the other side, it is important to account for potential endogeneity issues. However, I lagged the explanatory variables for ensuring that prior media coverage predicts future firm action.

3.4 Results

Table 7 shows the descriptive statistics and the correlation matrix for all of the variables. The results of the models for testing the hypotheses are shown in Table 8. Although supporting the hypotheses in general, the data does not support all of the hypotheses. The first hypothesis (H1) predicted that firms with negative media coverage engage in more strategic change. Model 1

(see Table 8) shows a significant and positive effect ($p < 0.05$) on strategic change, which supports H1.

Table 7: Descriptives and Correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Strategic Change	-0.061	0.512	1									
2. Neg. Media Coverage	1.051	0.265	-0.010	1								
3. Pos. Media coverage	2.150	0.386	-0.088	0.018	1							
4. Efficiency-centered BM	5.031	0.701	0.013	-0.010	-0.136	1						
5. Novelty-centered BM	4.333	0.922	0.245	-0.067	-0.127	0.100	1					
6. Performance (ROE)	0.215	0.293	-0.011	-0.008	-0.075	-0.024	0.004	1				
7. Firm size	4.530	0.652	-0.111	0.072	-0.051	-0.246	0.124	-0.026	1			
8. Total media coverage	171.808	225.162	-0.083	0.083	-0.122	-0.173	-0.005	0.015	0.525	1		
9. Firm Age	64.385	50.220	-0.089	0.030	0.090	-0.317	0.035	-0.220	0.389	0.168	1	
10. CEO turnover	0.106	0.308	0.004	-0.006	0.033	-0.088	0.051	-0.096	0.039	0.051	0.146	1

Furthermore, H2 and H3 predicted moderating influences of BM designs on this relationship. H2 predicted that the positive effect of negative media coverage would be weaker for firms with a dominant efficiency-centered business model design. Model 2 in Table 8 supports this hypothesis ($p < 0.1$). Figure 4 presents this interaction graphically. On the other side, we did not find significant empirical support for H3 that the positive effect of negative media coverage on the extent of strategic change is greater for firms with a dominant novelty-centered business model.

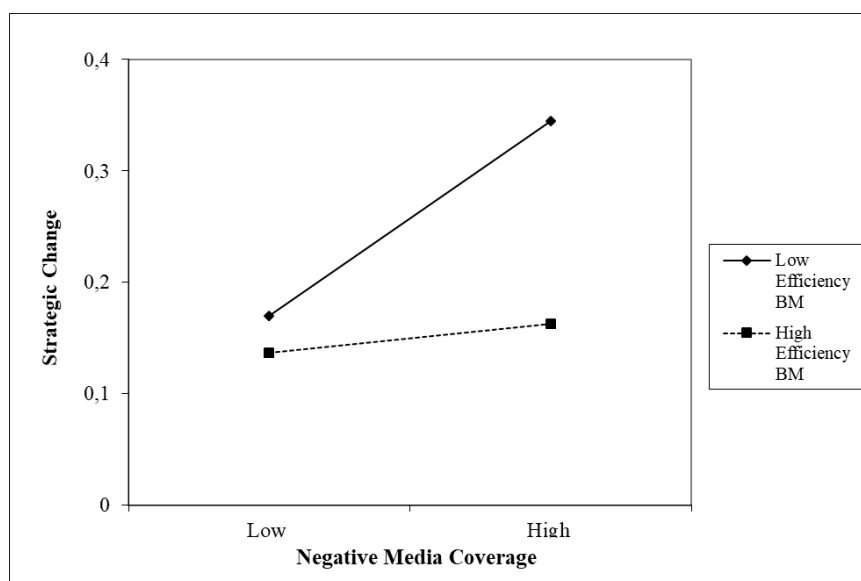


Figure 4: Interaction between Business Model Design and Negative Media Coverage

In a posthoc analysis, I also checked for a possible three-way interaction of negative media coverage and both BM designs, as these are not mutually exclusive. Thus, I account for the case that a firm employs a novel BM design with more efficient transaction activities than existing BMs (Amit & Zott, 2015). However, the analysis did not reveal a significant three-way interaction of both business model designs. The models also show a significant influence of the performance control variable, measured as the ROE of each year. Thus, I also checked for a moderation effect of performance on the relationship between negative media coverage and strategic change, as prior research argues that the performance also evokes executives to change the status quo (Bednar et al., 2013). However, I found no significant interaction effect of firm performance. In summary, the results generally support the association of media coverage and strategic change, whereas the analysis reveals different impacts of the business model designs.

Table 8: Influence of Negative Media Coverage on Strategic Change

	Model 1	Model 2	Model 3	Full model
Negative Media Coverage	0.174*	1,184*	-0,047	1,075
	(0,069)	(0,599)	(0,402)	(0,732)
Positive Media Coverage	-0.156*	-0,163**	-0,159*	-0,449
	(0,064)	(0,063)	(0,064)	(0,693)
Efficiency-centered BM	-0,083	0,134	-0,085	0,067
	(0,078)	(0,124)	(0,078)	(0,334)
Novelty-centered BM	0,131*	0,129*	0,075	0,032
	(0,058)	(0,058)	(0,113)	(0,139)
Firm performance (ROE)	-0,347***	-0,359***	-0,341**	-0,359**
	(0,107)	(0,104)	(0,110)	(0,116)
Total Media Coverage	0,0001	0,0001	0,0001	0,0001
	(0,0002)	(0,0002)	(0,0002)	(0,0002)
Firm size	-0,070	-0,072	-0,064	-0,059
	(0,106)	(0,107)	(0,105)	(0,107)
Firm Age	-0,001	-0,001	-0,001	-0,001
	(0,001)	(0,001)	(0,001)	(0,001)
CEO Turnover	0,032	0,032	0,035	0,040
	(0,091)	(0,086)	(0,092)	(0,091)
Negative media coverage x Efficiency-centered BM		-0,198 [†] (0,113)		-0,215 [†] (0,123)
Negative media coverage x Novelty-centered BM			0,052 (0,087)	0,050 (0,090)

Notes: N=208 firm years. Year and industry dummies are included in the models, but not presented.

[†] p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001

3.5 Discussion

The goal of this research was to explain the variance of the firm's strategic responses to negative media coverage by investigating the interaction with the dominant business model design theme. In detail, I argue that the business model design theme (efficiency-centered or novelty-centered) accounts for heterogeneous strategic responses to negative media coverage. I tested the hypothesis with a longitudinal data set of firms listed on the German Stock Exchange using a generalized estimating equation approach. I confirm prior findings that negative media coverage evokes executives to think about the status quo and engage in strategic change. Moreover, this effect is influenced by the dominant business model design theme. I found a counteracting influence that the positive effect of negative media coverage on the extent of strategic change is weaker for firms with an efficiency-centered BM design. Thus, the efficiency-centered BM design, which aims to maximize transaction efficiency, appears to impede the potentiality to react to negative media coverage by altering resource allocation patterns. On the other side, the data does not allow for concluding an influence of the novelty-centered BM design on this relationship. In sum, I follow the suggestion of Bednar et al. (2013) to explore other moderators of media coverage.

Theoretical Implications

I merged insights from strategic change and business model literature and provide further evidence to the question under which organizational circumstances negative media coverage impacts the extent of strategic change. I use the BM concept to shed light on a complex issue in strategic management to explain heterogeneous responses to legitimacy pressures (Oliver, 1991). By relying on the BM design concept and strategic management literature, the contribution of this study is twofold:

First, I contribute to previous research seeking to understand the antecedents of strategic change (Kunisch et al., 2017) and especially how firms react to the evaluations of outside constituents

(Bednar et al., 2013; Rowley et al., 2017; Shipilov et al., 2019). In detail, the results of this analysis confirm the findings by Bednar et al. (2013) that negative media coverage evokes strategic change. Thus, I replicate their findings for firms that act in a different institutional environment (i.e., Germany) and demonstrate the generally positive relationship between negative media coverage and the extent of strategic change. More important, I extend the findings mentioned above by showing that the business model design matters for the initiation of strategic change in response to negative media coverage. The choice to initiate and implement strategic change is highly contextualized (Kunisch et al., 2017). In particular, the findings suggest that the efficiency-centered business model design impedes the salience of the signal sent by negative media coverage that the firm might need to change its strategy. Another explanation is that the efficiency-centered BM design weakens the ability of a firm to shift resource allocation patterns. Although prior research identified various firm-specific factors like organizational resources (Kraatz & Zajac, 2001), past and current performance (Boeker & Goodstein, 1991), governance mechanisms (Chung & Luo, 2008), organizational size (Ginsberg & Buchholtz, 1990) or organizational age (Hannan & Freeman, 1984), the use of the dominant business model design enhances the literature on strategic change for several reasons. First, it comprises the activity system that constitutes how a firm does business (Amit & Zott, 2001b; Demil et al., 2015). This is a far more holistic approach to analyze the firm's structure than organizational age or size. Second, the activity system described in business model designs comprises also internal and external ties, capturing the interdependencies between internal and external activities (Lanzolla & Markides, 2020). Hence, the BM design can also capture inertial tendencies of a firm (Demil et al., 2015), causing a firm to refuse or ignore signals that indicate the need for change (Bednar et al., 2013).

The presented results show empirical evidence that the efficiency-centered BM design diminishes the strength of the effect that negative media coverage exposes to firms, in contrast

to the novelty-centered BM, which shows no significant influence. Inertial tendencies and resource rigidity (Gilbert, 2005) can be a possible explanation for these findings, indicating differences, for instance, regarding resource and routine rigidity between both designs. Efficiency-centered BMs comprise activities that highly depend on each other to increase transaction efficiency (Zott & Amit, 2007). However, this can result in resource rigidity, causing firms with an efficiency-centered BM design to be more prone to inertial tendencies and to ignore signals from outside constituents to change resource allocation patterns. On the other side, the novelty-centered BM design appears to expose no interacting effect (although the analysis reveals a positive influence, as expected, this was not significant). As novelty and efficiency-centered BMs differ in their complexity (e.g., regarding the linkages and dependencies of activities) (Bigelow & Barney, 2020), the BM design can also reveal some implications regarding the influence of organizational complexity, which is an important aspect for understanding the response to pressures from external constituents, as mentioned by Murillo-Luna et al. (2008). Overall, the institutional theory has been applied to explain the diffusion of organizational practices and innovation (Lounsbury & Crumley, 2016), the interaction of different BM designs and institutional pressures have not been examined by yet. In conclusion, I extend prior findings of Bednar et al. (2013) and Shipilov et al. (2019) on the influence of negative media coverage on strategic change and literature regarding drivers of strategic change in general by using a new perspective (BM design) that explains heterogeneous reactions. This also adds to the call of Pfarrer et al. (2019) to investigate strategic management issues from a sociocognitive perspective that concerns the elaboration of interpretations that affect strategic processes.

Second, I contribute to the understanding of the BM construct as a complementary view of strategic change and management literature and show how the BM concept can extend prior research on strategic management issues. Thus I follow recent suggestions to use the BM as a

complementary perspective to traditional theories that explain firm behavior (Bigelow & Barney, 2020; Lanzolla & Markides, 2020). Consequently, I add to extant research on business models and their interaction with strategic issues by investigating its structural features in the light of strategic change and media coverage. As prior research on activity systems and BM designs mainly concentrated on defining the conceptual underpinnings of BM designs (Amit & Zott, 2001b; Casadesus-Masanell & Ricart, 2010), its antecedents (Amit & Zott, 2015) or performance implications (Aspara et al., 2010; Zott & Amit, 2007), I explain variance in strategic responses to external pressures (negative media coverage) with the BM design. Here, I suggest a complex interaction of strategy and BM design contributing with empirical investigation instead of conceptual clarification (Casadesus-Masanell & Ricart, 2010; Massa et al., 2017; Spieth et al., 2016). As I find different effects of novelty and efficiency-centered BM designs, I provide novel insights on the nature and characteristics of these activity systems, as they appear to influence the effect of negative media coverage on strategic responses. Thus, I extend the findings of Wei et al. (2014), who investigated both BM designs in the light of exploitative and explorative innovation. As I measured strategic change as patterns of resource reallocations (Crossland et al., 2014), the findings suggest that resource rigidity accounts for different interaction effects of novelty and efficiency-centered BM designs on strategic change. Hence, I also contribute with empirical insights to the organizational consequences of BM designs. Finally, I highlight the role of firm-specific, boundary-spanning activity systems (Zott & Amit, 2007) for strategic management issues, which has been mostly neglected in prior strategy literature (Bigelow & Barney, 2020).

Managerial Implications

This research also offers some managerial implications. By showing how media coverage evokes strategic reactions and how the BM design differently interacts with strategic change, I provide insightful suggestions for the top management team in large firms. Thus, I demonstrate

that executives are likely to engage in strategic change when exposed to negative media coverage. However, by controlling for positive media coverage, I also identified a significant effect of positive media coverage on strategic change. This relation indicates that firms react to both (Shipilov et al., 2019). The analysis of the interacting effect of the efficiency-centered BM design suggests that managers should pay attention to the interdependencies of firm activities, as these determine how executives can change resource allocation patterns. Activities that are highly interdependent within efficiency-centered BM design might fix resources and impede strategic change. Furthermore, as changes in the firm's environment often increase the need for strategic change, managers should be aware of this relation when designing BMs.

In conclusion, executives should not only pay attention to media coverage of their firm but also of firms in the same industry, as competitors might change its strategy based on media coverage. Thus, firms are encouraged to monitor the activities of their competitors. The moderating influence of the BM design I found shows managers how the complexity of BMs facilitates or impedes strategic change.

Limitations and Future Research

Although I conducted this study thoroughly, it is not without limitations, but may also open paths for future research. First, possible endogeneity might be an issue for studying the influence of media on organizational behavior. However, I included several steps to mitigate the concern that the results are biased. For the analysis, I collected data for several years, resulting in a longitudinal research approach. This database allowed to lag the independent and control variables for one, respectively, two years. Thus, I reduce the risk of reverse causality (i.e., media coverage as a reaction to firm activities), although many different variables might influence negative media coverage. By testing the hypotheses, I included several control variables that should further account for endogeneity issues. Thus, the control variables reduce the potential issues that arise from omitted variables. Another limitation concerns the sample,

which consists of large firms in Germany. Although I used an analysis approach that calculates robust estimators (Lipsitz et al., 1994), the results need to be replicated in a larger sample. Future research can also investigate smaller firms with less media attention. Possible spillover effects (Shipilov et al., 2019) of media coverage of larger firms in the same industry might also affect the reactions of smaller firms.

Nevertheless, this study provides several future research avenues. I found that the efficiency-centered BM design impedes the effect of negative media coverage on strategic change. Future research can analyze this effect more in-depth. Although I found this effect, it is not clear whether the resource or routine rigidity accounts for this effect, meaning that the BM design fosters inertial tendencies within an organization, or whether firms with efficiency-centered BMs interpret the signals of negative media coverage differently. Thus, investigating the cognitive templates managers hold of BMs (Martins et al., 2015; Schneckenberg et al., 2018) might provide additional insights to issues in strategic management, as these might also influence the interpretation of negative media coverage.

Regarding resource and routine rigidity, future research can use qualitative research designs to uncover these potential mechanisms in different BM designs. In this paper, I analyzed the general influence of media by collecting data from a major newspaper and a business newspaper. However, investigating the impact of particular stakeholders or groups of stakeholders can result in novel insights on how firms react to specific stakeholder groups.

Finally, investigating how other firm-level factors like strategic orientations influence the reaction on negative environmental media coverage can further enhance the understanding of firms' heterogeneous strategic responses to the assessment of outside constituents. To sum up, I hope that this study encourages future researchers to use the business model concept to generate contributions to extant research in strategic management literature.

4 Employees' Interpretation of and Reaction to Digital Transformation: A Paradox View (Paper 3)

4.1 Introduction

In light of high global competition, organizations are increasingly in need to respond to turbulent and fast-changing environments to be successful (Vial, 2019). Digitization offers manifold benefits to create competitive advantages, to increase sales and revenues, and it enables innovation (Matt et al., 2015; Nambisan, Lyytinen, Majchrzak, & Song, 2017; Vial, 2019). Netflix Inc. offers a good example of successfully integrating digital technologies with the firms' products and services as well as organizational processes, as the firm started with renting DVDs and developed to a successful online video-on-demand service provider, producing movies by themselves. During this strategic renewal, Netflix Inc. put a lot of effort into restructuring the organization and its business model. As such, digitization often comprises the transformation of business processes and organizational structures, permitting to develop new products or innovating the business model, inducing strategic change within an organization (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013; Foss & Saebi, 2017; Matt et al., 2015; Teece, 2010; Venus, Stam, & van Knippenberg, 2019; Yoo, Boland, Lyytinen, & Majchrzak, 2012; Yoo, Henfridsson, & Lyytinen, 2010). In contrast to the use and integration of single digital technologies, digital transformation (DT) is defined as “a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies” (Vial, 2019, p. 118). The term “transformation,” therefore, refers to combined effects on organizational structure, values, and beliefs (Hinings et al., 2018), as well as the potentially disruptive implications of digital technologies (Nambisan, Wright, & Feldman, 2019). Thus, digital transformation encompasses strategic change. Incited by examples like Netflix Inc.'s and others' stories of success, firms across industries aim for competitive advantages through DT strategies.

However, despite these possible benefits, studies show that more than 70% of transformations fail (McKinsey & Company, 2016), which can be highly costly in time, resources, and money. The case of GE Digital, a separate unit of General Electric that focuses on centralizing all the organization's IT activities, shows that DTs need to be planned thoroughly in order to take advantage of its beneficial outcomes. Besides the complex management of organizational and structural changes during the transformation (Matt et al., 2015), the individual employee is responsible for implementing and working with digital technologies, which creates multiple challenges and tensions (Svahn, Mathiassen, & Lindgren, 2017). Here, the individual's perception of the transformation is vital for successful transformation (Fugate et al., 2012), as employee engagement constitutes a major pitfall of DT (Fitzgerald et al., 2014; McKinsey & Company, 2016). Similarly, extant research on organizational change suggests that employees and their acceptance of the planned change essentially influence the success of change (Oreg et al., 2018; Venus et al., 2019). A tension that occurs during change is, for instance, that firms need to alter their identity as digital technologies weave into routines, processes, and employees' values (Tripsas, 2009; Wessel, Baiyere, Ologeanu-Taddei, Cha, & Blegind-Jensen, forthcoming; Whitley, Gal, & Kjaergaard, 2019). As employees favor consistency in the firm's identity (Venus et al., 2019), such a shift of the firm's identity during change might evoke negative emotions, provoking resistance to the transformation.

Thus, an individual's cognitive interpretation and perception of change determine the resulting acceptance of or resistance to the transformation (Oreg et al., 2018). Although individuals can contribute to the successful DT, research predominantly focuses on organizational challenges like integrating digital technologies into processes (Svahn et al., 2017), finding new means of value creation and value capture by developing new digital products and services (Nambisan et al., 2019), or building capabilities for DT (Warner & Wäger, 2019). However, DT exhibits characteristics, such as inducing multiple tensions like learning and belonging tensions (e.g.

Lüscher & Lewis, 2008; Smith & Lewis, 2011), going beyond strategic change investigated in prior studies. Thus, research lacks an understanding of cognitive perceptions of DT as “we know next to nothing about how middle management or even workers on the 'ground floor' react to [digital transformation] claims” (Wessel et al., forthcoming, p. 9). We seek to fill this gap by making use of organizational change research and by investigating how individual cognitive dispositions influence the acceptance of DT strategies. In line with the aforementioned conceptualization of DT, we further investigate combined effects by analyzing interaction effects between dispositions and perceptions. In detail, we make use of paradox theory and assess the influence of a paradox mindset—both/and thinking, i.e. the cognitive juxtaposition of competing demands—on the acceptance of the transformation while considering the moderating effect of the perceived scope of changes. Paradox theory provides a novel perspective on change-related affective and behavioral reactions during DT, as multiple tensions and, specifically, multiple paradox tensions arise (Smith & Lewis, 2011).

We build on a quantitative dataset (n=204) in a major European incumbent that currently follows a new DT strategy. The research setting is especially suitable, as the DT comprises changes of organizational structures, the business model (BM), and products, while outcomes are fairly uncertain for employees (Nambisan et al., 2017). Based on the assumptions of appraisal theory (Lazarus & Folkman, 1984), we propose an interaction model between cognitive and perceptual characteristics and the reaction to DT. Our results show that the paradox mindset and the general attitude toward change positively influence the acceptance of the DT. Furthermore, the results indicate diverse moderating effects of the perceived scope of changes.

The contribution of this article is twofold: First, we contribute to the understanding of an important cornerstone of why DTs in incumbent firms fail (Nambisan et al., 2017; Svahn et al., 2017), by focusing on the individual’s cognitive interpretation of the transformation and the

resulting acceptance. Thus, we extend prior research that mainly concentrates on organizational challenges, strategy, and managing the DT from a top-down perspective (Matt et al., 2015; Nambisan et al., 2017) and on characteristics of information technologies that influence the user's acceptance. By analyzing the interaction between predispositions and perceptions of the transformation, we account for the conceptualization of the DT as “combined effects” (Hinings et al., 2018). With this research, we follow Svahn et al.'s (2017) call to investigate DT challenges from a paradoxical theory perspective.

Second, we contribute to organizational change literature, as we integrate insights from paradox research. The common normative perspective adopted in most studies that investigate individuals' characteristics during change supports an either/or thinking, such as acceptance vs. resistance, and neglects the possibility of a both/and thinking as suggested by paradox theory (Lewis, 2000; Lüscher & Lewis, 2008; Smith & Lewis, 2011). With a few exceptions of qualitative studies (e.g. Jay, 2013; Lüscher & Lewis, 2008), the connection between change and the role of paradox is a fairly neglected connection. With the quantitative analysis, we contribute by complementing the predominant view of either/or thinking by introducing the concept of paradox and by showing that a paradox mindset, i.e. the acceptance of competing demands, also influences the acceptance of the change events (Schad et al., 2019). Furthermore, the moderation analysis highlights these conceptual differences between these two perspectives. Consequently, we seek to drive research on employees' change-related reactions by enhancing the understanding of the relationship between change-related behavior's cognitive antecedent variables and this paradox perspective. Thus, we follow Keyser, Guiette, and Vandembemt's (2019) recent call to use insights from paradox research in explaining particular phenomena.

The remainder of this article is structured as follows: We describe the relevant theoretical background and derive the hypotheses. Subsequently, we explain the setting of the investigated

change and the methodological approach. Afterward, we present the results of the quantitative analysis and discuss them in light of their theoretical and managerial implications.

4.2 Theoretical Background

Tensions during Digital Transformation and Organizational Change

Through the rise of the internet and other related digital technologies, firms face changing technological and socio-technological environments (Teece, 2010). In the last decades, the dominant logic in academia in praxis was that IT strategy or related IT capabilities need to be aligned to the overarching business strategy (Henderson & Venkatraman, 1993). However, more recently, digital technologies have become increasingly ubiquitous and have reshaped the business models of many traditional businesses (Drnevich & Croson, 2013). Digital technologies have proved to provide opportunities for new types of value creation and for finding new means to capture value from technologies, for instance, to achieve customer co-creation (Baden-Fuller & Mangematin, 2013; Setia, Venkatesh, & Joglekar, 2013). Digital technologies also drive new revenue models, like freemium and subscription (Teece, 2010); furthermore, digital technologies foster the need to think beyond organizational boundaries and to engage in alliances and partnerships (Easley & Kleinberg, 2010). Accordingly, digital technologies have the potential to transform organizations by changing value creation, organizational structures, and business models (Matt et al., 2015).

However, it is necessary to clearly distinguish between digital technologies and DT. As defined earlier, DT comprises more than the implementation of digital devices and new software tools, by consisting of the effects of various digital innovations, thereby changing the existing rules of the game and affecting the values and beliefs of individuals (Berman & Marshall, 2014; Hansen & Sia, 2015; Hinings et al., 2018). Overall, the DT might have wide implications on the BM of a firm (Bharadwaj et al., 2013; Foss & Saebi, 2017), which is defined as the “design or architecture of the value creation, delivery, and capture mechanisms” of a firm (Teece, 2010,

p. 172). For a successful DT, organizations need to account for factors that might hinder the positive outcomes of the DT and its execution (Vial, 2019). Owing to the complex implications, such as changing culture, skills, and leadership (Vial, 2019), DT can clash with employees' beliefs and assumptions, evoking negative emotions (Beaudry & Pinsonneault, 2010; Tamm, Seddon, Shanks, Reynolds, & Frampton, 2015). Gaining support within the organization for the changes is especially important (Carter & Grover, 2015; Fitzgerald et al., 2014; Markus, 2004), as routines and standardized processes might be changed, which directly impacts employees and their direct work environment. Despite the need for organizational support by employees, the DT is accompanied by changes that cause organizational challenges and facilitate tensions (Svahn et al., 2017). However, scholarly interest predominantly adopted an organizational perspective on DT, resulting in investigations of how to develop new, digital products and services (Rindfleisch, O'Hern, & Sachdev, 2017), how to integrate digital technologies in the innovation process (Nambisan et al., 2019), how to develop strategies for starting the DT (Matt et al., 2015; Mithas, Tafti A., & Mitchell, 2013; Prügl & Spitzley, 2020), and how DT differs from other major change efforts, such as IT-enabled organizational change (Vial, 2019; Wessel et al., forthcoming). Although these are very important insights, research on individual cognition and behavior in coping with tensions during DT is rare (Wessel et al., forthcoming). However, prior literature identified several DT-driven tensions that will likely impact the individual organizational actors. For instance, major changes in the value creation or the BM of a firm result in shifts in the firm's identity (Tripsas, 2009; Whitley et al., 2019), which is especially salient for DT strategies (Wessel et al., forthcoming). Changing identities foster tensions between the individual employee and the organization, as values and roles might shift (Smith & Lewis, 2011). In this regard, Venus et al. (2019) recognize that employees may also resist change even when they acknowledge the need for change or when the change fits their interests. Subsequently, they argue that employee support depends on the perceived continuity of the organization's identity. Venus et al. (2019) find empirical support that visions of

continuity of the firm's identity improve the visions of change's effectiveness, which in turn increases employees' support of the change. Acquiring new competencies and capabilities like agility while seeking stability in organizational routines describe further competing demands that create tensions for employees (Smith & Lewis, 2011). Subsequently, such learning tensions mirror conflicts between change and continuity, which is persistent during the DT. Furthermore, Yeow, Soh, and Hansen (2018) found that DT strategies can cause adaptations in a business model's value proposition, leading to tensions regarding the alignment of resources between the traditional and digital business model.

Overall, the DT provides opportunities for future firm success but is accompanied by challenges and different types of tensions that are persistent during DT (Lüscher & Lewis, 2008; Smith & Lewis, 2011). However, prior research mainly concentrated on the DT's managerial challenges on an organizational level (see, e.g., Vial 2019 for a detailed review) or on the characteristics of information technologies (Liang & Xue, 2009) and hardly considered the role of employees (Wessel et al., forthcoming) and the tensions, specifically the paradox tensions, that arise for individual employees.

Making Sense of Change and Paradox Tensions

In the past years, paradox theory gained increasing momentum in management and Information System (IS) research (Miron-Spektor et al., 2018; Schad, Lewis, Raisch, & Smith, 2016; Svahn et al., 2017) that seeks to understand the nature and consequences of organizational tensions, resulting from competing or counteracting demands or concerns. Smith and Lewis (2011, p. 382) define paradox "as contradictory yet interrelated elements that exist simultaneously and persist over time." Thus, paradox tensions appear to be logical when considered for itself but absurd when juxtaposed (Smith & Lewis, 2011). Moreover, the persistence of tensions constitutes a key characteristic of paradox (Schad et al., 2016). Consequently, the paradox stems from its interrelatedness and the persistence of tensions. Prior work in this research stream is

predominantly conceptual or when empirical, favors qualitative approaches. The application of paradox theory is broad and explains tensions at a macro-level, for instance, regarding hybrid organizations (Battilana & Lee, 2014; Jay, 2013; Smith & Besharov, 2017). Furthermore, past research mostly neglected to differentiate between the types of tensions—i.e. the sources of tensions, for example, competing goals—providing general approaches to paradox (Smith & Lewis, 2011). In managerial research, micro-level and individual approaches have been less popular thus far (Schad et al., 2016). However, dynamic contexts like DT foster ambiguity and tensions, and latent tensions become more salient (Lüscher & Lewis, 2008). Consequently, employees need to make sense of the change and tensions while these changes impact their daily work practices and routines (Jay, 2013). In their action research study, Lüscher and Lewis (2008) shed light on the relationship between paradox, sensemaking, and organizational change. By investigating the tensions created by major change efforts in the Lego company, Lüscher and Lewis helped the managers adopt a paradox lens, facilitating both/and thinking instead of either/or thinking. As these changes disrupt employees' daily routines, for a successful change it is vital to understand how employees interpret and make sense of change (Jay, 2013). Thus, researchers argue that tensions and paradoxes might be latent in organizations, and become salient in times of change like DT (Smith & Lewis, 2011).

Recently, researchers conceptualize individual capabilities like cognitive abilities of paradoxical thinking to explain the effects of coping with paradox (Miron-spektor et al., 2011; Schad et al., 2016). For instance, Miron-Spektor et al. (2018) developed a measurement scale for investigating the microfoundations of paradox and introduced the concept of a paradox mindset. A mindset helps interpret complex information and experiences like the experience of coping with tensions (Dweck, 2006; Gupta & Govindarajan, 2002). The paradox mindset offers an approach to how employees address tensions. In line with paradox research (Smith & Lewis, 2011), Miron-Spektor et al. (2018) argue that people with a paradox mindset accept and feel

comfortable and energized by tensions, which unlocks the positive potential of tensions. Regarding the aforementioned tensions, an individual with a paradox mindset may navigate through tensions and synthesize between them (Miron-Spektor et al., 2018). Thus, Miron-Spektor et al. (2018) offer an opportunity to understand and empirically validate individual differences in interpreting and coping with organizational tensions. Investigating the paradox mindset of employees in different organizational contexts can extend previous research in many realms like strategic management, innovation management (Schad, Lewis, & Smith, 2019), and especially organizational change and business model innovation, which is often accompanied by tensions rooted in not only routine thinking and in-role job performance but also creativity and innovation effort (Bledow, Frese, Anderson, Erez, & Farr, 2009; Spieth et al., 2016).

Although insights from Lüscher and Lewis (2008) and Jay (2013) add to a better understanding of tensions in times of change, research that seeks to understand how such a paradox mindset influences the concrete interpretation of change and employee behavior within a dynamic context like DT is still in its infancy. In sum, the paradox research links the sensemaking of change to explicit reactions to change, giving the opportunity to extend the understanding of micro-processes of complex DT (Labianca, Gray, & Brass, 2000; Lüscher & Lewis, 2008).

Individual Reactions to Change: Appraisal Theory

Extant research concerning the acceptance and use of information technologies largely relied on the technology acceptance model (Davis, Bagozzi, & Warshaw, 1989), the unified theory of acceptance and use of technology (Venkatesh, Morris, & Davis, 2003), or the theory of planned behavior (Ajzen, 1991) to predict IT use (Beaudry & Pinsonneault, 2010). However, the reaction to the complex changes triggered by the DT requires the assessment of such an event (Beaudry & Pinsonneault, 2005). Appraisal theory (Lazarus & Folkman, 1984) states that affective reactions and emotions result from a cognitive appraisal and interpretation of an event or situation (Fugate et al., 2012; Lazarus, 1991a). For instance, a change event can evoke

different emotions like anxiety (Miller et al., 1994), stress (Begley & Czajka, 1993) or pleasantness (Mossholder et al., 2000). Thus, the cognitive evaluation of an event precedes the explicit reaction, for instance, coping with stress induced by the appraisal, meaning that a reaction is the result of how employees interpret a change event. The appraisal contains the evaluation of the change's possible impact on the individual and can be understood as a sequence of two appraisals: the primary and secondary appraisal (Lazarus, 1991a). The primary appraisal contains the evaluation of goal relevance and goal congruence, whereas the secondary appraisal implies the perceived coping potential concerning a change event (Oreg et al., 2018). Consequently, the appraisals “give meaning to employees’ experience of change by capturing an individual’s perception of what is at stake in a specific situation” (Fugate et al., 2012, p. 891). According to Oreg et al. (2018), both types of appraisal influence the response to the change but with different implications. Whereas the primary appraisal, i.e. the appraisal of goal relevance and congruence, affects the response valence and the response activation, Oreg et al. (2018) argue that the secondary appraisal, i.e. the coping potential, only affects the response activation. However, the primary appraisal is related to a behavioral response, such as acceptance of the change (Oreg et al., 2018). Therefore, the appraisal theory helps understand why employees perceive change events differently and how they react differently to their appraisals (Fugate et al., 2012).

Concerning the individual, personal differences that comprise different reactions to change, researchers concentrated on the perception of control and found an influence of personal control (Lau & Woodman, 1995) or locus of control (Holt et al., 2007). However, many scholars found change-related self-efficacy as an important antecedent to explicit reactions to change (Amiot, Terry, Jimmieson, & Callan, 2016; Armenakis, Bernerth, Pitts, & Walker, 2007; Eby, Adams, Russell, & Gaby, 2016; Hornung & Rousseau, 2007; Wanberg & Banas, 2000), whereas self-efficacy “is an individual’s perceived ability to handle change in a given situation” (Wanberg

& Banas, 2000, p. 134). However, based on their extensive literature review, Oreg et al. (2011) conclude that the analysis of interrelationships between antecedent variables and possible moderating effects require further investigation.

Despite identifying individual differences that cause reactions, researchers investigated a vast amount of different reactions and their outcomes. Due to highly different types of reactions, research converges in classifying different types of reactions (Oreg et al., 2011). Based on a systematic literature review, Oreg et al. (2011) suggest a framework of explicit reactions to change as well as its antecedents and consequences, thereby providing clarity in definitions and relations between concepts that describe the same phenomena with different terms. Oreg et al. (2011) distinguish between affective, behavioral, and cognitive reactions to change. Affective reactions can be negative, such as experiencing stress due to change or anxiety or negative emotions. By contrast, change can also evoke positive emotions like satisfaction, organizational commitment, or acceptance (Oreg et al., 2018). Oreg et al. (2018) suggest a complex model of affective and behavioral reactions to change events and provide a more fine-grained view on reactions by arguing that the type of response consists of an interplay between response activation and response valence. Relying on appraisal theory (Lazarus, 1991a), Oreg et al. (2018) further propose that both response activation and valence depend differently on the change event's primary and secondary cognitive appraisals. This research employs the perspective that employees do not disrelish change per se but rather make sense of the change and evaluate the change considering its consequences and possible threats, and subsequently react to this evaluation (Armenakis et al., 2007; Venus et al., 2019). The evaluation of change initiatives is highly subjective and depends on the employee, for example, the employee's personality traits and dispositions, and change-specific factors (Stouten, Rousseau, & Cremer, 2018; Venus et al., 2019).

Overall, the investigation of these individual differences allows managers to apply proper strategies, such as communication strategies, to generate a positive emotion toward the planned change in the hope of encouraging employees to support the change (Lazarus, 1991a). However, prior studies concentrated either on antecedents of reactions to organizational change or to the use of explicit IT (Venkatesh et al., 2003) or to the role of emotions for using IT (Beaudry & Pinsonneault, 2010), failing to adequately explain the role of a paradox mindset and perceptions of the scope of change within the DT.

4.3 Development of Hypotheses

The Influence of Paradox Mindset and Attitude toward Change on Acceptance

Prior research found many factors that influence the reactions of employees to change events. While acknowledging these findings, we selected the factors in this study with care and for theoretical reasons. We based the selection on two criteria: First, the factors should capture not only how employees' traits generally help interpret information and experiences but also how they perceive the change-related environment. This criterion serves to select factors that interact with the appraisal. Second, the constructs should be highly relevant for the DT's specialties, i.e. relevant for the tensions that might arise during the DT. Consequently, we chose paradox mindset and general attitude toward change as the antecedents of employee's reactions to the DT and the perceived scope of changes as the moderating influence. All three—paradox mindset, general attitude toward change, and the perceived scope of changes—might influence how employees experience change and how they react to the change of DT. Paradox mindset and general attitude toward change reflect stable, trait-like concepts that are not dependent on the concrete change, whereas the scope of change relates to the perception of future changes and is, therefore, dependent on the DT. The selection also builds on recent research on paradox tensions (Miron-Spektor et al., 2018), which we argue is especially relevant for the investigation of the DT. The employees' acceptance of the DT represents a direct behavioral reaction to the

change, based on their experience and perception of the change. Furthermore, we chose the acceptance of the DT also for practical measurement reasons. First, as outlined before, the appraisal is very complex, consisting of a primary appraisal, i.e. an appraisal of goal congruence and goal relevance, and a secondary appraisal of future expectancy and coping potential (Lazarus, 1991b; Oreg et al., 2018). Second, the acceptance mirrors the reaction following the cognitive appraisal more accurately than emotional states, which are not as stable as concrete behavioral responses and therefore hard to capture within this research design. Third, the order and influence between appraisal and emotions are highly discussed and suggested to be reciprocal and cyclical (Lazarus, 2005). Thus, the acceptance represents an indicator for the cognitive appraisal.

Based on the appraisal theory, we propose the following framework (Figure 5) and outline the corresponding hypotheses (H1-H4).

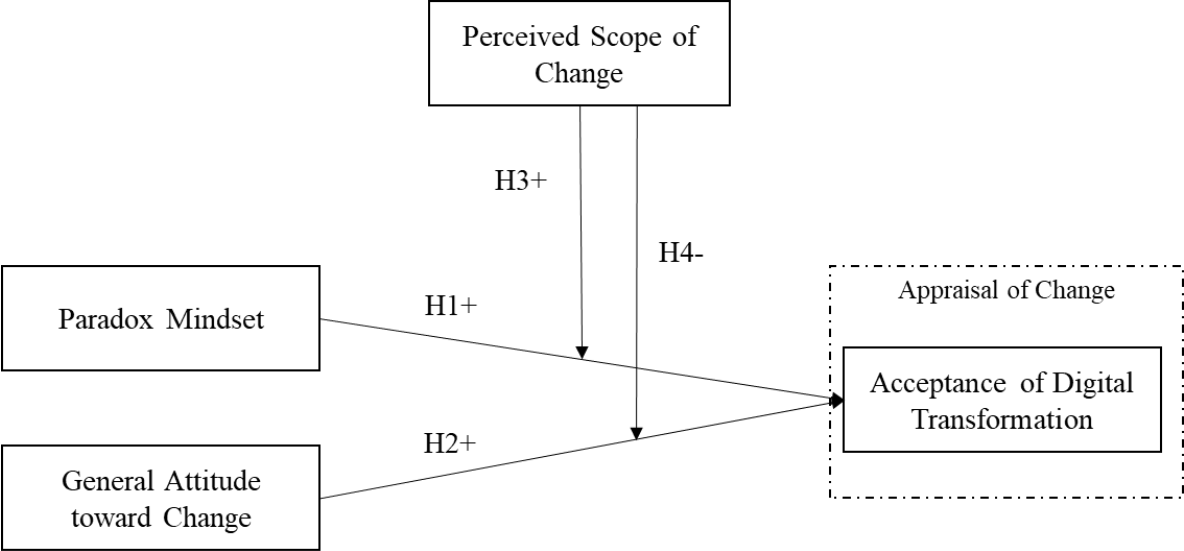


Figure 5: Framework and Hypotheses

A paradox mindset generally helps interpret information and experiences and helps make sense of change (Lüscher & Lewis, 2008). Thus, the mindset is a stable personality trait that supports the cognitive appraisal of change events by employees, as the appraisal gives meaning to

change. As such, the mindset guides the appraisal's "meaning ascribing" function (Fugate et al., 2012, p. 891). Subsequently, the mindset's effects on the situation's appraisal evoke a reaction to the change. Prior research regarding paradox in change mainly concentrated on how managers and employees cope with paradox tensions (Jay, 2013; Lüscher & Lewis, 2008). However, the literature concerning the implications of a mindset allowing to cope with paradox tensions from an individual point of view argues that employees with a paradox mindset are able to cognitively juxtapose inconsistent elements of the change (Miron-spektor et al., 2011). Thus, the paradox mindset encourages employees to cope differently with the complexity that accompanies change compared to those employees without a paradox mindset. Moreover, paradoxical thinking allows developing creative solutions to paradox situations (Miron-spektor et al., 2011; Schad et al., 2016); furthermore, paradox thinking allows to feel comfortable with competing demands by juxtaposing two demands in order to enable each other (Huy, 1999).

Prior literature identified various employee characteristics that have been associated with the acceptance of a change event. Regarding the cognitive appraisal of change events, Wanberg and Banas (2000) found that a positive attitude toward change enables one to adapt to tensions and competing demands during change, leading to positive outcomes like job satisfaction. Fugate et al. (2012) found that positive change orientation influences the appraisal of change events. In this study, Fugate et al. (2012) conceptualized change self-efficacy, positive attitude toward change, and perceived control as indicators for positive change orientation. The evaluation of an event's impact on an employee has been investigated with the concept of self-efficacy (Wanberg & Banas, 2000), showing that higher levels of self-efficacy positively influence the attitude toward change (Armenakis et al., 2007). Change self-efficacy represents the belief of employees to have the ability to cope with competing demands and to adapt to changes (Fugate et al., 2012). Although these concepts influence the appraisal, they are similar to the paradox mindset but differ from these concepts in several relevant respects, indicating

the need for this research. A positive attitude toward change depends more on the context, being a state-like rather than a fixed characteristic. Furthermore, change self-efficacy depicts a conscious awareness or belief in being able to cope with change and change-related tensions. Thus, self-efficacy directly contributes to the appraisal of change (Fugate et al., 2012). In contrast, a paradox mindset is rather unconscious, as it helps organize complex realities (Gupta & Govindarajan, 2002; Miron-Spektor et al., 2018). Therefore, a paradox mindset is more stable and fixed trait than self-efficacy, which is more state-like and situation-specific (Wanberg & Banas, 2000).

By contrast, persistent tensions can be threatening, evoking negative emotions and reactions like anxiety (Miron-Spektor et al., 2018). Therefore, competing demands that are rooted in change like DT are likely to evoke negative reactions to the transformation. However, coping with paradoxes by juxtaposing competing demands might convert this dominant, negative effect of tensions into a positive (Schad et al., 2016). By acknowledging the tensions, employees with a paradox mindset feel comfortable with these tensions and think about potential benefits. Consequently, the paradox mindset might lead employees to approach competing demands as an opportunity (Miron-Spektor et al., 2018). Acceptance is in the nature of paradoxical thinking (Smith & Lewis, 2011) and represents a positive reaction to change.

Based on the discussion of related research and findings, we argue:

H1: A paradox mindset has a positive relationship with change recipients' acceptance of digital transformation.

Following appraisal theory, attitudes shape the meaning of experiences, which influences the cognitive appraisal of the change and the following behavioral reaction (Lazarus & Folkman, 1984). Thus, attitudes, which are fairly stable and hard to be changed, can influence the reaction to change (Fugate et al., 2012). A general attitude toward change represents a general attitude

to alter the status quo, which builds the foundation for accepting or resisting a specific change event (Holt et al., 2007). Thus, a general attitude toward change influences the beliefs about the positive expectations regarding the outcomes of the change and enables employees to adapt to the demands of organizational change (Fugate et al., 2012). Thus, higher levels of a general attitude toward change might evoke employees to adapt to the demands of the DT, for instance, by learning to use new IT tools or by adapting to shifting employee roles (Vial, 2019). Generally, acceptance depicts a positive behavioral reaction to change as a behavioral response to cognitive appraisal (Jiao & Zhao, 2014; Oreg et al., 2011). Previous studies show that employees who have a positive general attitude toward change show greater readiness to change (Holt et al., 2007) and cope better with change (Fugate et al., 2012; Judge, Thoresen, Pucik, & Welbourne, 1999).

For reasons of clarity, it is important to distinguish between a general attitude and a specific attitude toward change, as these can be different, with different implications for the reaction to change (Lau & Woodman, 1995). For instance, an employee might have a generally positive attitude toward change but resists a specific change, as it clashes with goals, beliefs, or assumptions. Thus, we expect that a general attitude towards change is positively related to the specific acceptance of the DT.

H2: The employees' general attitude toward change has a positive relationship with the acceptance of the digital transformation.

Moderation Hypotheses

In appraisal theory, the cognitive appraisal is future-oriented, comprising the evaluation of future gains and losses (Lazarus & Folkman, 1984; Oreg et al., 2018). As such, the future expectancy is a component of the appraisal (Lazarus, 1991b). These expectations concern what an employee thinks “will happen in the way of change” (Lazarus, 1991b, p. 827). Thus, the

appraisal of the future contains the evaluation of whether the change might be beneficial or not for the employee. Here, the employee compares future expectations with personal goals and motivation (Lazarus, 1991b). Importantly, the pure expectations of the future do not entail a reaction, not before this perception is evaluated and compared with goals and interpretations of the change. Consequently, how the paradox mindset and the attitude toward change influence the resulting appraisal depends on the expectations of change, i.e. of the perceived scope, whereas a positive appraisal yields the acceptance of the transformation. Thus, despite personality traits, the interplay between the employee and change-specific factors, such as the perceived scope of changes, influences the resulting acceptance of the change (Venus et al., 2019).

However, organizational change researchers largely neglected the role that the scope or extent of the planned strategic change plays (Stouten et al., 2018)—with a few exceptions (Caldwell et al., 2004). Caldwell, Herold, and Fedor (2004) found that the extent of the change moderately influenced the relationship between the perceived change process and the reaction to the change. However, in their study they referred to the change's impact on the direct work environment and daily routines, whereas this study refers to the perception of the scope of the change. We refer to how the DT-driven expected changes that influence the appraisal in interaction with stable traits, i.e. paradox mindset and attitude toward change, are perceived from a BM perspective. Although Lau and Woodman (1995) argue that employees are more focused on how change events impact on their direct work environment, DT comprises both—changes to daily routines as well as changing organizational structures and BMs (Matt et al., 2015).

Perceptions of complex changes to the BM and the use of new digital technologies might evoke feelings of increasing uncertainty with increasing changes (Ashford, 1988b), as each employee can perceive the outcomes and the impact of the DT quite differently (Nambisan et al., 2017).

Research often argues that uncertainty created through change is an important source of resistance (Cullen, Edwards, Casper, & Gue, 2014; Stouten et al., 2018). Furthermore, uncertainty can evoke negative emotions and can cause difficulties in the implementation of change. For example, greater uncertainty negatively influences employees' job satisfaction (Bordia, Hunt, Paulsen, Tourish, & DiFonzo, 2004; Iverson, 1996). As uncertainty is reciprocally associated with the perceived control and participation in decision-making, research argues that uncertainty has negative implications for change reactions (Oreg et al., 2011). In complex situations like change during the DT, complexity and ambiguity rise, accounting for uncertainty and possible confusion (Lüscher & Lewis, 2008). However, employees with a paradox mindset are able to cope with uncertainty and contradictory demands by acknowledging the dilemma (Lüscher & Lewis, 2008; Miron-Spektor et al., 2018; Miron-Spektor, Gino, & Argote, 2011; Schad et al., 2016). Owing to this ability to cope with uncertainty, we expect the positive relation of a paradox mindset with the acceptance of the source of uncertainty, i.e. the change, to increase when the scope of change is perceived as high and innovative. Accordingly, we argue that the paradox mindset's positive influence on the acceptance of the DT is higher for changes that are perceived as high in scope:

H3: The scope of the change positively moderates the relationship between the paradox mindset and the acceptance of the digital transformation.

As previously mentioned, attitudes have a “meaning ascribing” function for the appraisal of change (Fugate et al., 2012). However, a general attitude toward change does not necessarily correspond to the actual behavior for specific change (Lau & Woodman, 1995), but reasons for this discrepancy lack empirical validation. Furthermore, emotion and behavior are often congruent; there are a number of findings that emotions and behavior do not always correspond. For instance, Jordan, Ashkanasy, and Hartel (2002) found a moderating influence of emotional intelligence between affect and behavior. Therefore, we argue that contextual characteristics of

change account for the discrepancy between attitude and behavioral reaction. Specifically, we argue that how employees perceive the scope of changes interacts with the relationship between attitude toward change and acceptance of the specific change. As outlined in the previous paragraph, higher levels of change may evoke feelings of uncertainty about future job prospects and outcomes of the change, threatening pleasantness and job satisfaction (Bordia et al., 2004). Thus, uncertainty perceptions are intertwined with change-related behaviors (Fugate et al., 2012). However, researchers have not considered future appraisal, i.e. the expectations of change, in prior literature, but empirical results suggest that a higher perception of uncertainty evokes negative appraisals of change. Consequently, we argue that the relationship between the general attitude toward change and the acceptance of a specific change depends on the perceived and expected future scope of the change. Thus:

H4: The scope of the change negatively moderates the relationship between general attitude toward change and the acceptance of the digital transformation.

4.4 Method

Sample

Much of the research on paradox frames is thus far qualitative. However, we aim to test relationships that can be derived from previous (qualitative) studies about the consequences of the paradox mindset and the cognitive appraisal of change (Lazarus, 1991b; Oreg et al., 2018). Therefore, we applied a quantitative study design to evaluate our hypothesized relationships. As the primary data source, we distributed an online questionnaire in a globally-acting and leading pharmaceutical and medical device company in Europe. Furthermore, we collected secondary data like press releases and internal corporate documents with the help of key informants. The secondary data ensures that the company actively communicated the objectives and vision of DT before the primary data collection process started. Generally, investigating the influence of the scope or extent of changes on employee behavior requires surveys in

different organizations (Oreg et al., 2011). Like previous studies (Bartunek, Rousseau, Rudolph, & DePalma, 2016; Elias, 2007; Meyer, Srinivas, Lal, & Topolnytsky, 2007) that investigated individual cognition and resulting behavior during organizational change, we conducted a survey in one company that initiated a DT. Hence, we investigate the change recipients' *perceptions*, which is likely to differ for each employee. We therefore chose to survey a single organization. The company is especially suited for studying the DT phenomenon as a technology-induced, company-wide strategic change: About 6 months before the data collection, the top management team introduced a new vision regarding DT. The vision comprises formulating company-wide goals that the company aims to reach with digitalization, for instance, the digital disruption of the health care sector. Newspaper interviews with the CIO of the company indicate the importance of change management to support the DT: “80 percent of the DT contains change management” (CIO). Thus, we carefully selected the company, based on prior research and suitability.

In the questionnaire, we ensured that respondents know about the planned change and the DT by asking them directly. The respondents (n=204) come from different departments and are members of different business units within the company. For instance, 10% of the respondents are part of the research and development (R&D) department, 34% are part of the marketing and sales division, and 14% belong to the production and logistics department. More than 71% of the respondents showed more than five years of working experience in the company, indicating deep knowledge about the firm's structure and organization.

Measures

Independent Variables. For measuring the employee's paradox mindset, we chose the measurement scale of Miron-Spektor et al. (2018), which measures the paradox mindset of an individual with eight items. Although there are certain scales for related constructs like the paradox frame, to the best of our knowledge, this is the only scale to measure the paradox

mindset. The scale asks the respondents to assess how they embrace conflicting demands or how they feel about conflicting demands (Miron-Spektor et al., 2018). In order to assess the individual employee's general attitude toward change, we used the scale suggested by Dunham, Grube, Gardner, Cummings, and Pierce (1989). The original scale contains 18 items with three subscales comprising six items each for the cognitive attitude toward change, the affective attitude toward change, and the behavioral tendency to change. The final survey contains the 12 items of the affective and behavioral parts of attitude toward change, as we already included a cognitive variable (paradox mindset) in the questionnaire, reducing redundancies in the framework. Although cognitive appraisal, affect, and behavior are interdependent, they can be separated in studies in order to increase clarity for the discussion of relationships (Lazarus, 2005; Oreg et al., 2018).

Dependent Variable. For measuring the acceptance of the digital transformation as an indicator for the positive appraisal, we adapted the acceptance scale of Jiao and Zhao (2014) to the context of the DT. For instance, we asked the respondents to assess the following statement: I believe the DT leads to positive changes in my job. In sum, we used five items of the adapted scale (see Table 9).

Moderator. For measuring the perceived scope of changes, we chose to use the perceived future BM changes in the next five years due to DT as a detailed proxy for the expected scope and extent of changes. We asked for expected changes in the next five years, as corporate documents show that the top management team plans a five-year implementation of the DT. Spieth and Schneider's (2016) BM innovativeness scale offers the advantage of a holistic perspective on perceptions of an upcoming change. The scale used consists of 12 items that formatively measure the changes in the value offering, value architecture, and revenue model on a 7-point Likert scale.

Controls. In addition to the variables in the model, we controlled for several other possible influences. As organizational change literature outlines the important role of information within a change event, we controlled for the quality of the information provided on the DT and its objectives (Wanberg & Banas, 2000) and adapted the scale of Miller et al. (1994). As we surveyed employees in one organization, we did not control for organizational culture, assuming that an organization-wide culture dominates within the organization. Furthermore, we controlled for the strategic clarity (Kock & Gemünden, 2016) of the planned strategic change in order to assess the understanding of the DT's influence, which is important for making sense of a specific change event. Moreover, we controlled for the experience of tensions (Miron-Spektor et al., 2018), as there may be differences in the perception of tensions during change that may account for different reactions.

Analysis Approach

In order to test the hypothesized relationships, we used structured equation modeling (SEM). In detail, we applied the variance-based partial least squares (PLS) approach by using the software SmartPLS 3.2 (Hair et al., 2017). This approach offers the advantage to calculate models with formative and reflective indicators and items as well as higher-order constructs (Hair et al., 2017). As we formatively measured the scope of the perceived changes, i.e. the BM innovativeness scale, this approach is most adequate for calculating the model. Furthermore, SmartPLS relies on the bootstrapping method for calculating significance (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). Thus, the calculation does not require assumptions on the sample's distribution and allows us to run the model with small sample sizes (Reinartz, Haenlein, & Henseler, 2009). For estimating the model's parameters, we used a path weighting scheme with 300 iterations and a stop criterion of 10^{-7} (Hair et al., 2013). We applied a non-parametric bootstrapping procedure with 1,000 subsamples for testing the significance in the measurement and structural model (Hair et al., 2017). For analyzing the hypothesized moderation, we used

the two-stage approach to create the interaction term, which is adequate for formative constructs (Hair et al., 2017). Thus, we ran a separate model for the moderation analysis, as the direct effects (main effects) between the predictor and the outcome variable can take different values when considering the moderation in the same model.

Common Method Bias

Although we rely on key informants, there might be a potential risk of a common method bias due to single respondents (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Therefore, we followed the suggestions of Podsakoff et al. (2003) to control for this potential issue first by applying techniques before the data collection and, second, with statistical analysis. Thus, we relied on established measurements, explained that the responses in the survey are anonymous, and stated that there are no right or wrong answers. Furthermore, the order of the items in the questionnaire should not reveal the hypotheses of this study. In line with previous publications (e.g. Mauerhoefer, Strese, & Brettel, 2017), we additionally tested for pathological collinearity as an indication for common method bias and employed the full collinearity assessment approach (Kock, 2015). The highest variance inflation factor (VIFs) of all the constructs turned out to be 1.375 and, thus, well below the conservative threshold of 3.3, which indicates the absence of a common method bias (Kock, 2015).

4.5 Results

Measurement Validation

For validation of the measurement model (see Table 9), we followed suggestions of Hair et al. (2017) and assessed the internal consistency, the convergent and discriminant validity, as well as the indicator and construct reliability. Although we ran two models due to moderation analysis, we applied all the aforementioned validity and reliability criteria to the moderator variable. We assessed the internal consistency reliability by calculating the constructs' composite reliability. We assume internal consistency when constructs' estimations for

composite reliability are above the threshold of .7 (Bagozzi & Yi, 1988). Since all estimations are above .9, internal consistency can be asserted. We checked for the reflective constructs' outer loadings and the significance of the loadings. All outer loadings were significant and most items had outer loadings above .708 (Hair et al., 2013). Three items of the general attitude toward change construct had outer loadings that are only slightly below this threshold (e.g. $\beta = .64$). As these three items meet all other validation criteria, we chose to retain them in the model. Thus, we assume that these three items do not jeopardize convergent validity. For further measurement validation, we evaluated the convergent validity for the constructs by considering the average variance extracted by each construct (AVE). The corresponding AVE values were all above .5, meaning that each construct explains more than half of its indicators' variance, confirming convergent validity for the constructs (Chin, 1998). For establishing the discriminant validity, we relied on a suitable approach for models with formative constructs (Hair et al., 2017): the heterotrait-monotrait ratio (HTMT Henseler et al., 2015), which is more accurate than traditional approaches like the Fornell-Larcker criterion (Henseler et al., 2015). The correlations' HTMT describes the ratio of the between-trait correlation to the within-trait correlations and counterbalances the Fornell-Larcker criterion's shortcomings for formative constructs (Henseler et al., 2015). The HTMT values of all the construct pairs were clearly below the threshold of .85 (Henseler et al., 2015).

Table 9: Measurement Model Results: Reflective Items

First-order construct	Item	Loadings	Significance (bootstrapping; n = 1,000)
Paradox Mindset (Miron-Spektor et al., 2018) Mean = 4.589 SD = 1.039 CR = .920 AVE = .591	I am comfortable dealing with conflicting demands at the same time.	.722	16.913
	Accepting contradictions is essential for my success.	.714	21.218
	Tension between ideas energizes me.	.806	31.687
	I enjoy it when I manage to pursue contradictory goals.	.790	21.984
	I often experience myself as simultaneously embracing conflicting demands.	.756	17.907
	I am comfortable working on tasks that contradict each other.	.801	27.424
	I feel uplifted when I realize that two opposites can be true.	.795	22.888
	I feel energized when I manage to address contradictory issues.	.762	18.632
General Attitude toward Change (Dunham et al., 1989) Mean = 5.182 SD = 0.883 CR = .936 AVE = .550	I find most changes to be pleasing.	.746	18.600
	I usually benefit from change.	.717	17.790
	I intend to do whatever possible to support change.	.640	10.189
	Change usually benefits the organization.	.763	19.000
	Change usually helps improve unsatisfactory situations at work.	.733	17.004
	Most of my co-workers benefit from change.	.718	15.161
	I am inclined to try new ideas.	.752	17.271
	I look forward to changes at work.	.843	36.710
	I often suggest new approaches to things.	.648	11.206
	Change often helps me perform better.	.801	31.126
Acceptance of the digital transformation (Jiao & Zhao, 2014) Mean = 5.66 SD = 0.968 CR = .957 AVE = .815	Changes tend to stimulate me.	.819	29.139
	Other people think that I support change.	.691	11.761
	I believe the DT leads to positive changes in my job.	.846	34.778
	I want to fully use the outcomes of the DT in my work.	.923	64.600
	Using the outcomes of the DT is a good idea.	.922	57.620
	In my opinion, it is very desirable to execute the DT.	.931	60.220
	It is a very wise idea to start the DT.	.890	41.541

Table 9: (continued)

Information	The information I have received about the DT has been timely.	.859	4.693
(Miller et al., 1994)	The information I have received about the DT has been useful.	.958	4.403
Mean = 3.21			
SD = 1.384	The information I have received has adequately answered my questions about the changes.	.945	5.397
CR = 0.956	I have received adequate information about the forthcoming changes.	.913	5.543
AVE = 0.846			
Experiencing Tensions	I often have competing demands that need to be addressed at the same time.	.759	9.895
(Miron-Spektor et al., 2018)	I sometimes hold two ideas in mind that appear contradictory when appearing together.	.737	7.509
Mean = 4.214			
SD = 1.16	I often have goals that contradict each other.	.639	4.204
CR = 0.887	I often have to meet contradictory requirements.	.801	7.224
AVE = 0.530	Usually when I examine a problem, the possible solutions appear contradictory.	.635	4.028
	I often need to decide between opposing alternatives.	.706	5.280
	My work is filled with tensions and contradictions.	.798	9.479
Strategic Clarity	We have a written mission, long-term goals, and strategies for implementation.	.912	6.778
(Kock & Gemünden, 2016)	Goals and strategies are communicated in our company.	.886	6.444
Mean = 3.561			
SD = 1.296	Our long-term competitive strategy is clear and understandable.	.937	8.144
CR = 0.937			
AVE = 0.831			

Concerning the formative moderator variable, we followed the six evaluation guidelines suggested by Cenfetelli and Bassellier (2009). First, we tested for collinearity issues by examining the formative indicators' outer variance inflation factors (VIF). A VIF below the value of five suggests the absence of collinearity (Hair et al., 2017). Since the outer VIFs of all indicators are below that threshold (highest 2.681), we concluded that we did not have to contend with collinearity issues. Second, Cenfetelli and Bassellier (2009) argue that large numbers of indicators will cause nonsignificant weights. This is not the case in our

measurement model, since all indicators' weights are significant (see Table 10). The bootstrapping method (1,000 subsamples) allowed for assessing the indicators' relevance and significance. Third, no indicator shows negative weights. Fourth, Cenfetelli and Bassellier (2009) suggest controlling the indicator loadings for indicators with low weights. All loadings are above 0.5 as recommended, indicating the indicators' importance (Cenfetelli & Bassellier, 2009). The fifth guideline concerns nomological network effects and comparing the weights across different studies. However, we measured the perceived scope of change as a first-order formative construct because we do not disentangle the scale's composites, whereas prior studies used the construct as a second-order type 4 model (e.g. Spieth, Roeth et al., 2019). Thus, a comparison of indicator weights across studies is not possible. Last but not least, Cenfetelli and Bassellier (2009) suggest taking inflated weights into account due to the PLS estimation technique. However, the estimates of the weights calculated with the consistent PLS modeling technique (Dijkstra & Henseler, 2015) are significant too. Thus, we assume that our indicator weights should not be inflated, fulfilling all the guidelines suggested by Cenfetelli and Bassellier (2009) for formative measurements.

Table 11 (HTMT) presents the values for the checks for discriminant validity.

Table 10: Measurement Model Results: Formative Items

First-order construct	Indicator	Weight	Significance (bootstrapping; n = 1,000)
Perceived scope of change (BM innovativeness) (Spieth & Schneider, 2016) Mean = 4.69 SD = 1.021 VIF = 1.165	Target customers have changed.	.096	3.395
	The product and service offering has changed.	.164	7.858
	The firm's positioning in the market has changed.	.110	4.381
	The firm's core competences and resources have changed.	.155	8.037
	Internal value creation activities have changed.	.200	9.051
	The roles and involvement of partners in the value creation process have changed.	.209	8.246
	Distribution has changed.	.158	6.142
	Revenue mechanisms have changed.	.167	9.520
Cost mechanisms have changed.	.114	5.401	

Table 11: Heterotrait-Monotrait Ratio of Correlations (HTMT)

Constructs	1	2	3
(1) General Attitude toward Change			
(2) Paradox Mindset	.491		
(3) Acceptance of the DT	.627	0.465	

Structural Model Evaluation: Direct Effects

As mentioned before, we ran two models: a model including only direct effects but excluding the moderation and another model that includes the interaction. Thus, we first analyzed the direct effects as hypothesized in H1 and H2. Figure 6 shows the direct paths and interaction paths. We find a significant positive effect of the paradox mindset on the specific acceptance of the DT ($\beta = .173, p \leq .01$). Thus, the data support H1. Furthermore, the analysis reveals a strong positive and highly significant effect on the relationship between the general attitude toward change and the acceptance of the DT ($\beta = .553, p \leq .001$). This result supports the hypothesized relationship H2. Although both—paradox mindset and the general attitude toward

change—positively affect the acceptance of the specific change, the general attitude's influence is much stronger as indicated by the high path coefficient. Overall, the estimations of our sample fit the data well and both exogenous variables explain 41.6 % of the variance in the acceptance of the DT. Figure 6 provides an overview of the paths between the constructs and the significance.

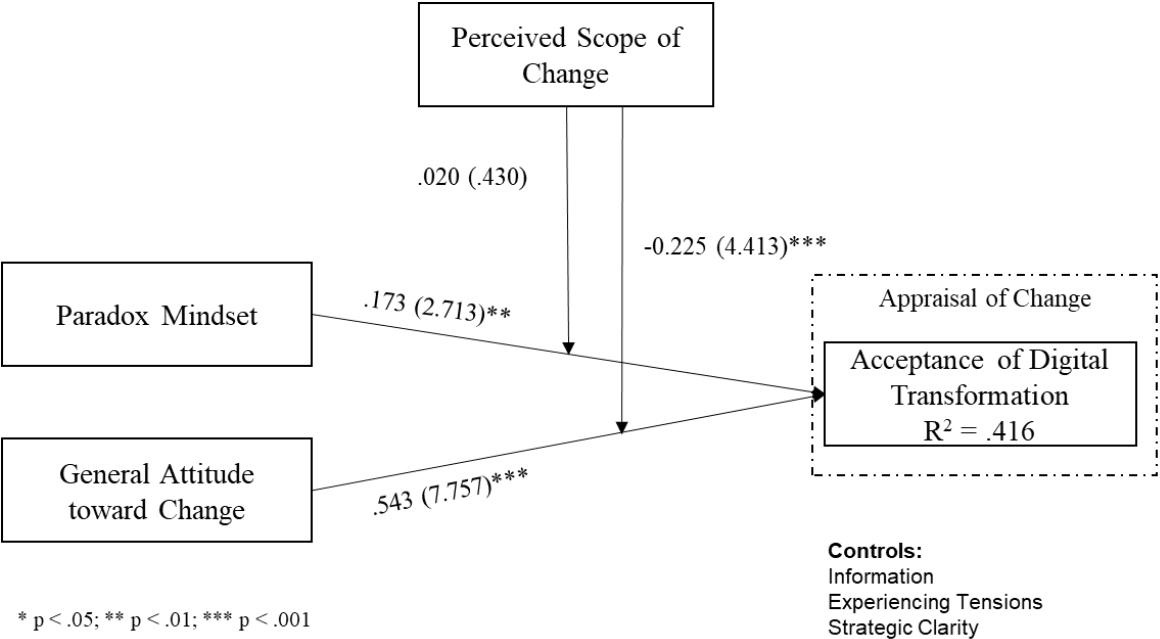


Figure 6: Results of the Structural Model

The moderation analysis reveals how the perceived scope of the change influences the hypothesized relationships H1 and H2. We found no support that the perceived scope of the change influences the relationship between a paradox mindset and the acceptance of a specific change. Hence, the data do not support H3. However, we found support for H4. The results show a strong and significant negative moderating influence of the perceived scope of DT ($\beta = -0.225, p \leq .001; R^2 = .549$). Thus, by adding the moderator to the model, the explained variance in the dependent variable increased from 41.6% to 54.9%. We employed a blindfolding approach and evaluated the model's predictive power, leading to a Q2 value of 0.314 for the acceptance of the DT, which confirms the structural model's predictive power (Geisser, 1974; Stone, 1974). Regarding the control variables, we did not find any significant influence of one

of the tested controls on the acceptance of DT (Information: $\beta = -0.016$, $t = 0.216$; Experiencing tensions: $\beta = 0.07$, $t = 1.116$; Strategic clarity: $\beta = -0.063$, $t = 0.872$).

4.6 Discussion

In this article, we primarily aimed to explain how individual (cognitive) differences of change recipients affect the acceptance of a broad strategic change, i.e. the digital transformation, and how contextual factors moderate this relation. We applied a quantitative, survey-based research design in a large organization that communicated and started to implement a digital transformation strategy. The empirical results mostly support our conceptual framework and the hypothesized relationships, providing significant insights into how individuals interpret and react to DT. Specifically, we introduced the concept of a paradox mindset (Miron-Spektor et al., 2018) to research DT and found that the paradox mindset positively influences the acceptance of the strategic change. However, we found no support that the perception of the scope influences this relationship. Furthermore, we controlled for several other variables that showed no significant influence, too. The relation appears to be stable and unrelated to perceptual variables, which implies that employees with a paradox mindset tend to accept change despite the perception of the change content. Paradox research offers a possible explanation for this finding, as people with a strong paradox mindset are able to accept possible contradictory elements (Miron-Spektor et al., 2018). While accepting tensions as a given and not changeable, the level of tensions plays a less important role. Moreover, we extend Caldwell et al.'s (2004) findings regarding the influence of the scope of change and find—as expected—that the perceived scope of the change event moderates the relationship between a general attitude toward change and the acceptance of the specific change event. As we found that the perceived scope of change posits a negative influence on the link between a general attitude toward change and the acceptance of the specific change event, we provide insights into why a general attitude toward change does not necessarily equal the attitude toward a specific change

event. By examining the simultaneous influence of personal and contextual factors on change reaction, we complement the findings of Fugate et al. (2012).

Implications for Theory

With this study, the empirical results provide distinct insights, contributing and advancing the research fields of digital transformation as well as organizational change.

First, we contribute to research that seeks to understand how organizations can effectively implement the DT by focusing on the individual employee. Employee support, which represents a critical aspect for the successful DT (Fitzgerald et al., 2014; Kane, 2016; Vial, 2019), has received less attention from managers and scholars than organizational aspects of DT (Wessel et al., forthcoming). Our results show a complex interaction between cognitive characteristics and employee's reaction to the transformation. Hence, we suggest that employees react very differently to the DT, which managers need to take into account while planning strategic change and DT (Matt et al., 2015). Furthermore, understanding how employees initially make sense of the DT strategy represents an important aspect for managers to consider when communicating the DT strategy, as the sensemaking aspect and the communication are often ambiguous (Sonenshein, 2010). Hence, our results show a stable influence of the paradox mindset on the acceptance of the transformation, suggesting that employees with a paradox mindset can cope with inconsistencies, for instance, resulting from ambiguous change communication strategies (Stouten et al., 2018) or changing organizational identity (Wessel et al., forthcoming). We, therefore, contribute to prior research that seeks to understand how to communicate the DT (Armenakis et al., 2007; Markus, 2004; Stouten et al., 2018).

Thus, we complement research that predominantly focused on the processes and integration of digital technologies from a top-down perspective, thereby encouraging scholars to also consider the roles of individuals for successful DT. Our results are relevant and insightful, as the DT

context differs significantly from related concepts concerning the acceptance of technologies, particularly digital technologies (Jiao & Zhao, 2014), and research studying the reactions to strategic change (Armenakis et al., 2007; Holt et al., 2007). Due to the boundary-spanning, organization-wide implications of DT affecting organizational processes as well as individual employees' daily routines and direct work environment, our findings enhance the understanding of individuals' cognitive characteristics that influence their acceptance of the DT. DT can cause different types of tensions, such as learning or belonging tensions (Lüscher & Lewis, 2008; Smith & Lewis, 2011), due to shifting organizational identity (Venus et al., 2019) or learning of new capabilities (Colbert, Yee, & George, 2016; Karimi & Walter, 2015). Our results indicate that a paradox mindset helps interpret that change (i.e. DT) positively, as paradoxical thinking enables the acceptance of conflicting demands (Schad et al., 2016). For instance, employees with a paradox mindset can identify themselves with both the current organization and the digitally transformed organization (Venus et al., 2019). Furthermore, our results show that the scope of change significantly interacts with the link between an individuals' attitudes and their acceptance of the transformation, whereas we found no significant influence on the relationship between the paradox mindset and the acceptance. The difference in these results indicates that employees with a paradox mindset are more inclined to accept change despite the conditions and environment of the change. This is especially relevant for DT in light of fast-changing technological environments (Nambisan et al., 2017; Vial, 2019).

Second, with the integration of paradox into the context of organizational change, we provide distinct contributions. We contribute to DT and organizational change literature by deepening the understanding of the role that cognitive aspects of change recipients' reactions to change events play. We extend prior findings of Lüscher and Lewis (2008) by using the concept of paradox to provide insights into a different research field (Keyser et al., 2019), namely in a dynamic, fast-changing setting like strategic change, resulting in new insights on individual

differences in responding to change. Furthermore, we respond to calls by Vial (2019) for additional research on DT that focuses on the individuals involved in such transformation endeavors as well as by Oreg (2011) to consider new combinations of antecedent variables to the change recipients' response to change events.

In detail, we build on insights of Lüscher and Lewis (2008) and Jay (2013) and introduce these aspects to IS research on DT. Furthermore, we expand the novel and mostly neglected perspective of both/and thinking in organizational change research (Keller & Sadler-Smith, 2019; Lewis, 2000; Schad et al., 2019; Smith & Lewis, 2011). By investigating the influence of paradox thinking on change recipients' reactions to change, we go beyond previous research that predominantly focuses on dichotomously describing the antecedents of reactions to change (Fugate et al., 2012; Holt et al., 2007; Hornung & Rousseau, 2007; Wanberg & Banas, 2000). The connection between all these studies is that they find personality traits and characteristics, job characteristics, or contextual variables that cause a positive attitude toward change for high levels of the relevant antecedent variable and a negative attitude toward change with low levels of the antecedent variable. Although this perspective yields significant advances in order to understand change recipients' general reactions, the perspective does not account for employees with atypical behavior: employees with a paradox mindset (Keller & Sadler-Smith, 2019; Miron-Spektor et al., 2018; Schad et al., 2016). Previous research results, for example, state that certain conditions of the change process, such as participation (Holt et al., 2007; Lau & Woodman, 1995; Wanberg & Banas, 2000), the perceived benefit/harm (Armenakis et al., 2007; Hornung & Rousseau, 2007), or goal congruence (Oreg et al., 2018), lead to higher commitment to or acceptance of the change. Conversely, low levels of participation and feelings of harm are associated with resistance to change. This means that the dominant view offers no explication for deviant behavior. However, following Lüscher and Lewis (2008), we break with and complement this perspective by introducing the concept of paradox into the context of

change. Our results confirm that a paradox mindset, i.e. the acceptance of tensions, also influences the acceptance of the change events (Schad et al., 2019). People with a paradox mindset can cope with and accept contradictions (Jay, 2013; Schad et al., 2019), supporting creativity and innovative behavior (Miron-spektor et al., 2011). For instance, an employee with a paradox mindset might be more likely to accept change although he or she does not share the goals of the change or does not perceive the change as personally beneficial.

The results from our empirical analysis demonstrate the empirical difference between these two perspectives by showing that the perceived scope of change moderates the relationship between common constructs in organizational change research, i.e. the relationship between attitude toward change and acceptance, but not the relationship between the paradox mindset and the acceptance of the change. Subsequently, with the concept of a paradox mindset it is possible to better understand the relationships between different types of identified antecedents of explicit affective and behavioral reactions to change. Besides revealing these different conceptual perspectives empirically, the moderation analysis's interaction effects indicate that the paradox mindset's influence is more stable than the influence of attitudes, which highlights the important role of paradoxical thinking during change. Thus, we contribute to the microfoundations of paradox by showing that the paradox mindset represents a fairly stable trait with behavioral consequences that are not related to situational perceptions, for example, the scope of change. Subsequently, the paradox mindset adds to the understanding of unexpected employee behavior. For instance, the paradox mindset can explain why employees might have a positive, supportive attitude toward a specific change even in the absence of goal congruence or goal relevance as suggested in the model of Oreg et al. (2018). In fact, we contribute to Oreg et al. (2018) by expanding the discussion on the predictors of the potential to cope with change events, which is part of the secondary appraisal of change events. In conclusion, we extend

prior research of organizational change by considering antecedents to emotional or behavioral reactions to change from a different angle.

Implications for Practice

This research offers implications for managers that are in charge of developing or implementing the DT, as we provide insights on the employees' interpretation of and reaction to change. Regarding managerial practice, we show that how the employees perceive the scope of changes can negatively influence the acceptance of the change, i.e. the acceptance of the DT. In line with previous studies regarding communication strategies for change events (Armenakis et al., 2007; Hess et al., 2016; Holt et al., 2007), we argue that managers need to pay attention to provide valuable information concerning the planned change in order to gain support. However, when employees perceive the changes as high in scope and innovative, managers should provide additional information about the strategic change's objectives, concrete outcomes, and implications for the business model and organizational structure. In conclusion, managers should seek to reduce uncertainty during organizational change (Cullen et al., 2014), which can be realized with proper communication strategies (Stouten et al., 2018). Managers can, for instance, provide support for reducing uncertainty and possible negative emotions associated with perceptions of uncertainty. We can, thus, also show managers how to alter their processes for increasing acceptance (Vial, 2019), which is also relevant for already initiated transformation strategies.

On the contrary, our results indicate that a paradox mindset positively influences the acceptance of change and despite the perceived scope of changes. Consequently, the top management team should engage middle managers who have a paradox mindset for implementing the planned change, as those middle managers are able to cope with conflicts between, for instance, personal goals and change-related goals. Furthermore, we provide additional evidence for facilitating managers' and employees' paradoxical thinking capabilities. As Lüscher and Lewis (2008)

demonstrated in their action research, interventions help managers realize paradoxes and find solutions on how to mitigate negative implications of tensions. By revealing the the paradox mindset's influence on the acceptance of change, we suggest that managers should emphasize paradox thinking. For instance, Miron-spektor et al. (2011) demonstrated that it is possible to evoke paradoxical thinking and organizations facilitate the paradox mindset with external interventions. Workshops might, for instance, help support a successful DT by influencing employees' mindsets (Lüscher & Lewis, 2008).

Limitations and Future Research

A limitation of this research is the use of cross-sectional data. Although we tried to minimize the shortcomings of cross-sectional data by theorizing relationships between fairly stable predictors and change-specific outcomes, research can explain change reactions better with longitudinal data. Future research can investigate different points of time during a change event. For instance, it might be possible that change recipients' mindsets differently affect the acceptance in a different stage of the change event. At the beginning of the DT, a paradox mindset might be more important to cope with uncertainty about the change event's objectives and tasks than in later stages of a DT. We therefore encourage researchers to investigate these different stages in more depth. Qualitative research might contribute to better understand the role of paradoxical thinking during different stages of the DT and organizational change. This might also allow for delving deeper into the differences between the primary and secondary appraisals. Here, the use of experimental studies can gain a number of important insights. Furthermore, scholars can enhance our findings by investigating other types of change than DT. Future research can build on this study's results by investigating further relations between the paradox mindset and previously identified antecedents of explicit affective and behavioral reactions to change. Although we found no empirical support for an interaction of the perceived

scope of changes with the relationship between the paradox mindset and acceptance of change, scholars might investigate the influence of other contextual or personal variables in this respect.

5 How to Stay on the Road? A Business Model Perspective on Mission Drift in Social Purpose Organizations (Paper 4)

The following chapter (paper 4) is published in “Journal of Business research”, DOI: 10.1016/j.jbusres.2020.01.053.

5.1 Introduction

Recently, new customer expectations and governmental pressures have caused companies to reduce negative social effects significantly or to even create positive social effects (Haigh et al., 2015; Margolis & Walsh, 2003). Hence, profit-oriented companies, which previously only focused on the economic aspects of their business, start feeling the need to consider pursuing social value creation (Markman et al., 2016). In addition to commercial firms and NGO's (Weerawardena et al., 2010), a particular type of firm emerged, which focuses on a social mission aiming to create social value while being economically viable: the social purpose organization (SPO) (Dacin et al., 2011; Haigh et al., 2015; Weerawardena et al., 2010; Weerawardena, Salunke, Haigh, & Sullivan Mort, 2019; Zahra & Wright, 2016). Commercial activities are necessary to maintain and enhance the social value creation of SPOs (Smith & Besharov, 2017).

The BM of a firm, defined as the “design or architecture of the value creation, delivery, and the capture mechanisms” (Teece, 2010, p. 172), constitutes especially in SPOs a subject to innovation, as SPOs seek for new (commercial) ways of funding in a competitive funding environment which often requires business model innovation (BMI) (Weerawardena et al., 2019). However, whereas research mostly agrees that BMI has positive implications for (commercial) firms, broad strategic changes to the BM may cause an SPO to drift from its stated mission (Grimes et al., 2020; Ometto et al., 2017). Thus, mission drift might result (in the worst case) in mission failure (Ometto et al., 2017). For instance, Nobel Peace Prize winner Muhammad Yunus criticizes a drift of microfinance institutions to commercial goals instead of

servicing its (formerly intended) social purpose to provide micro-loans to poor people (Grimes et al., 2019). A social mission includes clearly defined objectives, addressing social and environmental issues (Yunus et al., 2010), whereas mission drift is defined as a socio-cognitive construct that is recognized by the perception of inconsistent action of an organization and its stated mission (Grimes et al., 2019). Although previously rarely considered in combination, BMI and mission drift are related, as radical strategic changes to the BM can represent a drift from the initial mission (Grimes et al., 2019; Grimes et al., 2020), although BMI in SPOs is often necessary in order to adapt to the changing environment (Foss & Saebi, 2017; Weerawardena et al., 2019). When a BMI is perceived as a mission drift by employees or outside evaluators, this might threaten legitimacy as an SPO or might decrease stakeholder support. However, recent studies regarding the risk of mission drift are mostly conceptual and lack empirical grounding, except for few studies (Davies & Doherty, 2019; Ometto et al., 2017; Smith & Besharov, 2017) that predominantly rely on single-case studies. Therefore, identifying the mechanisms and constituting strategic choices that drive mission drift during BMI in SPOs is an important research topic to advance research on SPOs (Davies & Doherty, 2019; Ometto et al., 2017). By addressing this topic, we contribute to the current debate regarding mission drift (Grimes et al., 2020; Varendh-Mansson et al., 2020) by complementing conceptual work with empirical insights. We contribute to research regarding BMI in SPOs by suggesting mechanisms to prevent negative consequences of mission drift on social value creation.

By taking a BM perspective, we address the gap identified in past research and seek to answer the following research questions: What are the key strategic choices in SPOs that affect the balancing of dual missions? How do these choices affect the drifting of SPOs to one mission (social vs. commercial)? In order to answer these questions, we focus on the BM as the unit of analysis (Zott & Amit, 2007), following an embedded multiple-case study approach (Yin, 2014) considering different BMs (types according to Santos et al. (2015)). The BM as a unit of

analysis helps to identify key strategic choices and their consequences (Casadesus-Masanell & Ricart, 2010) concerning value creation and capture. Semi-structured interviews of two cases with in total 15 interviews depict the primary data source for our inductive analysis. Besides, we considered secondary data (annual reports, websites, etc.) in our analysis for triangulation (Eisenhardt, 1989; Yin, 2014).

This research aims to refine existing theory by structuring relations between choices in SPOs and its consequences related to mission drift. We contribute to the question of how SPOs can fulfill their social mission while also being economically effective in two ways: First, we propose a model of essential strategic choices, their consequences, and the interdependencies, showing that hybrids incorporate elements from competing logics in key strategic choices. With this analysis of micro mechanism on mission drift, we contribute to (conceptual) work of Grimes et al. (2019), by improving empirical adequacy with the elaboration of theoretical relations of the mission drift construct, supporting a better reflection of organizational realities. Our framework offers explanations of recurring patterns of choices and consequences that either facilitate or prevent the perception of mission drift. We contribute to the ongoing discussion of the mechanisms of mission drift (Ebrahim, Battilana, & Mair, 2014; Grimes et al., 2019; Smith & Besharov, 2017) and provide a new perspective on BMI, suggesting to consider stakeholders' role while innovating the BM.

Second, we contribute to the literature regarding BMI in SPOs by showing that SPOs can prevent negative consequences of mission drift during BMI like losing legitimacy or stakeholder support by adopting a broad stakeholder orientation. Furthermore, we extend current research on value drivers of social BMs (Spieth, Schneider et al., 2019) by revealing that key choices like stakeholder integration, transparency, and collaboration with partners that share values foster social value creation indirectly in reinforcing cycles. We further challenge previous assumptions about stakeholders' dysfunctional and constraining impact (Corley &

Gioia, 2004; Gioia & Thomas, 1996), by showing that SPOs deliberately integrate stakeholders in order to help to maintain the social mission. In conclusion, our analysis reveals that mechanisms that prevent the SPO to drift to one mission more than to the other are internally motivated and core features of the social BM. Moreover, we show managers of SPOs and social entrepreneurs a possible starting point to prevent mission drift.

The remainder of this article is structured as follows: first, we provide a thematic overview of relevant literature on SPOs, mission drift, and BMI, followed by a description of our research design. Subsequently, we present our findings, the resulting model, and discuss them in the light of theory and practice. We close by a critical reflection of the findings regarding its theoretical and managerial implications, and future research directions.

5.2 Literature Review

Social Purpose Organizations and Business Model Innovation

Lately, researchers increased efforts to understand organizational mechanisms of hybrid organizations, aiming to explain the organizational and individual aspects as well as the structure and activities of hybrids (Besharov & Smith, 2014; Mair, Mayer, & Lutz, 2015; Smith & Besharov, 2017) or how hybrids evolve (Tracey, Phillips, & Jarvis, 2011). Recent research focused on SPOs, commonly known as social enterprises (SE), as an ideal type of hybrid organizations, as “their sustainability as hybrid depends both on the advancement of their social mission and on their commercial performance” (Battilana & Lee, 2014, p. 408) and, thus, conform to the understanding of hybrid organizations, combining different institutional logics in one organization, i.e. social welfare and sustainability logics with market logics (Smith et al., 2013) (Battilana & Lee, 2014; Jay, 2013). The combination of these logics represents a unique feature of SPOs, in which institutional logics widely influence organizational activities, as they are defined as “Socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material

subsistence, organize time and space, and provide meaning to their social reality.” (Thornton & Ocasio, 1999, p. 804). Thus, institutional logics guide and influence the actors’ behavior, a firm’s strategic decisions and overall strategy (Thornton, Ocasio, & Lounsbury, 2012). In SEs, both logics - commercial and social welfare logic - influence goals and activities as well as the stakeholders to whom they are committed (Mair et al., 2015; Pache & Santos, 2013). Thus, organizations prioritizing a social mission address the social needs of their dominant stakeholder groups and not, in contrast to the commercial logic, the needs of their shareholders (Mair et al., 2015). Mair et al. (2015) found two types of hybrid organizing: conforming hybrids, which prioritize one institutional logic and dissenting hybrids, which combine and balance different logics by using defiance, selective coupling, and innovation.

In fact, SPOs often develop innovative new BMs in order to create social value (Tracey et al., 2011; Weerawardena et al., 2019) or to respond to changes in their external environment (Davies & Doherty, 2019; Foss & Saebi, 2017). BMI is defined as “designed, novel, nontrivial changes to the key elements of a firm’s business model and/or the architecture linking these elements” (Foss & Saebi, 2017, p. 201). BMI can be beneficial for commercial firms, resulting in competitive advantages, increased financial performance, or new value propositions (e.g. social value) (Cucculelli & Bettinelli, 2015; Yunus et al., 2010; Zott & Amit, 2007, 2008). As BMI research advances and finds a consensus about its conceptualization, questions about antecedents, drivers and consequences of BMI arise (Foss & Saebi, 2017). Scholars often argue that BMI represents a response to exogenous changes, like the upcoming of new technologies (Teece, 2010), changing competition, or the demand for social value creation. New forms of consumption like sharing economy and more sustainability-oriented customers facilitated innovative BMs like Airbnb or Uber as well as social BMs that aim for social and economic goals. Hence, BMI is in many cases even more necessary than technological innovation in order to achieve social value creation (Gauthier & Gilomen, 2016; Spieth, Schneider et al., 2019).

Recently, Weerawardena et al. (2019) propose a conceptual framework regarding BMI in SPOs. They suggest positive outcomes of BMI and the facilitation of social and economic value creation in SPOs. Casadesus-Masanell and Ricart (2010) argue for the analytical advantages of the evaluation of critical choices and consequences that determine a BM, as the BM reflects the realized strategy of a firm. They suggest a model of choices and the resulting consequences in order to understand and compare innovative BMs.

The business model as a unit of analysis provides a promising opportunity for understanding the functioning of hybrid organizations (Santos et al., 2015). Although not always recognized, institutional logics influence strategic choices, leading to differences in value creation and capture and to different business models (Ocasio & Radoynovska, 2016). Based on a business model perspective, Santos et al. (2015) developed a framework for different types of innovative hybrids. They derived two dimensions that differentiate between hybrids: contingent versus automatic value spillovers and the relationship between customers and beneficiaries. Based on the dimensions, they introduce four types of innovative BMs for hybrid organizations: market hybrids (clients = beneficiaries with automatic value spillovers), bridging hybrids (clients \neq beneficiaries with automatic value spillovers), coupling hybrids (clients \neq beneficiaries with contingent value spillovers) and blending hybrids (clients = beneficiaries with contingent value spillovers). Recently, Smith and Besharov (2017) found more complex levels of integration in their longitudinal, qualitative study of an SPO providing social benefits like education, health care, and employment to disadvantaged people in Cambodia. They identify processes and activities that are differentiated, whereas others are integrated and propose a framework of processes that sustain organizational hybridity. Interestingly, due to the longitudinal research design, Smith and Besharov (2017) found levels of integration and differentiation to be adapted over time. The proposed framework defines guardrails, consisting of formal structures, leadership expertise and stakeholder relationships that constitute boundaries for drifting

towards either social or economic mission. Recently, Schneider and Clauß (2019) find fundamental choices and consequences that explain social and commercial value creation in business models for sustainability. However, the resulting framework focuses on how managers in SPOs cope with conflicting institutional logics, leading to value creation (Schneider & Clauß, 2019). Besides the identification of these choices and their consequences, the analysis of how these choices affect the balancing of goals and possible mission drift is still understudied and lacks empirical evidence.

Tensions and Mission Drift

Different values and beliefs are inherently present in the organization, leading to potential conflicts between subgroups (Besharov & Smith, 2014). Scholars view these challenges from different angles, arguing that combining logics causes instability but also acts as an enabler of innovation because new combinations of logics comprise new combinations of knowledge, capital, and resources (Jay, 2013). Nevertheless, creating social and commercial value at the same time forces organizations to pursue competing goals and, thus multiple tensions arise (i.e. “doing good” and “doing well”) (Jay, 2013; Smith & Besharov, 2017). Such differences create persistent tensions regarding strategic decisions and directions, and overemphasizing the values of either logic might cause a drift to one logic (i.e. mission drifting) (Battilana & Dorado, 2010; Battilana & Lee, 2014; Grimes et al., 2019). Researcher recently aimed at conceptualizing mission drift and identifying its consequences for the organization (Grimes et al., 2019; Ometto et al., 2017), e.g. for microfinance institutes (Beisland, D’Espallier, & Mersland, 2019; Grimes et al., 2019; Mia & Lee, 2017; Zhao, 2014). Basically, the mission of an organization aims to provide an orientation with recurring patterns of actions for its members that need to be consistent with the organization’s values. Grimes et al. (2019) conceptualize mission drift from two theoretical angles, organizational identity, and organizational adaptation, and define mission drift as a socio-cognitive and perceptual construct. From a perceptual point of view,

mission drift relates to the stakeholders' perceptions of the inconsistent actions of an organization. Mostly, researchers investigated mission drift in SPO's, although all (i.e. commercial) organizations might act inconsistently (Grimes et al., 2019). For instance, Battilana and Dorado (2010) argue that microfinance enterprises might adhere to the commercial logic, which might result in increasing loan sizes – a drift from its initial purpose to provide loans for poor people (Armendáriz & Szafarz, 2009; Wry & Zhao, 2018). Ometto et al. (2017) find that mission drift occurs when SPOs scale-up, resulting in unbalanced organizational activities towards financial performance. Grimes et al. (2019) further anchor mission drift in organizational adaptation literature, suggesting that mission drift results from external pressures to adapt to changing environments for long-term success. Deviance of these actions from the organizational identity can be perceived as a mission drift. Accordingly, mission drift can be evaluated differently, as a perception of inauthenticity or as a perception of responsiveness to external institutional environments (Grimes et al., 2019). However, firms engage in mission work (e.g. impression management) (Grimes et al., 2019) in order to respond to external audience's perceptions of mission drift and to align perception of differences between organizational actions and organizational identity. In this regard, business model innovation often results from firms responding to changing external environments (Foss & Saebi, 2017). Research argues that the BM is the reflection of a firm's realized strategy (Casadesus-Masanell & Ricart, 2010), and changes to the BM can be in consequence reflections of changing strategic directions. Thus, changes to the BM can also be perceived as mission drift by stakeholders (Grimes et al., 2019), although BMI can be essential in achieving the social mission of an SPO (Davies & Doherty, 2019).

To sum up, research in regard to mission drift is still in its infancy and builds an exciting research field beyond SPOs with respect to consequences and activities of “mission work”. However, external audiences (stakeholders) evaluate potential mission drift by comparing

organizational action with the organization's assigned identity (Grimes et al., 2019), which can be observed via core or peripheral changes of the firm's BM. The latest efforts to investigate organizational aspects of SPOs show that heterogeneous institutional logic shapes key strategic choices regarding the BM and influence activities in hybrid organizations in a different way than typical commercial businesses. These tensions subsequently might cause a mission drift of an SPO (Davies & Doherty, 2019). However, empirical findings on micro-mechanisms of mission drift with cross-case evidence are rare but necessary for the refinement of theory on mission drift.

5.3 Methodology

Research Design

This research aims at exploring the key strategic choices and their consequences in hybrid organizations, which affect the balancing of economic and social welfare logics. Given the exploratory character of this objective, we chose a qualitative research design (Creswell, 2013). As we look at phenomena that are highly contextual – i.e., strategic decisions and social value –, the use of in-depth case studies allows us to explore the phenomenon's natural context (Eisenhardt, 1989; Yin, 2014). Thus, we apply a multiple-case study design, allowing for more generalizable results than single-case studies (Yin, 2014) by investigating hybrid organizations that differ in terms of their distinction between customers and beneficiaries (Santos et al., 2015). The multiple-case study facilitates comparing and contrasting the findings that emerge at the single case level and thereby, the derivation of conclusions across cases (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Thus, we treat each case as a distinct experiment, following a replication logic with multiple cases in order to refine theory (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2014). More specifically, the case study design is equivalent to the type 4 design suggested by Yin (2014), which is an embedded multiple-case study. In this sense, we investigate two groups (i.e. two cases) of SPOs: one with a high overlap of customers and

beneficiaries (customers = beneficiaries) and one with no overlap between customers and beneficiaries. Within these two cases, we study different embedded units of analysis (Yin, 2014): the SPO's business models. One of the established perspectives within business model research describes the business model as an adequate unit of analysis to identify a firm's key strategic choices and their consequences (Casadesus-Masanell & Ricart, 2010). In the case of multiple business models within one single firm, we concentrated on one business model only. With the embedded multiple-case study design, we aim to inductively deduce patterns of choices and consequences related to mission drift from the data across different types of hybrid organizations.

Data Collection

We applied a stratified purposeful sampling strategy in order to gather precious information on the phenomenon with cases (Eisenhardt, 1989; Patton, 1990; Yin, 2014). A stratified purposeful sampling strategy captures variations and facilitates comparison (Patton, 1990). Thus, we identified businesses that clearly formulate a social mission on company websites and other publicly available documents (e.g., mission of I3: "Reaching goals together: Fairtrade is if all profit" or I13: "We continue our green path – ecologically and fair"). For this purpose, we also included firms with ecological missions in our search, as these create social value by providing environment-friendly products or services (e.g., selling straws that are made of glass instead of plastic) (Santos et al., 2015). Based on this criterion (formulating a social mission), we deepened our search in order to identify those businesses that we expected to be especially suitable in order to investigate the phenomenon of interest: mission drift. Firms are likely to act inconsistently in regard to their mission in times of high uncertainty, due to adjustments to align with their environment (Grimes et al., 2019). Consequently, we searched for start-ups and businesses in new, fast-developing markets that face high levels of uncertainty (Sarasvathy, 2001). Businesses that met the aforementioned criteria were chosen according to the types of

hybrid business models defined by Santos et al. (2015) in order to gain a variation between two cases (Eisenhardt & Graebner, 2007): firms with a low vs. firms with a high level of overlap between customers and beneficiaries. Each case comprises several units of analysis (i.e. business models) (Yin, 2014).

Based on our purposeful sampling strategy, we identified two relevant cases, one with seven business models and one with eight business models. Following the types of hybrid enterprises as introduced by Santos et al. (2015), our sample consists of seven firms that have a low level of overlap between their customers and beneficiaries of the social. Table 12 depicts these case firms. For example, firm 4 develops and sells sterilization units for medical tools to developing countries. The sterilization unit is portable, easy to handle, and operates autarkical. The firm's customers are aid agencies and medical practitioners. However, it is the patients that mainly benefit from the sterilized medical tools. In the remaining eight business models, customers equal beneficiaries (i.e., market hybrids). Table 13 provides a summary of these sample firms. For instance, firm 11 is a consulting firm that specializes in solutions that foster cleaner and more ecologically efficient production. Customers benefit from this service through cost savings, fewer emissions, and the possibility to comply with regulatory requirements. Thus, the social value spills over automatically.

Table 12: Case Description: Customers ≠ Beneficiaries

Case	Industry	Sustainable mission (customers ≠ beneficiaries)
1	Food and beverages	Sells fairly produced olive oil and educates suppliers
2	Consumer goods	Sells fair trade handicrafts from Bali and educates suppliers
3	Consumer goods	Offers fair trade products in different locations and platforms
4	Health Care	Offers self-sufficient sterilization units for medical tools to developing countries
5	Renewable Energy	Offers solar power solutions for multi-party houses
6	IT	Creates added value with used IT-Hardware with handicapped employees
7	Sustainability	Offers a cashback application for sustainable products

Table 13: Case Description: Customers = Beneficiaries

<i>Case</i>	<i>Industry</i>	<i>Sustainable mission (customers = beneficiaries)</i>
8	Crowdfunding	Offers a platform for crowdfunding in Germany
9	Food and beverages	Offers fair and regionally produced honey
10	Agriculture	Sell organic seeds in their online shop
11	Renewable Energy	Consulting company for energy efficiency in industries
12	Food and beverages	Sells organic products
13	Clothing	Offers sustainable outdoor clothing
14	Renewable Energy	Produces and sells innovative solar systems
15	Consumer goods	Offers straws made of glass instead of plastic material

For each case, we interviewed the most knowledgeable informant (Eisenhardt & Graebner, 2007), i.e., high-level managers (founder and CEOs). These semi-structured interviews lasted on average one hour. During the interviews, we first asked respondents to reflect upon their business model in general, their social value creation, and about the most important practices to achieve their social mission. These insights, complemented by information provided by websites and other available firm documents, helped us to identify the firms' purposes, missions, and business models. In order to understand the strategic choices and their consequences within each case firm, we asked the interviewees to reflect upon typical and remarkable situations in which the firm balances commercial and social goals. Thus, we were able to understand the balancing efforts of competing goals. Further, we could identify relevant

choices that enabled the firm's social value generation. In addition to the primary data in the form of semi-structured interviews, we again considered secondary data consisting of company websites and annual reports in our analysis. This enriched our understanding of how the firms communicate their social mission externally. Further, we used the data for the triangulation of interview findings.

Data Analysis

We applied a comprehensive coding procedure of the interviews in order to identify patterns of choices and consequences in the data (Creswell, 2013; Yin, 2014). In line with our inductive approach, initial coding of the data comprises open, in-vivo coding (Corbin & Strauss, 2008; Miles, Huberman, & Saldaña, 2014). This approach yielded in a first round of open, incident-by-incident coding in order to identify relevant text passages in the interview transcripts. In the initial coding round, we coded each interview separately. This first round of coding helped to summarize relevant segments of the transcripts. We then generated pattern codes for each of the two cases by looking for bits of data that are related (Miles et al., 2014), resulting in a within-case analysis. During this step, we relied on memo-writing (analytic memoing) for each unit of analysis to document potential relationships and key aspects within a case (Miles et al., 2014; Yin, 2014).

In a second step and in order to enhance generalizability for hybrid organizations, we compared in a cross-case analysis within-group similarities and intergroup differences (Eisenhardt, 1989). For this purpose, we grouped the business models into two categories (cases): firms with BMs that have a high level of overlap between customers and beneficiaries and firms with BMs where customers equal beneficiaries. In order to capture the institutional logics inherent in enterprises, we relied on pattern deducing as a technique to identify institutional logics in data, a standard procedure in organization studies (Reay & Jones, 2016). By comparing similarities and intergroup differences, we identified consistent patterns across cases (Corbin & Strauss,

2008; Eisenhardt, 1989). For cross-case replication, we compared emerging patterns with evidence from the second case with pairwise comparison (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Fisher & Aguinis, 2017). We revised and redefined the emerging categories, as data collection and analysis constituted an iterative process (Corbin & Strauss, 2008). We kept patterns that showed sufficient evidence across both cases and dropped others due to insufficient support. Consequently, we identified patterns of similar key choices and their consequences and differences between the two subgroups in the sample, as presented in the results. Figure 7 shows the data structure and provides a comprehensive and reliable overview of first-order concepts, emerging themes, and aggregate dimensions (patterns).

To support an efficient coding procedure and our data analysis, we used MAXQDA software. Our procedure allowed for the reduction of data, presenting data, and drawing conclusions from data (Miles et al., 2014). After identifying critical strategic choices within a case, we repeated the aforementioned procedure, meaning that we coded each interview again separately in regard to the consequences and noted possible consequences and relations in memos. Fortunately, the interviewer asked the respondent in most cases directly for consequences after each narrative on past choices. Afterward, we developed patterns of consequences from the data in the cross-case analysis, showing evidence in both cases.

5.4 Results

Our analysis revealed several key strategic choices in SPOs that differently affect their business models. First, the results of the cross-case analysis show that most of the strategic choices are consistent across cases with different levels of overlap between customers and beneficiaries. Second, we further identified choices that reinforce certain consequences or lead to path dependencies. Overall, patterns evolved in the cross-case analysis will be explained in detail in the remainder of this section. As we aim to investigate the balancing of dual missions and mission drift, we developed a model of key choices and consequences in SPOs related to

mission drift. We identified five key choices that are consistent across both cases: *sticking to social values as decision criteria, engaging in proactive stakeholder management, showing transparency in business activities, collaboration with partners that share same values, and providing additional support and education for beneficiaries/ suppliers*. Figure 8 presents the data structure that depicts the delineation of the identified choices. We will support our findings with statements of the interviewees, further statements for proving cross-case evidence appear in the Appendix.



Figure 7: Data Structure

The choice to stick to social values as a decision base

Our data reveal that the initial choice to combine social welfare/ecological logic with market logic, which is reflected by the business model, displays vast implications on other strategic choices. As such, social values constitute the most important decision criteria for strategic and tactical decisions, meaning that social welfare logic dominates in decisions. “The philosophy of the firm includes sustainability and it is clear for all participants, that (...) accordingly decisions will be made according to these objectives.” (I7) Furthermore, a mutual dependence of social and economic aspects accompanies decisions and economic aspects play an essential role, as they constitute the firmament to enable social value creation. The following statement from I14 captures this relationship: “In consequence, we only achieve our economic goals by achieving our ecological goals, meaning that they relate to each other. From the production to marketing as well as the wrapping, we keep our mission always in mind.” Mostly, economic viability is seen as the means to create social value, as I3 points out: “Of course we try to achieve our strategic goals – to help the producers overseas – under the condition of being economically successful. Because otherwise, we can’t reach that goal.” Additionally, interviewees frequently stated that no decisions are made that deliberately offend against social values. Thus, social values are reflected in all decisions made in the SPO.

Choices and Consequences on Mission Drift

The choice to stick to social values as the primary decision criteria concerns most of the other choices, namely the choice to engage in proactive stakeholder management, the choice to collaborate with partners that share values as well as the choice to provide additional support and education for beneficiaries. Thus, integrating the social value idea in all decisions is the core of the investigated business models and builds the ground for other choices, implicating that all other identified choices depend on the initial social value adherence. The analysis of

key strategic choices (i.e., choices that determine the BM of a firm) and consequences, results in a complex model that explains on the one side which choices the risk of perceived mission drift facilitate and which choices prevent mission drift (see Figure 8 below).

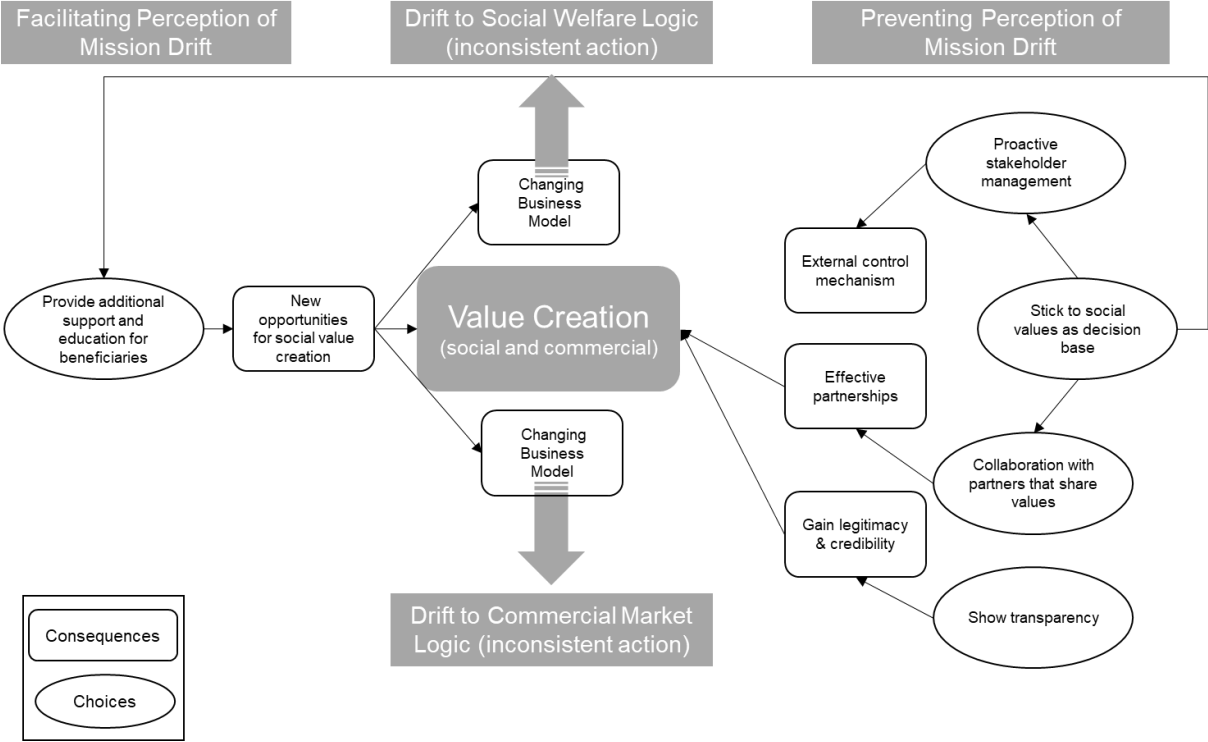


Figure 8: Choices and Consequences Related to Mission Drift

Choices and consequences that facilitate perceived mission drift

As we outlined before, mission drift occurs when evaluators (i.e., stakeholders) perceive the action of a firm to be inconsistent with its assigned identity and mission. Despite the choice to stick to social values in all strategic and tactic decisions, we found one key strategic choice that is directly connected to the mission, but can be perceived as mission drift for outside evaluators: the choice to provide additional support to beneficiaries, partners or suppliers.

The cross-case analysis reveals that in both cases, firms strive to support beneficiaries or suppliers in a broader range than primarily intended in the value proposition of the BM. These choices do not necessarily ground on an economic rationale, and they rather stem from their institutional logic and the associated believes in creating social value. In this respect, enterprise

3 (offers fair trade products and engages in educating suppliers in developing countries) offered a loan to one of their suppliers to prevent them from bankruptcy during the world financial crisis: “They couldn’t have made it on their own, they would have gone bankrupt, and these wonderful products have been lost. But we didn’t want to allow it.” In contrast to firms that aim to maximize shareholder value, SPOs aim to maximize the value for the beneficiaries of their business model and for other stakeholders, even if the outcomes are uncertain and risky regarding economic aspects. Especially firms that collaborate with producers in developing countries selling their goods (e.g. fair-trade products, handicraft goods, etc.) in Europe additionally provide education to the producers or whole regions. For example, firms in our sample helped to develop new products that fit the market needs and customer expectations in Europe or helped them to fulfill the requirements of labels of certification. Another example is given by I2: “We do some kind of economic education, meaning accepting prices or discussing prices. Delivery punctuality, quality, and price setting, all this stuff. And I believe that this helps them for future development.” In consequence, education helps suppliers to exploit more value from their products and beneficiaries to exploit more value from the products provided by the SPO. Overall, it contributes to the social mission in a broader sense equivalent to the inherent social values. Certainly, the choice to support partners and beneficiaries beyond the scope of the business model’s value proposition strengthens the partnership and helps to build a trustful partnership, especially when suppliers and partners have a different cultural background (e.g. I2, I3, I12). Being open to the problems of beneficiaries and partners may, therefore, offer opportunities for further (social) value creation. In consequence, the decision to provide additional supports in the form of financial loans or education changes the previous way to create value, resulting in a business model innovation: for instance from selling handmade products from poor families in developing countries to entrepreneurial education. However, this kind of support provides no direct contribution to the business model’s initial value offering, as it bounds resources that could have been invested in other ways or projects, e.g. in

other producers. This aspect can create tensions within an SPO and between stakeholders, recognizing this BMI.

The interviews provide additional evidence across cases that the SPOs innovated their BMs, for instance, by addressing new or different beneficiaries, customers, or by developing new services/products. For example, I4 started by cooperating with aid agencies to sell their self-sufficient sterilization units for medical tools. However, they realized a better way to create social value by innovating the value offering, changing the customers: “In the business model, that was more likely that we prioritized the customer groups very much. It quickly became clear that clients and aid organizations are working very long-winded. With these, you cannot quickly do this project, and in the foreseeable future, the money will flow in a quarter or a half years. We then realized that we must prefer CSR customers because the project duration is too long for institutional clients. And we thought at the beginning, we're getting faster into direct sales to doctors in emerging and developing countries or to governments investing in their healthcare systems.” (I4). In consequence, enterprise 4 changed the target customers from aid organizations to commercial organizations. In the new model, commercial organizations fund the sterilization device for CSR reasons.

The aforementioned examples illustrate starting points for innovating the BM. As we outlined in the literature review, outside evaluators might perceive two types of mission drift: inconsistent action in regard to the organization's identity and responsive adaptation to the environment. These changes are observable by means of different value propositions or other changes to the BM. Subsequently, changing customers from aid organizations to commercial ones can be perceived by some stakeholders as a drift towards the commercial logic, although it helped to fulfill the social mission more efficiently. On the other side, allocating rare resources towards additional social value creation with precarious financial outcomes like in the example above of I3 might be perceived as a drift towards the social welfare logic. Due to

the inherent social values, those firms try to solve the social challenges of their beneficiaries without prioritizing their economic goals. However, without being economically viable, social value creation is not possible. The combination of this restriction and the will to support the beneficiaries can be a source for further activities and social (business model) innovation, but can also create tensions.

Choices and consequences that prevent perceived mission drift

We identified three key strategic choices that, in consequence, prevent SPOs from perceived mission drift: the choice to integrate stakeholders in the value creation, the choice to collaborate with partners that share the same values, and the choice to exhibit a high level of transparency.

In regard to the stakeholder integration, the cross-case analysis shows that the role of stakeholders is twofold: first, the integration of all stakeholders stems from an intrinsic motivation to treat all stakeholders fairly in order to fulfill the stated social mission. This is in line with the social values and beliefs inherent in the enterprise and the business model. Thus, contributing to the fair treatment of all stakeholders is part of their social mission, although not necessary for economic value creation, as I3 states “The core is, what differentiates us from others, that we are not aiming for profit maximization, but rather aim for certain fairness across all parties”. Furthermore, being focused on a wider range of stakeholders and on more than only paying customers or funding partners is inherently anchored in the initial motivation for the purpose of the enterprise: “we all really wanted to start something that is not primarily for making money, but rather (...) makes sense for the whole society” (I5). However, this is not purely limited to the creation of social value. It is rather the central aspect of the business model, aiming for social and economic value, as “the business model tries to create transparency and profit-sharing among suppliers, customers, and ourselves. We want it to be fair for everyone.” (I12). Further evidence comes from secondary data. For instance, the firm documents of I13, a sustainable clothing organization, confirm the central role of stakeholders, as the SPO

communicates activities like surveying and responding to issues raised by stakeholders on their website.

Second, SPOs feel the need to commit to stakeholders' expectations regarding the social value creation and the consideration of social values: "That's our business model [employ disabled people] and that is what our stakeholders expect from us" (I6). Besides fair treatment and integration of relevant stakeholders, the firms engaged in a deliberate and proactive communication of their goals to stakeholders. In this case, the communication ensures to stay within the boundaries of the social mission and helps to get feedback to the objectives of the firm. By involving stakeholders (which is part of the BM) in value creation processes and by frequently asking for their feedback on the organization's activities, the perception of mission drift can be reduced. When the SPO acts inconsistently, stakeholders counter that: "If we notice that we act too economically (...), then we try to counter that. (...) Well, we try to balance and to present more social objectives externally." (I7). Subsequently, integrating stakeholders is internally motivated, whereas stakeholders are seen as an integral part of their firm's business model, resulting in proactive stakeholder management and integration.

The second choice that helps to prevent the perception of mission drift comprises collaboration with network partners, suppliers, etc. Interviewees across all types of hybrid business models agreed that they preferred collaboration with partners that share their social and ecological values. In order to identify these partners, a thorough examination of potential partners is necessary: "We have no other choice to act sustainable and to structure the firm accordingly on a planet with limited resources. That is the reason why we assume responsibility (...) to look always very closely. If we pursue this goal and we want to achieve it, only with the right partners." (I7). This statement shows that reaching their own goals and for fulfilling the social mission of a firm, partners that share these goals are necessary. This is further strengthened by the assessment of the activities and values of potential partners. Subsequently, collaborating

with partners that share the same values implicates a thorough examination and reflection of activities for both – the own SPO and the partner. This process supports to reflect activities in regard to inconsistency and identifies possible mission drift. However, for identifying partners that share values, transparency is an important antecedent. This is in line with the previous choice of showing transparency, as being transparent signals to the firm’s environment that social values are honestly implemented and not for “green-washing” (I5) reasons. Consequently, choosing partners that fit the social mission of the SPO creates authenticity, demonstrates consistent action, and facilitates legitimacy. Moreover, collaborating with regional/local partners is mostly in line with ecological values and provides an advantage by helping to gain legitimacy, as it reflects further consistency in their behavior: “Because we collaborate with local partners, (...), we are not perceived as an enemy or as a foreign business.” (I5). In conclusion, collaborating with these partners strengthens the ability to create social and economic value. Moreover, by collaborating with the “right partners” (I7) and suppliers, the SPO demonstrates alignment with the mission, and due to its high level of transparency, other stakeholders can easily observe the match between identity and action.

Another choice, influenced by the social mission, concerns the transparency of the BM, the SPO’s activities, and changes in the BM (i.e. BMI). By showing a high level of transparency, customers and other stakeholders perceive the SPO as authentic. This yields in higher credibility to external stakeholders, and in turn corroborates the role of stakeholders as external controls. Thus, proactive stakeholder integration and communication, as well as being transparent, both conjointly provide stakeholders the opportunity to control the activities of the SE. Furthermore, interviewees frequently stated that being transparent to external stakeholders is the requirement for gaining legitimacy as a SE. Firms in our sample emphasized their choice to exhibit a high level of transparency to customers, employees, partners, and suppliers. Along with the transparency aspects, the firms frequently highlighted transparency and authenticity as a key

premise for running the business successfully. Statements like “If we had holes in there, then it wouldn’t work. (...) That’s the reason why transparency on both sides is really, really important.” (I3) stress the meaning of transparency for social value creation. These are substantially intertwined and are key to success by supporting legitimacy as an SPO, as shown in the following statement: “When I want to be credible, the best way is transparency” (I9). Thus, transparent SPOs are perceived as more credible, and their actions are, therefore less likely to be perceived as mission drift. This is reflected in the statement of I10: “Intransparency is only for those people who have something to hide somewhere.”. Moreover, being transparent constitutes a necessary requirement for collaboration with other firms, as I3 points out “The point is to show transparency. They [partners] need to be open to show how they work. It’s the most important requirement for initial communication.” This statement shows that transparency helps in being recognized as an SPO and supports the external communication of social values. The choice to show high transparency for external stakeholders is implicitly part of the business model. Importantly, transparency plays a crucial role in the documents available on the firm’s websites. All SPOs in the sample inform about supply chains, working conditions, partners, etc. on their websites or in stores. Accordingly, comparing these documents with interview data yields additional evidence for the transparency aspects of the BMs. Overall, transparency enhances legitimacy and credibility towards partners, customers, and other stakeholders, thereby reducing the perception of inconsistent action and mission drift.

Overall, the cross-case analysis (Table 14) with two cases comprising 15 business models as the unit of analysis reveals a complex structure of critical strategic choices and consequences, some that are preventing the perception of mission drift and some that facilitate the perception of mission drift (Figure 8).

Table 14: Cross-case Analysis

	Sticking to social values as decision base	Proactive Stakeholder Management	Transparency	Collaboration with partners that share values	Providing additional support for beneficiaries / suppliers
Our understanding (based on interview results, secondary data and literature analysis)	Interviewees consistently stressed the importance of sticking to social values in almost all relevant decisions, e.g. the decision of choosing partners, investors, projects, etc. Moreover, these values also concern minor decisions like the use of trains over cars for sustainability reasons. As such, social values constitute the most important decision criteria for strategic and tactical decisions, meaning that social welfare logic dominates in decisions.	The analysis reveals consistent patterns of integrating stakeholders in the BM: on the one side in order to create certain fairness ("profit sharing") among customers, suppliers, employees and on the other side the SPOs frequently ask stakeholders for opinions and feedback on the SPO's activities and goals. Thus, the integration of stakeholders is internally motivated.	Across all cases, the aspect of being transparent regarding processes, decisions, and objectives plays a major role. Transparency helps to be recognized as an SPO, enhancing authenticity and credibility. Furthermore, transparency supports differentiation from commercial competitors.	The choice to collaborate with partners that share values means that suppliers and other network partners need to fulfill ecological and social requirements that fit the social mission of the SPO.	Due to the social mission, the SPO strives to support beneficiaries or suppliers with a broader scope than necessary to achieve the BM's value proposition. This offers the opportunity to create additional social value beyond the initial BM's value offering.
Proof Quotations (for the framework presented in Figure 2)	"Because if we do not reach the economic goals at the end of the day, we can not meet the socially ecological goals and vice versa. That's why we focus on sustainability and it is very important to us that this aspect is always respected." (I14) "After all, we are a social enterprise, and that is why the value of social environmental sustainability is completely embedded in all (in almost all processes)." (I6)	"You can do a lot with a lot of partners in a social and economic campaign in the short term nowadays, if you have the right partners at your side. The question is always: how is my goal defined? what do I want to achieve? And with whom do I want to achieve something? And who has any of this in the end?" (I10) "The way in which we make decisions is to integrate every stakeholder within and outside the organization, although this sometimes is a longer procedure, like saying okay, this could have been faster." (I13)	"The others [commercial competitors] do not show anything. (...) Well that's really difficult. We need transparency. When I want to be credible, the best way is transparency." (I9) "Working atmosphere and so on, that's very important and we closely look on our partners in this respect to say, these are really authentic businesses that we support and their products." (I7)	"Because we often collaborate with local partners, accomplishing many projects is easier for us, because we are not perceived as enemies or aliens." (I5) "We went to a small village in Bavaria, a producer of whole meal products. We visited them and recognized, that's a really credible, authentic traditional firm, and we need to support them to become more famous in order to foreground their activities. That was our objective." (I7)	"Regarding our global value chain, for example Asia, our business is often about development, building up expertise and offering trainings to generate an understanding for these topics." (I13) "If you want to develop the producing partners, you have to be with them, you work with them in order to understand how to improve them." (I1)
Cross-Case Analysis Case 1: Customers ≠ beneficiaries; Case 2: Customers = beneficiaries	Support by: Case 1: I3, I5, I6, I7 Case 2: I8, I9, I10, I13, I14, I15 In both cases, and in nearly all units within a case, interviewees stated that social values are the main criteria for decisions. Surprisingly, it was quantitatively more frequently mentioned in SPOs where customers equal beneficiaries, although interviewees across both cases stressed the importance of social values.	Support by: Case 1: I2 (secondary data), I3, I5, I6, I7 Case 2: I8, I10, I12, I13, I15 The importance of integrating stakeholders and communicating with stakeholders shows consistent evidence across both cases.	Support by: Case 1: I1, I3, I4, I5, I7 Case 2: I9, I10, I11, I13 (annual report), I14, I15 Transparency is in both cases an essential aspect of the social mission, enhancing credibility. Furthermore, it depicts a requirement for collaboration.	Support by: Case 1: I1, I3, I5, I7 Case 2: I10, I12, I13 (annual report), I14 For both cases, the choice for collaboration partners comprised the comparison of social values.	Support by: Case 1: I1, I2, I3, I4 Case 2: I10, I12, I13, I14 Differences only occurred in regard to the type of additional support. While Case 2 focus on donations and support of projects by others (easy to stop or control, less mission drift) or on suppliers, Case 1 firms focused more on actual needs of their beneficiaries.

Differences between cases

Although we focused on finding patterns in a cross-case analysis that are consistent over both cases, we identified intergroup differences. In our sample, we differentiate two cases with different business models as units of analysis, according to Santos et al. (2015); thus, we differentiated between firms with a high level of overlap between beneficiaries and customers and those enterprises that show little overlap between these groups. Overall, we found only slight differences between the types regarding the key choices and their consequences. We outline the differences of those hybrid BMs, in which customers equal beneficiaries, in the following.

First, their additional support is mostly restricted to their direct suppliers in their value chain. As they do not differentiate between customers and beneficiaries, they aim for increasing social value by focusing on their product or service and the value architecture of the BM. For example, I13 helps their suppliers to apply waste management, develop certain materials to replace plastic, or to implement production standards for certification processes. The focus on their value chain is grounded in the automatic social value spillovers by selling their products or services. Second, these hybrids emphasized that their level of transparency, as well as the social aspects of their value creation, lead to differentiation from their competitors, as they see conventional commercial firms as their competitors: “The others [commercial competitors] do not show anything. (...) Well that’s really difficult. We need transparency. When I want to be credible, the best way is transparency.” (I9). Transparency of all activities, objectives, and strategies differentiates SPOs from their commercial competitors and provides a unique selling point for their customers. Thus, customers buy products or services because of the social values that the enterprise believes in and because they voluntarily unfold the implementation of those values. Consequently, hybrids target different customer groups, which are willing to pay a

higher price for the product or service due to the added social value. Overall, the differences can be reduced to the different overlap between customers and potential beneficiaries.

5.5 Discussion

With this research on hybrid organizations, in detail social purpose organizations, we aimed at answering two research questions. What are the key strategic choices in SPOs that affect the balancing of dual missions? How do these choices affect the drifting of SPOs to one mission (social vs. commercial)? In order to answer the research question, we applied a qualitative research design, conducting an embedded multiple-case study (Yin, 2014) with two cases (consisting of 7 respectively 8 units of analysis, i.e., business models), depicting two polar types of cases (Eisenhardt, 1989). The stratified purposeful sampling (Patton, 1990) facilitated variation in the sample, supporting generalizability. By analyzing data from interviews and archival documents, websites and other firm documents, we found patterns of key strategic choices and their consequences associated with perceived mission drift and BMI in a cross-case analysis. By unraveling micro sources and mechanisms in organizational strategic choices that are directly and indirectly associated with mission drift and BMI (Figure 8), we show the mechanisms (choices and their associated consequences) that drive BMI, while others may prevent the perception of mission drift. With these insights, we explicitly contribute to the question of how SPOs can fulfill their social mission while also being economically effective. Explicitly, we contribute to research regarding mission drift in hybrid organizations in general and specifically in times of BMI in SPOs.

First, we contribute to the question of how hybrids organizations can sustain hybridity and social value creation. With our focus on mission drift, we contribute to research on the nature and mechanisms of mission drift in hybrid organizations by structuring relations between key strategic choices and consequences, thereby refining existing conceptual work on mission drift (Battilana & Lee, 2014; Grimes et al., 2019; Smith & Besharov, 2017). In doing so, we

identified choices and consequences that facilitate the risk of perceived mission drift as well as choices and consequences that prevent the perception of mission drift, contributing to the debate on how hybrids can sustain their hybridity over time. In contrast to predominantly conceptual work on the nature of mission drift (Grimes et al., 2019), we relied on empirical evidence for our framework. Specifically, our findings stress the role of stakeholders and legitimacy for sustaining hybridity.

We find that stakeholder management and integration is internally motivated by the SPO's management. Hence, managers in SPOs are aware of external stakeholders' roles, as they willingly and intently communicate with stakeholders in order to get feedback on objectives and activities. This external control yields an internal reflection of the balance of logics. Thus, participation and integration of stakeholders intensify "guardrails" (Smith & Besharov, 2017) and guarantees that the SPO acts within a frame that is supported by its stakeholders. However, we reinforce and extend previous findings. For example, Besharov & Smith (2017) find that adaption of meanings and practices associated with different institutional logics helps to maintain duality over time, arguing that both logics (social & commercial) create guardrails that bound adaption processes. Our insights also extend previous findings of structural mechanisms serving a balancing of missions (Battilana, Sengul, Pache, & Model, 2015; Ometto et al., 2017). Battilana et al. (2015) argued for "spaces of negotiation" - physical spaces for the interaction of competing logics within an organization - to be important for balancing missions, and Ometto et al. (2017) extended these findings with "herding spaces" for negotiating with external stakeholders. We contribute to these findings by presenting evidence that SPOs deliberately create such spaces by integrating stakeholders in the BM. Additionally, we challenge previous assumptions about stakeholders' dysfunctional and constraining impact (Corley & Gioia, 2004; Gioia & Thomas, 1996), by showing that stakeholders may help to maintain and to fulfill the social mission.

In addition to external stakeholder integration, we find that being transparent also reinforces the aforementioned consequence. Research shows that organizations can benefit from hybridity by increasing legitimacy (Mair et al., 2015; Wry, Lounsbury, & Jennings, 2014). In order to gain legitimacy from different stakeholder groups, hybrids often integrate elements from both logics (Pache & Santos, 2013). We find that showing a high level of transparency and communicating the social mission and how to reach it conjointly increase legitimacy, as transparent enterprises are perceived as “authentic”. This finding constitutes an important aspect of how SPOs can counteract the possible negative consequences of mission drift, namely loss of legitimacy and stakeholder support. Thus, we respond to the call of Grimes et al. (2020) to investigate the relationship between mission drift and legitimacy. Furthermore, we extend strategies proposed by Pache and Santos (2013) to gain legitimacy by showing the combined relationship between choices of stakeholder integration and transparency in order to enhance legitimacy, a widely discussed research topic in institutional theory (Boxenbaum & Jonsson, 2008; DiMaggio & Powell, 1983; Oliver, 1991; Scott, 1995; Suchman, 1995; Zucker, 1977).

Overall, we extend recent research on how to sustain hybridity and social value creation. In contrast to previous studies (Dalpiaz, Rindova, & Ravasi, 2016; Ebrahim et al., 2014; Pache & Santos, 2013; Santos et al., 2015) we investigated the critical interaction of key choices and consequences that reinforce social value creation and help to prevent drifting to one logic at the expense of the other. We used the BM as a unit of analysis to unleash strategic choices rather than analyzing structures or governance mechanisms, as most research investigated hybrids from an organizational or individual level, exploring processes of managing tensions (Battilana et al., 2015; Greenwood, Díaz, Li, & Lorente, 2010; Tracey et al., 2011), managing the integration of different logics (Dalpiaz et al., 2016) or cognitive processes of coping with tensions (Ashforth & Reingen, 2014; Hahn, Preuss, Pinkse, & Figge, 2014). The business model provides a new theoretical lens on hybrids, and applying the choices and consequences

framework suggested by Casadesus-Masanell and Ricart (2010) helps to investigate hybrid organizations from a strategic and not from a tactical, activity-based angle.

Second, we contribute to the literature regarding BMI in SPOs by showing how SPOs can innovate their BM while preventing the perception of mission drift or losing legitimacy. BMI is widely accepted to have positive performance implications (Foss & Saebi, 2017; Massa et al., 2017; Zott & Amit, 2007) and to facilitate social value creation (Tracey et al., 2011), but can be very complex and resource-intensive (Foss & Saebi, 2017). For instance, Ometto et al. (2017) showed how growing can jeopardize the social mission and cause mission drift and mission failure. Especially in environments that are affected by resource constraints, which often applies to SPOs (Weerawardena et al., 2019), legitimacy and stakeholders can support BMI by providing resources, respectively access to resources. Our findings show that SPOs innovate their BMs in order to achieve more social value or to achieve it more efficiently, which is often due to growth aspiration, supporting Ometto et al. (2017). However, as key choices determine the resulting BM (Casadesus-Masanell & Ricart, 2010), firms who want to innovate their BM to a social BM can consider the key choices and consequences depicted in our model (see Figure 8) for successful innovation, as some of the choices reinforce social value creation or enhance legitimacy.

Furthermore, by merging mission drift and BMI, we provide a new perspective on possible downsides of BMI, as SPOs need to consider that BMI might, although necessary, be perceived as inconsistent action (i.e. mission drift) by outside evaluators or even employees. Our findings indicate that a high level of transparency and stakeholder integration lowers the risk of mission drift. Our findings also indicate that integrating stakeholders is especially important for SPOs. Thus, we complement recent research of Schneider and Clauß (2019) regarding the combination of different logics in key strategic decisions and the role of partnerships in social BMs. However, their model of choices and consequences focuses mainly on social value creation and

does not relate to mission drift. Thus, we extend insights from Schneider and Clauß (2019) by showing how key choices and consequences relate to a different theoretical construct, i.e., mission drift.

Managerial Implications

Our study provides a number of important managerial implications for both managers in incumbent firms and entrepreneurs. First, by identifying choices and consequences in hybrids that combine competing institutional logics, we show managers critical key choices and their consequences. We show managers of commercial firms which choices are needed to incorporate dual logics in order to gain legitimacy. Thus, we highlight the role of opening the business model to stakeholders in order to receive feedback on activities' fit to the organization's identity. With the connection of mission drift and BMI, we suggest managers in commercial organizations to become aware of the perception of inconsistent action (i.e. mission drift). Regarding the transition to SPOs, a high level of transparency accounts for being taken seriously as an authentic SPO. Thus, continuous communication with external stakeholders constitutes an essential step in being recognized as SPO, which subsequently enhances legitimacy.

Second, entrepreneurs can learn from this study that key choices in critical stages in the development of an SPO like collaborating with partners that share values and integrating stakeholders support and reinforce social value creation. Our findings provide evidence that, especially in early stages and in stages of growing, start-ups innovate their BMs in order to create social value. Our model gives those entrepreneurs guidance on how to avoid the perception of mission drift while innovating the BM. Our suggestions play a crucial role in gaining the legitimacy of hybrids, as competing goals and activities may threaten external legitimacy (Mair et al., 2015). On the other side, legitimacy may bring access to new resources (Wry et al., 2014). Thus, we encourage managers and entrepreneurs of SPOs to think of the

implications of strategic changes that result in BMI. Especially when innovating the BM, SPOs gain new stakeholders. Our findings show the advantages of proactively integrating those stakeholder to avoid mission drift or even failure. Furthermore, our results show that SPOs seek to collaborate with partners that share their values. Hence, networking may be easier, as social entrepreneurs like to share their social mission with others, helping social startups to benefit from experiences from others.

Limitations and Outlook

Despite its contribution, our study has some limitations that should be addressed by future research. First, our insights are primarily based on interview data with managers' retrospective reflections. Thus, future studies should integrate additional data sources (e.g., observations, meeting protocols, etc.). Second, we collected data at one point in time, whereas choices and their consequences could be better assessed with longitudinal data. However, we tried to mitigate this limitation by directly asking the respondents to reflect on the choices and the resulting consequences. Future research might also build on experimental research designs in order to derive causal explanations for drivers that influence mission drift from an individual perspective. In respect to our insights on mission drift, long-term observations and ethnographic research designs may help to generate new insights on the behavior in highly conflicting decisions that jeopardizes the whole enterprise. Future research can further deepen the understanding of the role of stakeholders regarding mission drift. As our findings suggest, stakeholders are deliberately integrated into processes, and their concerns are thoroughly addressed. On the other side, stakeholders also evaluate inconsistent action, and thus forms of mission drift (Grimes et al., 2019). Therefore, future research can investigate mission drift from the stakeholders' perspective and focus more on the interaction of stakeholders and social entrepreneurs and managers in SPOs. Thus, researchers can provide insights on the way stakeholders communicate potential mission drift and how SPOs respond accordingly.

Furthermore, mission drift is not restricted to SPOs but can also threaten legitimacy in commercial organizations (Grimes et al., 2019). For instance, future research can investigate how BMI of commercial organizations is perceived by outside evaluators. With our study, we hope to encourage researchers to further explore hybrid organizations that address social and environmental challenges that are of global concern as well as concepts like mission drift, that potentially threaten social value creation.

5.6 Conclusion

In this article, we empirically investigated the key choices and consequences in SPOs that can either facilitate BMI and the perception of mission drift or prevent mission drift. Our research dedicates to a relevant research topic, as SPOs often need to innovate the BM due to environmental constraints but still need to balance the social and economic mission to retain legitimacy and stakeholder approval. We applied a qualitative research design, conducting an embedded multiple-case study in SPOs, resulting in a framework of patterns of choices and consequences. We found that the integration of stakeholders as an intended strategic choice as well as the choice of being transparent to stakeholders and others prevents the SPO from perceived mission drift. Thus, our findings indicate how SPOs can innovate their BM while reducing the risk of mission drift. Our findings have implications for literature regarding BMI in SPOs and extend conceptual work on mission drift.

6 Conclusion

Besides the distinct contributions of each paper, this dissertation had two overarching research objectives that complement to gain a comprehensive understanding of antecedents of strategic change and business model innovation and its consequences. First, the papers one and two sought to shed light on the internal and external drivers of strategic change and business model innovation and applied a business model perspective. Although the first paper concentrated on internal facilitators of change (i.e., sustainability commitment, strategic orientations), the application of the stimulus-organism-response model highlights that a complex interplay of internal and external factors influence strategic change like business model innovation. Therefore, the second paper investigated how external constituents (the media) evoke executives to initiate strategic change. Based on the findings in the second paper that negative media coverage influences the extent of strategic change, exerting pressures on executives, the dissertation sought to examine how important stakeholders perceive and interpret change. I also outlined the importance and research opportunities associated with the perceptions of change by different stakeholders, as these represent an essential (but often neglected) factor for successful change. Consequently, the third and fourth papers concern the perceptions and interpretations of strategic change and strategic actions by various market participants (media, stakeholders). Subsequently, the papers analyze the reactions to change initiatives. Hence, the papers build on each other and complement findings. This dissertation addresses several research gaps concerning the antecedents and consequences of strategic change and BMI to gain a comprehensive understanding of this highly complex issue in dynamic environments. Thereby, I respond to several calls to connect insights from different research streams, combining business model and sociocognitive research in broader strategic management and innovation context (Lanzolla & Markides, 2020; Massa et al., 2017; Pfarrer et al., 2019).

Moreover, this dissertation contributes to the broader discussion of the business model concept in light of strategic and innovation management issues. Since I started this dissertation,

researchers gradually reached an agreement in respect of conceptualizing the BM concept. However, the debate of its contribution to strategic management between strategy scholars and BM scholars evolved and continued (e.g., Bigelow & Barney, 2020). At this juncture, the debate concerns mainly theoretical and conceptual arguments. In contrast, empirical research that uses the business model for investigating traditional strategic and innovation management issues (e.g., strategic change) is rare, as BM research predominantly advanced in distinct research streams (Foss & Saebi, 2017). In this dissertation, the four empirical papers each contribute to the advancements of the BM concept in strategic management and innovation research and additionally close research gaps regarding strategic change and innovation.

In the remainder of this chapter, I will briefly present each paper's key findings. Based on the distinct contributions of each study, I will integrate the theoretical contributions in light of the overarching research objectives in more detail. Subsequently, I will elaborate on the limitations of this dissertation and present the implications for practice that result from empirical investigations.

6.1 Summary of Key Findings

One of the key findings of this dissertation is that the business model represents a versatile concept that enables investigations of different units of analysis, resulting in contributions to strategic management. The BM concept incorporates some features that make it worth to use in strategic change studies to gain new theoretical insights (Lanzolla & Markides, 2020). The findings of each paper help to explain the complexity in strategic change and innovation by focusing on different actor's influence on firm behavior, strategic processes and outcomes. Table 15 presents the key findings of each paper of this dissertation.

The first paper develops a conceptual model that integrates different strategic orientations and investigates the influences of firm-internal factors on BMI. Subsequently, the study analyzes sustainability's role as a driver of BMI quantitatively. First, the results from the SEM analysis

indicate that sustainability commitment had no direct effect on BMI elements (i.e., value offering innovation, value architecture innovation, and revenue model innovation). Second, the findings from the mediation analysis revealed that sustainability commitment exerts indirect effects on each BMI dimension via strategic orientations. In detail, the paper conceptualizes strategic orientations (i.e., technology, market, entrepreneurial) as formative second-order dimensions and show that these act solely or in combination as a mediator for the effect of sustainability commitment on each BMI dimension. Moreover, the findings provide empirical evidence that being sustainable extends the scope of information gathering regarding customers and markets, new technologies, and opportunities for value creation. Similarly, our findings from mediation analyses also provide further evidence for the interrelation between new BMs and technologies. As prior suggestions made by past studies that new technologies need new BMs for value to be captured from them, this study confirms this proposition (Amit & Zott, 2001a). Ultimately, the findings in this study also show that a high commitment to sustainability fosters the search for new opportunities (Du et al., 2016), unfolding in proactiveness and risk-taking behavior (e.g., through a high level of experimentation), which subsequently influences value creation's internal mechanisms (Achtenhagen et al., 2013). Hence, the findings show that the BM could serve as a bridging concept that shares the assumptions of strategic management's resource-based view and demand-side view (Priem et al., 2018).

The second paper investigated the role of the assessment of outside evaluators and their interaction with the BM design in driving strategic change. Collecting longitudinal data of firms listed on the German Stock Exchange, I used a generalized estimating equation approach for analysis. The results show that the media affects the extent of strategic change when reporting negatively on firm activities, which confirms prior findings of Bednar et al. (2013) and Shipilov et al. (2019). As the analysis confirms a negative moderating effect of an efficiency-centered BM design theme on the relationship between negative media coverage and the extent of

strategic change, the efficiency-maximizing BM seems to impede the strategic reaction to negative media coverage. Thus, the findings show a complex interaction of antecedents of strategic change and highlight the role of the dominant BM design theme.

Table 15: Overview of the Dissertation's Key Findings

Paper	Key findings	Literature
Paper 1: Facilitating Business Model Innovation: The Influence of Sustainability and the Mediating Role of Strategic Orientations	<ul style="list-style-type: none"> The results indicate that sustainability commitment had no direct effect on any of the BMI elements. The mediation analysis revealed that sustainability commitment has indirect effects on each BMI dimension via strategic orientations. First empirical evidence that being sustainable extends information-gathering's scope. 	<ul style="list-style-type: none"> Antecedents of business model innovation (Foss & Saebi, 2017) and sustainability innovation (Claudy et al., 2016; Du et al., 2016) Stimulus-Organism-Response Model (Hebb & Donderi, 1987; Mehrabian & Russell, 1974) Strategic orientations (Atuahene-Gima & Ko, 2001; Gatignon & Xuereb, 1997; Narver et al., 2004; Spanjol et al., 2012)
Paper 2: How Media Coverage Evokes Strategic Change: The Moderating Role of the Business Model Design	<ul style="list-style-type: none"> The analysis confirms that negative media coverage influences the extent of strategic change. The efficiency- centered BM design accounts for heterogeneous responses to negative media coverage by moderating the effect of media coverage on strategic change, whereas the novelty-centered BM design shows no moderating influence. 	<ul style="list-style-type: none"> Strategic responses to media coverage (Bednar et al., 2013; Deephouse, 2000a; Oliver, 1997; Powell & DiMaggio, 1991) BM design (Amit & Zott, 2001b; Zott & Amit, 2010) Strategic change (Crossland et al., 2014; Kunisch et al., 2017)
Paper 3: Employees' Interpretation of and Reaction to Digital Transformation: A Paradox View	<ul style="list-style-type: none"> The paradox mindset positively influences the acceptance of the strategic change. Employees with a paradox mindset tend to accept change despite the perception of the change content. The perceived scope of the change moderates the relationship between a general attitude toward change and the acceptance of the specific change event. 	<ul style="list-style-type: none"> Paradox theory (Keyser et al., 2019; Lüscher & Lewis, 2008; Miron-Spektor et al., 2018; Schad et al., 2019) Appraisal theory (Lazarus, 1991b; Lazarus & Folkman, 1984; Oreg et al., 2018)
Paper 4: How to stay on the road? A Business Model Perspective on Mission Drift in Social Purpose Organizations	<ul style="list-style-type: none"> Five key choices are related to a shifts in a firm's strategy, Strategic choices can reinforce and, consequently, be perceived as mission drift. Identification of choices and consequences that facilitate the risk of perceived mission drift and prevent the perception of mission drift. The findings stress the role of stakeholders and legitimacy for sustaining hybridity. 	<ul style="list-style-type: none"> Tensions in social purpose and hybrid organizations (Battilana & Lee, 2014; Jay, 2013; Smith et al., 2013; Smith & Besharov, 2017) Social business models (Casadesus-Masanell & Ricart, 2010; Santos et al., 2015; Yunus et al., 2010) Mission drift (Grimes et al., 2019; Mia & Lee, 2017; Ometto et al., 2017; Varendh-Mansson et al., 2020)

In contrast to the other studies in this dissertation, the third study emphasizes the role of individual employees during the digital transformation, a broad strategic change initiative.

Therefore, paper three takes a sociocognitive perspective on strategic change and analyzes how individual cognitive differences of change recipients affect the acceptance of the digital transformation. The paper relied on quantitative, survey-based research design in a large organization that communicated and implemented a digital transformation strategy. Specifically, the study introduced the concept of a paradox mindset that influences how individuals cope with tensions (Miron-Spektor et al., 2018) and found that the paradox mindset positively influences the acceptance of the strategic change. The paper also uses the BM concept to measure the perception of employees regarding the scope of strategic change, using it as a cognitive template (Massa et al., 2017). Additionally, the findings show that the influence of the perceived scope of change moderates the relationship between a general attitude toward change and the acceptance of the specific change event. The analysis of the simultaneous influence of cognitive and contextual factors on the acceptance of change complements prior findings that solely focused on the individual's reactions to change (Fugate et al., 2012). Finally, the paper's findings highlight the relevance of employee support for the success of the strategic change.

Finally, the fourth paper (chapter 5) in this dissertation concerns the consequences of strategic change. The paper developed and investigated two research questions: What are the key strategic choices in SPOs that affect the balancing of dual missions? How do these choices affect the drifting of SPOs to one mission (social vs. commercial)? Hence, inconsistency in a firm's strategy might be perceived by outside evaluators as mission drift (Grimes et al., 2020). As mission drift is highly relevant for Social Purpose Organizations that seek to create social and economic value (Weerawardena et al., 2020), this paper applies a multiple-case study design to analyze strategic decisions in SPOs. For this qualitative research design, the BM provides an appropriate conceptual framework for analyzing the interdependencies of strategic choices and consequences. The paper relies on an embedded multiple-case study design (Yin,

2014) with two cases (consisting of seven respectively eight units of analysis, i.e., business models), depicting two polar types of cases (Eisenhardt, 1989). The findings unravel micro sources and mechanisms in strategic choices that are directly and indirectly associated with mission drift and business model innovation. Thus, the key results indicate that the BM as a unit of analysis enables to identify strategic choices that lead to shifts in strategy. Furthermore, using the BM concept unravels the possible consequences of strategic change, i.e., mission drift.

6.2 Implications for Research

Based on the summarized contributions of each paper (Table 16), I integrate the theoretical contributions to the overarching research objectives of this dissertation. As each paper contributes to different issues, actors, and units of analysis regarding strategic change and BMI, I synthesize these contributions to derive a more general contribution and comprehensive understanding of strategic change and BMI. In this dissertation, I used the business model concept for extending knowledge regarding the antecedents and consequences of strategic change and BMI in four papers. The BM concept proved to be a useful lens to analyze different units of analysis and to generate novel insights into strategic and innovation management. In sum, the papers in this dissertation address both research objectives concerning strategic change and business model innovation that I will present in the next paragraph. Additionally, I outline the theoretical implications for the usefulness of the BM concept to enrich innovation and strategic management research.

Table 16: Overview of the Dissertation's Contribution

Paper	Contribution
Paper 1: Facilitating Business Model Innovation: The Influence of Sustainability and the Mediating Role of Strategic Orientations	<ul style="list-style-type: none"> • Contribution to research on sustainability (innovation) by providing new insights into how a commitment to sustainability influences internal strategic competitive behavior. • In contrast to the mainstream literature on sustainable innovation, the study shows that sustainability commitment can lead to specific configurations of strategic behavior in established firms, i.e. market, technology as well as entrepreneurial orientation (Noble et al., 2002; Paladino, 2007; Spanjol et al., 2012). • Contribution to the BMI literature by identifying additional antecedents of BMI, and to by adding knowledge on the link between strategy and BMs (Foss & Saebi, 2017; Massa et al., 2017). • Response to calls by Foss and Saebi (2017) and Spieth et al. (2016) to identify the antecedents of BMI by extending research that posits that drivers of BMI can also be internal if there is no exogenous change (Zott et al. 2011; Martins et al. 2015).
Paper 2: How Media Coverage Evokes Strategic Change: The Moderating Role of the Business Model Design	<ul style="list-style-type: none"> • I merged insights from strategic change and business model literature and explain variance in strategic responses to external pressures (negative media coverage) with the BM design • I contribute to the understanding of the BM construct as a complementary view of strategic change and management literature (Lanzolla & Markides, 2020) • Contributing with empirical insights to the organizational consequences of BM designs. • Contribution to previous research seeking to understand the antecedents of strategic change (Kunisch et al. 2017) and especially how firms react to the evaluations of outside constituents (Bednar et al., 2013; Rowley et al., 2017; Shipilov et al., 2019).
Paper 3: Employees' Interpretation of and Reaction to Digital Transformation: A Paradox View	<ul style="list-style-type: none"> • Contribution to research that seeks to understand how organizations can effectively implement the digital transformation by focusing on the individual employee (Fitzgerald et al., 2014; Kane, 2016; Vial, 2019). • Complementation of research that predominantly focused on the processes and integration of digital technologies from a top-down perspective. • Extending prior findings of Lüscher and Lewis (2008) by using the concept of paradox to provide insights into a different research field (Keyser et al., 2019), namely in a dynamic, fast-changing setting like strategic change. • Expanding the novel and mostly neglected perspective of both/and thinking in organizational change research (Keller & Sadler-Smith, 2019; Lewis, 2000; Schad et al., 2019; Smith & Lewis, 2011). • Contribution to the microfoundations of paradox by showing that the paradox mindset represents a fairly stable trait with behavioral consequences that are not related to situational perceptions (Miron-Spektor et al., 2018).
Paper 4: How to stay on the road? A Business Model Perspective on Mission Drift in Social Purpose Organizations	<ul style="list-style-type: none"> • Contribution to the question of how hybrids organizations can sustain hybridity and social value creation. • In contrast to predominantly conceptual work on the nature of mission drift (Grimes et al., 2019), we relied on empirical evidence for our framework. • Refinement of existing conceptual work on mission drift (Battilana & Lee, 2014; Grimes et al., 2019; Smith & Besharov, 2017) • Challenging previous assumptions about stakeholders' dysfunctional and constraining impact (Corley & Gioia, 2004; Gioia & Thomas, 1996), by showing that stakeholders may help to maintain and to fulfill the social mission.

Extension of Knowledge on Drivers, Perceptions and Consequences of Strategic Change and Business Model Innovation

Changes in a firm's environment often evoke executives to question their current strategies and the status quo. However, especially in highly dynamic environments, strategic change and innovation are evident for long-term survival (D'Aveni et al., 2010; D'Aveni & Gunther, 1994; Nadkarni & Chen, 2014). Recently, the innovation of the BM evolved in practice and academia as a possible response to changes in dynamic environments to outperform rivals (Foss & Saebi, 2017). In addition to its high relevance in practice, strategic change and BMI encompass complex interactions of outside constituents, external change events, internal events, and organizational contingencies (Carpenter, 2000; Herrmann & Nadkarni, 2014; Kunisch et al., 2017; Wowak, Mannor, Arrfelt, & McNamara, 2016). In this dissertation, I account for this and contribute by reducing the complexity of the dynamics of business model innovation and strategic change in several respects:

First, I enrich research regarding the drivers of strategic change and BMI. Here, the complexity of change is reflected in the examination of different internal and external antecedents of innovative, strategic change like BMI. Although BMI can lead to superior performance and to differentiate from others (Casadesus-Masanell & Zhu, 2013; Foss & Saebi, 2017), its internal antecedents remain unclear. In the first paper, this dissertation closes this gap by showing how a commitment to sustainability facilitates BMI via a firm's strategic orientation. On the contrary, the second paper focuses on external drivers of strategic change and demonstrates the influence of the media on strategic change initiation. However, this paper contributes by revealing the moderating influence of the dominant BM design on this relationship. Thus, the BM accounts for heterogeneous outcomes and strategic responses to external pressures (Casadesus-Masanell & Ricart, 2010; Markides & Charitou, 2004). Finally, this dissertation connects these findings and extends the understanding of internal, external and firm-specific factors evoking change and innovation.

Second, by investigating how strategic change can be perceived, I highlight the consequences of strategic change and innovation initiatives for stakeholders not involved in the initiation. Thus, this dissertation emphasizes the role of actors that are important for successful change and innovation but often neglected in research (Balogun et al., 2015). In detail, this dissertation concentrates on the perceptions of these actors. Although I found in the second paper, and additionally research indicates that employees' and stakeholders' reactions to strategic change can have implications on firm behavior (Aharonson & Bort, 2015; Deephouse, 2000a), the mechanisms of how change is perceived by different actors are not fully captured in prior research. Thus, paper three provides a novel perspective on how employees interpret and react to strategic change initiatives, whereas the fourth paper emphasizes business model features that foster or impede the perceptions of mission drift by outside evaluators. Highlighting the role of perceptions of change by others than strategic decision-makers contributes to creating a more comprehensive picture of the complex consequences of strategic change and innovation initiated by executives.

Despite its multidimensionality, also the interplay of different actors during strategic change increases the complexity of analyzing strategic change. For instance, executives must interpret the need for change (Balogun et al., 2015; Gioia & Chittipeddi, 1991b; Kraatz & Zajac, 2001; Sonenshein, 2010), whereas others need to implement change, and others, in turn, evaluate the strategic change (Bednar et al., 2013; Deephouse, 2000a; Grimes et al., 2020). Despite prior work within the strategic management concerning the reactions on external environments with a resource-based view or positioning view (Caves & Porter, 1977; Makadok, 2001; Miles, Snow, Meyer, & Coleman, 1978; Porter, 1980), taking a BM and sociocognitive perspective advances strategic management and innovation research (Lanzolla & Markides, 2020; Pfarrer et al., 2019). Hence, a sociocognitive perspective accounts for the complex involvement of different actors during change and their underlying sociocognitive processes. Most of these

aspects concern the interpretation of information and subsequent activities, which gained less attention in strategic management research.

By taking a sociocognitive perspective in this dissertation (Pfarrer et al., 2019), I focussed on interpretations, perceptions, and sensemaking of managers, executives, employees, and other stakeholders and resulting firm behavior. The studies integrate the knowledge of different sociocognitive theories and literature streams like paradox theory, appraisal theory, mission drift. For instance, the first paper uses the Stimulus-Organism-Response model to show how a sustainability commitment is transmitted via strategic orientations to innovate the BM, contributing to the understanding of how change evolves. Thus, the first paper concerns managers' interpretation of sustainability issues and subsequent action based on the firm's strategic orientations. Ultimately, the complex interplay of sustainability commitment, strategic orientations and BMI might result in competitive advantages. Similarly, the second paper encompasses how strategic change evolves and takes an institutional lens on the influence of the media on firm behavior. Furthermore, the third paper highlights the paradox tensions of strategic change, whereas the fourth paper concerns how stakeholders might perceive strategic change. Ultimately, I disentangled the multidimensional concept and analyzed the antecedents, perceptions, and consequences of strategic change. With this comprehensive approach, the four studies contribute to enhance the overall understanding of strategic change. Thus, the application of different sociocognitive theories complements the multidimensional strategic change research (Kunisch et al., 2017; Pfarrer et al., 2019).

Moreover, this research focused on different actors that are relevant to strategic change. For instance, the first two papers analyze the manager's behavior. In contrast, the third paper takes the role of employees into account, and the last paper elaborates on the perceptions of stakeholders. Prior research predominantly focused on the role of executives and CEOs for initiating and leading strategic change. However, research on other relevant actors than these

“classic” actors helps to advance the multifaceted processes involving strategic change (Kunisch et al., 2017). In this respect, I enhance prior research regarding the influence of outside constituents on the extent of strategic change in the second paper. On the opposite, in the fourth paper, I shed light on the possible consequences of strategic change on the perceptions of outside constituents. These two approaches demonstrate that outside actors are deeply interwoven with strategic change, as they simultaneously evoke strategic change and make sense of change. Furthermore, I highlight the role of employees in supporting change (Ashford, 1988a; Choi, 2011; Elias, 2007; Fugate et al., 2012) by showing how dispositional traits and perceptions determine the employee’s acceptance of strategic change (Lau & Woodman, 1995; Lazarus, 2005; Oreg et al., 2018). In sum, the analysis of the different actors underlines the complexity of strategic change and helps to develop a more realistic picture of different actor’s roles during strategic change (Kunisch et al., 2017).

Furthermore, I address the call of Kunisch et al. (2017) to advance research regarding the tensions that arise during change, as I explicitly investigate how employees cope with paradox tensions during strategic change (Miron-Spektor et al., 2018; Schad et al., 2016; Smith & Tracey, 2016). Although tensions during a strategic change like a digital transformation may arise, I contribute by showing how employees accept the change in spite of paradox tensions. Hence, the results show that employees with a paradox mindset are more likely to accept the change. Furthermore, by showing that the BM design of a firm matters for the initiation of change, the second paper unravels a possible tension that has not been considered in strategic change research before. Although prior research investigated organizational factors that facilitate or impede strategic change (Ginsberg & Buchholtz, 1990; Hannan & Freeman, 1984), the second paper indicates that the dominant BM design can impede strategic change initiatives (Kunisch et al., 2017). I found that an efficiency-centered BM design weakens the positive

effect of negative media coverage on the extent of strategic change, indicating that features of the efficiency-centered BM design impede the initiation of strategic change.

In sum, the papers of this dissertation contribute to gain a more fine-grained and comprehensive understanding of the multifaceted, interwoven processes and actors involved in strategic change (Haynes & Hillman, 2010; Herrmann & Nadkarni, 2014; Kunisch et al., 2017; Wowak et al., 2016).

Application of the Business Model Concept for Enriching Innovation and Strategic Management Research

Despite its several contributions to strategic change literature, this dissertation also combined research from different literature streams, namely strategic and innovation management and business model research. I merged insights from the BM research into the strategic change literature, which were relatively separate research streams before, an auspicious way to make theoretical contributions by showing how each can enhance the other (Corley & Gioia, 2011). Overall, the studies show that the empirical application of the BM concept can generate novel insights. In detail, I used the BM concept in each paper differently to explain multifaceted strategic change and innovation phenomena that have not been fully explained by previous research. The application of the BM concept in different contexts demonstrated the usefulness and the benefit of the concept for management science (Lanzolla & Markides, 2020; Massa et al., 2017; Zott & Amit, 2013). First, the different “interpretations” (Massa et al., 2017, 73) of the BM (e.g., as a cognitive template or attributes of real firms) facilitate a wide range of applications. In this respect, the first paper considered the BM as a subject for innovation, indicating significant strategic changes, as BMI can lead to superior performance (Casadesus-Masanell & Zhu, 2013; Foss & Saebi, 2017). However, in the third paper, the BM appeared helpful to analyze employees’ perceptions about strategic change. Moreover, the BM design theme can explain differences in firm performance (Zott & Amit, 2007) but also how firms

react to triggers of strategic change. In the fourth paper, the BM concept revealed the interdependencies between strategic choices and consequences, using the conceptualization of Casadesus-Masanell and Ricart (2010).

In conclusion, I also contribute to the discussion between strategy scholars regarding the usefulness of the BM concept in strategy research (Bigelow & Barney, 2020; Lanzolla & Markides, 2020; Zott & Amit, 2013), following calls to link strategy and BM research (Spieth et al., 2016). Here, the first paper provides evidence for the distinctiveness, as the results show how the strategic orientations of a firm influence the BM. Thus, strategy and the BM complement in creating a competitive advantage (Markides & Charitou, 2004; Zott & Amit, 2007, 2013). Finally, the empirical application of the BM concept in each paper concerning strategic change issues shows that the business model concept complements the traditional strategy research (Lanzolla & Markides, 2020). Ultimately, merging the sociocognitive and BM lens yields novel insights for academia and demonstrates how the BM concept can enrich strategic management research (Lanzolla & Markides, 2020; Massa et al., 2017; Zott & Amit, 2013).

6.3 Limitations and Further Research

Although this dissertation, the data collections, and analysis in each paper were thoroughly planned and conducted, the studies are not without limitations. However, there are limitations concerning the research designs and samples. However, the research opportunities that arise from these limitations complement the future research avenues that the findings of each paper provide. Although all papers in this dissertation concern change, either as strategic change or innovative change, the first and third papers rely on cross-sectional data. However, change is a dynamic process (Kunisch et al., 2017) that can be better captured in quantitative research design with longitudinal data. Furthermore, there are some individual limitations of each paper.

The data sample used for analysis in the first paper consists of manufacturing firms. As we identified complex interdependencies between strategic orientations and BMI, the results might be different for service-oriented firms. Furthermore, endogeneity might threaten the results in this study. Although we addressed this issue regarding the relationship between a firm's sustainability commitment and its market orientation with an instrumental variable approach, feedback loops between market orientation and sustainability commitment might threaten the findings.

The second paper uses different data sources for the analysis. However, the influence of media on firm behavior is very complex (Bednar et al., 2013). Thus, endogeneity might be an issue that threatens the results, although I lagged the independent variables to reduce this issue. Researchers found many antecedents of strategic change, mostly concerning CEO characteristics. Although I controlled for CEO turnover, other events or factors might influence strategic change. Future research can complement this study by replicating the study in another institutional setting with a larger sample or small and medium firms.

In the third paper, longitudinal data could better assess the consequences of dispositional traits during strategic change. In this respect, different stages in the progress of the strategic change could yield different results. For instance, a paradox mindset's influence on the acceptance of the change might be more substantial during the early stages of strategic change and less critical in late stages, when uncertainty decreases (Miron-spektor et al., 2011). Thus, inductive case-study research that can investigate a strategic change in different stages and settings can extend the findings of this paper. Furthermore, the study was conducted in one organization. Future research should investigate the role of a paradox mindset during strategic change in different settings for increasing the generalizability of the results.

The fourth paper relies on single interviews with managers of SPOs. As strategic changes might be perceived as mission drift by stakeholders, a longitudinal approach could assess how these

perceptions evolve or even change. However, ethnographic work that allows accompanying an SPO is promising to assess the long-term consequences of strategic choices. Thus, a richer database can also enhance the understanding of mission drift, as prior research elaborates on mission drift from a conceptual perspective (Grimes et al., 2019; Varendh-Mansson et al., 2020). Another fruitful research avenue is to include different actors for analyzing the microfoundations of mission drift. Thus, researchers might investigate the interdependencies and feedback loops between stakeholders' perceptions and firm activities. Finally, mission drift concerns commercial firms as well (Grimes et al., 2019). Therefore, future research into the implications of mission drift on firm behavior or performance can also enrich literature concerning strategic change.

Despite the future research avenues resulting from each paper, the dissertation offers some overarching research avenues. Thus, I encourage researchers to continue bridging strategic management and business model research to gain novel insights. As the BM concept combines the demand-side with the supply-side view (Bigelow & Barney, 2020; Lanzolla & Markides, 2020; Priem et al., 2018), researchers can investigate heterogeneous strategic responses to external changes and explain potential performance differences with a more holistic perspective.

6.4 Implications for Practice

With its novel insights for academia based on empirical investigations, each paper in this dissertation provides unique implications for managers, entrepreneurs, and practitioners.

The first paper gives managers in incumbent firms advice on overcoming inertial tendencies like routine or resource rigidity by considering the strategic orientations found to influence BMI (Gilbert, 2005). In this sense, these strategic orientations might overcome barriers to innovation and reduce resistance to strategic change. This paper also shows the potential benefits of a sustainability commitment, as being committed to sustainability might result in BMI.

Subsequently, BMI can support to outperform rivals with differentiation (Foss & Saebi, 2017; Zott & Amit, 2007). As we found strategic orientations to mediate this relationship, managers should allocate resources to deepen technological know-how and engage in a proactive search for technical solutions for sustainability issues.

The results from the second paper also emphasize the need for managers to pay attention to inertial tendencies caused by efficiency-centered BM design. The results suggest that executives of a firm that acts in dynamic environment need to be aware of resources that are bounded in interdependent activities that aim for maximizing efficiency. In times of environmental changes, firms often react by reallocating resources to other activities (Bednar et al., 2013; D'Aveni et al., 2010; D'Aveni & Gunther, 1994). However, the results indicate that the efficiency-centered BM design impedes this process in response to negative media coverage.

The third paper also offers some implications for executives that are responsible for strategic change implementation. In detail, managers should consider how they communicate strategic change in different change phases (Armenakis et al., 2007; Hess et al., 2016; Holt et al., 2007), as we show that the way how employees perceive the scope of changes can negatively influence the acceptance of the change. Subsequently, managers should carefully provide information on the change initiative for proper communication strategies (Stouten et al., 2018). Furthermore, executives need to consider the composition of managers that they select for being in charge of implementing change. Hence, the results indicate that a paradox mindset positively influences the acceptance of change despite the perceived scope of changes. Consequently, the executives should engage middle managers who can cope with conflicts between, for instance, personal goals and change-related goals (Stouten et al., 2018). Furthermore, we provide evidence for facilitating managers' and employees' paradoxical thinking capabilities. By revealing the the paradox mindset's influence on the acceptance of change, we suggest that managers should

emphasize paradox thinking. As Lüscher and Lewis (2008) demonstrated in their action research, interventions help managers realize paradoxes and finding solutions on how to mitigate negative implications of tensions.

The fourth paper used interviews of managers as a primary data source. Therefore, this paper especially offers implications for entrepreneurs, but also for executives in established organizations. Thus, the BM is evident for entrepreneurs to develop new business models. For instance, this paper links BMI and mission drift. Although BMI can have positive implications, it can cause a firm to shift the strategy, resulting in perceived mission drift. The findings suggest that managers need to be aware how their actions are perceived by outside evaluators, as BMI and shifts in strategic actions might be perceived as inconsistent action. This is especially important for firms with BMs that are dependent on stakeholder support, like in social enterprises. Although perceived mission drift can have positive or negative implications for the firm managers need to be aware of the impression of firm activities on external constituents (Grimes et al., 2019; Grimes et al., 2020; Varendh-Mansson et al., 2020),.

Furthermore, paper four helps entrepreneurs aiming for creating social and economic value to understand the consequences of critical strategic decisions. The findings provide evidence that, especially in early stages and in stages of growing, start-ups innovate their BMs to create social value. Therefore, the model developed in this paper gives those entrepreneurs a guide on how to avoid the perception of mission drift while innovating the BM. Our suggestions play a crucial role in gaining hybrids' legitimacy, as competing goals and activities may threaten external legitimacy (Battilana & Lee, 2014; Ebrahim et al., 2014). Thus, the paper suggests being aware of stakeholders and potential stakeholders, as with changes to the BM, new groups might be interested in the firm and its activities. As the second paper shows, the influence of outside constituents can be very substantive.

In sum, this dissertation provides managerial implications for understanding the actors, influences, and consequences of strategic change. As strategic change is multidimensional and involves different actors inside and outside the firm, this dissertation helps managers gain a comprehensive picture of their actions and how others might perceive strategic change. As this research shows, outside constituents like the media and other stakeholders react to strategic change and influence firm behavior simultaneously. By considering internal aspects of strategic change, managers need to respect the complex interaction of strategic initiative and employee support by taking individual attitudes and dispositional traits into account. Ultimately, I recommend executives who initiate and lead strategic change to take the findings of this dissertation into account for receiving the benefits of strategic change.

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8 Appendices

Appendix A1 Additional Proof Quotes (Paper 4)

Table 17: Additional Proof Quotes (Paper 4)

Statements	Second-order themes	Aggregate dimension
<ul style="list-style-type: none"> • <i>We act as an enterprise and at the end of the day, you need to make enough money [...] for reaching your social and ecological goals. That's why the financial goals have a certain priority, but it would never be at the social goals' expenses, that we negate our mission. But you always try one middle way to find, that the monetary aspects are not the kind of benefit in the center of attention that other goals are in the background. (I5)</i> • <i>Due to the fact that the topmost philosophy of our firm always contains the sustainability, it's clear for all participants to act while keeping this goal in mind. Accordingly, we only make decisions corresponding to these goals. (I7)</i> • <i>To avoid [economic] consequences, we firstly thought about our understanding of sustainable economy. After working out important issues, we questioned every process and thought about a more ecofriendly and more social configuration. (I13)</i> • <i>Because if we do not reach the economic goals at the end of the day, we cannot meet the socially ecological goals and vice versa. That's why we focus on sustainability and it is very important to us that this aspect is always respected. (I14)</i> • <i>That makes no sense to weight that, because one is not possible without the other. If we cannot cover our costs, there will be no more overseas orders. And if our producers stop doing things, then we have nothing left to sell. It makes no sense that one is more important than the other. It is really synergetic. (I3)</i> • <i>After all, we are a social enterprise, and that is why the value of social environmental sustainability is completely embedded in all (in almost all processes) (I6)</i> • <i>No, of course, this is directly linked to each other, because I say, so our business model is to sell renewable energy, so to speak. So for us that is not just any additional benefit, but I'll say exactly the meaning of the company. So let's just say, if these, if these facilities or products and services were not sold, there would be no ecological degradation, no economic return. (I15)</i> 	<p>Mutual dependence of social and commercial goals</p>	<p>Sticking to social values as decision base</p>
<ul style="list-style-type: none"> • <i>Well, you don't have to make money and it doesn't have to be fun all the time, but it needs to make sense and there has to be some benefit. (...) That's why we said, if you are an entrepreneur, society needs to benefit. (I7)</i> • <i>The vision is to be more attractive with sustainable products than conventional producers are. No matter which decision we take, the focus is always on offering more sustainable products than the conventional producers do. (I14)</i> • <i>As you can see, my business isn't profit maximizing, but passionately guided. This project is a matter truly dear to my heart. (I9)</i> 	<p>Social value as business purpose</p>	

<ul style="list-style-type: none"> • <i>Regarding nature conservation, the limits to growth are obvious. Nevertheless, we are ignoring them. My business isn't about profit maximizing, otherwise I would do something more profitable. (I9)</i> • <i>"So that's why this environmental aspect has for me personally with the most important part that I want to work in this industry and of course you just have to look for something that makes sense in the sense of a profitability and exactly and that was, then of course just kind of the reason, if you think you have found something, then also start your business." (I15)</i> 		
<ul style="list-style-type: none"> • <i>The business model tries to create transparency and profit sharing among suppliers, customers and ourselves. We want it to be fair for everyone. (I12)</i> • <i>The core is, what differentiates us from others, that we are not aiming for profit maximization, but rather aim for a certain fairness across all parties. (I3)</i> • <i>It's just there, let's say I have a fair deal with each other. (I15)</i> • <i>You can do a lot with a lot of partners in a social and economic campaign in the short term nowadays, if you have the right partners at your side. The question is always: how is my goal defined? what do I want to achieve? And with whom do I want to achieve something? And who has any of this in the end? (I10)</i> 	Fairness for all stakeholder	Proactive Stakeholder Management
<ul style="list-style-type: none"> • <i>We try to counter, when we notice that we lose our social focus, that's not what represents us. But we try to balance it and to present social objectives externally. (I8)</i> • <i>And communication deficits lead to things not spoken out, things that are not pronounced lead to misinterpretations. Misinterpretations lead to decisions that are contrary to the basic ideas and can bring down the whole house. (I10)</i> • <i>The way in which we make decisions is to integrate every stakeholder within and outside the organization, although this sometimes is a longer procedure, like saying okay, this could have been faster. (I13)</i> 	Communication with/to stakeholder	
<ul style="list-style-type: none"> • <i>So we also need to create transparency about the economics of value creation and production. (I1)</i> • <i>The consequences are that we can't make contrary decisions. Otherwise, we have a credibility problem, we can't pursue ecological/social goals anymore and our profit suffers. The consequence is a chain reaction, which would seriously harm the company. (I7)</i> • <i>The others [commercial competitors] do not show anything. (...) Well that's, really difficult. We need transparency. When I want to be credible, the best way is transparency. (I9)</i> • <i>I do not want to say that we are the perfect ecos, I'll tell you in this team. But on the contrary. In terms of origin, these are positions that are very classically occupied. So here are people who come for the job and not just because of the motivation, the personal. But by the fact that one is then in this environment again and again also confronted with it to talk about meat consumption etc. So keeping the footprint together as a company low and acting authentically. (I7)</i> • <i>But we have the internet and programmable people. They are also working on making it much more transparent. Very important is transparency when you buy. If I buy such a [product of I10] and then a well has been built somewhere, then see aha, I helped. Intransparency is only for those people who have something to hide somewhere. (I10)</i> • <i>That means we will have a very high level of transparency here too ... but we try to do a very high level of transparency, so</i> 	Credibility	Transparency

<p><i>colleagues from other industrial companies always say you are crazy. Why ... not everyone needs to know that. (I11)</i></p>		
<ul style="list-style-type: none"> • <i>Our support is to help them to produce in such a way, that they fulfill the requirements of faire trade. (...) They need to be open to show how they work. It's the most important requirement for initial communication. So we help them to accomplish these conditions by explaining to them, what they need to do. (I3)</i> • <i>Working atmosphere and so on, that's very important and we closely look on our partners in this respect to say, these are really authentic businesses that we support and their products. (I7)</i> 	<p>Openness of partners</p>	
<ul style="list-style-type: none"> • <i>They were not able anymore to generate profit by themselves, but for not losing all this wonderful products we got active and did not want to tolerate that they go bankrupt. (I3)</i> • <i>That means there is a strong approach to cooperate with every level of the process chain as well as with other businesses, often with other persons who operate in the same market as we do. (I1)</i> • <i>Because we often collaborate with local partners, accomplishing many projects is easier for us, because we are not perceived as enemies or aliens. (I5)</i> • <i>You need to help the right enterprises. (I7)</i> 	<p>Mutual support of local/social partners</p>	<p>Collaboration with partners that share values</p>
<ul style="list-style-type: none"> • <i>Exactly, but what we do, representing value, what we always try to do is to look closely on other firms or suppliers, small businesses. Is this a good firm, is this a bad firm? (I12)</i> • <i>You begin to develop a relationship, not only with the product but also with the producer. (I1)</i> • <i>We went to a small village in Bavaria, a producer of whole meal products. We visited them and recognized, that's a really credible, authentic traditional firm, and we need to support them to become more famous in order to foreground their activities. That was our objective. (I7)</i> • <i>After roughly reshaping our transformation process, we now have to do some fine-tuning. We focus the supply chain now. It's more about social responsibility, taking part in social-political themes and so on. (I13)</i> 	<p>Examination of suppliers</p>	
<ul style="list-style-type: none"> • <i>If you want to develop the producing partners, you have to be with them, you work with them in order to understand how to improve them. (I1)</i> • <i>The environmental management of our material suppliers still is a huge problem. There is a high potential to optimize these businesses regarding efficiency, for example with water savings, energy savings, emission savings. We still consistently work at this. (I13)</i> 	<p>Help to fulfill market requirements</p>	<p>Providing additional support for beneficiaries/suppliers</p>
<ul style="list-style-type: none"> • <i>We do some kind of economy education, meaning accepting prices or discussing prices. Delivery punctuality, quality, and price setting, all this stuff. And I believe that this helps them for future development. (I2)</i> • <i>The main point is to, for example, provide education so that the customer is able to use the products. Otherwise, I tried to effect something without any result. (I4)</i> • <i>Regarding our global value chain, for example Asia, our business is often about development, building up expertise and offering trainings to generate an understanding for these topics. (I13)</i> 	<p>Education</p>	

Appendix A2 Choices and Consequences (Paper 4)

Table 18: Choices and Consequences (Paper 4)

Choice I	Choice II	Consequence I	Consequence II
Stick to social values as a decision criteria	⇒ Proactive stakeholder management	⇒ External control mechanism ⇒ Gain legitimacy	⇒ Social value creation
	⇒ Collaborate with partners that share values	⇒ Restricted network ⇒ Effective partnerships ⇒ New opportunities for social value creation	⇒ Limited growth ⇒ Social value creation
	⇒ Provide additional support to beneficiaries	⇒ Effective partnerships ⇒ New opportunities for social value creation	⇒ Social value creation
Show transparency		⇒ External control mechanism ⇒ Gain legitimacy ⇒ Differentiation (market hybrids)	⇒ Social value creation