Essays on digital transformation in service industries - How to make sense of and act in a highly dynamic and ambiguous environment?

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The President:

Prof. Dr. Thomas Bieger

To my family

Acknowledgments

At the end of this journey, I would like to take the opportunity to thank all the people who made it possible for me to write this dissertation. First, I want to express my gratitude to Prof. Dr. Peter Maas for encouraging me to start this journey and for his support throughout the entire course of my doctoral studies. In the 13 years we have known each other, he has not only been my supervisor, but also become a friend. I always like to and often do reminisce about the seven years I have been a member of his team at the Institute of Insurance Economics at the University of St. Gallen. It has been a very exciting, interesting, and instructive time for me. I also want to thank my co-supervisor, Prof. Dr. Oliver Gassmann, for his feedback on my research proposal. Moreover, I want to thank all my colleagues who provided insightful and inspiring feedback, especially Dr. Philipp Hendrik Steiner and Dr. Matthias Rüfenacht, who have been my teammates.

Finally, I will give my family pride of place in this dissertation. It's not only their continuous support that deserves my highest appreciation and gratitude, but also the time they spent with me, although I have been stressed; the smile they put on my face, although I have been nervous; their words that gave me encouragement, although I have been depressed and the numerous weekends and evenings they spent without me. I could not have succeeded on this journey without having my family at my side.

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Vorwort

Wenn das Ziel einer langen, aufregenden und anstrengenden Reise in Sichtweite rückt, ist es Zeit den Menschen zu danken, welche es mir überhaupt ermöglicht hatten diese Dissertation zu verfassen. In erster Linie möchte Prof. Dr. Peter Maas für die Ermutigung diesen Weg einzuschlagen und seine Unterstützung über die gesamte Zeit meines Doktoratsstudiums hinweg meine Dankbarkeit ausdrücken. In den nun 13 Jahren seit wir uns kennen, war er für mich nicht nur mein Referent und Vorgesetzter, sondern wurde auch zu meinem Freund. Oft und gern denke ich an meine Zeit am Institut für Versicherungswirtschaft der Universität St. Gallen zurück. Es war eine sehr anregende, interessante und lehrreiche Zeit für mich. Ich möchte an dieser Stelle ebenfalls meinem Ko-Referenten Prof. Dr. Oliver Gassmann für sein Feedback zu meiner Vorstudie danken. Ausserdem gilt mein Dank meinen Kollegen, von welchen ich zahlreiche aufschlussreiche und inspirierende Kommentare bekam. Ganz besonderes möchte ich meine Teamkollegen Dr. Philipp Hendrik Steiner und Dr. Matthias Rüfenacht herausheben mit welchen ich manche Überstunde verbracht habe.

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Summary

The socio-technical process of digital transformation calls for a change in our thinking as individuals and organizations. Business leaders in service industries must deal with a highly dynamic and ambiguous environment, as digital technologies promise to dramatically alter the entire institutional context by influencing the demands, behaviors, practices, values, and relations of and between various actors in the markets. As the digital transformation is a phenomenon neither adequately theorized nor sufficiently researched, this dissertation features studies conducted in service industries across various countries to uncover the digital transformation's interdisciplinary nature, to substantiate its mechanisms, and to reveal its effects on market structures, competitive landscapes, and organizations. The objective is twofold: First is to establish the digital transformation as a unique phenomenon and second is to increase the understanding of specific issues involved in the context of digital transformation.

In light of the pursuit to model the new problem space as a unique phenomenon, Part II aggregates various perspectives on digital transformation from different research domains, complemented by empirical findings, into a normative framework and thus meets the research demand for a holistic conceptualization of the phenomenon. Parts III-V include empirical studies, each attributed to a different level of effects (i.e., market level, inter-firm level, and intra-firm level) and contributing to different literature streams. Part III addresses market-level effects and examines the consequences of consumer empowerment on the consumer-service provider relationship. Part IV explores new venture development (inter-firm level), applying a co-creative customer value proposition evolution logic of new ventures and consumers. Part V examines a central aspect of the intra-firm level effects: the change leadership mechanism in organizations.

Zusammenfassung

Der sozio-technische Prozess der digitalen Transformation erfordert ein fundamentales Neudenken in unseren Rollen als Konsumenten, Arbeitnehmer, Unternehmer oder Führungskräfte. Die digitale Transformation hat das Potential Bedürfnisse, Verhalten, Praktiken, Werte and Beziehungen von und zwischen verschiedenen Akteuren auf Märkten grundlegend zu verändern. Führungskräfte in Dienstleistungsmärkten stehen vor der Herausforderung stabilitätssuchende Organisationen mit traditionellen Werten und gefestigten, oftmals bürokratischen Strukturen in eine hochdynamische digitale Ära zu führen, welche sich durch einen dramatischen Umbruch des gesamten institutionellen Kontextes und komplexe sowie ambivalente Umweltbedingungen auszeichnet. Da die digitale Transformation ein Phänomen ist, das weder ausreichend theoretisiert noch erforscht ist, werden in dieser Dissertation Studien in Dienstleistungsmärkten verschiedener Länder durchgeführt, um den interdisziplinären Charakter des Phänomens zu erläutern, dessen Mechanismen zu konkretisieren und dessen Auswirkungen auf Marktstrukturen, den Wettbewerb und Organisationen aufzuzeigen. Die Zielsetzung dabei ist zweiseitig: Erstens, die digitale Transformation als eigenes wissenschaftliches Phänomen zu etablieren und zweitens, das Verständnis für spezifische Fragen im Zusammenhang mit der digitalen Transformation zu verbessern.

Im Hinblick auf das Bestreben, die digitale Transformation als eigenes Phänomen zu modellieren, aggregiert Teil II Perspektiven und Erkenntnisse aus unterschiedlichen Forschungsbereichen, ergänzt durch eigene empirische Erkenntnisse, zu einem normativen Framework und kommt somit dem Forschungsbedarf einer ganzheitlichen Konzeptualisierung des Phänomens nach. Teil III-V enthält empirische Studien, welche Aspekte und Zusammenhänge der digitale Transformation auf jeweils unterschiedlichen Wirkungsebenen (Markt, inter-organisational und intra-organisational) betrachten und deren Erkenntnisse zu unterschiedlichen Forschungsdisziplinen beitragen. Teil III untersucht die Auswirkungen der Befähigung von Konsumenten auf die Beziehung zu Dienstleistern (Marktebene). Teil IV untersucht den Entwicklungsprozess von neu gegründeten technologie-basierten Dienstleistungsunternehmen und orientiert sich dabei an voneinander abhängigen Lernprozessen von Unternehmen und Konsumenten (inter-organisationale Ebene). Teil V untersucht einen zentralen Aspekt der intra-organisationalen Ebene: Führungsmechanismen organisationaler Transformationen.

I. Introduction

> "The world as we have created it is a process of our thinking.
> It cannot be changed without changing our thinking."

When Albert Einstein phrased this quote, digital technologies did not present the same reality we face today. However, his words actively resonate with the present. We live in a world in which everyone's daily lives are substantially shaped by digital technologies. Technology is hereby increasingly perceived as part of our natural surroundings and has a tremendous influence on how we organize ourselves in the roles as consumers, employees, or business leaders. Our world is increasingly *"experienced with, through, and by information technology"* (Stolterman & Fors, 2004, p. 689). Our hyper-connectedness presents considerable potential to change well-established structures in the economy and society (Loebbecke & Picot, 2015). This socio-technical process calls for a change in our thinking as individuals or organizations.

Business leaders in service industries must deal with a highly dynamic and ambiguous environment, as digital technologies promise to dramatically alter their entire institutional context by influencing demands, behaviors, practices, values, and relations of and between various actors in markets. Therefore, the cognitive processes of constructing meaning must remain capable of producing effective action (Kiesler & Sproull, 1982). In accordance with the demand of new thinking, this dissertation models the new problem space as a unique phenomenon, called digital transformation. The following introduction presents theoretical foundations of the phenomenon digital transformation to frame this dissertation. This is followed by a brief overview on the main contributions as well as the theoretical and methodological localization of the research articles. The main body of this dissertation (Part II-V) presents four individual empirical research articles that commonly emphasize or refer to the phenomenon of digital transformation.

1 Theoretical origins and framing

Digital transformation manifests itself in a multitude of new digital technology-enabled opportunities for various market actors, thus changing the existing rules of the game within organizations, ecosystems, industries, or markets. The phenomenon spans numerous scholarly disciplines, as the provided examples show. Technological modularity allows different service providers to produce interdependent service components at limited coordinative expense, creating a condition in which ecosystems emerge (Jacobides, Cennamo, & Gawer, 2018). The topic ecosystem represents a new research theme in the strategic management field. In the entrepreneurship literature, digital infrastructures enable new ventures to reinvent how we can create, deliver, and capture value (Erkko Autio, Nambisan, Thomas, & Wright, 2018). Such innovation leads to the emergence of numerous new competitors against incumbents in the traditional business sectors. According to marketing and consumer research, the convergence of digital technologies fostered servitization (Sklyar, Kowalkowski, Tronvoll, & Sörhammar, 2019), enabled new interaction practices (Lemon & Verhoef, 2016), and impacted the understanding of the consumer's sense of self (Belk, 2013), to name just a few new fields in this discipline. Subsequently, digital transformation constitutes an interdisciplinary topic. Historically, the phenomenon digital transformation references two scholarly disciplines: information systems and organization science. Both enjoy a tradition of researching change in organizations. The following sections provide a brief discussion of the role of digital technologies in shaping the economy and society and the meaning of the term transformation, characterizing a specific change type, which ultimately provides the foundation for the framing of this dissertation.

The potential of technologies to shape society has not been a recent phenomenon; these changes trace back to the first industrial revolution at the end of the 1780s. Kondratiev and Stolper (1935) identified several long waves of economic life that represent economic cycles triggered by the invention of technologies. "During the recession of the long waves, an especially large number of important discoveries and inventions in the technique of production and communication are made, which, however, are usually applied on a large scale only at the beginning of the next long upswing" (Kondratieff & Stolper, 1935, p. 111). Particularly remarkable are their insights into the relationship of technology adoption and economic upswing. Thus, the turning point of economic and societal transformation will not be reached until technological invention is applied on a large scale. We might stand at the turning point of the fifth "Kondratiev

wave," in which the full potential of information technologies is deployed and unleashes its transformative power on human behavior (Perez, 2013).

In the information systems literature, the transformative potential of information technologies has persisted for decades (Robey & Boudreau, 1999). In the early days, the research concentrated on the transformative power of technologies on organizations (see i.e. Whisler, 1970), which moved information system research toward organizational science literature (Orlikowski & Barley, 2001). However, the adoption of computer technologies occurred against the background of optimizing the cost structures in the value chain of organizations and failed to challenge business models in many service industries. Despite the technological innovations, service industries remained surprisingly stable and separate, and they became subject to inertia (Tilson, Lyytinen, & Sørensen, 2010). The transformative power of digital technologies unleashed, when computing technology escaped from the corporate backwards and became embedded into everyday objects (Yoo, Boland, Lyytinen, & Majchrzak, 2012). Once the momentum of technology application in a wider social context is reached, the transformative power of digital technologies is no longer restricted to organizations, but also affects higher-level structures, such as markets, which is why several information system researcher understand digital transformation as a socio-technical change process (Legner et al., 2017; Loebbecke & Picot, 2015; Lusch & Nambisan, 2015; Sklyar et al., 2019; Skog, Wimelius, & Sandberg, 2018; Tilson et al., 2010).

The concept of transformation has origins in the organizational change theory (Newman, 2000) and defines an episodic change. Episodic change is discontinuous, as it requires a phase of unfreezing in which organizations break with previous acquired business logics (Burnes, 2004). In the research, episodic change is outlined as a simultaneous and substantial change of the core elements of the organization and occurs often in an episode of fundamental change of the institutional context, in which organizations' inertial deep structure and its perceived environmental demands increasingly misalign (Weick & Quinn, 1999). Hence, organizational transformation is complex in nature and often requires a radical departure from the organization's established set of beliefs (Bartunek & Moch, 1994).

Acknowledging the evolving information system research to contribute to a deeper understanding of technology and its implications in higher-level structures and the conceptualization of transformation in organizational change literature, we frame the central theme of this dissertation as follows:

Digital transformation represents a socio-technical change process, discontinuous in nature, applying digital technologies in a wider social context simultaneously and substantially altering core elements of societies and economies. This demands new normative frameworks and a further understanding of specific aspects in the context of digital transformation.

The research theme provides a common basis of the four empirical research articles presented in this dissertation. Three levels of digital technology-enabled effects are emphasized: market-level, inter-organizational, and intra-organizational effects. Market-level effects encompass the transformation of the consumer-service provider relationship as well as the structural changes of consumer behavior on markets. The inter-firm level effects highlight the transformation of the competitive landscape of service providers. The intra-firm level effects comprise a profound change in all formative elements of an organization. As illustrated in Figure 1, each level of effects presents a unique research field. In addition, following the scholarly demand for a holistic approach, the normative conceptualization of digital transformation presents a fourth research field.

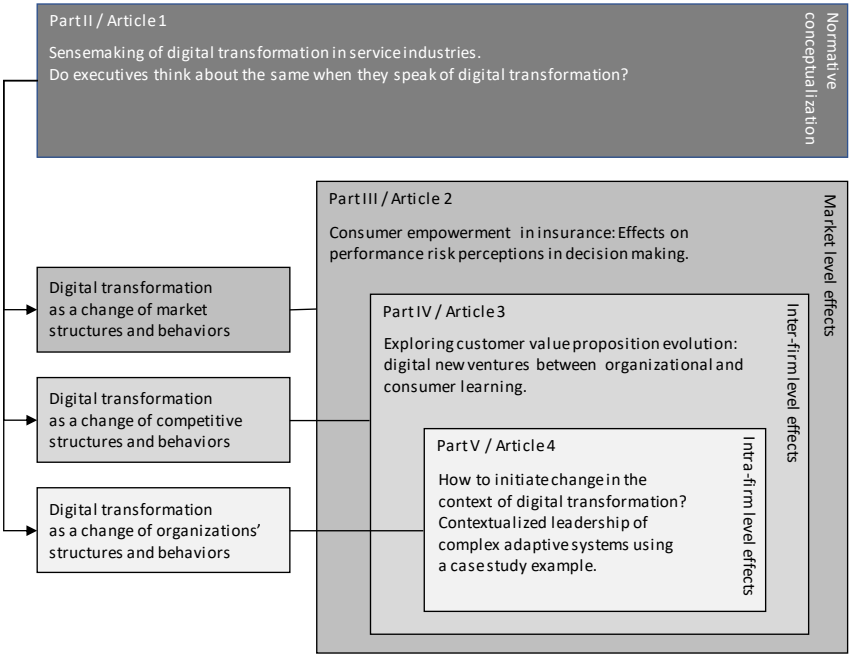

Figure 1. *The dissertation's theoretical frame.*

2 Research designs and contributions

Though digital technologies have become a disruptive force for change in all industries, there are differences among industries regarding vulnerability to digital transformation. Based on the findings in the third edition of a large-scale biennial study[1] of the IMD Global Center for Digital Business Transformation, classic service industries are considered among the most vulnerable[2] industries (Yokoy, Shan, Wade, & Macaulay, 2019). In particular, the media and entertainment, telecommunications, financial services, and hospitality and tourism industries experience major transformative impacts. The unique characteristics of services offer a rationale for the vulnerability of service industries to digital transformation. Services are intangible in nature, as they

[1] The opinions of over 1,200 business leaders across the globe were collected from January 2017 to March 2019.
[2] Vulnerability is hereby assessed based on the level of investments in new ventures competing with technology-enabled business models, the barriers to entry the industry, the expected impact on market shares, and the expected length of time.

cannot be seen, touched, or tasted in the same manner as goods can be sensed (Zeithaml, Parasuraman, & Berry, 1985). In contrast to goods, services do not require capital-intensive production and delivery facilities, which facilitates new ventures to enter markets. In example, digital technologies allowed to launch web-based services, such as social media platforms without large initial investments. Another characteristic is the heterogeneity of services, which relates to the high variability of performances due to labor intensiveness (Zeithaml et al., 1985). Insurers traditionally have a large sales and claim management department, which accounts for the biggest cost factors. The digitalization of the insurance business model offers significant cost levers, which can be invested into digital consumer servicing. These inherent characteristics foster the reinvention of business models in the service industries and attack market shares of incumbent companies.

However, the strict distinction between the producing and service industries inherently implies a goods-dominant logic fitting the manufactured-output classification system of economic activity (S. L. Vargo & Lusch, 2004). In reality, digital technologies enable the creation of new service offerings to compete also in producing industries, which fosters servitization, representing a shift from a product-centric to a service-centric business model and logic (Sklyar et al., 2019). In the marketing discipline, the shift from goods to service provision is reflected in the emergence of a service-dominant logic. According to service-dominant logic, goods and services are not distinct forms of products (Lusch & Nambisan, 2015). It uses the term 'service' rather than 'services' to reflect the process of doing something beneficial for another actor, which constitutes the basis of all market exchanges (S. L. Vargo & Lusch, 2004). Acknowledging this shift, in this dissertation the focus on service industries rather reflects the field of research, where the empirical studies took place, than strictly separating between the producing and service industries. Accordingly, the findings of this dissertation are not only applicable to service industries, but to all that industries face the challenges of the digital era.

As digital transformation is a phenomenon not yet adequately theorized, this dissertation aims to uncover its nature and substantiate mechanisms. It also examines the formative influence of digital transformation on the demands, behaviors, practices, values, and relations of and between various actors in markets. Methodologically, the main emphasis of this dissertation is therefore on exploratory empirical research. According to the interdisciplinary nature of the phenomenon, the dissertation addresses multiple disciplines and research fields, including Information System research, organizational change, change leadership, business model dynamics, and Marketing. Figure 2

presents an overview of the theoretical and methodological localization, and literature streams to which each article contributed.

Correspondingly, Part II follows the demand for a holistic perspective on digital transformation. The literature so far is highly fragmented, as most articles focus on domain, topic, or technology specific questions. They all define the phenomenon of digital transformation differently and do not aggregate findings on a higher conceptual level. The article has a theoretical objective to provide a normative framework of the phenomenon. Applying an abductive research design, it confronts theory with the empirical world to achieve a wider understanding of the phenomenon. Different perspectives from various research domains were integrated into a preliminary framework, which was adjusted and complemented by the findings of a single case study in the insurance industry on executives' digital transformation sensemaking. The resulting framework contributes to the strategic service management through a profound understanding of the triggers, mechanisms, and effects of the digital transformation.

Parts III-V provide further understanding of specific aspects involved in the context of digital transformation and contributes to the yet rather limited academic awareness of the phenomenon of digital transformation. Since each article approaches a different level of effects (market level, inter-firm level and intra-firm level), they all contribute to different literature streams and apply a broad methodological variety. Part III builds on a premise of technology-enabled change in the consumer-service provider relationship (market level effect) and assumes an increase in consumer empowerment. It examines the effect of consumer empowerment on the consumer-service provider relationship. Specifically, it contributes to the understanding of the consumer empowerment construct based on self-efficacy theory and models the impact of consumer empowerment on the perceived performance risk in insurance decision-making. Part IV contributes to the business model dynamics literature. It is based on the observation that digital technologies provide new opportunities for service providers to configure customer value propositions, which in many service industries are accompanied by a substantial increase in new ventures challenging the traditional customer value propositions of incumbents (inter-firm level). To date, there is a gap in the literature considering the phenomenon of consumer learning as an important factor of new ventures' evolution. The article observes the perennial evolution process of 19 InsurTechs in western markets. Applying a co-creative perspective, the article develops a customer value proposition evolution framework that includes consumers' and organizations'

learning processes. Furthermore, the article identifies two different customer value proposition evolution logics that strongly shape the development process of new ventures. Part V observes the initiation phase of the change process in a pension company in the Nordics. The purpose of this article is to enrich and refine change leadership in the context of digital transformation. It contributes by emphasizing the importance of contextual factors in complex adaptive systems research, which is a topic that has so far been neglected in the literature.

At this point, endeavors to provide practical implications are worth mentioning. The articles provide a wide range of managerial implications to address the digital transformation itself or specific aspects in this context. For example, the first article offers guidance for practitioners to introspectively examine their own and increase the awareness of other digital transformation sensemaking approaches, a process which helps to reduce misunderstandings and conflict in the executives' strategic decision making. The second article shows that consumer empowerment can be employed as a risk reduction strategy in consumer decision making and thus helps to determine how to employ market-level effects to improve the consumer service-provider relationship. As digital technologies enable the creation of new business models including novel customer value propositions, the third article creates knowledge for entrepreneurs regarding how customer value propositions can be configured and evolved to promote consumer learning and support adoption. Considering the pressure to change structures and practices among incumbents, the fourth article delivers executives in-depth insights into the leadership of the organizational change process in the context of digital transformation.

In summary, the empirical research articles feature studies conducted in service industries across various countries to outline the interdisciplinary nature, its mechanisms, and the effects of the phenomenon digital transformation. They are ultimately intended to provide strategic guidance predominantly but not exclusively for executives of incumbent companies in service industries.

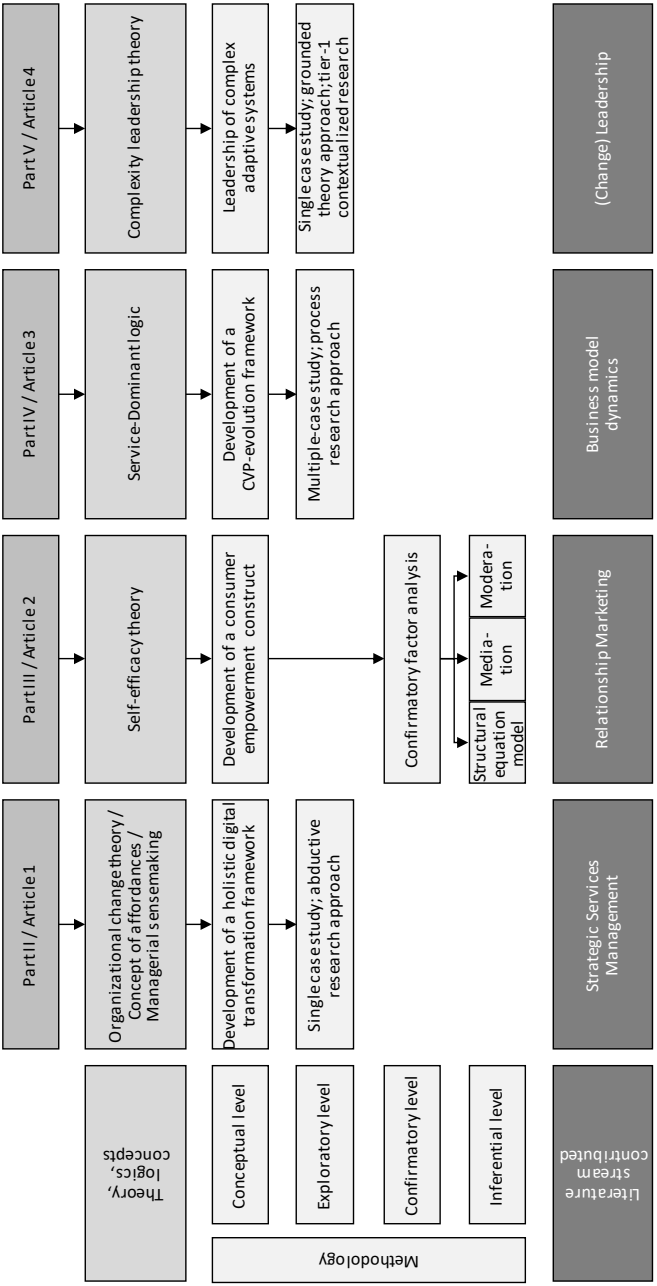

Figure 2. *Objectives, theoretical and methodological localization, and literature streams.*

3 Summary and publication process

Article 1: Sensemaking of digital transformation in service industries. Do executives think of the same idea when they speak of digital transformation?

The first article addresses the research demand for a holistic perspective on the phenomenon of digital transformation. It combines a profound discussion of the current knowledge and perspectives in different research domains, such as information systems, organization science, and marketing. The findings of a single case study on executives' sensemaking in the service industry develop an empirically founded, normative framework of digital transformation. The framework illustrates triggers, reveals mechanisms, and provides a comprehensive overview of transformative effects. This paper is co-authored by Peter Maas and is in preparation for submission to the "Journal of Service Theory and Practice".

Article 2: Consumer empowerment in insurance: Effects on performance risk perceptions in decision making.

The second article is among the few empirical works to examine the effects of consumer empowerment on the consumer-service provider relationship at an individual level. It draws on the self-efficacy theory to conceptualize consumer empowerment and explains its impact on perceived performance risk in insurance decision-making. The results show that consumer empowerment can be employed as a risk reduction strategy. Consumers with higher empowerment beliefs perceive significantly less performance risk; however, consumer empowerment depends on consumer will. For largely indifferent consumers, empowerment does not affect risk perception. This paper is co-authored by Peter Maas and is published in the International Journal of Bank Marketing's special issue on "Insurance Marketing", Volume 36 Issue 6.

Article 3: Exploring customer value proposition evolution: Digital new ventures between organizational and consumer learning.

The third article explores the evolution of customer value proposition (CVP) of new ventures' development. Previous research has mainly focused on the organizations' learning processes, neglecting the dynamics of consumers' learning processes. The article assumes that new ventures and consumers co-evolve over time, as each one

interprets the other's actions and acts on these interpretations. The results of the multiple case study suggest two different logics regarding how new ventures integrate consumers' learning processes in CVP evolution: a supplier-crafted and a co-creative CVP evolution logic. We find evidence that the underlying logic does have an immense effect on how CVPs evolve. This paper is co-authored by Peter Maas and is in preparation for submission to the "Long Range Planning".

Article 4: Leading change in context of digital transformation. Complexity leadership theory applied to a case study example.

The fourth article analyzes the change leadership behaviors of an incumbent service provider in the context of digital transformation. It applies complexity leadership theory and considers the situational strength of the incumbent service provider and the environmental dynamic of the digital transformation as contextual factors. The article extends the complexity leadership theory by illustrating and discussing the importance of contextual factors as well as the timing of leadership behaviors within the change process. It further provides executives of incumbent companies in service industries a set of generalized actions to facilitate change leadership. This single-authored paper has been published in the working paper series Working Papers on Risk Management and Insurance.

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II. Sensemaking of digital transformation in service industries. Do executives think of the same idea when they speak of digital transformation?

Abstract

This article addresses the research demand for a holistic perspective on the phenomenon digital transformation. To date, the literature is highly fragmented, as most articles focus on domain-, topic-, or technology-specific questions, define the phenomenon of digital transformation differently, and do not aggregate findings on a higher conceptual level. The aim of this article is to develop an empirically founded, normative framework of digital transformation. Applying an abductive research design, it integrates various perspectives on digital transformation from different research domains, and the findings of a single case study in the service industry on executives' digital transformation sensemaking. The resulting holistic framework shows that digital transformation represents a socio-technical change process, which is triggered by the application of digital technologies, creating affordances for market actors and affecting core elements of organizations, competitive landscapes, markets, and societies. The article advances the limited strategic service management literature, offering a profound understanding of the triggers, mechanisms, and effects of digital transformation. Furthermore, it enables executives to introspectively investigate their own sensemaking approaches and increase their awareness of other sensemaking approaches, which helps to reduce misunderstandings and conflict in the executives' strategic decision making.

Keywords: Digital transformation, Digitalization, Managerial sensemaking, Strategic services management, Organizational transformation, Societal transformation

1 Introduction

Digital transformation is known as the fourth industrial revolution. Equal to the invention of electricity, it is expected to change the way we live as humans (Schwab, 2016). In management practice, digital transformation[3] has been considered a strategic imperative in recent years and a top topic of executives' agendas all over the world (Bradley, Loucks, Macaulay, Noronha, & Wade, 2015; Fitzgerald, Kruschwitz, Bonnet, & Welch, 2014; Hess, Matt, Wiesböck, & Benlian, 2016; Kane, Palmer, Phillips, Kiron, & Buckley, 2015; Legner et al., 2017; Singh & Hess, 2017; Westerman, Bonnet, & McAfee, 2014). Whereas the music market serves as a classic role model for a technology-driven transformation of markets (Dolata, 2008), the business landscape has been transformed for most service industries (Holmlund, Strandvik, & Lähteenmäki, 2017). Services markets are considered highly vulnerable to the disruptive forces of digital technologies, as technology-enabled business models decrease the level of barriers for non-industry competitors to enter markets, which potentially has an existential impact on incumbents' market share (Bradley et al., 2015).

While executives increasingly acknowledge the change potential of digital technologies in their markets, taking actions becomes challenging, as through the phenomenon of digital transformation the entire institutional context is changing. Owing to the presence of ambiguity, executives face difficulties in recognizing change variables, their functional relationships, and the combined effects of digital technology adoption on services markets. The lack of a normative orientation among executives might result in reluctant behavior, as executives might favor established business models over business model transformation (Chesbrough, 2010), evolutionary instead of revolutionary changes due to path dependencies (Saebi, Lien, & Foss, 2017), or failure to escape the identity trap if their organization sticks to collective mental models and habits (Bouchikhi & Kimberly, 2003). Furthermore, the discomfort with the term digital transformation due to its connotations with hype or disorder undermines organizational actions right at the outset (Wade, Noronha, Macaulay, & Barbier, 2019). It seems paradoxical that highly experienced executives of incumbents in the service industry are aware of the disruptive forces of digital transformation, but struggle to clearly envision the future and act on their vision. Moreover, due to a substantial change in the institutional context, existing resources and capabilities may become obsolete, leaving

[3] We use the term digital transformation as it emphasizes the change process. In the literature, the phenomenon is known under a variety of terms, such as digitalization, digital era, digital revolution, and digital disruption. We differentiate the term digitization to describing the technical conversion of analog to digital information (Negroponte, 1995).

organizations with legacies and a competence vacuum (Newman, 2000). Wade et al. (2019) note that one of the biggest obstacles in taking substantial strategic actions is executives' lack of recognition and understanding of the phenomenon of digital transformation.

Surprisingly, there is striking asymmetry between the immense demand for normative orientation of practitioners and the limited academic discussion on the phenomenon of digital transformation (Rowe, 2018; Warner & Wäger, 2018). The literature to date is highly fragmented as most articles focus on domain-, topic-, or technology-specific questions, define the phenomenon of digital transformation differently, and do not aggregate findings on a higher conceptual level. Research lacks to clearly define triggers, to illustrate the mechanisms how digital technologies exert influence and to provide a comprehensive overview of the structural effects of digital technology adoption on different levels, such as the organization, the market, or the society. Scholars have argued the need for a more holistic approach, looking at the combined effects of digital technology adoption that might call into question fundamental conclusions made in past research (Schwarzmüller, Brosi, Duman, & Welpe, 2018).

Accordingly, this article aims to develop an empirically founded, holistic framework of digital transformation built on a single case study in the service industry. Our interest is to uncover executives' sensemaking of the phenomenon of digital transformation among an insurance company's board members and top managers that hold a key position in defining and deciding the group's strategy. We apply an abductive research design, which represents a non-positivistic and non-linear approach to case study research (Dubois & Gadde, 2002, 2014). This allows us, throughout the research process, to constantly go back and forth between empirical observation and current scientific knowledge on digital transformation and expand our understanding of both. By confronting theory with the empirical world, we seek to achieve a wider understanding of the phenomenon.

Sensemaking is considered in the context of the existing body of managerial cognition literature (Hodgkinson & Healey, 2008; Stubbart, 1989; Weick, 1995). It involves cycles of observation, information processing, and communication to make sense of new phenomena and give meaning to events (Weick, Sutcliffe, & Obstfeld, 2005). In research on managerial cognition, empirical evidence suggests that executives often perceive environmental changes differently (Barr, Stimpert, & Huff, 1992; Jackson & Dutton, 1988; Tripsas & Gavetti, 2000; Warner & Wäger, 2018). Sensemaking is inherently complex because executives are charged with perceiving weak external signals,

constructing meaning from environmental change, recognizing potential impacts in a novel ambiguous situation, and deciding on strategic actions on top of high external pressure to increase the profitability of the existing business model (Combe & Carrington, 2015). Warner and Wäger (2018) report that leaders in various industries inconsistently use the term digital transformation. They observe that executives draw on different, often divergent, activities as examples of digital transformation, which leads to a misalignment in strategic action taking. However, not only across industries or companies, but even within the same executive team, facing a similar institutional context, phenomena can be interpreted differently (Ringberg & Reihlen, 2008). By uncovering executives' sensemaking of digital transformation, we open our mind to the different perspectives, meanings, observations, interpretations, and thoughts of practitioners who cope with and strategically act in a rapidly changing environment.

The article is structured as follows. We start with a discussion of how the scientific community illuminates the phenomenon of digital transformation and fits it into the current body of knowledge. Rather than deconstructing the phenomenon and illuminating every single aspect, integrating different perspectives from various research domains into a preliminary framework seems to us more appropriate to contribute to a more comprehensive understanding of digital transformation. We focus on scientific articles that make digital transformation a main subject of their discussion and apply to the service industry.[4] The preliminary framework functions as a guideline when entering the empirical process. As a next step, we present the empirical findings of the single case study on executives' digital transformation sensemaking. We are interested in insights into how top executives think, observe, interpret, and prioritize strategic actions in this changing environment. Our focus is on sensemaking on the individual level in contrast to other studies that analyze sensemaking on an aggregate level. We start by presenting our framework, which provides a holistic overview of how executives make sense of digital transformation. In the following section, we describe each individual's sensemaking approaches and complement this with their prioritized strategic actions. The executives are profiled and grouped based on their main cognitive structures. We conclude with an overview of four different approaches to digital transformation sensemaking and executives' attributed strategic priorities to act in highly dynamic and changing services markets.

[4] We exclude the stream of literature that focuses on the adoption of digital technologies in the goods production process, mainly referred to as industry 4.0 (see i.e. Y. Yin, Stecke, & Li, 2018).

In developing a holistic framework for digital transformation sensemaking, we contribute to the conceptual understanding in many ways. We shed light on the phenomena considering multiple research domains and provide empirical evidence of top executives' prospective digital transformation sensemaking. This meets the need for a more holistic approach (Schwarzmüller et al., 2018) that tackles not only specific aspects of the phenomenon but also provides an orientation for both practitioners and scholars. In illustrating different approaches to digital transformation sensemaking, we discuss a potential reason for misunderstanding and conflict in making strategic decisions about the future. In addition, the conceptualization of digital transformation enables executives to introspectively investigate their own and increase the awareness of other sensemaking approaches. Each executive team member will likely interpret digital transformation differently. Not-shared meanings might stay unrecognized and undermine the performance of actions taken (Holmlund et al., 2017). High cognitive effort is required to build a consensus around an envisioned future (Strange & Mumford, 2002). Finally, the article advances the limited strategic service management literature (Holmlund et al., 2017) by researching a highly relevant and often ambivalent situation in which many executive teams find themselves.

2 Digital transformation as a phenomenon

Practitioners commonly perceive digital transformation as a pervasive (predominant in executives' agendas), interdisciplinary (affects all managerial tasks), and multilevel (far-reaching effects on different levels such as company, market, and society) issue. Despite the immense importance in executives' business lives, the term digital transformation was until recently close to nonexistent in academic discussion.[5] Currently, several attempts are being made to establish digital transformation as its own scientific phenomenon and to foster research on the phenomenon. To date, research has not provided a normative framework that guides the scientific and management community and offers a holistic understanding of what triggers the phenomenon, the patterns

[5] Based on a search in Scopus (record date: July, 8, 2019) with the keywords "digital transformation," "digitalization," "digitization," "digital era," "digital disruption," and "digital revolution" in information system research, organization science, and the marketing domain considering in each domain 10 highly ranked journals. We review each of the resulting 72 articles for relevance to our topic. Only a few articles make the phenomenon itself a main subject of discussion. Most of the articles use the term either as an attention-grabber without clarifying its meaning or to describe a specific aspect of the phenomenon, such as the shift from off- to online sales (see i.e. Johnson & Bharadwaj, 2005). We complement the search with lower ranked journals, further research areas in business and economics, and some promising combinations of keywords, such as "transformation" and "internet."

and mechanisms of the change process, and what has been or will potentially be altered by digital transformation. The literature is currently highly fragmented, as most articles focus on domain-, topic-, or technology-specific questions. This is exemplified by marketing and consumer research, which provides extensive research on the use or application of social media or the behavioral changes in and challenges to offering a seamless consumer journey. Although these articles make valuable contributions to understanding new opportunities of a technology-enabled consumer interaction, we still widely miss attempts to aggregate findings on a higher conceptual level. In this article, we claim that the complexity of the multi-faceted phenomenon demands, in addition to research on single aspects, conceptual work to develop a holistic framework. In Table 1, we provide an overview of the main scientific article, which serves as the basis for our discussion of the phenomenon of digital transformation.

Author(s)	Drivers	Mechanisms	Effects
Information Systems Research			
Loebbecke and Picot (2015))	Datafication of all the individuals' life-worlds, defined by digitization and big data analytics.	Changes economic mechanism such as centralized production, increased harmonization of demand, and erosion of property rights.	Organizational level: any form of human labor; market level: new business models; society level: increased productivity, substituting labor with physical production processes.
Stolterman and Fors (2004)	Digital technology does not manifest itself by artefacts, but rather becomes embedded in all other objects.	Embeddedness of technology in our life-worlds transforms the way we perform tasks as employees, customers, leaders, and humans.	The evolution of the individual's life being experienced with, through, and by information technologies.
Rowe (2018)	Convergence of several digital technologies that effectuate a dependency of individuals on technology.	Socio-technical process of creating a system of routines, dominated by technology, that largely determines everyday life for everyone.	Systemic effects on socio-economic and socio-political structures that challenge societal values, such as liberty, equality, and fraternity.
Tilson et al. (2010)	Digital technologies that are seen as infrastructural (applied by people in their day-to-day routines), mainly driven by device and network convergence.	Socio-technical process of applying digitizing techniques to broader social and institutional contexts.	Boundaries between technology and content provider are blurred; control over creation and offering of services is dispersed among all actors on the market.
Lusch and Nambisan (2015)	Digital innovations in a broad sense, such as digital service innovations, digital infrastructure, and software-based platforms.	Deployment of information technology as an operand and operant resource to facilitate service innovation.	Structural effects in markets: service ecosystems (actor-to-actor structures), service platforms (virtual service exchange), and value cocreation.
Denner et al. (2018)	Fast-paced technological innovation ranging from the internet of things (IoT), over 3D/4D printing and blockchain, to smart advisors or advanced analytics.	Immersion of digital technologies in our daily routines, enabling new options for how we behave in business and private contexts.	Improves or disrupts business models, business processes, as well as products and services; transforms value networks across all industries.
Legner et al. (2017)	Converging social, mobile, analytics, and cloud (SMAC) technologies.	Promotes the vision of ubiquitous computing that influences almost every aspect of our private and professional environment.	Complements and/or enriches existing products and services and allows building entirely new business models.
Organization Science			
Hinings et al. (2018)	Digital innovations in a broader sense, such as digital organizational forms, digital institutional infrastructure, and digital institutional building blocks.	Promotes novel actors (and actor constellations), structures, practices, values, and beliefs that replace or complement existing rules of the game within organizations, ecosystems, industries, or fields.	Disruption and destruction of established business models, value chains, and organizational processes.

Marketing, Service Management and Consumer Research			
Sklyar (2019)	Digital tools for the shift from a product-centric to a service-centric business model and logic (called digital servitization).	Facilitates reconfiguration of the interfirm and intrafirm embeddedness required to respond to exogenous changes in the ecosystem.	Disruptive effect on the competitive landscape and on existing service ecosystems by new entrants outside traditional industry boundaries.
Day (2011)	Plummeting costs of bandwidth, storage, computing, and wireless connectivity that affects use of digital and internet technologies.	The volume of unique information per person growing at a high rate creates a new demand to find tools and approaches to process it.	Changes consumer interaction and choice behavior; leads to fragmenting market segments and a convergence of industries.
Belk (2013)	Digital technologies that are enabling new consumer behavior.	Dematerialization, re-embodiment, sharing, co-construction of self, and distributed memory	Significant implications for the formulation of the extended self.
Bolton (2018)	Digital technologies, such as mobile, virtual reality, artificial intelligence, wearable, and machine-to-machine interactions.	Provides a highly personalized and immersive environment that allows for interactivity and rich information exchange.	Change customers' expectations and behavior, how organizations and networks are organized and the role of "humans" in the marketplace.
Strategic Management and Entrepreneurship			
Autio et al. (2018)	Digital technologies and infrastructures.	Creating new affordances that affect the organization of economic activity: decoupling, disintermediation, and generativity.	Reinvention of how to create, deliver, and capture value, thereby enabling new ventures to disrupt incumbents with new business models.
Warner and Wäger (2018)	Use of new digital technologies, such as mobile, artificial intelligence, cloud, blockchain, and internet of things.	Ongoing process of strategic renewal that uses advances in digital technologies.	New business models, key capabilities (digital sensing, seizing, and transforming), and cultural change toward agility in strategic renewal.
Liu et al. (2011)	Application of new digital technologies within the organization.	Integration of digital technologies in a digital economy creates new resource and capability demands.	Simultaneous major changes in key activity domains (e.g., strategy, structure, power distribution) to recreate an optimal resource fit.
Industry Research			
Eling and Lehmann (2018)	New digital technologies for data acquisition and analysis, data storage, and communication and sales.	Integration of the analogue and digital worlds, enhancing customer interaction, data availability, and business processes.	Effects on value chains: digital interaction, automation of business processes, and new products.
Economics			
Goldfarb and Tucker (2017)	New technologies that have been layered on top of internet (i.e., browsers, search engines, social networks, mobile communications protocols).	Digital technologies reduce the cost of search, replication, transportation, tracking, and verification.	Economic impacts on country, region, firm, and consumer level, such as facilitating trade, increasing productivity, and consumer surplus.

Table 1. *List of selected articles considering digital transformation a main subject.*

2.1 Origins of the phenomenon of digital transformation

To enter the discussion about the phenomenon of digital transformation, we first want to clarify its scientific origins. In doing so, we refer to information systems research and organization studies, which both have a tradition of researching change in organizations.[6] We particularly want to discuss the deterministic character that the term digital transformation implies, the delimitation of transformation from other forms of change, and the range of influence of digital transformation. In the following chapters, we elucidate and aggregate what research already knows about the meanings, mechanisms, and effects of digital transformation.

In information systems research, the potential of information technologies to transform organizations has been a persistent theme for decades (Robey & Boudreau, 1999). More than 60 years ago, Leavitt and Whisler (1958) predicted that information technology would transform organizational structure. Each new technology has been accompanied by an increased number of studies explaining the transformational impact on organizations (Robey & Budreau, 1999). Still, many articles today understand digital technologies as an explanatory variable that drives organizational transformation, which implies a deterministic relationship between technology and organizations. For example, Hess et al. (2016, p. 124) define digital transformation as "concerned with the changes digital technologies can bring about in a company's business model, which result in changed products or organizational structures or in the automation of processes." Thus, transformation becomes an imperative for executives to survive in a changed environment. This strong version of technological determinism has been controversial in the literature, as it denies the possibility to choose whether technologies will be adopted or not (R. R. Kline, 2015). Softer versions of technology determinism assume technology does not constrain human activities but rather increases the degree of freedom for acting. Referring to digital transformation, digital technologies become enablers of transformation, offering executives new opportunities to act, which stimulates but does not cause change.

While information systems research portrays the digital transformation as a process triggered by digital technologies, the clarification of "transformation" remains vague. The concept of transformation has its origins in organizational change theory

[6] Information systems research and organization science are best understood as overlapping, whereas information systems research is a special topic to organization science researchers (Orlikowski & Barley, 2001).

(Newman, 2000). Research distinguishes between change that is episodic and disruptive and change that is continuous and incremental (Weick & Quinn, 1999). The distinction between episodic and continuous changes considers the idea of organizations converging to a punctuated equilibrium (Tushman, Smith, Wood, Westerman, & O'Reilly, 2010) in times of environmental stability and diverging from their equilibrium conditions in an episode of fundamental change. Divergence occurs if an organization's inertial deep structure and its perceived environmental demands increasingly misalign, which is often the result of technological change (Weick & Quinn, 1999). Following Lewin's idea of change (Burnes, 2004), episodic change is dramatic, as it requires a phase of unfreezing in which organizations break with previous equilibriums. Episodic change is referred to as transformational change (Wischnevsky & Damanpour, 2006) because it simultaneously and substantially alters core elements of the organization and takes organizations outside their familiar domains (Starbuck, 1983). Frequently, it concurrently involves strategic reorientation (Meyer, 1982), a change in organizing archetypes (Greenwood & Hinings, 1996), shifts in power distribution (Wischnevsky & Damanpour, 2006), and reengineering of the value chain and new value propositions (Liu et al., 2011). Hence, organizational transformation is complex in nature and often requires a radical departure from the current business model. Emphasizing cognitive and interpretative elements in change situations, scholars have associated continuous with first-order and episodic with second-order change (Meyer, 1982). First-order change involves cognitive or behavioral adjustments within the established set of organizational beliefs (Bartunek & Moch, 1994). While collective frames of reference can be bent in first-order situations, second-order change breaks with previously acquired belief systems (Dunbar, Garud, & Raghuram, 1996). Second-order change refers to changes in the deep structure or shared schemata that give meaning to an organization's activities (Bartunek & Moch, 1994) and guide sensemaking of new phenomena.

Based on the discussion of technology-driven change and the distinction between transformation and incremental change, digital transformation can be described as a technology-enabled disruption in and of organizations. However, the focus on intra-organizational transformation captures only part of the current changes. Since the 1990s, we have experienced an unprecedented digital technology-enabled transformation of the music industry that disrupted the traditional socio-economic coordination of the sector, which was characterized by a concentration of power among large music labels. A new set of technologies for compressing, storing, and sharing digital data enabled new sharing- or access-based business models, which exerted pressure on the incumbents to

adapt their market behavior and opened up opportunities for new non-industry competitors (Dolata, 2008). However, the structural effects of technologies on socio-economic variables in the music market are determined by how market actors react to these new possibilities and challenges (Dolata, 2008). Fischer (1992) points out that the outcome of technological development also depends on if and how consumers adopt new technologies and how doing so imprints consumer behaviors. This enlarges the scope of digital transformation from an intra-organizational phenomenon to a sociotechnical process of adopting and using digital technologies in broader individual, organizational, and societal contexts (Legner et al., 2017).

2.2 Meaning of digital technologies

Though digital technologies are meant to be enablers of transformational change, the meaning of digital technologies is diverse and reaches from single technologies, such as the first business computers (Goldfarb & Tucker, 2017), to the general permeation of everyone's lives (Stolterman & Fors, 2004). Correspondingly, the opinions of scholars diverge as to the phenomenon's period of existence ranging from the commercialization of computer technology in the 1950s (Goldfarb & Tucker, 2017) to the proliferation of mobile devices a few years ago (Schwarzmüller et al., 2018). This leads to contrasting views, whether we speak of a new phenomenon (Legner et al., 2017). Digital technology in a technical context is the representation of information in bits (Goldfarb & Tucker, 2017). However, the term digital technologies in the context to describe the socio-technical phenomenon of digital transformation is used today in a broader sense, meaning various technologies that have been layered on top of the digitization of data.

Which technologies are covered by the term is often unspecified, speaking of "new" or "advanced" digital technologies (Chanias, Myers, & Hess, 2019; Galindo-Martín, Castaño-Martínez, & Méndez-Picazo, 2019) or the meaning of digital technologies is elucidated by listing single technologies (see i.e. Berman & Marshall, 2014; Bolton et al., 2018; Crittenden, Biel, & Lovely, 2019; Eling & Lehmann, 2018; Goldfarb & Tucker, 2017; Legner et al., 2017). The list of digital technologies is long and includes the transmission control/internet protocol, broadband networks, artificial intelligence, big data analytics, internet of things, xml-standard, blockchain, cloud computing, mobile phones, chatbots, robo-advisors, social networks, video-calls, video platforms, websites, browsers, search engines, online shopping portals, location-based services, augmented and virtual reality, wearables, and deep learning, to name just a few. To sum

up, we see a mixture of enabling technologies and applications as well as technologies that are consumer- or service provider-oriented, which allow one to store, analyze, process, present, and communicate data in a time-efficient and cost-saving manner that facilitates new uses.

The lack of precision in explaining the source driving digital transformation indicates that examining digital technologies as separable is no longer practical (Stolterman & Fors, 2004). Several authors have considered the convergence of various digital technologies as the trigger of digital transformation (Denner et al., 2018; Hinings et al., 2018; Legner et al., 2017; Loebbecke & Picot, 2015; Lusch & Nambisan, 2015; Stolterman & Fors, 2004). In contrast to earlier technological developments which mainly influenced practices in organizations, currently digital technology permeates almost every part of our lives (Schwarzmüller et al., 2018). Stoltermann and Fors (2004) suggest considering digital technologies as being a part of a greater whole. Technology is hereby increasingly perceived as part of our natural surroundings and has a tremendous influence on how individuals organize their lives. Thus, it does not manifest itself by artefacts, but rather becomes embedded in all other objects (Stolterman & Fors, 2004). This makes the invention of single digital technologies irrelevant to the understanding of digital transformation, as they are just adding to what already exists and become indistinguishable from the whole phenomenon (Stolterman & Fors, 2004). Thus, digital transformation alters from a phenomenon explaining the impact of digital technology on organizations to a more encompassing phenomenon influencing all aspects of human life.

The delimitation of digital transformation remains controversial in the literature. To our best knowledge, three different events can be understood as a reasonable starting point to speak of digital transformation. The first event is the implementation of computer technology in business, which replaced manual work and led to higher automation. The second event is the proliferation of the internet, which enabled e-commerce and changed consumers' market behavior. The third event is currently debated. Promising candidates are either the emergence of social and mobile technologies, analytics, and cloud computing (Legner et al., 2017) or artificial intelligence (Brynjolfsson & McAfee, 2014). Correspondingly, Legner et al. (2017) bring up the idea of three waves of digital transformation. The question about the inflection point of digital transformation can be approached by considering the effects of digital technologies. In the early wave of digitizing data, sociotechnical structures were not broken down (Tilson et al., 2010). Though computing technology allowed for efficiency gains for service providers, it was

the proliferation of the internet that began to have a measurable effect on multiple markets (Goldfarb & Tucker, 2017). According to this, most of the listed technologies depend on internet technologies, which can be understood as a reasonable starting point to speak of digital transformation. The third event even sped up digital transformation by enabling ubiquitous computing and allowing the construction of entirely new business models. In defining the inflection point, Perez (2013) claims that it is important to elaborate on what occurs in the transition. Thereby, she argues that the inflection point is defined by the change in human behavior and disruption of markets, rather than by anything intrinsic to digital technologies. Thus, digital transformation might be considered to be a period that started with the implementation of computing technologies, moved into a bubble phase with the proliferation of the internet, crashed, and now reaches what she calls the turning point of each techno-economic surge in the past: a period in which the full potential of digital technologies is deployed, transforming human behavior and disrupting markets (Perez, 2013).

2.3 Mechanism of digital transformation

A recurring theme that emerged in outlining the mechanisms is the understanding of digital transformation as a socio-technical process (Legner et al., 2017; Loebbecke & Picot, 2015; Lusch & Nambisan, 2015; Sklyar et al., 2019; Skog et al., 2018; Tilson et al., 2010; Warner & Wäger, 2018). While early digital technologies mainly digitalized manual processes, motivated by cost-efficiency, the power of digital transformation was unleashed when digital technologies were widely applied to a broad range of social activities. Tilson et al. (2010) speak of the emergence of digital infrastructures, meaning the evolving socio-technical systems needed for the operation of a society, comprising diverse digital technology applications, their users, and their designers. Digital infrastructures reflect that digital technologies have become deeply socially embedded, as they are used by people in their day-to-day routines. Accordingly, digital transformation means the application of digital technologies "to broader social and institutional contexts that render digital technologies infrastructural" (Tilson et al., 2010, p. 749).

The mechanism of how, if at all, technology affects society is part of an ongoing discourse in social studies of science and technology (Hutchby, 2001). The spectrum of beliefs ranges from a radical constructivist position, in which technologies become subject to contingencies as they are shaped and reshaped by users (Bijker & Law, 1992), to

the previously discussed deterministic position. While the unilateral journalistic discussion often implies a deterministic position, which is also reflected by some research articles, we commonly find a research position that lies in between the constructivist and determinist perspective. This position is based on the concept of affordances (Gibson, 1979), which Hutchby (2001) applies to the discourse on the role of technologies in society. He describes affordances as "functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object. In this way, technologies can be understood as artefacts which may be both shaped by and shaping of the practices humans use in interaction with, around and through them" (Hutchby, 2001, p. 444). By his definition, technologies neither determine societal development nor are socially constructed, but rather are enablers of transformation. This is well reflected in research on digital transformation, as the following examples show.

In their research on intra- and inter-firm change processes, Sklyar et al. (2019) consider digital technologies as enablers of embeddedness, the network of dyadic relations between actors (organizations), which promotes the emergence of ecosystem-related activities. Day (2011) analyzes the widening gap between a technology-enabled economy and the marketing capabilities of organizations. He emphasizes the affordances of data-extracting digital technologies, which promote data in addition to the monetary price as a new coordinating factor of markets. Autio et al. (2018) discuss entrepreneurial ecosystems and introduce a set of affordances of digital technologies, including the phenomenon of generativity, which enables dispersed actors to co-create on fully digital infrastructures. Lusch and Nambisan (2015) discuss service innovation in a digital era, based on service-dominant logic. They differentiate between digital technologies as an operand and operant resource. As an operand resource, digital technologies play an enabling role (i.e., as a platform) to facilitate the collaborative value creation process between actors in the market. As an operant resource, digital technologies play an active role and create new affordances for service innovation.

Without providing an exhaustive list, we draw several conclusions from the research. First, digital technologies have various affordances. For example, the connectivity of objects (internet of things) creates new affordances, such as process automation and data tracking. Insurers can use these affordances by creating travel insurance that automatically turns on when customers leave their countries, or they could use data to create a totally different business model that is based on risk prevention rather than, as usual, loss mitigation. Second, often the convergence of several digital technologies creates affordances. For example, the emergence of the internet coupled

with mobile technologies promotes the vision of ubiquitous computing that influences how individuals organize their private and business lives (Legner et al., 2017). Third, digital technologies create affordances not only for organizations, but also for all actors in the market, while the same technologies often create different affordances for different actors. For instance, price-comparison platforms create different affordances for organizations and consumers. They enable organizations to increase market reach and consumers to search and compare market offerings. Thus, affordances have not only functional but also relational aspects (Hutchby, 2001). We conclude that the interplay of multiple actors exploiting different affordances of various digital technologies advances the process of digital transformation.

2.4 Effects of digital transformation

Drawing on the concept of affordances allows for analyzing how digital technologies affect organizational, economic, and social structures without implying that digital technologies have predetermined outcomes (Hutchby, 2001). Affordances provide different ranges of use that, if market actors employ them, have a transformative effect on the organization of economic activity and our everyday life (Erkko Autio et al., 2018; Nambisan, 2017; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007). In research, the discussion of these effects is topic-specific, while a holistic perspective is often missing. Broadly, the literature on digital transformation addresses five levels of effects (from micro to macro structures in society).

The intrafirm-level effects constitute a profound change in all formative elements of an organization. Legner et al. (2017) identify 10 key areas subject to substantive transformation, including structures, strategies, architectures, methods, and business models. Eling and Lehmann (2018) list in detail the potential effects of digital technologies on all primary activities of insurers' value chain. In summary, organizations need to reinvent how they create, deliver, and capture value (Erkko Autio et al., 2018). To be able to leverage the affordances of digital transformation, changes must happen simultaneously (Liu et al., 2011). Hinings et al. (2018) emphasize the radical nature of transformation. Digital transformation, therefore, is not only an adjustment of processes and creation of digitized products but starts when there is destruction of established business models and novel arrangements become embedded and institutionalized. We can identify a fine but notable differentiation in the explanations. While some authors

describe the intrafirm-level effects as proactive initiatives of service providers exploiting affordances (see i.e. Eling & Lehmann, 2018), others explain them as a reaction to a dramatically altering institutional context that includes novel actors, structures, practices, and values within industries, ecosystems, and markets (Hinings et al., 2018).

Interfirm-level effects highlight the transformation of the competitive landscape of service providers. Decreasing costs and higher performance in computing and transmission has fueled the use of mobile devices, which enabled fully digital business models. These models are characterized by low market entry costs and high scalability, which blurs industry boundaries and promotes the entry of technology companies. Thus, digital transformation is likely to translate into the convergence of previously distinct industries (Yoo et al., 2012). A technology-enabled structuring element of interfirm relations is the emergence of ecosystems (Erkko Autio et al., 2018; Bolton et al., 2018; Sklyar et al., 2019; Subramaniam, Iyer, & Venkatraman, 2019; Teece & Linden, 2017). Digital technologies facilitate reconfiguration of the interfirm embeddedness, which is important for the emergence and viability of ecosystems, as actors need to adapt to each other and share resources, knowledge, and skills (Sklyar et al., 2019).

Market-level effects encompass transformation of the consumer-service provider relationship as well as structural changes in consumer behavior in the markets. Bolton et al. (2018) emphasize service providers' adoption of digital interaction technologies that allow for rich interactivity between organizations and consumers. However, new affordances of digital interaction technologies enable consumers to adapt their interaction behavior, which changes their expectations toward service providers, such as high information availability, high reach, and faster speeds of processes and transactions (Day, 2011). Parise et al. (2016) introduce in that context the term crisis of immediacy to describe organizations' struggle as they attempt to meet the increased expectations for personalized content and expertise in real time. Structural changes are not limited to the transition toward digital interaction formats. Digital technologies offer other forms for how consumers organize their private and business life. Thus, they help consumers step into different roles as co-creator, innovator, manufacturer, or self-organizer. The diversification of consumers' roles is accompanied by the emergence of new roles for service providers and is represented in the shift from a goods-dominant logic to a service-dominant logic in marketing (S. L. Vargo & Lusch, 2004, 2008). Service-dominant logic denies the separation of service providers controlling the production process and producing value from consumers that use up value (Lusch & Nambisan, 2015). Thus, service-dominant logic provides a perspective for viewing service providers and

consumers not in their dyadic roles, but in a more generic sense as actors co-creating value in markets (S. L. Vargo & Lusch, 2011). In this respect, digital technologies as operand or operant resources (i.e., platforms or system integration) enable actors to diversify their relationships, which results in consumer-to-consumer (C2C), business-to-business-to-consumer (B2B2C), service ecosystem, or other structures.

The convergence of several digital technologies effectuates transformations of higher-level structures, such as the society or country. We differentiate between society-level effects, which describe societal trends formed by behavioral changes of individuals, and economy-level effects, meaning economic implications of digital technologies. Belk (2013) provides insights into the former and discusses how digital technologies open new means for individuals' self-extension. He introduces five affordances of digital technologies (i.e., dematerialization, reembodiment, sharing, co-construction of self, and distributed memory) and elucidates how they might change our self-understanding, behavior, needs, or values as individuals. Economy-level effects involve desirable as well as critical changes. Research with an economic perspective on the effects of digital transformation addresses effects, substitution of labor by automated processes (Loebbecke & Picot, 2015), loss of liberty (Rowe, 2018), and productivity changes (Goldfarb & Tucker, 2017).

3 Empirical study

By studying the current knowledge on digital transformation, including insights from different scientific schools, we have taken the first step to creating a holistic framework of digital transformation. Based on the current scientific knowledge, we explore how executives make sense of digital transformation. The focus is on how top executives think, observe, and act in a changing environment (referred to as digital transformation). The study uses an abductive research approach (Dubois & Gadde, 2002, 2014), which enables us to constantly go back and forth between empirical observation and theory and expand our understanding of both. Based on the comprehensive theoretical discussion of the phenomenon of digital transformation, we create a preliminary analytical framework. Over time, the framework has evolved according to our discoveries through the empirical study, as well as through additional research and reinterpretation. The framework in abductive studies functions as a guideline when entering the empirical world, which makes the researcher both open and attentive to the multitude of meanings,

and evolves concurrently with the evolving case until "reality" and the case match (Dubois & Gadde, 2014).

3.1 Sampling and data collection

To explore how practitioners make sense of digital transformation, we perform in-depth interviews of executives of one selected incumbent service provider of the insurance industry in Germany. Our sample covers boardroom members and top managers that hold a key position in defining and deciding the group's strategy. A brief description of the respondents' function is given in Table 2. We conduct a total of seven interviews, which last around 90 minutes and result in 75,000 words or 220 pages of transcribed raw data.

Label	Function of the respondents	Experience
E1	Responsible for a business division	More than 30 years of industry experience, no previous employer.
E2	Responsible for services development, pricing, and customer services.	More than 20 years of industry experience, one previous employer in the insurance industry.
E3	Responsible for services and value proposition.	More than 20 years of industry experience, one previous employer in the insurance industry.
E4	Responsible for marketing	More than 20 years of industry experience, no previous employer.
E5	Responsible for sales	More than 20 years of industry experience, two previous employers in the insurance industry.
E6	Responsible for group and markets strategy.	More than 15 years of industry experience, one previous employer in the insurance industry.
E7	Responsible for products, pricing, and consumer processes.	More than 15 years of industry experience, no previous employer.

Table 2. *Sample of the respondents.*

We follow a semi-structured interview technique, which is typical for abductive studies (Dubois & Gadde, 2002). Respondents are instructed to provide their own thoughts, observations, and conclusions to the topic of digital transformation and be spontaneous as there are no wrong answers. The phenomenon is mentioned as our main interest but not explained to prevent ex-ante bias. After an introductory part, in which

respondents are asked to provide contextual information about their person and current function, the main part of the interview is split into two sections. In section one, respondents are asked to elucidate digital transformation. We encourage respondents to reflect on concrete observations, meaning new technologies and new opportunities and effects, rather than abstract concepts. With progression of the interviews, probing questions are flexibly added, such as what might affect that change, why we see such a development, what exactly is enabled by that technology, and whether the respondents see dependencies between observations. This allows us to go back and forth along the executives' chains of reasoning and create sensemaking approaches (technology – affordances – effects). In the second part, we ask respondents based on their digital transformation sense-making to choose and prioritize actions. We mention explicitly that they can decide on their own how to act in this changing environment.

3.2 Data coding process

To code and analyze the data, this study follows a two-step approach:

1. The analysis of the qualitative data consists of inductively searching for text segments describing observed or perceived changes in the respondents' business environments. We then search for chains of reasoning, having in mind the preliminary analytical framework, consisting of the processual structure of the phenomenon that differs between triggers (technological applications), affordances (opportunities enabled by new technological applications), and transformative effects (promoted by new opportunities). Using constant comparative analysis (Miles, Huberman, & Salda a, 2014), in several rounds, the codes are consolidated and labeled until we have a practicable number of codes that reflect the meaning of the related text sections. The codes are illustrated in matrixes that show core triggers, affordances, and effects that emerged in the interviews (see table in Appendix A).

2. As a second step, we perform a within-case analysis of every executive team member's digital transformation sensemaking. We concentrate on each executive's interpretative scheme to determine key aspects of digital transformation sensemaking, scrutinizing the interviews to detect recurring or particularly highlighted arguments and comparing data across individuals. For each executive, we then go back and forth between triggers, affordances, and effects to develop their dominant sensemaking approaches and draft a network that represents the main cognitive

structures in executives' memory making sense of digital transformation. The resulting networks are then contrasted with the prioritized strategic actions.

During the analysis, we follow a process of abductive research that is called systematic combining (Dubois & Gadde, 2014), which means that the framework has been constantly modified, refined, or enhanced according to what is discovered through the analytical process. In systematic combining, the emphasis of the empirical work lies in the search for specific data in line with the current framework or in revealing aspects unknown to the researcher and developing the current framework (Dubois & Gadde, 2014). Several assumptions of the preliminary framework do not hold true. For example, we originally separate digital technologies and assume that we can detect attributed effects. This separation is not reflected in the data. Though digital technologies have a specific range of affordances, executives perceive the convergence of various digital technologies as the trigger for a range of effects.

4 Empirical Findings

Digital transformation has been a primary topic of respondents' agendas for more than two years and is still gaining significance. The company already experiments with several new digital services and has implemented an "innovation garage," where they create and test innovation methods as well as concrete initiatives. They agree that digital transformation has had the main impact on their business and that the future will hold more turbulence than the past. However, they indicate that the term digital transformation shows signs of hype.

In general, they all could elaborate on the triggers, new options, and effects of the phenomenon. They all narrate their positions quite convincingly and seldom admit to knowledge gaps or uncertainties. Often, we have the impression that we have heard the outcome of an in-depth collective debate about the phenomenon of digital transformation. We only identify two quotations, from the same informant, in which the executive questions his own sensemaking approach and reflects on other approaches.

> I see often that we use digitalization as a synonym for automation of processes. Or, if we think about sales, there it [digitalization] represents the online channels. […] These are the things we refer to [as] digitalization. I'm trying right now to work out that digitalization, regarding the effect on consumers

> and thus the shift of power to consumers, is in fact that, what's new to us. (E1, 16)

The taken-for-granted attitude sharply contradicts the large spread of sensemaking approaches and prioritized actions. This at least is an indication of the executives' rather categorical thinking.

4.1 Digital transformation sensemaking framework

As a first step, we perform a cross-case analysis to filter out codes that describe digital transformation sensemaking. We do not predefine the number of codes, but in summary, identify 9 triggers, 13 technology-enabled opportunities of service providers and consumers, and 31 transformative effects that describe executives' sensemaking of digital transformation. Out of the 31 transformative effects, we identify four categories. In Appendix A, we provide a detailed overview of which transcript contains which code. Each code's content is further explained. A dark dot means that informants mentioned the aspect. According to our interpretation, aspects that informants paid attention to or that seemed to be highly relevant to them are marked with three dark dots. This prioritization helps us later in the within-case analysis to define main sensemaking approaches.

We begin by introducing our framework (see Figure 3) of how executives make sense of digital transformation. The left part of our framework describes the trigger of digital transformation. In information systems research, information technologies are often examined as separable, analyzing the effect of single technologies on a single factor (Stolterman & Fors, 2004). Surprisingly, single technologies are less in focus for the executives. Relevant data storage technologies such as blockchain or cloud computing are not mentioned. Other technologies, whose business impacts might be more understandable, such as the internet of things and artificial intelligence, are only named once, without further explanation, or even only paraphrased. To explain drivers of digital transformation, the executives often use vague statements like they use the internet for searching or they use digital and mobile devices to interact. Though we did not expect to see technology experts in our sample, the informants seldom traced transformative effects back to single technological innovations or artefacts. Executives are rather focused on the opportunities that technology provides. Asked for associations to the term digital transformation, respondents primarily speak about affordances. Technological

innovations seem to take effect as a trigger of digital transformation only if they can be easily applied by companies or consumers.

> We can track what customers are doing and be able to make offerings based on his or her current situation. […] I stand at the ski lift and be able to close an insurance contract for breakage. (E7, 10)

The middle part of our framework describes service providers' and consumers' opportunities for action. We conclude that technological applications do not cause digital transformation, but rather act as enablers that increase the scope of opportunities to do things differently. Executives adopt either a service provider or a consumer perspective, speaking about the affordances of digital technologies. Accordingly, in our model, we differentiate between organizations' and consumers' opportunities for action. The informants seldom speak about other stakeholders such as regulators, investors, or the community. The service-provider perspective represents sensemaking of digital transformation as technological applications that can be used by companies in favor of their business goals or to increase competitiveness. Informants most commonly mention new possibilities to automate back- and front-end processes or the options to create fully digital consumer journeys. In contrast, executives with a strong consumer perspective regard digital transformation as a phenomenon changing the way individuals act in markets or even live their life. By being a frequent subject of discussion, technology facilitates consumers' access to the market and enables them to take on new roles and organize themselves in the market.

The right part of our framework represents the observed or believed effects of digital transformation. In our research, executives focus on four different categories of transformative effects. They differ in the object of transformation and are ordered from micro to macro structures of our society. The first category of effects describes intra-organizational transformations. We label that category "company transformation," which means technology-enabled transformations of what service providers offer (value proposition), how they offer it (distribution/interaction), and how they create it (value chain). The second category focuses on the technology-enabled "competitive landscape transformation." It entails changes in competitive groups by the entry of new competitors, blurring of industry borders, increasing competition for consumer access, shifting from competition between companies with similar business models to competition between companies with different business models, or changes to the relationship between service providers (i.e., shift from rivalry to partnering). The third category is labeled "market transformation." It covers, for example, the shift from transaction-oriented to

relationship-oriented relationships, the development of active consumer roles, and the development of consumer networks. The fourth and last category considers an even more far-reaching change of societal structures, the technology-enabled life-world transformation. This category entails all the effects that describe how individuals' conditions to live a good life change. In the interviews, we identify societal trends toward new fundamental premises for individuals, such as flexibility, self-organization, and connectivity.

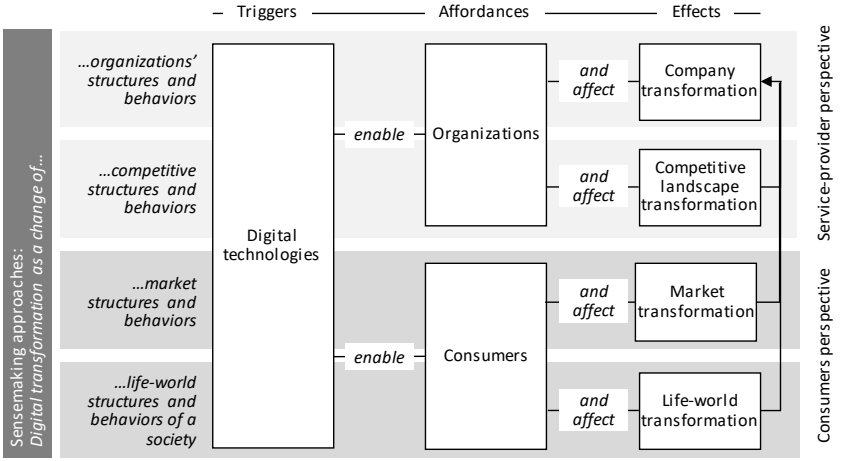

Figure 3. *Executive's sensemaking of digital transformation in service industries.*

4.2 Individual executive sensemaking and strategic priorities

Next, we perform a within-case analysis of every executive team member's digital transformation sensemaking and contrast it with their prioritized strategic actions. As expected, informants often make sense of digital transformation with multiple approaches considering the effects in multiple categories. For example, the executive responsible for the group strategy (E6) emphasizes the power of intelligent systems that enables companies to automate front- and back-end processes, which in turn leads to a further industrialization of the value chain. In addition, for him, digital transformation also means a power shift to consumers due to a leap in market transparency. In the former sensemaking approach, he adopts a provider's perspective (how technologies enable companies to act) and highlights the company transformation. With respect to the latter,

he explains digital transformation with a consumer perspective (how technologies enable consumers to act) and refers to market transformation. However, it turns out that informants exhibit a mental ranking often with main and subordinate sensemaking approaches and an explicit focus on one category of transformative effects. Referring to the previous example, the informant focuses on company transformation. The power shift to consumers serves more as a condition to immediately highlight the transformation of product and service development.

> In future, the power rests with consumers and that's why we need to think customer oriented. […] We need to fully integrate consumers in the product and service development process. (E6, 20)

Table 3 lists each respondent's (E1-E7) main digital transformation sensemaking approach and prioritizes strategic actions with key clues from the interviews. Overall, we expect some differences in executives' digital transformation sensemaking. However, we see starkly differing sensemaking approaches in one homogenous executive team. This is even more striking considering that the phenomenon of digital transformation has been a key topic on the executives' agendas for more than two years and all the informants have a main responsibility in defining the group strategy, especially with a focus on defining and creating value propositions (responsible executives for market strategy and products) and offering them to the market (responsible executives for marketing and sales). Below, we describe executives' sensemaking approaches to digital transformation. It is unclear whether E3 presents the sensemaking approach of "life-world transformation" or "market transformation," though we conclude that E3 presents in some parts of the interview a different logic than E1. He often speaks about new ways that consumers organize themselves in markets and predicts more far-reaching effects in everyone's behavior,

	Sensemaking approach: Digital transformation as a change of…	Prioritized strategic actions: Strategic priority on…
E1	**Market structures and behaviors.** Trigger: mobile devices / internet. Affordances: enables consumers to compare offerings and digitally interact. Effects: empowered consumers / higher consumer expectations in creating value in use.	**Consumer relationship transformation with a focus on establishing partnership.** Increase commitment in executive team for consumer orientation. Develop partnership with consumer. Establish "digital" interaction paths to consumers.
E2	**Organizations' structures and behaviors.** Trigger: robotics / analytics / mobile devices. Affordances: enables companies for digital interaction and self-servicing / automate front- and back-end processes. Effects: highly industrialized processes / shift to digital consumer-provider interaction.	**Processes and services transformation with a focus on digital interaction.** Lay technological, processual foundations. Establish networks with partners. Develop online solutions. Develop digital interaction paths.
E3	**Life-world structures and societal behaviors.** Trigger: mobile devices. Affordances: gives consumers new ways to search, evaluate, and interact. Effects: higher expectations, new habits and consumer roles on the market / desirability of self-organization (e.g., customer-to-customer).	**Consumer relationship transformation with a focus on consumer understanding.** Foster cultural transformation to more consumer orientation and intensify consumer relationship. Foster consumer analytics and consumer insights. Reach deep understanding of societal trends and their impacts.
E4	**Competitive structures and behaviors.** Trigger: consumer data availability through self-trackers / robotics. Affordances: enables companies to automate front- and back-end processes. Effects: Data-based business models / new competitors / industrialized processes.	**Business model transformation with a focus on incubation.** Corporate incubation to compete with new "data-based" business models. Foster cultural transformation to more risk appetite. Develop self-servicing platform and partnership with consumer.
E5	**Organizations' structures and behaviors.** Trigger: mobile devices. Affordances: enables companies to create full digital consumer journeys. Effects: easy integration of consumers in the development process / competition for best value proposition design.	**Processes and services transformation with a focus on service innovation.** Create consumer-oriented services with design thinking approaches. Develop digital interaction to create demand for products/services. Lay technological, processual foundations.
E6	**Organizations' structures and behaviors.** Trigger: robotics / price-comparison apps. Affordances: enables companies to automate front- and back-end processes / enables consumers to make informed decisions. Effects: end-to-end processes / consumer integration in development process.	**Processes and services transformation with a focus on service innovation.** Foster culture transformation (agility). Extend core service by complementary services. Lay technological, processual foundations. Development of eco-system.
E7	**Competitive structures and behaviors.** Trigger: mobile devices / consumer data availability. Affordances: enables companies to collect and analyze consumer data. Effects: market entry of data-based companies competing for consumer access.	**Business model transformation with a focus on developing data-based business models.** Foster customer analytics and consumer insights. Create new data-based business models. Establish network with partners. Lay technological, processual foundations.

Table 3. *Individual sensemaking approaches and prioritized actions.*

Sensemaking focus: Companies' digital intensity transformation

Most of the executives (three out of seven: E2, E5, and E6) focus on the digital intensity transformation of insurers. This is the most apparent and direct transformative effect of digital transformation, but also with the smallest extent of change. Basically, the executives perceive digital transformation more as an incremental development of their business model.

> I have to say that [digital transformation] is to a certain extent a buzzword. For me, it is as simple as that, digital technologies will be applied on a wider range in life insurance. Something has always been digital. (E2, 17)

Surprisingly, though all of them explain digital transformation mainly from a providers' perspective, the executives also point out the change in consumer demand in interaction that comes from the ubiquitous use of mobile devices. However, their consumer orientation is still based on a traditional business-to-consumer understanding, which is characterized by business centricity. Thus, digital transformation is a management-controlled process to make use of the enhanced possibilities that digital technologies offer. Consequently, their main effects relate to the reorganization and increasing efficiency in the value chain as well as the change to digital forms of interaction and distribution. In the following quotation, the responsible executive for group strategy (E6) defines digital transformation as using digital interaction and sales to make complex insurance services understandable for consumers. He is consumer oriented, but still clearly focused on how companies can produce and offer valuable services.

> Referring to products, which might be complex today to consumers, my thesis is: The one that manages first to present complex products in a simple way is also able […] to sell advice-intensive products digitally. (E6, 9)

Executives with a focus on companies' digital intensity transformation seldom recognize that digital transformation has the potential to transform markets in a way that requires a new understanding of roles, relationships, and coordination. Their strategic priorities are mainly to create complementary digital services that extend core services and develop integrated digital interaction paths to consumers. They strive to be more consumer oriented by offering apps, digital signage, and digital interaction forms, such as video consulting. In addition, they admit that one of the main priorities must be to lay the technical and processual foundations, meaning to overcome the issue with legacy systems.

Sensemaking focus: Competitive landscape transformation

Two executives (E4 and E7) focus on the competitive landscape transformation as a main effect. They exhibit strong similarities to the first group, as they recognize similar triggers (mobile devices, robotics) that enable similar options for action (automation of front- and backend, digital interaction). What differentiates executive with a focus on competitive landscape transformation from the previous group are the effects they perceive. Rather than focusing on changes to companies' service creation and delivery, they think mainly of how the technology-enabled, increasing scope of managerial actions affects competition. When asked to name the current challenges, the responsible executive for products, pricing, and consumer processes in life business (E7) mentions the example of a heartbeat for unborn children that provides data about life events, such as pregnancy and birth. He recognizes that a self-tracker enables companies to obtain consumer data and offer data-based services. However, for him this development induces a potential change in competition.

> I see therein a risk that companies from other industries enter the insurance business model or that InsurTechs operate such business model. (E7, 5)

A recurring theme of digital transformation sensemaking is datafication of consumers' lives, which enables service providers to analyze consumers using real-time data to create knowledge about behaviors and needs and allows for new data-based value propositions. For example, location tracking in mobile phones allows for offering services right at the spot where consumers might have a demand (e.g., at the bottom terminal of a ski area) for injury insurance or at the destination airport to provide travel insurance. As a consequence, novel business models arise, and new competences are needed to compete. This changes the rather constant competitive landscape of the past and shifts competitive advantages from local distribution capacities and efficient production to innovation capabilities. In addition, non-industry companies, such as Amazon and Google, can use their consumer access and their capabilities in analytics to diversify across industries and thus become powerful competitors at the consumer interface. Strategic priorities point in the same direction to develop new business models by incubation and acquiring capabilities in analytics.

Sensemaking focus: Market and life-world transformation

The last two executives (E1 and E3) focus on the market transformation with special reference to consumer roles, self-perception, and behavior in the market. In contrast to the first two groups, technological developments are perceived as enablers of increasing options to act as consumers. These executives have a relational rather than a transactional understanding of the business and strive to develop real partnership with consumers.

> Principally, it is a partnership. We have a contract, in which each of us has rights and obligations. It [the relationship between service provider and consumers] must be more on a partner level. Indeed, I believe the consumer gets more, also the tools, that he will be the dominating part at the end. (E1, 26)

To this group of executives, digital transformation means technology-driven enabling of consumers to easily access markets and act on behalf of their own goals due to better information and higher transparency. The executives slightly differ in their recognized effects. While one executive (E1) focuses on the power shift to and increased self-confidence of consumers, the other (E3) exhibits strong indications of having an even broader idea of digital transformation, focusing on the life-world transformation. Asked for changes in the market, the executive responsible for services and value proposition (E3) questions the need of insurers for insurance. Due to social platforms, consumers are enabled to organize themselves without the active roles of service providers.

> For example, there are individuals with a philosophy and these efficiency ideas. They say insurance products are much too expensive because of stakeholders that want to make profits. They are much more expensive than they ought to be. That's why I'm looking for like-minded people and we say: Yes, we create something by our own, which works without the administration or sales and offers the same quality, but much cheaper. (E3, 34)

Note how the executive describes the transformation as a new philosophy of how consumers organize specific tasks. Looking at the strategic priorities reveals slight differences as well. Whereas the former executive (E1) wants to take actions to build consumer partnerships, the latter (E3) focuses more on a deep understanding of societal trends and their impacts. He moves from asking how service providers can involve consumers to how consumers can create value of use by integrating service providers.

> We need to follow the thoughts of consumers and say, okay, which demands emerge for consumers in live situations and how we can support him, show him solutions, and make offers. (E3, 31)

5 Conclusion and Implications

The speed of digital technology development has reached a high and still increasing level, which makes it critical for executives to comprehend. The mechanisms of digital transformation are manifold (same technologies create different affordances), interwoven (enabling of multiple actors), recursive (technological artefacts shape and are shaped by human use), and often multistage (effects on consumers create further effects on service providers). Furthermore, digital transformation promotes a wide range of effects on different actors, structures, practices, values, and beliefs that replace or complement existing rules of the game (Hinings et al., 2018). The resulting environmental volatility, complexity, and ambivalence make it extremely difficult for executives to sense and seize opportunities and to maintain competitiveness in the markets (Teece & Linden, 2017; Warner & Wäger, 2018).

In this article, we follow the scholarly demand for a more holistic approach, looking at the combined effects of digital technology adoption. We provide an empirically founded holistic framework of executives' digital transformation sensemaking in the service industry. In particular, our framework serves two purposes. We support orientation of a highly ambivalent and multilayered phenomena. We illustrate four different categories of transformative effects and systematically construct sensemaking approaches by illuminating attributed triggers and their impact on companies' and consumers' scope of opportunities. Second, our approach allows for analyzing how digital transformation sensemaking influences strategic action taking. Each executive is likely to interpret certain complex phenomena differently, but to be able to build a consensus about strategic priorities and perform vision-oriented actions executives need to overcome categorical thinking. The holistic framework of digital transformation enables executives to introspectively investigate their own sensemaking approaches and increase their awareness of other sensemaking approaches, which helps to reduce misunderstandings and conflict in the executives' strategic decision making.

Considering the highly fragmented and limited academic discussion on the phenomenon of digital transformation, our strategy is to confront theory with the empirical world to achieve a wider understanding. With an exploratory emphasis, we reveal how

a group of executives, responsible for deciding the group's strategy of an incumbent company in the insurance industry, makes sense of digital transformation. Despite the higher robustness and generalizability of multi-case studies compared to single-case studies (Eisenhardt & Graebner, 2007), our intention is to go deeper into one case instead of increasing the number of cases. The sharp focus on multi-case studies neglects the power of and the previous substantial contributions for theory generation, which is built on single-case studies (Dubois & Gadde, 2014). Single-case studies provide a powerful means of deriving insights if the phenomenon contains a number of interdependent variables, complex relations, and multi-layered effects (Dubois & Gadde, 2002). Our approach enables us to reveal differences in the deep structures of executives' thinking, observing, and reasoning and to characterize different sensemaking approaches. However, we admit that this is only the beginning of further discussion on a holistic conceptualization of digital transformation.

However, research has focused on domain-, topic-, or technology-specific questions regarding the phenomenon of digital transformation. Complementing the search for solutions of single aspects, the orientation toward digital transformation can be supported by identifying the combined effects and the dependencies between the various processes and effects the phenomenon embraces. Our article presents findings for a holistic conceptualization of the socio-technical process, in which the full potential of digital technologies is deployed and transforms human behavior as well as disrupts markets (Perez, 2013). Our results show that digital transformation is triggered by the convergence of digital technologies. The combination of a multitude of applications creates an entirely new spectrum of possibilities for both companies and consumers. This brings us to a further main finding of our research: the enabling character of digital technologies. In contrast to a common understanding in the management literature, digital technologies have a less prescriptive character. They enable market actors to do things differently. The enabling character corresponds to the concept of affordances, based on Gibson (1979) and Hutchby (2001). Accordingly, affordances are functional and relational aspects of technologies that frame but do not determine potential uses for various actors. Of significance is that digital technologies create affordances not only for organizations, but also for all actors on the market, while the same technologies often create different affordances for different actors. Finally, digital transformation is multi-layered, which means that we see changes on multiple levels, such as the company, competition, market, or society level, while the effects are mutually dependent. Though we could illustrate with our holistic model the large playing field of digital transformation, it is still unclear how exactly digital technologies transform organizations,

industries, market, and societies. We see two promising theoretical-conceptual approaches to studying digital transformation.

First, we refer to the discussion on disruptive versus incremental change. While we agree that especially incumbent organizations must diverge from their equilibrium conditions, due to misalignment of their deep structures and their environmental demands, which indicates disruptive change, we do not see the collective collapse of the big, incumbent service providers. Even in the music industry the big labels still exist, which calls into question the transformative character of digital technologies. To solve that dilemma, we can separate between the temporal dimension and the effectiveness of transformation. For example, we refer to the transformation of the music industry. The reconstruction of the transformation process shows a gradual change of structural, institutional, and organizational foundations of the music industry (Dolata, 2008). Thus, the effects of digital transformation are substantial and attack foundational structures in the market, but the process is more gradual than abrupt. It might be promising to conceptualize digital transformation as a cumulation of gradual processes that have transformative effects.

Second, in contrast to earlier technological developments which mainly influenced practices in organizations, current digital technology permeates almost every part of our lives (Schwarzmüller et al., 2018). Stoltermann and Fors (2004) argue that digital technologies should be considered a part of a greater whole. Technology is increasingly perceived as part of our natural surroundings and has a tremendous influence on how individuals organize their lives. Thus, it does not manifest itself by artefacts, but rather becomes embedded in all other objects (Stolterman & Fors, 2004). This makes the invention of single digital technologies irrelevant to the understanding of digital transformation, as they just add to what already exists and become indistinguishable from the whole phenomenon (Stolterman & Fors, 2004). Thus, digital transformation alters from a phenomenon explaining the impact of digital technology on organizations to a more encompassing phenomenon influencing all aspects of human life, which makes it inherently complex for research. Robey and Boudreau (1999) propose the application of a logic of opposition, which explains change by considering opposing forces that promote or constrain change. A logic of opposition explains a wider range of outcomes including the active role of actors to adopt or deny digital technologies.

Our article concludes with managerial implications that can be drawn from our research. We identify four sensemaking approaches. It is surprising to see such diverse executives' sensemaking, although digital transformation has been on the companies'

strategic agendas for two years. We further identify a strong dependence of strategic prioritization on sensemaking, which results in a wide range of priorities within the executives' group. This leads us to two further questions: (1) Is sensemaking of digital transformation premised on persistent mental models and (2) which impact do different strategic priorities have on strategic performance? Both questions relate to the literature of managerial mental models. Mental models are based on years of business experience and their exposure to markets, schools of thought, and interaction with other executives. When internalized, they become anchoring points in sensemaking (Rydén, Ringberg, & Wilke, 2015), as new phenomena are being recognized through the lens of present mental models (Kiesler & Sproull, 1982). In our research, we see indications of persistent mental models, as only one executive reflects on different meanings of digital transformation. The stability of executives' mental models confronted with radical change has been shown by a number of companies (Das & Teng, 1999). Zahra and Nambisan (2012) claim that mental models often constitute an important barrier for companies in questioning their own business model in the course of substantial environmental changes. Furthermore, an extensive amount of research has shown that mental models are a critical determinant of strategic decision making (Barr et al., 1992; Gary & Wood, 2011; Kaplan & Tripsas, 2008; Reger & Palmer, 1996). Gary and Wood (2011) report that the performance level of strategic decision making depends on the accuracy of executives' mental models. This opens new avenues for research related to digital transformation. As former acquired business logics are often no longer effective, executives need to be able to evaluate their mental models (Bartunek & Moch, 1994). Deframing skills, meaning executives' ability to question their own beliefs, become important (Tripsas & Gavetti, 2000). These arguments suggest that executives facing disruptive change require the ability and methods to individually and collectively disclose their present sensemaking approaches, reflect on their mental models, adapt these mental models, and build consensus around a collectively envisioned future to prioritize strategic actions.

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Appendix A: Triggers, Affordances, and Effects of Respondents

Code	Explanation	E1	E2	E3	E4	E5	E6	E7
Triggers								
Internet	Internet used as primary search instrument	●●●	●	●	●	●	●	●
Mobile (digital) devices with apps	Ubiquitous presence of mobile (digital) devices used in private and business life to be always connected	●●●	●●●	●●●	●●●	●●●	●	●●●
Big data analytics	Storage and processing of analyzing large (partly unstructured) data	●	●●●				●	●
Robotics	Intelligent machines including automated decision-making and machine-learning methods	●	●●●		●		●●●	●
Price-comparison and rating platforms	Aggregators, mostly with price-based comparison		●	●	●	●	●●●	●
Self-tracker	Tracking meters used to quantify behavior (e.g., wearables, mobile phone)				●			●●●
Social media	Use of social media platforms and disclosure of behavioral data	●	●				●	
Internet of things	Every object is connected and automatically sends and receives data				●			
Video platforms	Open video sharing platforms		●					
Affordance: Enables organizations…								
To digitally interact with consumer	Use of digital interaction channels on the customer journey	●	●●●		●	●●●		●●●
To automate processing	Automation of back-end processes	●	●●●		●		●●●	●
To automate consumer processing	Automation of front-end processes (e.g., Chat-Bot)	●	●●●		●		●●●	
To increase interaction points	Foster interaction frequency by providing more interaction points (e.g., apps, self-tracker platforms)	●●●		●●●		●		
To analyze consumers on behavioral data	Use of consumer data to create knowledge	●	●		●		●	●●●
To use digital media to explain the offering	Use of various forms of videos and self-service platforms to support consumer in search and considering phase		●			●●●		

To sell online	Online sales platforms					●●●		
Affordance: Enables consumers…								
To use new interaction channels	Use of digital interaction channels on the customer journey	●●●	●●●	●●●	●	●●●		●●●
To inform about and compare offerings	Collecting information about offering (e.g., service provider website, platforms, reviews)	●●●	●	●●●	●	●	●●●	●
To self-serve	Platforms to buy, change contracts, and get personal information without personal contacts (e.g., e-insurance platforms)	●	●●●			●	●	●
To have easy access to markets	Transparency about offerings / prices and convenient ways of buying	●		●●●			●	●
To easily organize themselves	Easy to find people with same demands and create own solutions (e.g., risk collectives)			●●●				
To build communities	Easy to find people with the same preferences and likes			●				
Effect: Company transformation								
Value chain: Industrialization	Use of approaches from goods production to reorganize and increase efficiency in the value chain	●	●●●				●●●	
Value proposition: Extended service offering	Core services are complemented by services that are close to the core services		●	●	●			
Value proposition: Eco-system approach	Transformation from an insurance service provider to a specialist in a certain life-world (e.g., health)				●			
Value proposition: Consumer partnership	Shift from a transaction-based to a relationship-based management focus	●●●		●●●				
Value proposition: Data-based services	Offer services that are based on behavioral data (e.g., use-based car insurance)	●		●	●●●		●	●●●
Value proposition: Individualized offerings	Adjustable offerings for the individual needs of consumers						●	
Distribution/interaction: Digital channels	Shift of distribution and interaction activities to digital channels		●●●		●	●●●	●	●●●

Distribution/interaction: Omni-channeling	Ability to coordinate between various off- and online channels	●						●
Innovation: Consumer integration	Integrate consumer in the development process	●			●	●●●	●●●	
Capabilities: Risk tolerance	Transformation of organizational culture toward more risk taking				●			
Effect: Competitive landscape transformation								
Entry of new (non-industry) competitors	Market entry of data-based tech companies or founding of InsurTechs			●	●●●	●		●●●
Rise of new and competition between business models	Shift from competition between companies with similar business models to competition between different business models		●		●●●			●
Merging of industries	Blurring of industry borders				●			
Partnering of service provider	Shift from rivalry to partnering	●						●
Establishment of cross-industry standards in consumer processes	Standards in consumer interaction are copied from other industries (e.g., mobile first)			●			●	●
Competition for consumer access	Non-industry companies use their consumer access to diversify across industries		●		●		●	●●●
Competition for best value proposition design	Shift of competitive focus from production to the design of value propositions				●	●●●		
First mover advantage	First mover to adopt new market demands increases market share				●	●	●●●	
Effect: Market transformation								
Higher consumer expectations	Consumers expect added value from the relationship with service provider	●●●		●●●			●	●
Diversification in consumer-provider interaction	Consumers use various channels to interact in accordance with their actual daily situation	●●●	●●●	●●●	●●●	●●●		●
Clearly defined needs by consumers	Consumers concretely know and express their needs in the market	●						●

Active roles of consumers	Consumers' role shifts from passive consuming to active role in the value chain (e.g., reviewer, brand ambassador)				●			
Empowered consumers	Consumers act informed, self-confident, and self-responsible on the market	●●●		●●●	●		●●●	●●●
Openness to switch service provider	Decreasing consumer loyalty due to better access to the market	●●●						
C2C market gains momentum	Consumers organize themselves without active roles of service providers			●●●				
Effect: Life-world transformation								
Flexibility as fundamental premise	Life gets multi-optional with flexibility as a main premise			●				●
Self-organization as fundamental premise	Do-it-yourself principle gains desirability			●●●				
Increased relevance of personal contact	Due to the trend of self-servicing, valuable personal contacts gain relevance	●						
I-centric worldview	Technology (e.g., social media) fosters an egocentric worldview		●					
Connectivity becomes basic need	Connectivity becomes the foundation of private and business life				●			

III. Consumer empowerment in insurance: Effects on performance risk perceptions in decision making.

Abstract

This empirical study aims to enhance the understanding of consumer empowerment in the relationship between consumers and service providers. It draws on the self-efficacy theory to conceptualize consumer empowerment and explain its impact on perceived performance risk in insurance decision-making. The study employs data collected from an online survey involving 487 consumers in Switzerland who recently chose an insurance service. A structural equation model quantifies both the psychological effects on consumers' perception of insurance services and the behavioral effects on their decision-making process. Perceived consumer empowerment conceptualized as perceived self-efficacy and perceived controllability has a significant impact on perceived performance risk, while self-efficacy is partially mediated by the preference to delegate the decision to a surrogate. Moreover, customers' involvement in the purchase process moderates both the direct and indirect effects of perceived self-efficacy on perceived performance risk. The results show that consumer empowerment can be employed as a risk reduction strategy. Consumers with self-efficacy and controllability beliefs perceive significantly less performance risk; however, practitioners should consider that consumers are also motivated to make decisions independently rather than delegating their decisions. Furthermore, consumer empowerment depends on consumer will. For largely indifferent consumers, empowerment does not affect risk or decision delegation preference. This study is among the few empirical works to examine the effects of consumer empowerment on the consumer-service provider relationship on an individual level. Furthermore, applying consumer empowerment in relationship marketing implies a shift in the research focus toward the question of how consumers construe decision-making situations rather than objectively measuring the state of the consumer relationship.

Keywords: Consumer empowerment, Consumer relationship marketing, Financial decision-making, Insurance, Perceived risk, Decision delegation preference, Purchase decision involvement, Digital transformation

1 Introduction

Digital technologies have changed the way consumers interact with companies; they now diversify their information sourcing and have access to global offerings. In addition, they can take on new roles in the service process ranging from more control in decisions to a very high degree of customer involvement where customers themselves become the predominant actors in the innovation and provision of services (Maas & Graf, 2004). The general consensus is that digital technologies have the potential to change the consumer-service provider relationship so that consumers are no longer bound to be passive actors in the market (Deighton & Kornfeld, 2009; Harrison, Waite, & Hunter, 2006; Kozinets & Graduate, 1999; Kucuk, 2009; Shipman, 2001). What does this change in consumers' self-perception mean to the insurance service provider and its relationship to consumers? Does consumer empowerment provide an opportunity to maintain and strengthen the consumer relationship?

From an insurance service provider's perspective, digital technologies create new possibilities to educate consumers, to facilitate access to the market, to support the decision process, to involve consumers in the service provision process, and even to create a sense of enjoyment. Thus, these technologies increase the possibilities for and means of consumer empowerment. However, the change in consumer behavior resulting from the use of digital technologies compels incumbents in service markets to redesign their relationships (Berman, 2012; Bradley et al., 2015; Westerman et al., 2014). Service markets have commonly been classified along product categorization; markets exist for banking services, mobile communication, household insurance, and funeral services, while competition has been restricted to competitors acting within these markets. If consumers are considered active and independent actors creating value in markets (Grönroos & Voima, 2013), insurance service providers need to shift their perspective from offering services to facilitating consumers' lives by establishing valuable relationships (Heinonen et al., 2010). This means competition is at play not only within the insurance industry, but also within companies that can facilitate consumers' financial activities (Heinonen, Leverin, & Liljander, 2014).

Although strategies for strengthening consumer relationships are well covered in the literature (Renström, 2014), we know little about what consumers' perception of empowerment means to the consumer-service provider relationship (Fuchs, Prandelli, & Schreier, 2010). In psychology, empowerment is used as a motivational construct and refers to beliefs of self-determination and self-efficacy (Conger & Kanungo, 1988). Strengthening people's beliefs is known to affect their lives in many ways (Bandura,

1977). Self-beliefs affect people's choices, their effort in decision making, their resilience capacity, and their thought patterns or perceptions about situations they must master (Bandura, 1988). In consumer research in financial services, empowerment has recently been considered as a significant factor for managing relationships with consumers (Bhat & Darzi, 2016). Generally, trust (Van Dyke, Midha, & Nemati, 2007), commitment (Montaglione, 1999), future participation in the service process (Füller, Mühlbacher, Matzler, & Jawecki, 2010), and loyalty (Bhat & Darzi, 2016; Ouschan, Sweeney, & Johnson, 2006) are linked to consumer empowerment. These far-reaching effects of consumer empowerment on the consumer-service provider relationship stand in sharp contrast to its practical application by service providers. Consumer empowerment is often neglected by firms aiming to increase the customer value proposition (Wright, Newman, & Dennis, 2006). Exploring these effects will help in understanding the impact of a consumer empowerment strategy and inform practitioners regarding the long-term consequences of this power shift (Fuchs et al., 2010).

Risk perception in research is a standard concept explaining consumer behavior in consumer-service provider relationships (V.-W. Mitchell, 1999; Stone & Grønhaug, 1993) across industries. However, risk has distinct meanings in insurance. Furthermore, due to the partly inherent characteristics of the insurance service, consumers perceive acting in the insurance market as risky (Aldás-Manzano, Lassala-Navarré, Ruiz-Mafé, & Sanz-Blas, 2009; K. Byrne, 2005; Harrison et al., 2006). On the one hand, risk mitigation by transferring risk to the insurance company is considered the principal service component of an insurance. Consequently, the nature of the insurance service is presumed to be a source of reluctance to engage with the services (Newholm, Laing, & Hogg, 2006), as people prefer to be involved in services that promise desired consequences rather than services that make them aware of potential losses in their lives.

On the other hand, consumers perceive risk originating from the relationship with the insurer itself based on the uncertainty of the outcome. This article employs the concept of performance risk perception (Brody & Cunningham, 1968). Performance risk reflects consumers' expectation of a failure incurred when a service does less than expected, which results in a loss in functional/economic (time, money) or psycho/social terms (self-esteem) (Horton, 1976; Taylor, 1974). Outcome uncertainty for consumers deciding on insurance services is especially pronounced due to the perceived characteristics of the service and the insurance market itself. Consumer decision making in the insurance market is highly complex (Harrison et al., 2006). Insurers generally sell a

promise to cover losses in case of damage. Even for experienced consumers, it is challenging to decide on the appropriate service with sufficient coverage. This process includes assessing loss potential related to the consumer's behavior, likelihood of occurrence, and own risk propensity. In addition, choosing insurance services is accompanied by difficulties in accessing and assessing information (Harrison et al., 2006). The heterogeneity of the services in the market as well as the inappropriateness of consumer information compound the difficulty in evaluating services (Harrison et al., 2006). Furthermore, consumers might perceive a time lag between the decision and service fulfillment. In contrast to other service situations, in the post-purchase phase, the insurance service is hardly perceptible to consumers, except in case of damage, whereas for other services, the outcome uncertainty diminishes due to service experiences. In insurance, the uncertainty is enduring, sometimes lasting over the whole lifetime of a customer relationship. The consequences following a poor decision, however, can be vital for consumers' lives. High perceived complexity and outcome uncertainty in insurance decision making undermine consumer confidence and cause high perceived performance risk.

Consequently, this article examines the effect of enhanced consumer empowerment in the decision-making process on performance risk perception of a consumer-service provider relationship in insurance. By doing so, the research draws on the self-efficacy theory proposed by Bandura (1977, 1986). Accordingly, empowerment refers to the cultivation of people's belief systems (Wood & Bandura, 1989). It is described as the belief in "making a difference" (Thomas & Velthouse, 1990, p. 672) and considers beliefs about the self (perceived self-efficacy) and about the modifiability of the environment (perceived controllability). The theory represents outcome expectancies and behaviors as a derivative of beliefs about self-efficacy and controllability (Bandura, 2003). For the decision-making process, this means that both consumers' beliefs regarding whether they can master the decision process (perceived self-efficacy) and whether their effort can positively alter the outcome (perceived controllability) affect how they behave and how certain they are that a service will perform.

Based on the lack of a common understanding of the consumer empowerment construct, Shankar et al. (2006) propose to examine the notion critically. Thus, this article starts with insight into the nature of consumer empowerment and then establishes the conceptual framework. The empirical research contains data from a large survey of consumers of insurance services in Switzerland. With the empirical findings, the article

contributes to understanding the impact of consumer empowerment in the decision process on the relationship between consumer and service provider. The article concludes with a rich discussion of business implications for insurers to ensure that the results are valuable for practitioners interested in establishing a collaborative relationship with consumers.

2 Theoretical foundations and conceptualization

The concept of empowerment has its origins in community psychology (Rappaport, 1981, 1984) and has been applied in contexts such as organization research (Conger & Kanungo, 1988; Thomas & Velthouse, 1990) information system research (Füller et al., 2010) and consumer research (Fuchs et al., 2010; Harrison & Waite, 2015; Van Beuningen, De Ruyter, & Wetzels, 2011; Wathieu et al., 2002; Wilkinson, 1998). Nevertheless, consumer empowerment remains a poorly defined concept (Starkey, 2003), research on empowerment is fragmented and eclectic (Labrecque, vor dem Esche, Mathwick, Novak, & Hofacker, 2013; Rucker, Dubois, & Galinsky, 2011; Zimmerman, 1990), and the concept is very loosely used by practitioners and academics (Denegri-Knott et al., 2006; Wilkinson, 1998). This is challenging for marketing professionals because a change in consumers' self-perception has a large impact on the consumer-service provider relationship. The varying meanings and ideologies increase the complexity of the concept and are thus not conducive for practical use. For those who intend to turn empowerment into a strategic instrument, it is important to have a sound conceptual basis.

2.1 Interpretation of the consumer empowerment construct

To empower, according to the liberal or neoclassical view (Denegri-Knott et al., 2006), means to give a person the power to decide or the right to act. This requires that one of the subjects, whether an institution, employer, or service provider, is in a position to decide about providing this power, whereas other subjects, citizens, employees, and consumers are in a powerless and dependent position. Service providers and consumers can act antagonistically in the market and maximize their own utility. Such an understanding has often been applied in studies to examine consumers' bargaining power vis-à-vis service providers (Kucuk, 2009; Labrecque et al., 2013; Wathieu et al., 2002).

More recently, Service Dominant Logic (SDL) (S. L. Vargo & Lusch, 2004, 2008) and Customer Dominant Logic (CDL) (Heinonen et al., 2010) have provided a perspective of the market in which service providers and consumers are equally interdependent actors integrating resources to create value. While SDL focuses on the interaction and thus on how service providers and consumers co-create services, CDL concentrates on customers' activities and thus on how companies can be involved in customers' value creation process (Grönroos & Gummerus, 2014; Strandvik, Heinonen, & Mickelsson, 2013). In both logics, the locus of value creation moves from the service provider to the consumer, while the scope switches from the transaction to the relationship. Practitioners, mainly consumer protection authorities, speak of consumer empowerment as providing more and unbiased product information, increasing price transparency, and creating financial literacy programs (Lester, 2009). Although these measures might be helpful for consumers, they do not reflect a change in the consumer-service provider relationship.

To reflect the recent developments in marketing logics, consumer empowerment, as understood in this article, concerns establishing a collaborative relationship "via the iterative interplay between consumers and producers" (Denegri-Knott et al., 2006, p. 965). The ongoing interaction process between consumers and service providers creates people's identities as consumers (Butler J, 1997; Foucault, 1983). Consumer perception, and thus behavior, is therefore not entirely determined by consumers' internal value system and cognitive predisposition. In a relationship between consumers and service providers, the mentality of consumers is partly governed by service providers. For example, measures such as discounts discipline consumers by channeling their demand. Practices like branding and co-creation help to re-construct desirable identities for consumers (Shankar, Cherrier, & Canniford, 2006). Also, consumer beliefs are constructed in this discourse (Van Beuningen et al., 2011). According to the theory of belief updating (Hoch & Deighton, 1989), consumers make sense of new experiences and information to form attributions about personal efficacy. Thus, to empower consumers as interpreted in this article means to co-create consumers' individual beliefs about the decision-making process and its outcome.

2.2 Market level vs. individual level perspective

Consumer empowerment can be observed on a market level with respect to the general power relationship between consumers and service providers, as well as on an

individual level, referring to a particular relationship between one consumer and one provider during the customer journey. The change in the general power relationship between consumer and provider due to unprecedented information access has been extensively researched, especially at the beginning of this century when the term consumer empowerment evolved (Amichai-Hamburger, McKenna, & Tal, 2008; Firat & Venkatesh, 1995; see i.e. Henry, 2005; Wathieu et al., 2002; Wilkinson, 1998). Generally, it is assumed that the eradication of the information asymmetry shifted the power from the service provider to the consumer (Prahalad & Ramaswamy, 2000). However, this has not been without costs. Informed decisions are more time consuming, and emancipated consumers have to bear more responsibility or can become overconfident, which increases non-adherence and possibly leads to a less favorable outcome (Camacho, De Jong, & Stremersch, 2014; MacStravic, 1999).

Beyond the question of relative power, for practitioners, the main focus of interest is the individual level of consumer empowerment. On the individual-level perspective, the focus is on investigating a particular relationship between a consumer and a service provider. Traditionally service-providers considered themselves as the responsible part for defining the nature of the relationship. Although customer centricity was a strategic goal to them, service providers ultimately controlled value adding processes and product proposition (Fuchs et al., 2010). Consumer empowerment implies a shift in perspective for service provider. They should assume that consumers define their relationships to their service provider. Under this premise, several effects of consumer empowerment on the individual level perspective have been investigated in research. Füller et al. (2010) investigated consumer-service provider collaboration in the product development processes. They found that perceived consumer empowerment significantly impacts the intention of co-creation and consumers' confidence in their service providers. Fuchs, Prandelli, and Schreier (2010) analyzed the behavioral effects of empowerment in co-creation on product demand. Empowered consumers showed stronger willingness-to-pay and purchase intentions mediated by higher levels of psychological ownership than non-empowered consumers. Van Beuningen et al. (2011) examined self-efficacy updating during the decision-making process. They found that constant information about evaluation progress will increase self-efficacy and leads finally to an increased service value perception. Furthermore, empirical research demonstrates a positive effect on satisfaction (Joosten, Bloemer, & Hillebrand, 2016) and trust in service-provider regarding data privacy (Midha, 2012; Van Dyke et al., 2007). Whereas the overview is not meant as an exhaustive list, several conclusions can

be drawn. First, empirical research on consumer empowerment considering an individual level still needs additional studies (Füller et al., 2010; Harrison & Waite, 2015; Newholm et al., 2006). Second, consumer empowerment has psychological effects relating to changes in perceptions and behavioral effects in decision-making. Third, previous research applies usually a transactional focus (considering a single decision situation) rather than a focus on relationships (considering long-term effects). Forth, consumer empowerment has been conceptualized in very different ways, such as consumer's participation in decision-making (Füller et al., 2010), control (Fuchs et al., 2010) or self-efficacy (Van Beuningen et al., 2011).

2.3 Conceptualization of the consumer empowerment construct

To conceptualize consumer empowerment, this article employs Bandura's self-efficacy theory (1977). Self-efficacy theory was intended to explain and predict psychological changes by different modes of treatment (Bandura, 1977), but soon was applied as a useful theory to explain psychosocial functioning of individuals in organizations (Bandura, 1988; Wood & Bandura, 1989) or as consumers (Füller et al., 2010; Van Beuningen et al., 2011). Bandura (1977, 1986, 1999) postulates that people's behavior is not unidirectional dependent on their environment; nor are individuals autonomous agents. Rather, "people are both products and producers of their environment" (Wood & Bandura, 1989, p. 362). Beliefs about ourselves (perceived self-efficacy) and about the modifiability of the environment (perceived controllability) shape our perceptions and behaviors.

Perceived self-efficacy must be distinguished from perceived controllability. Perceived self-efficacy can be defined as "people's beliefs in their capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives"(Wood & Bandura, 1989, p. 364). This means that people with the same skills might perform differently. People with high self-efficacy beliefs may put more effort into a task and believe they can master the task, while low self-efficacy beliefs lead to an impairment of capabilities. Perceived controllability describes people's perception of whether a given effort results in a certain desired outcome (Conger & Kanungo, 1988). This can affect the extent to which people take advantage of their opportunities (Bandura, 1988). People who perceive the environment as not modifiable may decrease their efforts and feel powerless. Otherwise, any strategy that strengthens

self-determination increases motivation to take actions and bear responsibility for these actions (Conger & Kanungo, 1988).

Perceived empowerment is one's belief in "making a difference" (Thomas & Velthouse, 1990, p. 672). Therefore, empowerment includes both the belief in having the capabilities to master the decision process (perceived self-efficacy) and the belief in being able to positively alter the outcome (perceived controllability). On the one hand, service providers' collaborative behavior to co-create value with consumers provides all consumers with the opportunity to influence the outcome in a decision situation, but only some consumers may perceive the ability to be effective in such environments. On the other hand, even if people are convinced, they are able to execute tasks successfully, the outcome can still differ from what they desire. Consumers who believe they can choose the appropriate insurance services for their risks might not achieve the desired protection level because of external circumstances that lead to an underestimation of the risks or the service provider not acting in favor of its customers. Outcomes can be out of a consumer's own controllability. Thus, according to self-efficacy theory, in this article consumer empowerment is understood as a multi-dimensional construct comprising perceived self-efficacy and perceived controllability in a decision-making situation.

3 Conceptual framework and hypothesis development

Figure 4 shows the conceptual framework used in this study, which builds on self-efficacy theory (Bandura, 1977) to explain the impact of consumer empowerment on perceived performance risk in insurance decision making. This framework relies on two effects that self-efficacy theory describes. First, beliefs about self-efficacy and controllability shape individuals' expectations about the outcome; second, individuals' beliefs determine behavior (Bandura, 1988; Wood & Bandura, 1989). Thus, this paper empirically tests whether perceived self-efficacy and perceived controllability affect perceived performance risk, defined as consumers' expectation of a failure, and decision delegation preference, reflecting decision-making behavior. Moreover, the framework includes findings from the purchase decision involvement concept in developing hypotheses.

The proposed conceptual framework provides the foundation for the following hypotheses: Consumer empowerment affects perceived performance risk in a consumer-

service provider relationship (H1a /H1b) and decision delegation preference in consumers' decision making (H2a / H2b), the decision delegation preference has a positive relation to perceived performance risk (H3), the direct effects of consumer empowerment are mediated by the preference to delegate or autonomously make decisions (H4a / H4b), and both the direct and indirect effects of perceived self-efficacy on perceived performance risk are moderated by the consumer's involvement in the purchase decision (H5a / H5b). This section provides theoretical grounds for the propositions illustrated in the model.

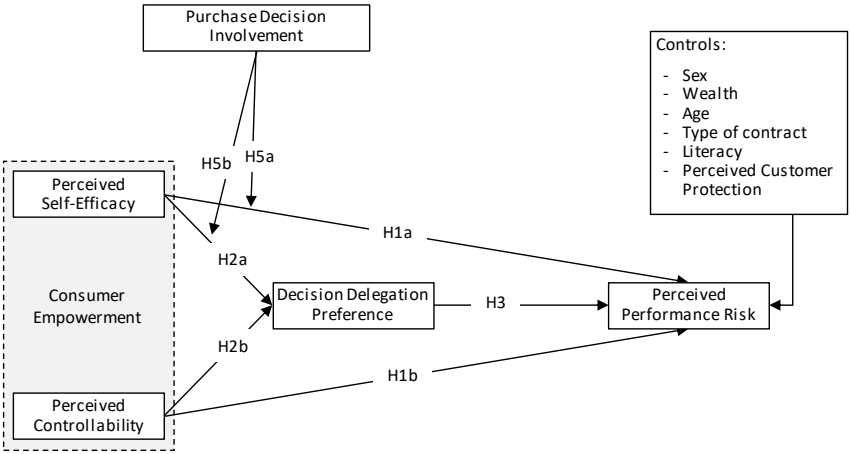


Figure 4. *Research model and hypotheses.*

3.1 Perceived performance risk

In classical economic theory, risk is a measure reflecting the variation in the distribution of possible outcomes, their likelihoods, and their consequences (V.-W. Mitchell, 1999). It depends on three factors (i.e., uncertainty about the outcome, probability of an event, and uncertainty about the consequence) and considers positive and negative deviations from expected outcomes. Consumer research argues that risk is always a perception (Stone & Grønhaug, 1993) and consumers can hardly estimate the probability of an outcome. They also do not think in probabilities in evaluating different services (Brody & Cunningham, 1968). Thus, risk and uncertainty have often been used interchangeably in consumer research (V.-W. Mitchell, 1999). Indeed, perceived risk

has become one of the standard concepts explaining consumer behavior (V.-W. Mitchell, 1999; Stone & Grønhaug, 1993). It is a psychological-driven focus, which seems more appropriate for consumer decision making (Stone & Grønhaug, 1993). Bauer (1960) describes perceived risk as the uncertainty of outcomes. "Consumer behavior involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty" (Bauer, 1960, p. 24). Thus, perceived risk implicitly takes into account that consumers have difficulty in assessing probabilities against the consequences considered (Stone & Grønhaug, 1993).

To define perceived performance risk, this article follows Stone and Grønhaug's (1993) view of perceived risk as an expectation of loss. This is a narrower definition of perceived risk as it concentrates on the negative deviation from desired outcomes. In contrast, perceived risk defined as a deviation from expectation considers the uncertainty of both the case of a more positive and a more negative outcome. Perceived risk viewed as an expectation of loss assumes positive deviations from expectation as desired and considers only negative deviations as risk. In an empirical study, Stone and Winter (1987) found, perceived risk defined as an expectation of loss has stronger correlation with behavioral intentions. This also simplifies the idea of perceived risk as something consumers want to avoid. In this article, the concept of perceived performance risk (Brody & Cunningham, 1968) is employed, which is especially interesting in the insurance context. Perceived performance risk in theory is seen either as a component of perceived risk reflecting the functional loss (Horton, 1976) or as the risk of failure preceding losses (V.-W. Mitchell & Greatorex, 1993). This article follows the latter view and defines perceived performance risk as an expectation of a failure incurred when a service does not perform up to expectations (Horton, 1976; Taylor, 1974). The failure results in a loss of time, money, or self-esteem or a combination of them (Taylor, 1974). Services do perform when the outcome is better than expected. In contrast, they fail when the outcome does not satisfy consumers' expectations. This study concentrates on the impact of consumer empowerment on how consumers perceive the risk of services not performing up to expectations.

Self-efficacy theory posits that beliefs about self-efficacy and controllability shape individuals' expectations about outcome (Bandura, 1988; Wood & Bandura, 1989). Consumer empowerment allows consumers to experience the feeling of having an impact. Thus, in the eyes of consumers, performance of the insurance service is more self-determined. Consumers attribute the risk of failure to their own behavior in decision

making. They develop a feeling of psychological ownership of the decisions (Fuchs et al., 2010). This means that consumers perceive decisions to be their own, which makes them responsible for the outcome. Thus, it is plausible to assume that consumer empowerment affects perceived performance risk. Discussing the effects on the component level of consumer empowerment confirms the assumption.

First, this article posits that perceived self-efficacy affects perceived performance risk by allowing consumers to experience a sense of personal mastery. Consumers who perceive high self-efficacy tend to define decision situations as less unknown (Cho & Lee, 2006), focusing rather on the opportunity than on the threat (Krueger & Dickson, 1994), and approach threatening situations with assurance that they can exercise control (Bandura, 1988). Perceived self-efficacy influences the level of uncertainty consumers assess in a decision situation (Krueger & Dickson, 1994). Thus, consumers with a mastery attitude perceive that they are able to perform in decision making, whereas consumers with low perceived self-efficacy are plagued by self-doubts and dwell on all the things that could go wrong (Bandura, 1988).

H1a: Perceived self-efficacy has a negative direct effect on perceived performance risk.

Second, beliefs about the modifiability of the environment have an effect on perceived performance risk. Consumers exposed to uncontrollable decision situations learn that their actions and outcomes are independent of each other (Alloy, Peterson, Abramson, & Seligman, 1984). Outcomes are perceived to be externally determined and thus their performance is uncertain. Consumers who believe that they cannot modify the outcome feel powerless and perceive the relationship with the service provider as threatening and the performance risk as high. In contrast, if consumers have the opportunity to obtain positive outcomes through their actions, their performance risk perception decreases. In a study of managers' behavior, Bandura and Wood (1989) found that managers viewing an organizational environment as personally controllable foster productive action. In contrast, managers who perceive an environment that cannot be influenced become preoccupied with the risk of failure.

H1b: Perceived controllability has a negative direct effect on perceived performance risk.

3.2 Decision delegation preference

Consumers often delegate decisions to surrogates, such as agents, friends, relatives, or salespeople (Aggarwal & Mazumdar, 2008). This is particularly observable when it comes to complex service situations, where consumers delegate decisions to, for example, wedding advisors, hair stylists, or doctors. Within the financial services industry, decision delegation is quite common and has a long history. In the literature, this phenomenon has also been referred to as "choice delegation" (Broniarczyk & Griffin, 2014), . "decision delegation" (Aggarwal & Mazumdar, 2008), and "decision-making preference" (Ende, Kazis, & Ash, 1989).

This article employs the notion of "decision delegation preference" to accentuate consumers' preference to give up autonomy. Making one's choices has many benefits; for example, choice enhances perceptions of one's own determination and intrinsic motivation and also bolsters evaluations of decision outcomes (Botti & Iyengar, 2006). However, consumers do not always prefer to make their own choices. Decision autonomy also entails detriments. Consumers often decide against autonomously choosing due to the sheer number of possible and often non-comparable choices. New technologies often multiply opportunities rather than helping consumers evaluate the appropriate service, which increases the uncertainty about the outcome (Broniarczyk & Griffin, 2014). Consumers often apply noncompensatory heuristics in complex decision situations such as health care (Kahn & Baron, 1995) and finance (K. Byrne, 2005). Reducing cognitive costs, however, can produce suboptimal decisions and increases the risk of subsequent dissatisfying outcomes (Botti & Iyengar, 2006). Botti and Iyengar (2004) show that decision makers generate more psychological distress than non-decision makers if they have to choose between negatively valenced alternatives. As insurance services are often associated with negative events, this might prevent consumers from making decisions on their own. In sum, the literature suggests that consumers' exertion of autonomy in decision making allows them to feel in control of their own fate and perceive outcomes as self-determined. However, consumers must carry the cognitive burdens associated with decision making.

Task complexity is an antecedent of decision delegation (Broniarczyk & Griffin, 2014). The more complex a task, the more likely consumers delegate decisions. According to self-efficacy theory, consumers are both product and producer of their environments (Wood & Bandura, 1989). Task complexity is not determined by consumers' cognitive predisposition, but consumers and service providers co-create consumers' individual beliefs about the decision process. This means that a preference for decision

delegation is not fully determined by the inherent properties of the insurance service itself, but by the consumers' belief systems. Self-efficacy theory suggests that perceived consumer empowerment has a behavioral effect (Wood & Bandura, 1989). The cognitive assessment of the consumers' own ability affects the choice of activity and consumers' persistence in the activity. Consumers who feel competent perceive decision-making situations as less threatening, put in greater effort, and show persistence in the face of obstacles. Bandura (1977) observes avoidance behavior in people with low perceived self-efficacy. Low perceived self-efficacy individuals avoid threatening situations that require specific skills. Thus, if consumers perceive that they are able and powerful to master the decision situation, they must then perceive the task as manageable and prefer to make their own decisions to delegating decisions to surrogates. Those consumers who perceive themselves to have limited capabilities eliminate the threatening situation by delegating decisions and placing greater weight on advice (Yaniv, 2004).

H2a: Perceived self-efficacy has a negative effect on decision delegation preference.

Perceived self-efficacy influences not only the decision delegation preference, but also the expectation of eventual success. Individuals' beliefs about the modifiability of the environment affect the extent to which they take advantage of opportunities in a decision-making situation (Bandura, 1988). If an environment is perceived as controllable, individuals will actualize their possibilities to influence the decision situation and control the outcome (Wood & Bandura, 1989). Consumers might perceive that market conditions allow no control over the outcome of a decision, which in turn demotivates them to make cognitive efforts and leads to a higher decision delegation preference. In contrast, consumers may actively seek to influence when they perceive their actions to be effective (Burger, 1989).

H2b: Perceived controllability has a negative effect on decision delegation preference.

When deciding about delegating a purchase decision, consumers make a trade-off between the effort of making a decision on their own and the consequence of a sub-optimal outcome (Aggarwal & Mazumdar, 2008). For consumers, decision delegation entails giving up control over the decision and entrusting the decision to surrogates. This violates consumers' belief that they can act as free agents. Delegating a decision damages self-esteem and impedes consumers in coping with the achieved outcome (Usta & Häubl, 2011). Through decision delegation, performance of a service is perceived as determined by the surrogate and thus less in control of consumers. Therefore, this article

assumes that consumers perceive the performance uncertainty of decision delegation as a risk.

H3: Decision delegation preference has a positive effect on perceived performance risk.

In the light of the conceptual model of this study, which draws on self-efficacy theory, consumer empowerment has psychological and behavioral effects. Beliefs about self-efficacy and controllability shape individuals' expectations about the outcome and individuals' beliefs determine behavior (Bandura, 1988; Wood & Bandura, 1989), such as the preference to decide autonomously in decision situations. The choice of courses of action in the decision situation changes consumers' experienced relationship, which influences perceived performance risk. Consumers who feel competent and powerful will bear the cognitive burdens of decision making and perceive the decision outcome to be self-determined. Therefore, this article assumes an indirect effect of consumer empowerment on perceived performance risk, mediated by decision delegation preference.

H4a: Decision delegation preference mediates the negative effect of perceived self-efficacy on perceived performance risk.

H4b: Decision delegation preference mediates the negative effect of perceived controllability on perceived performance risk.

3.3 Purchase decision involvement

Involvement has been defined as "an individual level, internal state variable that indicates the amount of arousal, interest, or drive evoked by a particular stimulus or situation" (A. Mitchell, 1979, p. 194). This implies that involvement targets either a particular object, such as a product, or an activity, such as a purchase decision. Mittal (1989, p. 150) defines purchase decision involvement as "the extent of interest and concern that a consumer brings to bear upon a purchase-decision task." In research, product involvement is distinct from transient situational or purchase decision involvement (Richins & Bloch, 1986). This distinction is important as the concepts have different antecedents and consequences (Dholakia, 2000). Whereas product involvement describes the personal interest in a service or product, which is related to consumers' identities and values (Chaudhuri, 2000), purchase decision involvement is a temporary perception of importance (Bloch & Richins, 1983). As this article examines the purchase decision situation, purchase decision involvement is considered an influencing factor. Though many researchers consider product involvement to be an antecedent of purchase

decision involvement (Dholakia, 2000), purchase decision involvement can occur without product involvement. Insurance services aren't a high-involvement product, but when it comes to a purchase decision some consumers pay significant attention to it due to the high amount at stake for them.

In explaining the assumed moderation effect of purchase decision involvement on the direct and indirect impact of consumer empowerment on perceived performance risk, this article concentrates on two specific effects of purchase decision involvement: the effect on the extensiveness of cognitive processes with respect to the evaluation (Dholakia, 2000) and the motivational effect to undertake endeavors in consumers' decision process. Purchase decision involvement determines the depth, complexity, and extensiveness of cognitive processes in evaluating services (Dholakia, 2000). If decisions are perceived to be important, consumers make high cognitive efforts to evaluate whether the service might have a positive outcome. In contrast, for less important decisions, the purchase decision involvement is low. Consumers with low purchase decision involvement might not even evaluate whether services perform; the outcome is perceived to be irrelevant. If consumers do not evaluate the pros and cons of a decision, the risk associated with the performance of the outcome of such decisions is assumed to be low. Thus, purchase decision involvement is a necessary condition for performance risk perception (Dholakia, 2000). Purchase decision involvement can also be seen as a motivational construct (Bloch & Richins, 1983). Rothschild refers to it as a "state of interest, motivation or arousal" (Rothschild, 1984, p. 217). This temporary state is determined by the characteristics of the decision situation (Richins & Bloch, 1986). High purchase decision involvement affects consumers' motivation to make the right choice because they care about what they buy (Michaelidou & Dibb, 2008). This results in the will to have more control over the decision situation (Dholakia, 2000).

Considering both effects, for consumers who do not display high purchase decision involvement or are largely indifferent in a purchase decision, first, the cognitive effort for evaluation is low. The decision is less relevant to them and thus they perceive little performance risk, regardless of whether they perceive themselves to be empowered or not. Second, these consumers have little drive to make a decision on their own; they have less need to control the decision situation. Hence, these consumers simply look to eliminate tasks systematically from their task list, whether or not they make the decision themselves. As a result, for consumers with low purchase decision involvement, the effect of perceived self-efficacy on decision delegation preference and perceived purchase risk should be low. This assumption is consistent with indications from the consumer

empowerment literature. Newholm (2006) points out that practitioners considering whether to empower consumers must bear in mind that there is a reason why consumer empowerment might not affect risk perception. Consumer empowerment requires consumer will. Where consumers are largely indifferent, they can perceive both non-empowered and low risk. This is an important caveat regarding establishing collaborative relationships by empowering consumers.

H5a: Purchase decision involvement moderates the negative effect of perceived self-efficacy on perceived performance risk.

H5b: Purchase decision involvement moderates the negative effect of perceived self-efficacy on decision delegation preference.

3.4 Control variables

In addition to the proposed theoretical expectations, this article includes control variables. Their influence on perceived performance risk must be considered. First, during a consumer's lifetime, the consumer accumulates experience in acting in the insurance market. This is expected to affect the performance risk perception. Second, wealth has a significant influence on investment decisions (Jappelli & Padula, 2013). Generally, the wealthier a consumer is, the more risk his or her investment strategy tends to have. Third, to obtain valid information about a real consumer-provider relationship, respondents are asked to think of an existing relationship with an insurance provider with which they recently signed a new or revised contract. Respondents declared the type of insurance product, either life or non-life. Product category is set as a control, as the complexity of the product might influence the risk perception. Fourth, to decide on an insurance product, consumers often need to perform calculations and comparisons of costs and utility. Financial literacy acts as a key prerequisite for making informed decisions (Carpena, Cole, Shapiro, & Zia, 2011; Olapade & Frölich, 2012). This is why policy makers in several countries have programs in place to increase financial literacy. To determine the effect on perceived performance risk, financial literacy has been included in the analysis. Last, as the research is designed as single-country research, risk perception can be influenced by the cultural characteristics of the respondents. To examine the effect of the public institutions that regulate the insurance market, perceived protection by regulation is included.

4 Methodology

Insurance services provide a highly relevant context to research the impact of perceived consumer empowerment on perceived performance risk. First, risk perceptions play an important role in deciding on insurance services (K. Byrne, 2005), as the amount at stake can be vital and the probability of having particular events of damage or loss not covered is often perceived as high due to the intangibility. Second, insurance is often associated with painful, displeasing events, which reduces personal engagement (Newholm et al., 2006). Third, information asymmetry in the insurance industry is traditionally high. In empowering consumers, insurance providers can address these knowledge imbalances and support their consumers to make informed decisions. Parallels can be drawn to the financial services sector but also to other complex services within the legal and health industries. Thus, the conclusions will have wide relevance for companies acting within industries with complex services which decide to lay the foundations for their consumers, thereby helping to empower them.

4.1 Sample and procedure

To analyze the effects of perceived empowerment, a self-administered online survey was conducted. The survey was distributed via a panel partner in all parts of Switzerland. To include only individuals, that are actually deciding about insurance services, the sample was drawn from a population between the age of 18 and 65 years. In addition to age, gender and education was considered as well to represent the population of decision makers in Switzerland and not base the results on a specific cohort. This allows practitioners to get better insights into the population of insurance decision makers in Switzerland. Participants were randomly selected until around 500 responses were collected. The participants of the online survey were financially compensated and free to choose when they complete the survey and how much time they devote to the task.

In advance of the survey, scales and items were pre-tested by discussing them with industry and marketing specialists. Final adjustments were made to the questionnaire before sending out to participants. The questionnaire included an introductory page explaining the purpose of the study. Since the model considers perceptions in the decision-making process, participants were asked to answer, whether they personally evaluated and purchased an insurance product in the last 24 months. If not, they could not proceed with the questionnaire. To get more accuracy, consumers are asked to recall the most recently experienced decision-making situation and refer the answers to this

particular situation. The research procedure incorporated a translation and back translation process (Myers, Calantone, Page, & Taylor, 2000). The survey was developed in German and translated by a native speaker into French and Italian. Another native speaker then translated it back in German. The two versions, original and back translated version, were compared and discussed with the translator to ensure that the surveys are fully and accurately translated. Both translators were familiar with survey research methods and with the subject.

From the 502 received questionnaires 15 were rejected due to the erroneous or missing responses. The final sample included 487 respondents, slightly more female (52 percent) than male respondents (48 percent). Distribution of age categories is approximately even with slightly less respondents below 25. Regarding education it is worth noting that only 12 percent fall into the lowest category, having only secondary school education level. Slightly more men (44 percent) than woman (31 percent) have a university degree or similar. As wealth was expected to have an influence on performance risk perception, income as a proxy was collected as an additional demographic variable. Income classes are based on the number of household members and refer to the Federal Statistics Office (2015). In example the thresholds for a family with 2 adults and one child to fall into the middle-income class are minimum 7,000 and maximum 15,000 Swiss francs. Most respondents fall into the middle-income class (60 percent). Low income class represent a bigger share (30 percent) than high-income class (10 percent), whereas male fall less in the low-income class (20 percent) than women (39 percent).

4.2 Measures

All constructs are measured using a 7-point multi-item scale with end points of "strongly disagree" and "strongly agree" except for the control variables. The scales draw on popular measures. Perceived self-efficacy is based on Spreitzer's (1995) measure of psychological empowerment in the workplace and adapted to consumers' decision-making in the insurance market. Perceived controllability uses the measures from Chandran and Morwitz (2005). Thus, it is related to the impact of consumers' behavior on the output rather than to consumers' behavioral control. Perceived performance risk is from Nepomuceno et al.'s (2014) perceived risk scale specifically regarding performance risk. Decision delegation preference is amended from studies in the medical domain, in particular from the widely used Autonomy-Preference Index (API) of Ende et al. (1989). This reflects the improved API scale of Simon et al. (2010)

and is reverse coded (high values: high decision delegation preference). The purchase decision involvement scale reflects the amended measures of Mittal (Mittal, 1995). Financial literacy is operationalized as the means of response on four scale items corresponding to interest compounding, inflation, time value of money, and purchasing power. To assess the perception of protection by market regulations, a single item is used. Single items are also used for other control variables such as sex, age, and wealth. To ensure the validity of the measures, a pretest is conducted.

5 Data analysis and results

Data are tested for normality violations, which distort variances and covariances, by investigating skewness and kurtosis (DeCarlo, 1997). Scores range from -1.04 to 1.35 for skewness and from -1.13 to 1.12 for kurtosis, which indicates that the data set does not include serious issues (Bollen, 1989). Confirmatory factor analysis (CFA) is conducted to assess the validity of the measures. In the initial model, standardized factor loading (SFL) for the fourth item of decision delegation preference ("If there were to be a fundamental change in my personal circumstances, I would prefer my adviser to take a more active role in the decisions to be made") is 0.58, just under the value of 0.60 Bagozzi and Yi (1988) suggest, but still exceeding the 0.5 threshold Anderson and Gerbing (1988) propose. The average variance extracted (AVE) is then examined to decide whether the items should be retained. The AVE of the factor Decision Delegation Preference results in a value of 0.482; thus, this variable is removed to obtain better convergent validity. Two other questions have an SFL lower than 0.60, but they are kept in the analysis as the AVE is sufficient and to be consistent with theoretical foundations.

5.1 Measurement model

In the final measurement model (see Table 4), composite reliability (CR) and AVE are calculated to check the reliability of latent variables and convergent validity. All values reach the required thresholds of 0.7 for CR and 0.5 for AVE (Hair, Black, Babin, Anderson, & Tatham, 2010). Thus, the latent factors can be well explained by their observed variables. To examine discriminant validity, square roots of the AVE values with the correlation coefficients of each construct are compared. As the square roots of the AVE values are above the correlation coefficients, the measurement model

has satisfactory discriminant validity (Chin, 1998). Six types of indices are used to assess the fit of the measurement model, such as absolute and incremental fit indices. As χ^2 is potentially inflated due to a large sample size (Bagozzi & Yi, 2012), the ratio of chi-squared to degrees of freedom is chosen as the preferred fit measure (Bearden, Sharma, & Teel, 1982). Fit indices show a reasonably good model fit ($\chi^2/df = 1.736$, CFI = 0.980, TLI = 0.974, RMSEA = 0.039, AGFI = 0.942, SRMR = 0.039).

Items and constructs	FL	CR
Perceived Self-efficacy		0.90
I have mastered the skills necessary to buy an (… insurance)*.	0.86	
I'm self-assured about my capabilities to buy an adequate (... Insurance)*.	0.88	
I'm confident about my ability to decide on a specific (… insurance)* on my own.	0.86	
Perceived Controllability		0.81
As a customer I can do a lot to get the best insurance benefits for my money.	0.81	
With enough effort I can get very good insurance benefits for my money.	0.61	
If I take play an active part in discussions with an insurance provider, I can exert a lot of influence as a consumer.	0.76	
In the end, I am the consumer, therefore I am responsible for obtaining the best insurance for my money.	0.67	
Perceived Performance Risk		0.87
If I took out (… insurance)*, I would not be sure if I were ever to get the benefits promised to me.	0.90	
If I were to sign a (… insurance)* contract, I would feel uneasy about ever getting claims met or costs settled.	0.76	
If I think about taking out (… insurance)*, I feel uneasy about the provider's honoring its promises.	0.83	
Decision Delegation Preference		0.77
My adviser should make important decisions about my insurance, not me.	0.82	
I should follow the advice of my adviser even when I do not agree with it.	0.69	
When I take out new insurance policies, I should not make any of the decisions myself.	0.67	
Purchase Decision Involvement		0.74
I care a great deal as to which (… insurance)* I buy	0.91	
It is of importance to make a right choice of the (… insurance)*.	0.59	
I'm very concerned about the outcome of my choice regarding the (… insurance)*.	0.58	
$\chi 2$/df	1.92	
Comparative fit index (CFI)	0.96	
Tucker-Lewis index (TLI)	0.94	
Standardized root mean square residual (SRMR)	0.04	
Adjusted Goodness of Fit Index (AGFI)	0.91	
Root mean square error of approximation (RMSEA)	0.04	

Notes: Standardized factor loadings are shown. FL, factor loading; CR, Composite reliabilities
* The questions relate to a recent insurance decision situation of the respondent

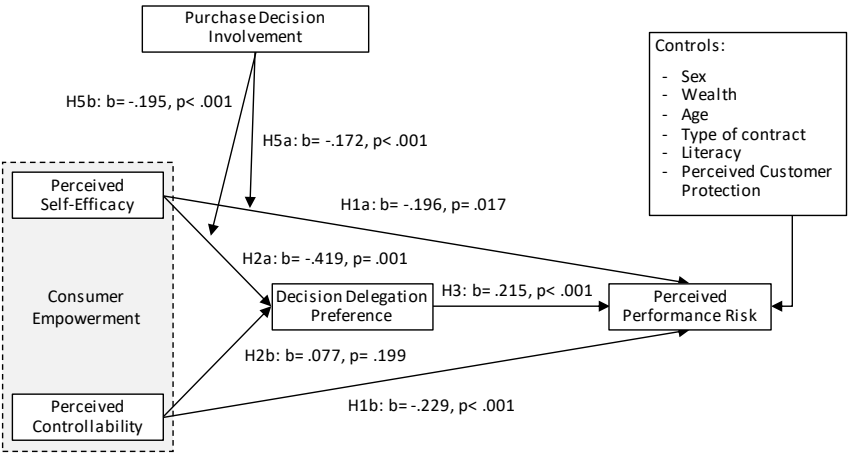
	CR	AVE	PPR	PSE	PCO	DDP	PDI
Perceived performance risk (PPR)	0.87	0.69	0.83				
Perceived self-efficacy (PSE)	0.90	0.75	-0.22	0.87			
Perceived control (PCO)	0.81	0.51	-0.28	0.36	0.72		
Decision Delegation preference (DDP)	0.77	0.53	0.25	-0.34	-0.07	0.73	
Purchase decision involvement (PDI)	0.74	0.50	-0.11	0.70	0.42	-0.23	0.71

Notes: CR, Composite reliabilities; AVE, Average variance extracted

Table 4. *Construct reliability and validity measures.*

5.2 Empowerment – risk perception model

AMOS Graphics 23 is used to perform full-information structural equation modeling (SEM) with the validated measurement items. Thus, the analysis includes both measurement and path models, which implies multiple-indicator measurement (R. B. Kline, 2005). Chi-squared of the model is 335.6 with 175 degrees of freedom, resulting in a χ^2/df of 1.918, below the strict threshold of 2 (B. Byrne, 2012). The global model fit measures indicate a reasonably good fit (CFI = .958, TLI = .939, SRMR = .041, AGFI = .912, RMSEA = .043). Alternative models are tested, including the moderation of purchase decision involvement on the effect of perceived controllability on perceived performance risk. No test results in a significant impact or a significant χ^2-difference. The estimation of each of the analyzed paths is given in Figure 5.



Mediation	Standardized regression weights	p-value
H4a: Perceived Self-Efficacy > Decision Delegation Preference > Perceived Performance Risk	-0.109	<0.001
H4b: Perceived Controllability > Decision Delegation Preference > Perceived Performance Risk	0.021	0.238
Control variables		
Sex -> Perceived Performance Risk	0.074	0.109
Wealth (low income) -> Perceived Performance Risk	0.076	0.093
Age -> Perceived Performance Risk	-0.092	0.041
Type of contract -> Perceived Performance Risk	0.026	0.576
Financial Literacy -> Perceived Performance Risk	0.045	0.333
Perceived Consumer Protection -> Perceived Performance Risk	-0.168	<0.001

Figure 5. *Empowerment – risk perception model.*

All hypotheses have been confirmed by the analysis, except for H2b and the mediation H4b. H1a (H1a: b= -.196, p= .017) and H1b (H1b: b= -.229, p< .001) are supported. The direct effects for H1a and H1b have roughly the same level of impact. Thus, conceptualization of consumer empowerment as a single-dimensional factor would miss important effects. The estimation shows a particular strong behavioral effect

from perceived self-efficacy (H2a: b= -.419, p< .001), but no effect from perceived controllability on decision delegation preference (H2b: b= .077, p= .199). H3 posits a positive effect of decision delegation preference on perceived performance risk (H3: b= .215, p< .001). Furthermore, mediation effects of decision delegation preference are tested by applying Hayes' (2009) method. According to Hayes (2009), 95 percent bootstrap confidence intervals and standard errors for each indirect effect using bootstrapping with 2,000 iterations were estimated. The results indicate significant mediation of decision delegation preference on the effect of perceived self-efficacy on perceived performance risk (H4a: b= -.109, p= .001), but none on the effect of perceived controllability (H4b: b=.021, p=.238), concluding that only self-efficacy affects the preference for making or delegating decisions.

To check for moderation, interaction effects are estimated, using Ping's (1996) approach. Accordingly, the independent variables perceived self-efficacy was standardized and multiplied by the standardized purchase decision involvement to get the interaction term. The interaction term and the variable purchase decision involvement were integrated into the model and regression to perceived performance risk and decision delegation preference was tested. Both, H5a and H5b are supported by the results (H5a: b= -.172, p< .001; H5b: b= -.195, p< .001). While purchase decision involvement has no direct effect on perceived performance risk or on decision delegation preference, it moderates both effects of perceived self-efficacy. This indicates that the more important the insurance decisions are perceived by consumers, the stronger is the effect of perceived self-efficacy in decision-making and perceived performance risk. In other words, consumers want to decide more autonomously and perceive less performance risk.

As derived from the literature, this paper controls for the effects of age, sex, and wealth on perceived performance risk. Additionally, we want to exclude the effects derived from the complexity of the product, such as life or non-life insurance contracts. As expected, there is a significant negative effect of age, meaning that experience acting in the insurance services market eases the tension that new market entrants perceive due to the rather complex and intangible service. Inconsistent with the literature, there is no significant effect on the 95% level for wealth and sex. Additionally, the complexity of the assumed higher complexity of life insurance products has no effect on perceived performance risk. Last, to exclude some of the county specifics of the single-country research, financial literacy and perceived consumer protection are controlled. The effect of financial literacy on perceived performance risk is not significant. However, strong

support for the negative effect of perceived consumer protection on perceived performance risk is found.

6 Discussion and implications

In consumer research, consumer empowerment is considered as a significant factor for managing customer relationships (Bhat & Darzi, 2016). The current study investigates the effects of consumers' perceived empowerment on perceived risk in a consumer-provider relationship in the insurance industry. The findings enhance the understanding of the psychological and behavioral effects of consumer empowerment and help practitioners to comprehend the implications of a consumer empowerment strategy. Several contributions to the existing literature are made.

The study contributes to the largely unexplored field of consumer empowerment effects from an individual-level perspective. First, the study employs performance risk perception as a dependent factor, due to its relevance in the consumer-service provider relationship in the insurance industry; however, risk perceptions have relevance in consumer-service provider relationships across industries (V.-W. Mitchell, 1999; Stone & Grønhaug, 1993). In contrast to other studies which often conceptualize consumer empowerment as a single-dimensional factor mostly related to self-efficacy, the demand for a multi-dimensional conceptualization of consumer empowerment is met (Conger & Kanungo, 1988; Thomas & Velthouse, 1990; Zimmerman & Warschausky, 1998). Results show that both the perceived controllability and perceived self-efficacy have a direct effect on perceived performance risk. Thus, conceptualizing consumer empowerment as a single-dimensional factor misses some important effects. Second, the article proposes a framework that includes the impact of decision delegation preference as a behavioral effect in the decision-making process. To include both effects and their interdependencies contributes to a more comprehensive understanding of consumer empowerment in the consumer-service provider relationship. Third, the model considers purchase decision involvement as a moderator to highlight the reliance of a consumer empowerment strategy on consumer will. It is of great importance to understand that consumers, who perceive insurance decision-making as somewhat irrelevant to them show no effect of consumer empowerment on decision delegation preference or on perceived risk.

Furthermore, this study provides theoretical contributions from the foundation and conceptualization of consumer empowerment. It employs self-efficacy theory

(Bandura, 1977) to conceptualize the consumer empowerment construct and understand the impact of enhanced consumer empowerment in decision-making. Future studies in the field of consumer relationship marketing can draw on the conceptualization of consumer empowerment. Applying consumer empowerment concept in relationship marketing implies a shift in perspective. Traditionally, relationship marketing has examined service exchange processes with a strong focus on the service-provider (Heinonen et al., 2014). In this perspective, relationship marketing aims to create offerings and service processes in order to maintain and strengthen customer relationships and increase loyalty and sales. Relationship marketing has often applied rather objective measures, such as customer retention (Ryals & Payne, 2001) and customer loyalty (Leverin & Liljander, 2006). Relationships have also been examined considering the quality of service processes perceived by consumers or the perceived satisfaction with service elements (Leverin & Liljander, 2006). Applying consumer empowerment in relationship marketing does not examine objective states of a relationship at a particular time; rather, it examines how relationships are construed by consumers (Strandvik & Liljander, 1994). It shifts the emphasis towards the construal, selection and construction of environments by consumers (Bandura, 1999). In this perspective relationship marketing focuses on how people construe decision-making situations, which potential decision environment people select, and how construal and selection of the decision-making situation impacts experiences and expectations.

6.1 Consumer empowerment as a business strategy

Previous research indicates that digital technologies will cause a significant shift in the consumer-producer relationship (Deighton & Kornfeld, 2009; Kozinets & Graduate, 1999; Shipman, 2001). Consumers have unleashed themselves from the traditionally prevailing view of their passive role in the market. This gives providers the opportunity but also the pressure to redefine the nature of their relationship with consumers. Verified by the results of the analysis, empowered consumers perceive lower performance risk. This is of particular importance when acting in a market that is highly complex, intangible, and existential to the life of consumers, thus resulting in a high perception of risk. Nevertheless, firms implementing consumer empowerment as a business strategy need to be aware of the psychological and behavioral consequences as well as the factors that impact such a strategy.

The model presented in this article depicts both, psychological effects on the perception of insurance services and behavioral effects in the decision-making process of consumer empowerment. Empowered consumers develop a sense of psychological ownership over their decisions. They perceive the decision as theirs and the outcome as impacted by their performance, which affects their perceived performance risk. Thus, consumer empowerment can be used as a risk reduction strategy. For practitioners in the insurance market, it is challenging to establish a trustful relationship, as few moments of success are experienced by consumers. The performance of insurance services is mostly imperceivably, except in events of damage. By empowering consumers in the purchase phase, the level of service performance uncertainty is reduced from the outset of the relationship, thereby increasing consumers' ability to assess the value-in-use of the service. This is even more important considering the potential decrease of human contact in the purchase phase, due to the digitalization of access points.

As demonstrated by the results, practitioners need to consider that consumer empowerment not only affects perceived performance risk perception but also motivates consumers to bear the cognitive burden of deciding on their own rather than delegating decisions. Consumers who behave more autonomously in their decision-making face fewer risks stemming from the agency dilemma because their subjectivities are increasingly self-governed, but this also has a weighty influence on advice expectations. Consumers who are empowered depart from the traditional paternalistic customer-expert relationship (Camacho et al., 2014). They might prefer coaching over advice, as they want to be supported in their own decision-making rather than advised about what the best solution might be in the eyes of the agent. Service providers applying a consumer empowerment strategy should consider the expected role change, especially if their sales structure is based on personal agents, as is common in the insurance industry. Consumers expecting their own decision-making might be dissatisfied if they experience a proposing rather than a supportive environment. Advice, although it might benefit consumers, is rather value-deteriorating and spoils the relationship.

Insurers implementing a consumer empowerment strategy cannot assume that all individuals will evolve into active empowered consumers. The analysis shows that the effect of perceived self-efficacy is moderated by purchase decision involvement. Largely indifferent consumers do not show a higher preference for autonomously making decisions, nor does such indifference affect perceived risk when providers facilitate empowerment. This is an important implication for practitioners and possibly another starting point from which to improve the consumer relationship (Dholakia, 2000). Often,

insurance services have been sold by increasing consumers' concerns or fears. Although this may temporarily increase the consumers' attention, which simplifies the challenge of persuasion to sign contracts, increasing fears contradicts the consumer empowerment strategy, as emotional arousal states that result from stress or fear can lower self-efficacy expectations (Conger & Kanungo, 1988). Thus, in practice, management should maintain profiles of consumers who show indifference towards insurance decision-making and offer them standardized products and simplified processes; however, for consumers with purchase decision involvement, investments in consumer empowerment will pay off for the company through improved relationships.

6.2 Consumer empowerment in future research

Perhaps the most fruitful direction for future research would be to assess the long-term effects of consumer-perceived empowerment on the customer journey. Though not discussed in this article, during the analysis, indications were found of the effect of perceived empowerment on perceived interaction fairness in the post-purchase phase. Fuchs et al. (2010) confirm the assumption of possible long-term effects, as they mention effects on future loyalty intentions. Consumer empowerment conceptualized as self-efficacy was found to impact trust regarding data sharing with the provider. If this holds true, an empowerment strategy would significantly improve the consumer-provider relationship. This study considered consumer empowerment in the decision-making situation to have an effect on perceived risk perception. Accordingly, survey participants were asked to reflect on a recent insurance service decision situation. Thus, we modeled research to measure consumer empowerment and perceived performance risk at the time of decision-making. We did not, however, research whether this perception holds true over time. Renström (2014) found in studying banking relationships that they can fade away for no obvious reason. It would be interesting to know whether consumer empowerment experiences and their psychological and behavioral effects endure over time. Additionally, scholars pursuing this line of research could concentrate on other perceptions or behaviors, such as customer value or loyalty, which enhance the practical applicability of a consumer empowerment strategy.

Consumer research still needs to answer the question of what leads to a perception of self-efficacy and controllability and how these perceptions can be updated. Here, the research can draw substantially from the empirical and theoretical knowledge of self-efficacy theory. According to the interpretation of the consumer empowerment construct

in this study, consumers' beliefs are formed and updated within the process of decision-making (Van Beuningen et al., 2011). In self-efficacy theory, progress cues play an important role (Bandura, 1988). Progress cues are based on the strategy of repeatedly showing consumers their progress and success in the decision process (Wathieu et al., 2002). Consumers develop a sense of efficacy through successful experiences (Bandura, 1988). In contrast, failures can create self-doubt and a sense of helplessness. Insurance decision-making is generally seen as complex for consumers, but this attribution might be an outcome of several failures in the past to decide on an insurance service. It is not only the nature of the insurance product that is responsible for the complexity but also the way in which they are presented. To enable consumers to have successful experiences, insurers should create a collaborative environment via iterative interplay to give consumers the opportunity to learn, understand, and relieve tension. Service providers with digital tools that offer consumer-oriented processes and services that reflect consumers' demands, support them, and repeatedly show the progress made during the decision process might be able to increase self-efficacy beliefs. Consumers might also learn that they have the opportunity to obtain positive outcomes through their action, which increases their motivation to take additional effort. But not only are progress cues suspected of constructing consumers' beliefs; in self-efficacy theory, provision of information about other consumers or control of choice set composition are additional factors (Wathieu et al., 2002). Pursuing an empowerment strategy presumes collaborative behavior between consumers and providers. Nevertheless, empowering always means influencing normalcy for consumers. This can be perceived as technologies-of-domination (Shankar et al., 2006). If consumers perceive themselves as being manipulated, controllability perception is violated, which can cause reluctance and mistrust. Further investigations are needed in order to understand the effects of marketing actions on controllability perceptions.

Financial literacy is widely seen by policy-makers as a key prerequisite for making informed decisions (see M. Brown & Graf, 2013). A significant amount of research has been devoted to the question of how people acquire and deploy literacy in the financial services market (Lusardi & Mitchell, 2014). As insurance decisions often entail calculations and comparisons of costs and utility, it is assumed that higher financial literacy simplifies decision-making (Olapade & Frölich, 2012). However, no direct effect of financial literacy on perceived risk has been found. This may be due to the nature of the concept of performance risk perception. Perceived performance risk is a subjective expectation that a company will perform actions that do not result in a positive outcome for the consumer. This depends more on a belief system than on objective capability. To

manipulate perceived risk, the belief system of the consumer must change. Therefore, this study proposes an alternative approach for consumer protection authorities whose goal is to enhance consumer empowerment. The question for practitioners is whether implementation could address outside regulatory frameworks. The application of consumer empowerment in consumer policy research seems to be a fruitful direction for further research.

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IV. Exploring customer value proposition evolution: Digital new ventures between organizational and consumer learning.

Abstract

This article explores the evolution of customer value proposition (CVP) in the first years of new ventures' development. Previous research, examining the process of designing and enacting new customer value propositions, has mainly focused on the organizations' learning processes, neglecting the dynamics of consumers' learning processes. We assume new ventures and consumers co-evolve over time as each one interprets the other's actions and acts on these interpretations. We present a multiple case study of independent new ventures, to understand the extent to which and how organizations consider and manage consumers' learning processes within CVP evolution. Results suggest two different logics of how new ventures integrate consumers' learning processes in CVP evolution. First, following supplier-crafted CVP evolution logic, new ventures create solutions for consumers, self-crafted with a focus on the own revenue model. Consumer feedbacks are understood as exogenous factors measuring the success. Second, applying a co-creative CVP evolution logic, new ventures co-create solutions with consumers, focusing on supporting consumers in their everyday lives. Consumer feedbacks are an integral part of the evolution process itself. We find evidence that the underlying logic does have an immense effect on how CVPs evolve and establish the main differences. Finally, we make several propositions on how to amend research integrating organizations' and consumers' learning processes in explaining CVP evolutions.

Keywords: Customer value propositions, New ventures evolution, Organizational learning, Consumer learning, Co-creation, Digital transformation

1 Introduction

Technological change makes value chains easier to decompose (Berman & Marshall, 2014) and provides new opportunities for service providers to engage with consumers (Payne, Storbacka, & Frow, 2008). This shift offers new ways to combine resources and to configure CVP. In many service industries, such development also brings a substantial increase in new ventures, such as independent ventures as well as internal corporate ventures, thus challenging the traditional CVPs in the markets. The process of enacting new CVPs can be considered experimental (Covin, Garrett, Kuratko, & Shepherd, 2015). Entrepreneurs often start with an initial business idea, recognizing CVPs enabled by new technologies that potentially lead to a superior value-in-use for consumers. The initial market vision must be exploited and translated into business reality through the CVP evolution process (Andries & Debackere, 2006). Throughout this process, many assumptions, on which new ventures are bases, will be proven incorrect (McGrath, 2010). Accordingly, new ventures approach markets, often going through several transitions (Ambos & Birkinshaw, 2010), which results in a highly dynamic process of CVP evolution. Given that young entrepreneurs are confronted with decisions that have vital consequences for their businesses, considerations regarding such matters as the extent to which and under what circumstances CVP changes are beneficial, is crucial regarding the management of exploratory vehicles (Covin et al., 2015).

This article aims to contribute to the understanding of new ventures' CVP evolution in service industries by following the proposition of Covin et al. (2015). They indicate that there is a gap in the research incorporating the phenomenon of consumer learning as an important factor of new ventures' evolution. Consumer learning here is understood as the learning of the consumer about newly launched CVPs. Consumers' learning processes need to be differentiated from organizations' learning processes. When founding new ventures, entrepreneurs start to learn about their organization, their stakeholders' networks, and their markets. In response to a market launch, consumers start to recognize and clarify through observation and experimentation (Kolb, 1984) the potential value-in-use of the new CVP. Consumer learning impacts how consumers will engage with the service-provider in the future (Payne et al., 2008). Similarly, organizational learning impacts how service providers might improve CVP. Accordingly, we understand organizations' and consumers' learning processes as concurrent and reciprocal over the course of new ventures' development and apply a co-creative perspective on new ventures' CVP evolution as a theoretical framework.

The current research explores the evolution of CVPs of new ventures' development and examines how consumers' learning processes are integrated by new ventures in CVP evolution. We model new ventures' development as a sequence of CVP evolution phases and observe the transition events between each phase. We decided to apply a multiple case-study design of independent new ventures to gain deep insight into how CVP evolves between organizations' and consumers' learning processes in the first years after market launch. The article is organized as follows. First, our research goal is considered in the context of the existing body of business model dynamics literature. Applying a co-creative perspective to new ventures' CVP evolution, we employ a CVP evolution framework. Based on that theoretical frame, research starts by building up a schematic representation of each new ventures' development process. We systematically model the new ventures' development process as a sequence of the CVP evolution phases and analyze the transition events between these phases. We identify elements of transition events that systematically describe what caused the event, how the was event framed, and how the organization responded to it, which serves as basis to categorize transition events into types. That enabled us, to generate insights into how transition types are sequenced over time and to gain a comprehensive understanding of the integration of consumers' learning processes in CVP evolutions of new ventures. Finally, we establish two distinguishable CVP evolution logics and offer propositions for new ventures research by including consumers' learning processes as an integral part of CVP evolution.

2 Theoretical Foundations

2.1 Business model dynamics of new ventures

In the interest of integrating the current research into the larger literature, we refer to prior studies in the business model dynamics of new ventures. Business model dynamics are a widely researched phenomena in entrepreneurship research (Ambos & Birkinshaw, 2010). Related concepts considering business model dynamics include work on business model adaption (Saebi et al., 2017), evolution (Covin et al., 2015), development (Reymen, Berends, Oudehand, & Stultiëns, 2017), learning (Teece, 2010), erosion (McGrath, 2010), transformation (Aspara, Hietanen, & Tikkanen, 2010), or innovation (Frankenberger, Weiblen, Csik, & Gassmann, 2013). In their recent review on business model dynamics literature Saebi, Lien, and Foss (2017) differentiate between

business model adaption and innovation. They point out that adaption describes a reactive action of changing external conditions to retain alignment with the business environment. In contrast, innovation is the process of actively innovating the business model to disrupt the market conditions (Saebi et al., 2017).

At its root, business model dynamics has recently been defined as a dynamic process (Demil & Lecocq, 2010; Sosna, Trevinyo-Rodríguez, & Velamuri, 2010) of creating value by changing one or multiple business model components (Amit & Zott, 2001). In new ventures research, business model dynamics often imply an experimental character due to ambiguity (Andries & Debackere, 2013). While earlier research in new venture development has focused on the initial conditions of new ventures predicting performance (Gartner, Starr, & Bhat, 1998; Shrader & Simon, 1997), newer research addresses the process of business model evolution as a separate phenomenon. Generally, these studies are interested in the early paths of new ventures, its adaptations, organizational or entrepreneurs' behaviors, and factors that influence this behavior (Ambos & Birkinshaw, 2010; Andries & Debackere, 2006, 2007, 2013; Baron, 2009; Chandler, DeTienne, McKelvie, & Mumford, 2011; Covin, Garrett, Gupta, Kuratko, & Shepherd, 2016; Covin et al., 2015; Dencker, Gruber, & Shah, 2009).

However, despite the importance of business model evolution in new venture research, there are some important shortages within the research. Often, the unit of analysis is the business model itself, without specifying business model evolution on the component level (Reymen et al., 2017). There are only a few exceptions in the literature. Reymen et al. (2017) provide a more in-depth components view linked to decision-making logics. Their analytical model facilitates insights into what business model components were changed by which decision-making logic and highlight the importance of CVP evolution in business model development. Covin et al. (2015) concentrate their study on one element of the business model. They examine CVP evolution over the course of new ventures' development to emphasize a key aspect of new ventures' survival. "The ability of businesses to identify and enact value propositions their target markets judged as desirable is widely regarded as a key to competitive success" (Covin et al., 2015, p. 750). Ambos and Birkenshaw (2010) choose a configurational approach that focuses on an organization's configuration of structures and systems, rather than on components of the business model.

The other aspect we want to mention as part of the shortage in the literature is the phenomenon of consumer learning as an important factor of new ventures' evolution (Covin et al., 2015). Previous research in new ventures' evolution mainly focused on an

inside-out perspective, gaining insights about the logics, behaviors, and conditions of entrepreneurs or organizations. They assume a sequential CVP evolution process of creating CVPs, gathering market feedback and adjusting them in response, and treating market conditions as exogenous factors (i.e. Andries & Debackere, 2013). In reality, consumers learn over time through encounters with service providers and can change their behavior based on their experiences, accumulated knowledge, or feelings towards the providers. "Environments change because of factors external to the company but also because firms co-create and change their environment" (Andries & Debackere, 2013, p. 354). Through experimenting with services and products on the market, entrepreneurs gain knowledge about the viability of CVPs, but concurrently, they alter their markets. Service providers and consumers co-evolve over time as each one interprets the other's actions and acts on these interpretations. The implication of this recursive process is that entrepreneurs must not only experiment to find market opportunities, but they can also co-create opportunities through a co-evolutionary process of experimenting and learning about and with the consumers.

2.2 Reflecting consumer learning in a new CVP evolution framework

To reflect the reciprocal learning process of service providers and consumers, this article employs a co-creative perspective of value creation, thus adopting the service dominant logic presented by Vargo and Lusch (2004, 2008). The service dominant logic is an alternative set of propositions to the traditional view of exchange on markets, referred to as goods-dominant logic. Central to the service dominant view is an alternative understanding of how value is created. A goods-dominant logic value is embedded in goods and represented by market prices. The locus of value creation is market transactions, in which goods are exchanged with monetary value. In contrast, value creation according to the service-dominant logic is based on a series of interactions among service providers and consumers (Payne et al., 2008; S. L. Vargo, Maglio, & Akaka, 2008). Both actors offer and integrate resources from each other to achieve the consumers' particular goals. Thus, value is co-created through a collaborative process of service exchange, but is always phenomenologically determined by the beneficiary (Vargo & Lusch, 2008). Value determination is dependent on experience and perception (Vargo & Lusch, 2006). Service-dominant logic is tied to the value-in-use concept, meaning value is experienced before, during, and after usage and is not only related to the exchange (Heinonen et al., 2010).

Applying a co-creative perspective to new ventures' CVP evolution, we employ a CVP evolution framework (see Figure 6). It is based on the conceptual understanding of value co-creation of Payne, Storbacka, and Frow (2008). They describe value co-creation as a set of processes with which organizations seek to create value propositions. It accentuates "the need to view the relationship between the provider and the customer as a longitudinal, dynamic, interactive set of experiences and activities performed by the provider and the customer" (Payne et al., 2008, p. 85). The framework distinguishes three spheres. The *consumer sphere* describes activities performed by consumers to actually create value-in-use. Thereby, consumers can take on a multitude of active roles in the service process, ranging from human resources in self-service situations to a predominant actor in innovation and provision of services (Maas & Graf, 2004; Storbacka & Lehtinen, 2001). They use their available resources to learn, maintain, and adapt the offering to their individual needs and behaviors (Vargo & Lusch, 2004). Consumer learning is a recursive process during which experiences of a service-provider and its services are finally manifested in changes to attitudes, preferences, and behaviors (Payne et al., 2008). The new venture sphere is a set of processes in which organizations learn how to create consumer experiences. The service provider's role is to provide experiential interactions to either add to the consumers resources, such as competences or capabilities, or to help consumers to utilize their own resources (Payne et al., 2008). The service-provider can be characterized as a value facilitator (Grönroos & Voima, 2013). In this respect, organizational learning refers to an understanding of how the offering fits within consumers' activities. The joint co-creation sphere is understood as the direct interaction between service-providers and consumers. It should be managed by the service-provider to create successful co-creation opportunities (Payne et al., 2008). CVPs exist to facilitate co-creation of experiences (Payne et al., 2008). This explains which relationship service-providers want to expand, what resources they offer, and how they position themselves within consumers' processes. Thus, CVPs are always phenomenologically determined by the consumer and evolve over time due to service provider-consumer interactions.

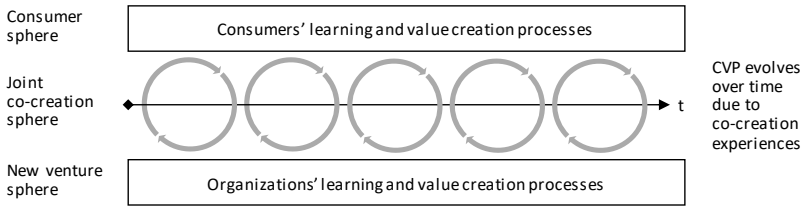

Figure 6. *CVP evolution framework.*

3 Empirical study

The study focuses on new ventures in mature insurance markets. Currently the insurance industry is undergoing a change process with a substantial increase of new venture activity, thus challenging traditional businesses with new CVPs. The nature of the insurance service is presumed to be a source of reluctance for consumer engagement (Newholm et al., 2006), as people prefer to be involved in services that promise desired consequences rather than services that make them aware of potential losses in their lives. Furthermore, trust is a decisive factor in the insurance market, as decision making is complex (Harrison et al., 2006), and outcome uncertainty often extends throughout the entire relationship. Consequently, new ventures could find it even more challenging to enact marketability, which might stress the necessity to co-create CVPs.

We selected an inductive multiple case-study design and adopted a process research approach (Langley, 1999) to gain deep insights into a new aspect of new ventures' development. Process research facilitates the understanding of how aspects evolve over time and why they change in the observable way (Van de Ven & Huber, 1990). A sufficient number of cases enabled us to gain more validity by identifying similarities and differences across cases. The primary unit of analysis is the organization itself, in contrast to studies analyzing business adaption on an individual level, including personal characteristics of the founders or the organizations' internal structure (Beckman & Burton, 2008).

3.1 Sampling and data collection

To define information-rich cases, purposeful sampling was used (Eisenhardt & Graebner, 2007). A similar approach was used in Reymen et al. (2017) in their process

study on decision-making logics. Cases were selected based on the following sampling criteria. (1) The new venture enters into mature insurance markets, such as Western Europe or USA, which ensures a similar market context. (2) The new venture is independent, meaning it is not owned by an incumbent. (3) The new venture's business model is based on new technology, also called an InsurTech. Technology-based ventures were selected, as they face substantial uncertainty about how to evolve CVP to find an appropriate market fit. (4) The new venture's goal is to directly improve consumers' value-in-use. This excludes B2B business models, in which learning processes and service provider-consumer relationships are assumed to be different. (5) To gain insights into CVP changes and the underlying learning processes of the organization and consumers, a sufficient maturity of new ventures is required. We set the threshold of maturity, measured from market launch until the end of this articles' observation period, to at least six quarters. Based on these selection criteria, a total of 367 new ventures are reviewed, of which 264 have been excluded for not meeting the criteria. The 103 remaining new ventures were invited to take part in the research. 19 new ventures responded positively and were studied and interviewed. 3 new ventures had to be excluded from the analysis, as we retrospectively recognized that they don't meet the given thresholds.

We conduced semi-structured interviews between March and May 2018 with founders or co-founders of the new ventures, each of which lasted typically between 45 and 60 minutes on average. The interviews were tape-recorded and transcribed verbatim. In all cases, one of the entrepreneurial team members who founded the venture and was active in the entire observation period was interviewed. The interviews were structured along the new ventures' development process with a strongly narrative character. Respondents were asked to tell the story of their venture with an emphasis on strategically significant transition events. To reflect on concrete events rather than abstract concepts reduced the risk of cognitive biases (Miller, Cardinal, & Glick, 1997). With progression of the interviews, probing questions were flexibly added, which required a broad understanding of the transition contexts as well as more in-depth information. One by one, transitions were discussed, including questions regarding what had changed, what has changed for consumers, why the team members came up with the decision to change, and what else happened at that point of time, such as organizational changes or environmental challenges, to gain insights into change triggers. This approach provided the interviewers greater openness to new insights provided by the respondents and a possibility for respondents to specify experiences leading to higher accuracy of retrospective reports (Eisenhardt & Graebner, 2007; Miller et al., 1997). It also allowed

respondents to share their perspective without bias from the interviewer. To avoid potential retrospective bias, a comprehensive analysis of the new ventures studied was done prior to the interviews. Based on archival documents, such as company presentations, newspaper articles, web articles, public interviews, and InsurTech databases as well as the companies' websites or mobile apps, a CVP evolution was drafted, which allowed researchers to ask more specific, probing questions. After the interviews, the respondents were invited to give feedback on the schematic representations of their CVP evolution and were asked for further clarification where needed. A brief description of the remaining 16 new ventures is given in Table 5.

Nr.	Label	Position of the interviewee	Launching first CVP	Market time (Q)	Brief description
1	AN	Founder & CEO	Q2 2015	14	Digital insurance product designer and platform programmer.
2	BK	Founder & CEO	Q3 2014	17	Specialist insurance provider (managing general agent) with focus on bike insurance.
3	CL	Founder & CEO	Q1 2015	15	Life insurance product and platform provider with a focus on digital consumer processes.
4	ES	Co-Founder & CEO	Q1 2015	15	Digital broker of insurance solutions for small and medium businesses.
5	FS	Co-Founder & MD	Q1 2010	35	Digital managing general agent, creating insurance solutions partly based on a peer-to-peer model.
6	GT	Founder & CEO	Q2 2015	14	Full digital insurer with focus on digital need recognition
7	HS	Founder & CEO	Q3 2013	21	Health insurance broker platform with focus on consumer learning.
8	MM	Founder & CEO	Q3 2009	37	Telematic-based driver insurance broker for young people.
9	MS	Founder & MD	Q1 2016	11	Product insurance solution provider and platform programmer.
10	NI	Co-Founder & CEO	Q4 2014	16	Digital managing general agent and platform provider with focus on need recognition.
11	PS	Co-Founder & CEO	Q1 2017	7	Digital managing general agent with focus on image recognition.
12	PC	Founder & CEO	Q4 2016	8	Digital broker and platform provider with focus on smart home solutions.
13	RI	Founder & Director	Q1 2016	11	Digital claims handling processor and provider of digital claims handling solutions.
14	SF	Founder & CEO	Q1 2012	27	Full digital life insurer with personalized premiums and life insurance platform provider.
15	WF	Founder & CEO	Q1 2015	15	Full digital insurer and insurance broking platform.
16	WS	Founder & CEO	Q2 2017	6	Health insurance product provider based on lifestyle tracking.

Table 5. *New ventures sample.*

3.2 Data coding structure and analysis

We systematically model the new ventures' development process as a sequence of the CVP evolution phases. In each phase, the CVP remains constant, whereas it evolves from phase to phase. Transition events mark the beginning of a new phase in new ventures' development process. Analysis was conducted independently and then jointly discussed and revised where necessary. To code and analyze the data, this study followed a three-step approach:

1. Define transition events that mark strategic relevant changes in new ventures' development.
2. Identify elements of transition events that systematically describe what caused the event, how the was event framed, and how the organization responded to it.
3. Categorize transition events into types to analyze CVP evolutions of new ventures and assess the integration of consumer learning processes in CVP evolution.

We started by building up a schematic representation of each new ventures' development process by identifying the key transition events and integrating them into a chronological story about what happened at which point in time. We concentrated on the entrepreneurs' interpretative scheme to determine and frame the relevant transition events. The chronical flow of the story allowed for a better understanding of the events and the supporting processes (Poole, Van de Ven, & Dooley, 2000). According to Belli (1998), the creation of chronical event lists ensures sufficient accurate and complete retrieval of the retrospective processes. Recalling significant events is a common practice in process studies and is accurately considered so (Gremler, 2004; Mueller, Neergaard, & Ulhoi, 2011). A similar approach has been used, for example, in Reyman et al. (2015) to study decision events in the venture-creating process.

We analyzed transition events following a coding procedure proposed by Miles, Huberman, and Saldana (2014). First, a list of first-order codes of what happened, when, and under what circumstances was generated. As a next step, codes are grouped into categories. This process can be described as repeating rounds of in-vivo categorization and theoretical categorization by deductive reasoning, which facilitated simultaneously working close to data and capturing theoretical relevance (Locke, 2003). Finally, a mix of in-vivo categories and theoretical categories served as data structure. Similar data coding is used in organization science (see i.e. Zimmermann, Raisch, & Birkinshaw, 2015). As a result of the data-coding procedure, we identified aggregated elements that

systematically describe what caused the event, how the event was framed, and how the organization responded to it.

As a next step, we performed a cross-case analysis to search for content-related similarities among and differences between transition events. Typically, transition events given the same categories were compared for content-related similarities and then contrasted with other groups. This process enabled the researchers to derive different types of transition events and to distinguish transition events that were triggered by impulses emanating from the interaction between service provider and consumer. We generated insights into how transition types are sequenced over time and gained a comprehensive understanding of the integration of consumers' learning processes in CVP evolutions of new ventures.

4 Findings

4.1 Elements of transition events

Our data revealed three aggregated elements through which entrepreneurs expressed the contextual situation of and organizational response in transition events. Key elements that emerged included transition impulse, or the key triggers of organizational action, transition meaning, understood as entrepreneurs' framing of the situation and transition scope, which denotes the magnitude of CVP change in transition events. We provide an overview of the aggregated elements describing transition events, their respective theoretical or in-vivo categories and examples of first-order codes in Figure 7.

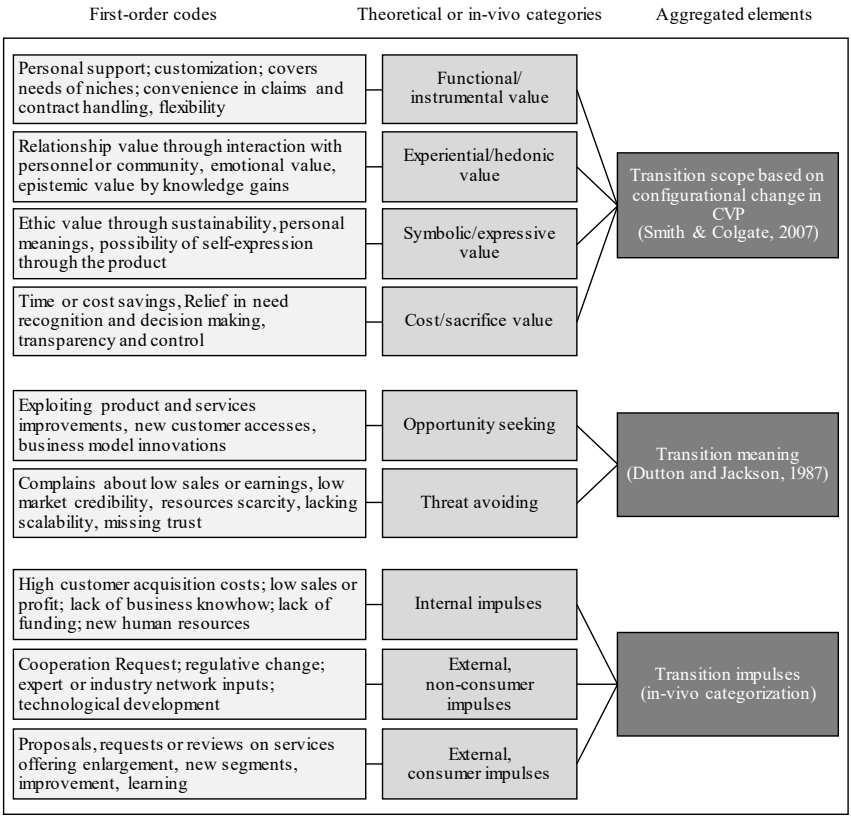

Figure 7. *Elements describing transition events.*

Most organizational theory assumes that organizational actions are partly determined by either response to external environments or intentional behaviors, especially of top-level decision makers (Dutton & Jackson, 1987). Studies examining the antecedents of the business model adaptation differ between the individual or organizational level and antecedents that are internal or external to the firm (Foss & Saebi, 2016). Antecedents are factors that trigger a decision for a specific business model adaptation; we refer to them as *transition impulses*. Referring to the physical unit, transition impulses do have a source, such as the organization itself, the organizational environment, or the stakeholder of the organization and do have an impact at a certain point of time. Their strength can be defined as their potential to trigger an action. To integrate it into this

study, we employ three categories, which are all well-grounded in the data. *Internal impulses* include the outcomes of entrepreneurs' teleological decision making (Demil & Lecocq, 2010). In our sample, they are often based on questions of how to improve scalability, how to get more funding, or how to reduce technical complexity. We also observed that entrepreneurs often had to adapt their assumptions, as they didn't originally meet the business reality. In contrast, external impulses refer to incidents from the environment or the stakeholders of new ventures. According to the concept of negotiated enterprise (Wenger, 1998), which assumes that new ventures' evolution is dependent on the outcome of negotiated relationships with other market actors, entrepreneurs actively develop and maintain relationships to access other actors' resources and learn by reflecting their business or recognizing new opportunities (Rae, 2006). Thus, organizational learning is oriented toward actively chosen market actors. In our research, we differ between an orientation towards consumers and that of other stakeholders. In the sample, *non-consumer impulses* came from potential or actual cooperation partners, from experts or from regulatory changes. First-order codes that originated from consumers are grouped into the category *consumer impulses*. We observed different forms of consumer impulses. They reach from pure unidirectional feedbacks to ideas derived from a co-developing process between new ventures and consumers. The differentiation between non-consumer impulses and consumer impulses is new to the new ventures literature and enables examination regarding the extent to which CVP evolution is the result of the integration of the consumers' learning and value creation processes.

Entrepreneurs are exposed to a large stream of information about incidents of their internal organization and their environment. Some of these incidents are perceived as potentially threatening to the new venture, and some are perceived as opportunities. *Transition meanings* are not inherent; instead, the entrepreneurs' experiences and his internal environment have a major effect on the meaning that evolves (Dutton & Jackson, 1987). Threat and opportunity are salient categories for motivators in strategic decision making (Chattopadhyay, Glick, & Huber, 2001). Accordingly, first-order codes about how entrepreneurs perceived the situation when they decided to change were grouped under the theoretical categories, *opportunity seeking* and *threat avoiding*. This discretion follows the ground work of Dutton and Jackson (1987) on the influence of issue framing (either a threat or an opportunity) regarding strategic decision making. They defined a threat as a perceived negative situation, in which loss is likely. On the contrary, an opportunity implies a positive situation, in which gain is likely. We included transition meaning, due to both perspectives, the entrepreneurs perceived the situation

as being a differentiating element of transition events, and it is been suspected to have an influence on the magnitude of organizational action (Saebi et al., 2017).

We analyzed transition events with regard to the magnitude of change in CVP. To systematically compare *transition scope* within and across cases, a level of granularity was required, which is independent of the specific service or product characteristics new ventures offer. It further must capture the entire service provider–consumer relationship and not only transactions as a scope of the analysis. Finally, as this study approaches CVPs as new ventures' promises that are always interpreted and determined by consumers, a transition scope must reflect consumers' perspective. The measure that emerged from the data analysis as a defining transition scope of CVP evolution was the configurational change in the desired customer value. The concept of desired customer value assumes that consumers conceive of value in a means-end way (Woodruff, 1995). This means that consumers learn to think about relationships[7] as bundles of attributes (means) and form preferences for attributes that potentially facilitate desired consequences (end), thus reflected in value-in-use. The level of desired consequences is independent of any product features or distinct services and allows for comparison and differentiation within and across companies. We found an appropriate theoretical categorization of the desired customer value in the work of Smith and Colgate (2007). Accordingly, desired customer value has four dimensions (functional/instrumental value, experiential/hedonic value, symbolic/expressive value, and cost/sacrifice value). Each dimension is well reflected in the data. Thus, we describe CVPs of new ventures in terms of these four dimensions. Based on this systematic description of CVPs, we were able to objectively compare and differentiate transition scope within and across cases. We noted two different transition scopes: 1) a disruptive change to CVP configuration, and 2) a sustaining change. We measured disruptive changes to CVP configurations using the changes in its primary CVP dimension. This occurs, for instance, if a new venture's proposition was to sell products with highly ethical standards and then changes its CVP to sell low-cost products. A sustaining transition event builds mainly on the CVP configuration that has been created in the previous period and only experiments with secondary factors or variables in the same dimension. Referring to the example, this is the case if the new venture adds a convenience aspect to its ethical standards. In the sample, sustaining transitions are often changes to the vertical integration, changes to the value-creation network, concentration on specific customer segments, or further specifications of the offering. All of these changes led to a slight

[7] Woodruff (1995) speaks of the attributes of products. To reflect the relationship-based managerial focus in the service-dominant logic, this article discusses the attributes of relationships.

amendment of the CVP. We have illustrated an overview of the CVP configurations of each evolution phase and the respective transition scope of all new ventures in our sample in the Appendix (see Figure A1).

4.2 Categorization of transition events

Our sample contains 16 individual evolution stories, each having one to four transition events, totaling 37 transition events and 53 evolution phases. Each transition event was systematically categorized. The result of the categorization is presented in Table 6. We noted some early indications from and coherences between the quantitative results.

We observed 24 out of 37 transition events, of which organizational action was clearly attributable to an external impulse. We were surprised by this high number of externally triggered transition events, which indicates a high openness to learn from external sources. It requires high adaptability to actualize and leverage unexpected events for the benefit of the new venture (Chandler et al., 2011). We could classify 11 transition events as *threat avoiding*, whereas 26 transition events were categorized as *opportunity seeking*. This means that, for most of the transition events, entrepreneurs did not perceive any threat or urgent need to change their existing CVP and still did it. On the contrary, research often assumes a strong need to change in order to perform adaptation (Covin et al., 2015). Adapting business models is likely to involve some level of outcome uncertainty (Andries & Debackere, 2007), which makes it unlikely that firms change their business model without a strong incentive (Saebi et al., 2017). We finally assigned 25 events to sustaining transitions and 12 to disruptive transition. This shows that both kinds of transitions are common in new venture development. It could be sometimes helpful for entrepreneurs to stay on a certain path, accept path dependencies (Collis, 1994) and learn the way in with incremental experimentations. In contrast disruptive transition may be important to increase variation. The process often encompasses higher-order learning and a change in cognitive frames (Witt, 2000). Entrepreneurs in our sample started often either with a very narrow or a very broad business idea and had to revise their cognitive models of the business.

We gained further insights by analyzing the relation between transition scope and transition meaning and tested whether the organizational response to opportunity-framed events is of a higher or lower magnitude than threat-framed events. The results indicate high dependency within our sample. 4 out of 26 opportunity-seeking transitions

resulted in a sustaining transition, and 3 out of 11 threat-avoiding transitions caused disruptive transitions. This means that threatening situations are more likely to provoke a disruptive transition, while entrepreneurs who labelled a situation as an opportunity constructed an organizational response that includes actions of a smaller magnitude. This result is in line with prospect theory (Kahneman & Tversky, 1979) and its theorem of loss avoidance. Accordingly, individuals such as decision makers value the avoidance of loss more highly than the potential actualization of gain (Kahneman & Tversky, 1979). As the labels *threat* and *opportunity* can be associated with *loss* and *gain* (Dutton & Jackson, 1987), prospect theory leads to the hypothesis that entrepreneurs will take greater risk in situations of threat and thus perform riskier actions. This has recently been tested in a large sample of established organizations (Saebi et al., 2017) and proves also to be true for new ventures.

It is particularly interesting to see which impulses trigger change and at what magnitude. Generally, external impulses more often trigger sustaining transitions, whereas internal impulses often trigger disruptive transitions. However, consumer impulses play a major role in triggering sustaining transition but hardly ever trigger disruptive transitions. This indicates that CVP evolutions that integrate consumer perspective may differ in its course of action from more service-provider-oriented evolutions.

Sustaining	Threat-avoiding	Opportunity-seeking
Internal impulses	1[a]	5[a]
Non-consumer impulses	2[a]	9[a]
Consumer impulses	0[c]	8[c]

Disruptive	Threat-avoiding	Opportunity-seeking
Internal impulses	5[b]	2[b]
Non-consumer impulses	3[b]	2[b]
Consumer impulses	0[c]	0[c]

[a] Goal-driven CVP transition / [b] Variance-seeking CVP transition / [c] Consumer-driven CVP transition

Table 6. *Categorization of transition events.*

4.3 Identifying transition types

Following the analysis of the three elements, we could classify transition events into types. From the 37 transition events in our sample, we identified three different transition types, among which we found coherent patterns. We denoted the CVP transition types (see Table 7) as *variance-seeking* (12 cases) *goal-driven* (17 cases), and *consumer-driven* (8 cases).

Variance-seeking CVP transitions	Goal-driven CVP transitions	Consumer-driven CVP transitions
Focus on experimenting with CVP configuration to create variance.	Sustaining transition scope including minor adaptions to CVP.	Refinements of CVP based on consumer propositions.
Highly explorative changes with a high magnitude of CVP change.	Mainly triggered by external, non-consumer impulses and framed as opportunities.	Pursuing pre-defined visions, but evolution rather being led by consumers.
Experimental in nature, including a trial-and-error mentality.	Goal-driven causal logic pursuing predefined goals, but with a certain level of adaptability	Transition events exclusively sustainable in scope and framed as opportunities.
Mainly internally triggered to overcome potentially threatening situations.	Often changes to the vertical integration: increasing vertical integration by integrating back-end processes or decreasing vertical integration by partnering.	New CVP configurations are in the immediate neighborhood of the existing CVP configuration, which implies path dependence.
Imply a high risk as experiences are not easily transferable from one to the next CVP configuration.		

Table 7. *Description of transition types.*

Variance-seeking CVP transitions

Variation-seeking CVP transitions correspond to typical explorative changes, which are experimental in nature (Wang & Chugh, 2014) and include a trial-and-error mentality (Bingham & Davis, 2012). The scope of transition is disruptive, meaning that CVP configurations are changed intentionally and significantly. They are mainly internally triggered by the outcomes of the organizations' own teleological decision-making processes. The meaning attached to such transitions is to avoid threats by performing a disruptive change.

Consider FS1[8] as a case for a typical variation-seeking CVP transition event. FS offered a community-based insurance solution. They claimed to create a system of support to make insurance social, fair, and reasonable and primarily addressed the

[8] FS1: The letters denote the case. The number "1" marks the first transition of this case.

symbolic/expressive value dimension. Unfortunately, sales volumes did not develop as expected, and they perceived to be in a potentially threatening situation after less than two quarters following the launch.

> "We had a very narcissistic view about our system of peer-to-peer-insurance and basically told: Dear consumer, we have a peer-to-peer-insurance, look here is it, buy it. And nobody bought it." (Co-founder, FS)

To avoid this situation, they experimented with a second CVP configuration. They proposed now a customer value primarily based on monetary benefits.

> "We've told: Dear consumer, you can save 40% of your costs without changing your insurance contract, do it, and consumer did it." (Co-founder, FS)

FS reconfigured the CVP in that case from proposing symbolic/expressive value to cost/sacrifice value, holding other business model elements constant, and caused a considerable change in product sales. The case exemplifies the notion that variation-seeking CVP transitions do not generally need a change in the product, as they kept selling a peer-to-peer solution. However, the transition scope was disruptive enough for consumers to change their assessment.

Goal-driven CVP transitions

Goal-driven CVP transitions are characterized as being sustaining transitions. They are mainly framed as opportunities and triggered by external, non-consumer impulses. In contrast to variation-seeking transitions, a central characteristic is that new ventures operate with a pre-defined goal. Within the search for a viable CVP, minor adaptations are made. Goal-driven CVP transitions do not imply a change of the primary CVP dimension in our model.

As a typical example, we cite FS4. In phase 4 of FS's evolution, they had a successful business as a managing general agent with a fast-growing customer base. However, due to a regulatory change, the co-founder realized a new business opportunity. The decision to seize the opportunity was reinforced by cooperation requests from established banks.

> "We were a bit surprised as banks were approaching with the idea to found a broker, which has access to customer banking data. […] We thought, that's a big number. We could accelerate the onboarding process to just a few seconds.

> And this was the starting point, when we decided to change our business in that way consumers do not have to provide data anymore but instead give us access to relevant banking data." (Co-founder, FS)

FS didn't change its CVP configuration, but increased customer value with higher convenience and time savings in the purchase process. Through this cooperation, FS improved its proposed consumer value in line with the main CVP configuration. Goal-driven CVP transitions may be compared to an exploitative learning style (March, 1991), as they exploit a given direction, building on previously acquired knowledge. However, we realized that goal-driven CVP transition events are also often experimental in nature and spontaneous. The FS did not explicitly search for an improvement to its onboarding process, as it had considerable growth rates at that time. Thus, goal-driven CVP transitions exhibit both a goal-driven causal logic pursuing predefined goals and a certain level of adaptability of the business model.

Another example of a goal-driven transition is GT3. In phase 3 of GT's evolution, it provided a platform upon which consumers could add their insurance contracts, accumulate knowhow about insurance products, elicit advice, and buy new insurance services. As brokers, they were the single point of contact for consumers. GT emphasized primarily the advice given to the consumer to improve its insurance portfolio as well as the processes from contract management to claims filing. Thus, the CVP dimension was primarily functional/instrumental value. Although it had faced some minor difficulties and didn't perceive a threat to the business, they followed their original plan and changed their business model.

> "to be a digital insurer was our plan since launching. […] that's why we didn't develop our digital folder that much. […], we started to make first thoughts and talked with re-insurers, and then we just started with our partner to create a digital insurer." (Founder, GT)

The new business model allowed GT to focus on its CVP configuration by adding its own customized products and improved quality in customer processes. But from a consumer perspective, it still offered a comparable proposition. In our sample, sustaining transitions are often changes to the vertical integration in both ways: increasing vertical integration mostly by integrating back-end processes or decreasing vertical integration by partnering with incumbent insurers. While changing the business models, the CVP dimension primarily remained constant, and the CVP configuration only changed in a sustaining manner.

Consumer-driven CVP transitions

Consumer-driven CVP transitions are the outcomes of a collaborative process of learning and service exchange with the consumers. Transition events, of which key triggers of organizational action emanate from the interaction of service-providers and consumers, were grouped into this transition type. We consider HS2 as exemplifying this type of transition event. In phase two of its CVP evolution, HS offered a comparison platform that makes it easier for consumers to compare health care plans and prices. Thus, it provided value to consumers through ease of market access, which is categorized as cost/sacrifice value. Through constant interaction with consumers, they realized that consumers not only valued their current offering, but also actively proposed an improvement of the platform.

> "We were like, great, we show them the plan, they were, okay great, how do I actually sign up? So, we were like, okay, we call these insurance agents, and then they were like, okay. But those insurance agents lied and tried to sell something else. So, we just said okay, we will just help you sing up, and so we became insurance agents ourselves." (Founder, HS)

Compared to the other transition types, evolution is rather being led by consumers. HS didn't plan to create an insurance broker from the informational platform. It also didn't experiment with the new CVP. Consumer-driven CVP transitions can be described as refinements of CVP based on consumer propositions. A salient characteristic of consumer-driven CVP transitions is that the coherence is very high, as we found exclusively transitions with a low magnitude, thus indicating a sustaining transition and almost the only opportunity-framed transition within this type. The exclusive appearance of sustaining transitions might be explained considering the consumer learning as single-loop learning (Argyris & Schon, 1978). This view assumes that consumers learn according to the difference of expected and obtained outcomes. Due to the given cognitive frames of consumers, it implies that the set of solutions is in the immediate neighborhood of the existing CVP configuration (Witt, 2000). We will illustrate that with the following example. When CVPs are launched in the market, consumers begin to learn about this new CVP and form expectations about its outcomes. They might use services and build up relationships with the provider, while permanently comparing expectations with the outcome. Based on these experiences, they come up with ideas to refine their CVPs. Thus, consumer-driven CVP transitions are adaptations that let the new venture evolve toward a CVP closely related to the initial one.

4.4 Establish CVP evolution logics

The current section of findings focused on the sequencing of transition types in CVP evolution of new ventures. In Figure 8 we note CVP evolution over time. At the outset, we expected to see a certain sequential order of transition types; for example, a higher concentration of transition events and a higher magnitude of change at the start, followed by phases of focus. This behavior is in line with life-cycle models, which assume an optimal sequential order distinguished between a start-up phase of business model conceptualization and product and market development, followed by a commercialization phase, in which new ventures invest in growth (Andries & Debackere, 2006). Though our sample indicates a higher concentration of transition events in the beginning, it did not show a unidirectional, stage-based development, considering the magnitude of change. Variation-seeking transition events that exhibit a high magnitude of change are rather dispersed throughout the lifetimes of new ventures. Furthermore, we have often observed that the willingness to experiment does not decrease after finding a viable business model. In contrast to the established organizations, in which routinized behaviors often resist transition impulses (Cavalcante, Kesting, & Ulhøi, 2011), entrepreneurs encountered external triggers often with high openness and were willing to make the extra effort to experiment and learn, even when their organization was in a growth phase.

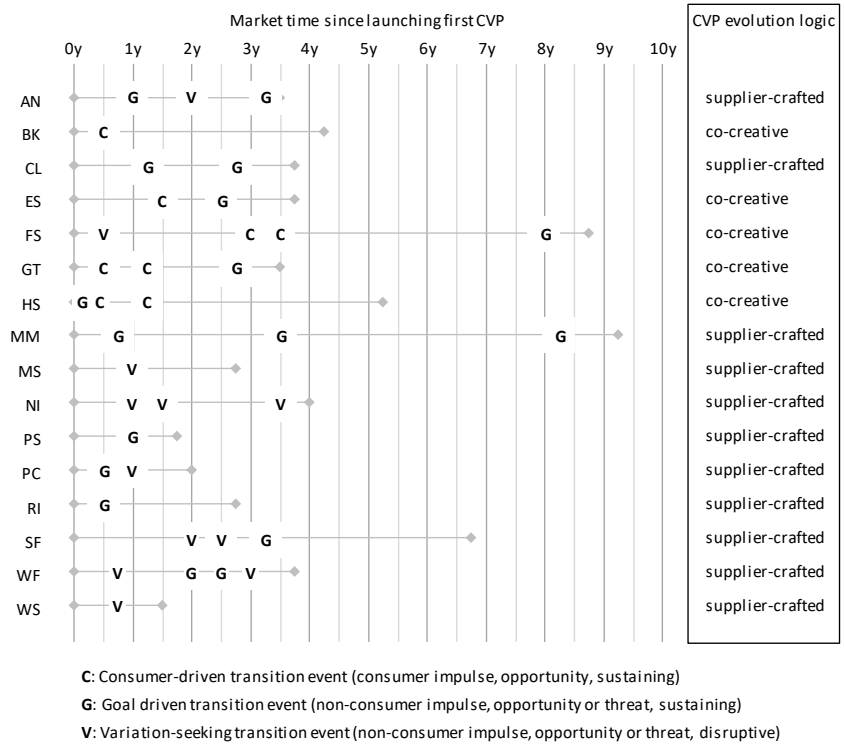

Figure 8. *CVP evolution logic of new ventures.*

Though it proved difficult to derive meaningful patterns, the sequencing of transition types over time helped to reinforce our understanding of what extent consumer-learning processes are reflected in the CVP evolution of new ventures. Interestingly, we only see 5 cases, of which at least one transition event is consumer driven, meaning CVP evolution is to some extent co-created. In contrast, 11 cases pursue an evolution that is supplier crafted, notwithstanding the intent to actively integrate consumers in its strategic decisions. It is important to note that, on the one hand, co-creative CVP evolutions often do not exclusively contain consumer-driven CVP transitions. GT's CVP evolution, for example, contains two consumer-driven CVP transitions, followed by a goal-driven CVP transition. On the other hand, we observed that most of supplier-crafted CVP evolutions do have a consumer feedback mechanism in place or launched their business with the intention to improve consumer solutions. Thus, they are consumer oriented to

some extent. However, in analyzing these cases, we noticed a crucial difference in the entrepreneurs' philosophies that they apply when developing CVPs. The following quotes from two exemplary cases of our sample illustrate the difference. For the first case, we quote how the founder of WF explains CVPs of two different phases in their evolution.

> "What we did was to digitalize the broker model, letting consumer to subscribe contracts, then provide digital insurance portfolio and collect brokerage fee. What we early noticed is that in this business model profits are too low. […] So, we required to find a way to scale our business with low customer acquisition costs." (Founder, WF)

> "We significantly increased productivity and reduced manual processes for brokers. […] For customers, we created a single point of contact and reduced the time expense to 45 minutes per year." (Founder, WF)

In contrast, we cite the founder of HS as he summarizes his company's CVP evolution.

> "We're constantly testing, we're trying out different ways... so, first we were informational, then we realized that people actually wanted to be able to enroll, and then we discovered that they needed help understanding what their options were. So, it really was an evolution of the value proposition over time, based on direct consumer feedback. […] We became very skeptical of startups that have a vision. We just do what the customer asks us for and trying to help the largest audience, so to speak." (Founder, HS)

In both cases, entrepreneurs create a customer-oriented solution, but differ in their pursued CVP logic. WF creates solutions for consumers, self-crafted with a focus on the own revenue model, while HS creates solutions with consumers, co-created focusing on supporting consumers in their everyday lives. Whereas the former case applies a *supplier-crafted CVP evolution logic,* the latter case follows a *co-creative CVP evolution logic.* Our research suggests that both logics play an important role in new venture development. In the current section, we establish these two CVP evolution logics based on the cases in our sample. Thereby, we deliberately juxtapose them as a dichotomy to facilitate a clearer theoretical exposition. We record the main differences of both logics in Table 8.

	Supplier-crafted CVP evolution logic	Co-created CVP evolution logic
Entrepreneurial focus in developing new ventures	The focus of entrepreneurial action in developing new ventures is to create a viable business model. CVPs are adjusted mainly based on potential improvements in the revenue model and value chain or based on sales volumes.	Entrepreneurial focus is to build relationships with consumers to understand how to become part of consumers' lives. CVP adjustments primarily aim to improve customer value.
Roles of new ventures and consumers in CVP evolution	Entrepreneurs assume a distinction between actors that consume and actors that produce valuable services. New ventures create solutions for and distribute them to consumers.	Service providers and consumers are understood as even actors partnering on markets. Consumers enable, co-create, and sometimes lead CVP evolution.
Organizations' engagement with its environment	Organizations actively develop and maintain relationships with other service providers and within expert networks. New ventures seek to learn and position themselves within these networks.	Organizations' engagement is mainly based on interaction with consumers and consumer communities. New ventures facilitate the creation of a joint co-creation sphere by offering multiple encounters.
Organizational learning process	Learning is a sequential process of experimenting, getting market feedback, and adjusting.	Learning is a collaborative process between new ventures and consumers in which each one learns, but also influences the other parties' position.
Variance in CVP	CVP evolution process shows at some points of time non-linear behavior, as it entails variance-seeking transition events. Thus, variance in CVP is high.	CVP evolution can be described as a consistent linear process that evolves mainly but not exclusively by co-creation experiences. Variance in CVP is low.

Table 8. *Differences due to CVP evolution logics*.

CVP evolution logics are reflected in the entrepreneurial focus in developing new ventures and in the attributed roles of new ventures and consumers in CVP evolution. We refer again to the examples above. The focus of the entrepreneurial action of WF is on building a business model that is scalable and profitable. The examples emphasize the creation of valuable products for consumers and their distribution in the markets. The entrepreneurial scope of WF enfolds the business as a sequence of independent transactions. The founder of WF speaks about the goal "to provide a digital insurance portfolio" that "we created for customers," which indicates a rather narrow view of the relationship between service-provider and consumer. The venture's entrepreneurial focus resembles the goods-dominant logic of marketing, which implies a clear distinction between actors that produce valuable goods and actors that consume goods (Vargo & Lusch, 2004). In contrast, HS is developing its CVP based on direct consumer feedback. The focus of entrepreneurial action is to build relationships and create multiple consumer encounters to actively interact with consumers and generate co-creation opportunities. The founder of HS speaks of the goal to "do what the customer asks us."

Thus, the business strategy starts with understanding the customer's value-creating processes and selecting which of these processes the service-provider wishes to support. The positioning within the customer's processes defines the evolution of new ventures' CVPs. Consumers are assumed to be active players who enable, co-create, and sometimes lead CVP evolution. This corresponds to a service-dominant logic of marketing in which the service-provider and consumers are not distinct, and consumers adopt a multitude of different roles, such as co-producer, co-marketer, or competence provider (Storbacka & Lehtinen, 2001).

Furthermore, we observed differences in how organizations engage with their environment and learn based on the logics they pursue. New ventures are not enacted by the founders alone; they are dependent on the interactive processes of exchange with stakeholders around the company, including competitors, cooperation partner, experts, consumers, and investors (Rae, 2006). We observed a high dependency of CVP evolution on external triggers in all cases. However, the CVP evolution logic determines the choice of conversation partners in *organizations' engagement with their environment*. Whereas organizations with a supplier-crafted logic actively develop and maintain relationships with other insurance service providers and selected industry expert networks, organizations with a co-creative logic actively engage with consumers and consumer communities. The former logic leads new ventures to learn and position themselves within industry networks. We see a tendency in our data in which the participation in industry networks is not only an integral aspect of entrepreneurial learning, but also further influences new ventures' distribution models. In our sample, almost all new ventures following a supplier-crafted CVP logic pursue a B2B2C distribution model, although they started initially with a B2C model. In contrast, all new ventures pursuing a co-created CVP evolution logic still run an exclusively B2C model. New ventures with co-creative CVP logic facilitate the building of a joint co-creation sphere by offering multiple encounters. BK is a good example of how new ventures engage with their customers. It purposefully enlarges the joint co-creation sphere through a multitude of different encounters, which aim to trigger various effects. BK offers bike insurance solutions as a managing general agent for a small target group of bike enthusiasts and professional bikers. From the beginning it has largely invested resources in becoming part of that community by touring around, participating in bike events, organizing bike shops as point of sales, opening a professional comparison platform for bike parts, chatting in specialized forums, and working with bike clubs. It has actively managed co-creation and equally triggered emotion, cognition, and behavior-supporting encounters through word of mouth, consumer education, and favorable termination conditions.

> "We approach clubs directly. […] For example, in Ireland, we just launched there, we work with the governing body, Cycling Ireland, and they have 400 clubs affiliated with them. so, we moved to Ireland getting into the clubs."

> "I think having people at the end of the phone get who you are, and they aren't just trying to sell you something, and generally give a shit. Everyone at the end of the phone that who was a bikey!"

> "The key value proposition was simple. Make it like Netflix, you know, like a subscription model, make it super easy, use social sign in, so you can sign in with Facebook" (Founder, BK)

The skills of listening, understanding the other party's position, and storytelling are essential in building a joint co-creation sphere. Interesting in that respect is the focus of BK in consumer education. Though the product is simple to understand, it had to script their market to increase acceptance of the new CVP.

To illustrate the difference in organizational learning process, we want to highlight the integration of consumer feedbacks into CVP evolution. As we assume in this article a framework which understands CVP evolution as being dependent on both the organizations' and consumers' learning and value creation process, we were interested in whether and how consumer feedbacks are integrated in CVP evolution. To exemplify the difference, we refer to the CVP evolutions of SF (supplier crafted CVP evolution logic) and GT (co-created CVP evolution logic). First, we cite the founder of SF, speaking about the offered solution and the learning from the market in the first and second phases of CVP evolution.

> "We thought we'd aggregate all your insurance to one place […] and then we analyze it, and kind of be an unbiased third party."

> "I say the biggest problem was, no one woke up in the morning wanting to aggregate all their insurance to one place. If you're building a b2c company, and if no one wakes up in the morning, wanting to do what you're selling, you have a major problem."

> "We built the life insurance learning platform in 2014 that basically broke down and explained all types of insurance. Now, once again, no one wakes up in the morning wanting to learn about insurance.

> "I ruled out that people do wake up in the morning, whether they have a child, whether they buy a house, whether their spouse is telling them to, or they have something to protect. They actually do wake up with a sense of I need to protect this, or I don't feel comfortable with that much risk, that's what insurance offers, right? So, in 2014 we realized that, basically, educating people about insurance, and in that model, we just didn't see that as a long-term model. We thought, really what people wanted to do, was to actually get insurance." (Founder, SF)

Second, we quote the founder of GT, who explains the company's offering and its development from the first to the third phases of CVP evolution.

> "We started with an App and a small value proposition, which was digital insurance contract folder."

> "At the start, we did not [make comparisons]. We started to do that after six months, because consumer asked for that and we reacted on these requests. […] So, we started to build up a team of client advisors"

> "Customers were motivated to place a request, a customer service request, and we've got more and more request considering for example, I need a legal protection insurance and then we took action. But it was principally completely initiated from consumers. So, we did later on implement an application which analysis consumers' needs." (Founder, GT)

Although, both examples consider consumer feedback, there are significant differences in how this feedback is actually used to develop CVPs. In the first example, SF understands consumer feedback as proof of concept. They create an offering with a certain CVP, distribute that to markets, and get feedback in the form of sales. Thus, feedback measures whether an experiment is successful or not, comparable to grades which are given by the teacher at the end of a school year. In the second example, GT uses feedback as an integral part of the development process itself. The venture started with a very limited offering and launched an ongoing negotiation with consumers about how the relationship between the company and its consumers should be created. Consumer feedback rather takes on the character of continuous advice or suggestions given by a mentor.

As a consequence of applying CVP logic, we've observed important differences in the linearity of how CVP evolves. Generally, supplier-crafted CVP evolutions do alternate between goal-driven and variation-seeking CVP transitions. This means that CVP evolution includes successive phases of focusing and experimenting to establish themselves in the market. Remarkable is that almost all supplier-crafted CVP evolutions show non-linear behavior at several points of time, as they entail variance-seeking transition events. Hence, from the perspective of the consumers, the *variance of CVP* is rather high, as there is at least one disruptive change of new ventures' proposition that requires the company to unlearn the previous CVP and to gain experiences with the new CVP. The traditional body of research in new venture evolution does assume a linear view on evolution, mainly based on teleological decision making (E. Autio, 1997). However, in our sample, nonlinearity and nonteleological evolution are common patterns. Non-linearity expresses itself through high goal ambiguity of supplier-crafted CVP evolutions. The CVP evolution of NI serves as a typical example for high goal ambiguity. Initially, the founders of NI had a vague idea of how they wanted to make the world a bit better. They sought to invent a digital insurance distribution process. As a starting point, they created an embedded insurance product, which was sold at the point of sale of a valuable product. The co-founder and CEO of NI explained why they changed their CVP for the first time.

> "We just wrote a software [which we could integrate into the cash register system]. This didn't work. We just went over to the next step." (Co-Founder and CEO, NI)

As a next step, the founders created a digital broker with its own products and services. The CEO explained the perceived failure and their next strategic change as follows.

> "We just couldn't do it. Insurance is simply a product, which cannot be sold in the internet without classic push methods. We were then contacted by insurers and asked whether there is a possibility to use our software to sell their own products. We did this then." (Co-Founder and CEO, NI)

This time the founders perceived their efforts to be successful, but incidentally they saw the possibility to buy a software company and create value by improving need recognition and decision making with a digitally supported advisory process.

> "We have now a process in place from the recognition to the complete tailoring of the insurance product. […] We can automatically calculate the right

offering, if necessary, compare different products and sell the solution to the customer." (Co-Founder and CEO, NI)

The story exemplifies how goals can emerge nonteleologically out of interactions between the new ventures and the environment. NI experimented with highly different CVP configurations, largely missing the advantages of exploitative learning and the option to increase CVP marketability through consumer learning. Co-created CVP evolutions do only contain consumer-driven and goal-driven transition events, which means CVP evolutions can be described as a sequence of sustaining transitions, resulting in a linear path of CVP evolution with low variance in CVP. Interesting in this context is the organization's meaning attached to transition events. As we have discovered, transition events in our sample follow the logic of prospect theory and its theorem of loss avoidance (Kahneman & Tversky, 1979). Entrepreneurs who framed events as threatening often performed experiments with a high magnitude of change in CVP, which implies a higher risk of failure. Co-created CVP evolutions almost exclusively consist of opportunity-framed transition events. We assume that this is due to the different feedback loops. Following co-created CVP evolution logic requires high engagement with consumers, which leads to a constant stream of feedbacks. Through engagement with consumers, the identity of the new venture is formed and enacted (Rae, 2006). Just like transition meanings are not inherent, but dependent on the environment (Dutton & Jackson, 1987). Thus, entrepreneurs always know whether the CVP is being accepted and understood within their consumer networks. In contrast, supplier-crafted CVP evolutions often entail transition events that are framed as threatening. Ventures often lack this constant feedback stream as they follow a more sequential organizational learning process of experimenting, getting market feedback, and adjusting.

5 Conclusion and research implications

Though it might be a successful strategy to integrate consumers' perspective in CVP evolution when developing a new venture, it has not yet been an integral part of new ventures' evolution literature (Covin et al., 2015). So far, research in the CVP evolution of new ventures assumed a sequential process of choosing, creating, and delivering CVP to the market, getting market feedback, and adjusting CVP accordingly. The research focused on an inside-out perspective (Day, 2011) gaining insights about logic, behaviors, and conditions of the organization. As observed in the data, consumer

feedback plays an important role in CVP development of new ventures. Through engagement as an active participant, consumers offer their resources by providing feedback or impulses to improve the service-provider consumer relationship. As well as the identity of the new venture is formed and enacted through the interactions with its relationship partners, consumers identify themselves with the new venture through co-creation (Rae, 2006). Thus, the outcome of co-creation is customer learning, which facilitates the adoption of new practices, technology, and products (Bharti, Agrawal, & Sharma, 2015). We propose to amend new ventures' evolution research by integrating organizations' and consumers' learning and value creation processes in explaining CVP evolutions. Building on that theoretical implication, four topic areas are proposed as foci for future research (see Table 9).

Propositions for future research in new ventures' development:	
Proposition 1:	How do new ventures build relationships to consumers to co-create and increase marketability of CVP configurations?
Proposition 2:	How do consumers actually learn over the course of CVP evolution?
Proposition 3:	Do CVP evolution logics affect new ventures performance?
Proposition 4:	What are the effects of multiple business models on both the organizations and consumers learning and the value creation process?

Table 9. *Propositions for future research.*

First, within the process of CVP evolution, relationship building between service providers and consumers needs further investigation. This points to the investigation of the joint co-creation sphere in our CVP evolution framework. The joint co-creation sphere is understood as the sum of all service-provider consumer encounters. Although sometimes also framed by consumers, it needs to be managed by the service provider (Payne et al., 2008). In that respect, CVPs exist to elaborate relationships and facilitate co-creation. We see two central aspects that need further research. One aspect is the design of service-provider consumer encounters to enable a purposeful interaction. Encounters are often referred to as "touchpoints" and are considered exchange practices in which resources are exchanged, such as products, money, or information and collaborative practices in which both parties jointly perform activities (Payne et al., 2008). Organizational learning involves a deep understanding of these practices (Grönroos, 2006). The other aspect corresponds to the question of how to increase the marketability

of CVP configurations. It is based on the assumption that market actors have the potential to transform their market structures (Giddens, 1984). The activities conducted by a market actor to alter current market configuration in its favor is also denoted as market scripting (Kaj Storbacka & Nenonen, 2011). Central to market scripting is the motive of a market actor, such as new ventures, to align mental models of consumers with the business model of the scripting actor and increase acceptance of the new CVP.

Second, we want to emphasize the consumer sphere in our model. As new venture evolution research has not yet included consumers' learning and the value creation process as an integral part of CVP evolution, there is a lack of knowledge of how consumers actually learn over the course of CVP evolution. Again, we refer to the marketing literature, as we think there are might be findings that are fruitful for new ventures research. Different theoretical concepts deal with the adoption and acceptance of innovations. Particular mention should be made of the diffusion of innovation theory (Rogers, 1965) and the technology acceptance model (Davis, 1989). Both streams defined and tested several value dimensions, such as relative advantage, compatibility, trialability, observability, brand and service trust, perceived usefulness, or perceived ease of use that potentially improve the adoption of new services and products. Creation of more knowledge about how new ventures can configure and evolve CVPs to promote consumer learning and support adoption of new CVPs is of utmost relevance to entrepreneurs.

Third, new ventures' evolution research often is interested in the performance effects of certain factors, such as the initial market familiarity (Covin et al., 2015) and the number of adaptations (Andries & Debackere, 2007). Further research should clarify whether there are performance effects due to CVP logics. In our research, we did not directly include performance as a dependent variable. However, we see some effects that CVP evolution logic has on CVP evolution. Whereas the process of supplier-crafted CVP evolutions can be described as alternating phases of focusing and experimenting, often containing disruptions and situations that are framed as threatening, co-created CVP evolution processes are consistently linear, highly goal driven, and often led by consumers. We assume the former to be riskier and more time consuming, as returns from exploratory learning are systematically less certain (March, 1991). However, high variation includes opportunities to discover implicit assumptions and discloses cognitive frames of entrepreneurs what prevents them from following an unsuccessful path. In situations of ambiguity, it is often difficult to recognize relevant decision variables, their impact, and their relationships (Schrader, Riggs, & Smith, 1993). Entrepreneurs might

not be able to assess the impact of strategic moves of incumbents or identify whether latent consumer needs become evident. According to the new product development literature, ambiguity requires an experimental approach (Andries & Debackere, 2006). Explorative learning further enables double-loop learning (Argyris & Schon, 1978) and entails a higher level of learning not to do something (Wang & Chugh, 2014; Zahra, Abdelgawad, & Tsang, 2011), which helps entrepreneurs to reduce uncertainties. Low variance might even produce strong path dependencies (Collis, 1994). However, entrepreneurs need to consider the effort consumers have to devote to unlearn the previous CVPs and learn the new CVPs. This might be an aspect which is yet unconsidered when discussing the advantages of explorative behaviors in business model adaptation.

Fourth, we assume in our research that the creation of a new business model configuration absorbs considerable capacities of entrepreneurs. Thus, we modeled new venture evolution as a sequence of phases, each consisting only of one primary CVP. However, we saw that alternative business models are often created in parallel. We propose the examination of the effects of multiple business models on both the organizations and consumers learning and the value creation process as a fruitful research avenue. Often the attempt to operate more than one business model is cited as a cause of strategic failure (Eyring, Johnson, & Nair, 2011), due to higher complexity, the need for broader organizational skills, and additional resource consumption (Casadesus-Masanell & Tarzijan, 2012). The increased variance with multiple business models, which implies a higher chance to find a viable business model, stands in opposition of the lower speed and precision of organizational learning (March, 1991)

There are several limitations to our study that should be considered. First, our data collection was cross-market and industry specific. Although we claim the insurance industry to be a good example for service industries, it does have some specific characteristics that might have an influence on our findings. Consumer decision making in the insurance industry is perceived to be complex (Harrison et al., 2006), and consumers might show a certain reluctance to involvement. Thus, customer integration is relatively low compared to other industries, which might explain the low number of new ventures following a co-creative CVP logic. Furthermore, we deliberately concentrated on CVP to overcome the shortage of lacking specification of business model evolution in literature (Reymen et al., 2017). However, new ventures development is dependent on a multitude of value propositions, such as to consumers, investors, or partners. Innovation ecosystems have emerged as an important context for new ventures (Nambisan & Baron,

2013), which increases the importance of value propositions towards ecosystem partners. Finally, we choose the organization itself as a unit of analysis and excluded processes on an individual level. In our research, we assumed the mental model of our interviewee as an approximation of the organizations' logic. As we exclusively interviewed founders or co-founders and new ventures are often founder driven in their first years of existence, we accepted this lack of accuracy.

To conclude, integrating the organizations' and consumers' learning and value creation process enlarges the understanding of new ventures' CVP evolution and creates knowledge for entrepreneurs regarding how CVPs can be configured and evolved to promote consumer learning and support adoption. Nonetheless, the interrelations between organization sphere, consumer sphere, and joint co-creation sphere are in many respects poorly understood. It might be a promising avenue in which to incorporate findings from marketing research into new venture evolution research to gain more insights into CVP evolution of new ventures between organizational and consumer learning. With our research, we aimed to clarify why consumers' learning and value creation process should be part of new ventures evolution research.

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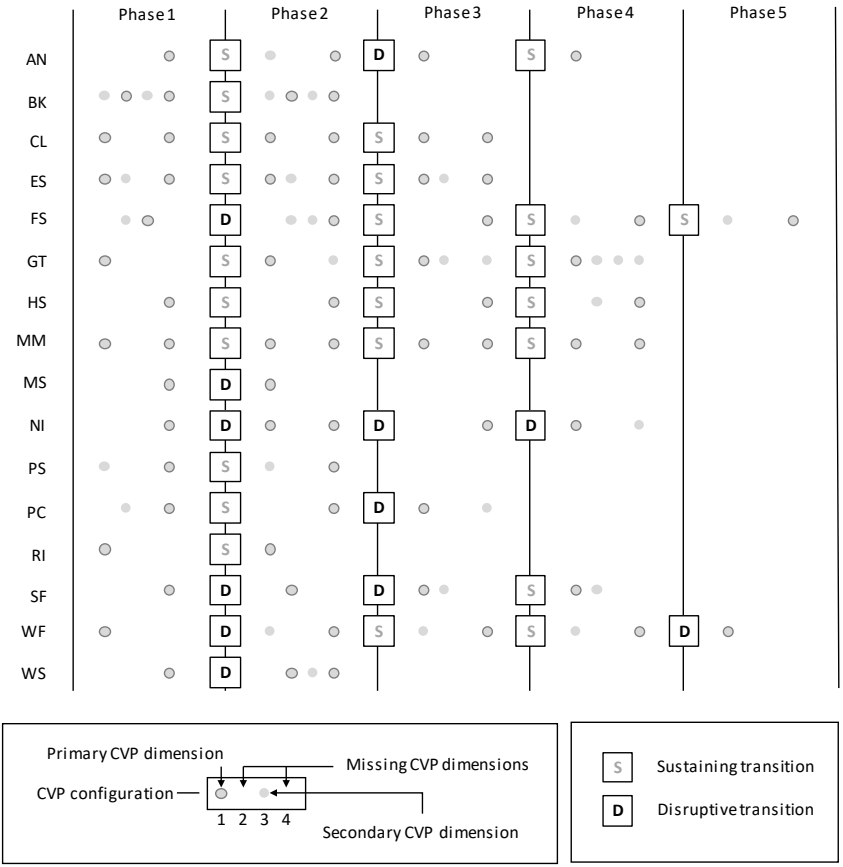
Appendix A: CVP evolution over the course of new ventures' development.



1 Functional/instrumental value: The extent to which a service provider performs a desired function.
2 Experiential/hedonic value: The ability to create emotions and feelings or to cover curiosity.
3 Symbolic/expressive value: Creation of psychological meaning (self-identity, self-esteem or social meaning).
4 Cost/sacrifice value: Minimizing economic or psychological costs, personal efforts or perceived risks.

V. Leading change in context of digital transformation. Complexity leadership theory applied to a case study example.

Abstract

Today's incumbent service providers are expected to change their organizational structures and practices in order to cope with the demands of digital transformation. This article aims to illuminate the change leadership mechanisms of an incumbent service provider in the context of digital transformation, based on a single case analysis. While traditional leadership theory has been designed for bureaucratic or mechanistic organizations in the industrial age, today's organizations face very different challenges, including the creation of knowledge, speed of innovation, and organizational agility. Methodologically, this article draws on the complexity leadership theory to analyze an organizational change program of a large pension company in the Nordics. It includes two contextual factors that are assumed to affect change leadership as preliminary research variables: The situational strength of the organization as perceived by the employees and the environmental dynamic caused by the digital transformation of the markets. The article extends complexity leadership theory by illustrating and discussing the importance of contextual factors as well as the timing of leadership mechanisms within the change process. As many organizations have not yet elaborated on the ways to foster organizational change in the context of digital transformation, this article further provides executives of incumbent companies in the service industries a set of generalized actions to facilitate change leadership. Four actions that favor the initiation of emergent change in the context of digital transformation were derived: storytelling, construction of an attractor, employment of transformation agents, and creation of a relational space.

Keywords: Complex adaptive system, Complexity leadership theory, Digital transformation, Service industry, Change management

1 Introduction

Traditional leadership theory often assumes a linear relationship between leader's interventions and organizational change. It focus rather on a leader's responsibility for determining organizational development through reliance on control mechanisms (Plowman et al., 2007). Daft and Lewin (1990) suggested that this view is inappropriate due to the complexity of organizations' structure and the different topics and elements organizations have to deal with. From the perspective of complexity theory, organizations are considered as complex adaptive systems consisting of a high number of elements all with individual fitness functions, connected with each other in order to achieve their own goals. Changing a system's parameter often does not lead to predicted outcomes, because of nonlinear interactions, resulting in unpredictable negative and positive feedback loops. While traditional leadership theory has been designed for bureaucratic or mechanistic organizations in the industrial age, today's organizations face very different challenges, such as the creation of knowledge, speed of innovation and organizational agility. The idea of leadership of organizations as complex adaptive systems evolves from constructing an efficient machine to handling a system's effectivity. Rather than directing change, the role of the leader is defined as a facilitator or enabler of emergence (Marion & Uhl-Bien, 2001). Leadership of complex adaptive systems focus on identifying behaviors that foster organizational creativity, learning and adaptability (Uhl-Bien, Marion, & McKelvey, 2007).

The literature on the application of complexity theory on organizational change has neglected the organizational context in which change is embedded. Research creates the impression that deducted leadership patterns are equally applicable to all change situations, regardless of contextual factors. Though context factors are sometimes described in the case specification, they are neglected when it comes to delineating the patterns of change leadership. In their conceptual article about the leadership of emergence, Lichtenstein and Plowman (2009) recognized the importance of contextual factors through the comparison of three case studies. They concluded that "much more needs to be done to identify the specific ways that context would influence the presence, sequence, and timing of these four [leadership] conditions" (Lichtenstein & Plowman, 2009, p. 627). Encouragement to incorporate contextualization in organizational research has been given by a number of researchers (Lichtenstein & Plowman, 2009; Pawar & Eastman, 1997; Porter & McLaughlin, 2006; Rousseau & Fried, 2001; Shamir & Howell, 1999).

Although there is a long research history in the study of contextual factors in organizations (Pugh, Hickson, Hinings, & Turner, 1969) as well as having been researched in leadership theory for over 20 years (Porter & McLaughlin, 2006), there is no agreed upon conceptualization nor an objectified measurement, on which the empirical study can be based. This article includes two contextual factors which are assumed to be affecting change leadership as preliminary research variables: The situational strength of the organization as perceived by the employees and the environmental dynamic in context of the digital transformation. Accordingly, the aim of this article is to understand change leadership behaviors of an incumbent service company in the context of digital transformation, based on a profound case analysis. The research focus on digital transformation enriches the article's practical use. Digital transformation can be considered as a socio-technical change process of applying digital technologies in a wider social context, that changes the entire institutional context of organizations (Tilson et al., 2010). It is seen as a current issue throughout the market (Bradley, Loucks, Macaulay, Noronha, & Wade, 2015). Methodologically this article draws on the complexity leadership theory of Lichtenstein and Plowman (2009), who provide leadership behaviors that foster conditions for new emergent order in complex adaptive systems. The article examines a large pension company in the Nordics, initiating an organizational change process in context of digital transformation.

Hence, it contributes by including contextual factors as a new variable in the complexity leadership theory, considering digital transformation as a specific change event that might shows commonalities across different companies and industries. As many organizations have not yet elaborated on ways to foster organizational change in the context of digital transformation (Westerman et al., 2014), this article further provides executives of incumbent companies in service industries a set of generalized actions to facilitate change leadership. It starts with a theoretical specification of complex adaptive systems and proceeds with an outline of complexity leadership theory. After this comprehensive positioning in the theoretical framework of organizational change, the article continues with the empirical section. An in-depth description of the contextual factors serves as a rich basis. Given the organizational context, the change leadership behaviors applied in the case are analyzed.

2 Organizations as complex adaptive systems

A wide range of underlying principles of the complexity theory are derived from natural sciences (Waldrop, 1992). Complexity theory can be described as the study of nonlinear dynamic systems (Levy, 2000). As organizations tend to show the same characteristics, such as a high number of elements each with their own fitness functions, nonlinear relationships and dynamic interactions, complexity theory was applied to organizations. With respect to organizations, complexity is seen as a "structural variable that characterizes both organizations and their environments" (P. Anderson, 1999, p. 216). Complexity theory cannot be seen as a paradigm change to organizational behavior research, as it draws on concepts from organization and system theory (Levy, 2000). Nevertheless, there are significant advantages of complexity theory researching organizations and their implications on leadership, which has attracted a high number of researchers. The reason for its attractiveness lies in the limitations of traditional leadership theory designed for highly bureaucratic structured, efficiency striving organizations of the industrial age (Uhl-Bien et al., 2007). While in a post-industrial age the creation of knowledge, speed of innovation, organizational agility and environmental sensitivity are factors of success, the theory has not yet reflected these market changes. "The dominant paradigm in organizational theory are based on stability seeking and uncertainty avoidance" (Ilinitch, D'Aveni, & Lewin, 1996, p. 217).

Typically models analyzing organizational behavior use certain predictors to explain dependent variables (P. Anderson, 1999). They employ a linear relationship between outcomes and causal drivers. Daft and Lewin (1990) suggested that this view is inappropriate. Organizations are enormously complex. Changing parameters does not ultimately lead to predicted outcomes, because the elements of the system interact with one another. A small change in one parameter can thus lead to a significant change of the system, whereas major change initiatives often fail due to resistance and negative feedback loops. A way to model behavior of interconnected individuals provides the concept of complex adaptive systems. In the following section there is a brief description of the basic concepts of organizations as complex adaptive systems.

Organizations consist of a high number of elements, the agents, which might be a single individual or a group of individuals. Agents can be characterized by their own schemata, their cognitive structure, demands and values. Agents belonging to a system are referred to as a population (Blomme, 2012). Due to the assumption that single agents are at least partially unable to forecast system-level consequences of their behavior, each

agent tries to attain its own goals respectively to increase its fitness level in the organization (P. Anderson, 1999). The agent's fitness function thus directs its behavior and defines the ties in the network. Similarly to the fitness function of individuals, organizations have their own fitness functions, which can be described by the strategy to reach a mix of desired goals (Osborn & Hunt, 2007). Kauffman (1995) applied the notion of a dynamic fitness landscape from biology to organizational science describing the strategic choices an organization can make to reach fitness peaks in an evolving environment.

The behaviors of agents tend to be attracted to socially defined norms and patterns of behavior, called attractors (Uhl-Bien & Marion, 2009). An attractor creates order in a system (Blomme, 2012). It is the result of an individual interpretation about acceptable or desired behavior, on the one hand influenced by leaders trying to form behavior by rules and storytelling (Plowman & Duchon, 2008) and on the other hand, qualified by the identity building process of individuals in an organization (Stacey, 2007). According to the social information processing theory (Salancik & Pfeffer, 1978), individuals use local accessible information to form attitudes and responses. Through the agent's interpretation, process subsystem and system-level patterns of behavior are created. Its emergence is dependent on the interactions in the system. Agents are partially connected with each other and form the system's network and subnetworks. While directed by their own fitness function, agents observe the behavior of other agents, reflect their actions and adapt their own behavior. Thus, agents coevolve with each other through feedback loops. Each agent's payoff function depends on the choices of other agents (P. Anderson, 1999). Complexity theory differs between negative and positive feedback loops. Negative feedback loops are the expression of resistance and lead the system back to its original state. Positive feedback loops self-energize the desirability of new attractors and direct the system into a new state.

The ongoing adaption of the system to its environment due to nonlinear actions and reactions of its elements is described as self-organization. According to natural system behavior, a system degenerates to its highest state of equilibrium, characterized by maximum disorder. Self-organization requires energy imported into the system, by motivating, shaking up the organization or providing new challenges (P. Anderson, 1999). The energy brought in by the agents will push the system away from the equilibrium state. Systems evolve due to the entry, exit, transformation of agents or the change of interconnections (P. Anderson, 1999). Evolution is most efficient at the edge of chaos

(Kauffman, 1995). Systems with a high equilibrium state turn out to be resistant to influences, whereas systems far from equilibrium react chaotically to change initiatives. In Table 10 there is an overview of the basic concepts of organizations as complex adaptive systems.

Basic concepts	Understanding of the concepts of the complexity theory
Agents with schemata	Single individual or a group of individuals, characterized by their own schemata, their cognitive structure, demands and values.
Fitness function	The individual goal, which every agent tries to attain. It directs behavior and defines network ties.
Attractors	Norms and patterns of behavior, which are socially defined and individually interpreted.
Co-evolution through feedback loops	Agents observe the behavior of other agents, reflect their actions and adapt their own behavior. Thus, agents coevolve with each other through feedback loops.
Self-organizing process	The ongoing adaption of the system to its environment due to nonlinear actions and reactions of its elements.
Equilibrium state	Systems degenerate to its highest state of equilibrium, characterized by maximum disorder. Self-organization requires energy imported into the system, what keeps it in a certain state of dis-equilibrium.

Table 10. *Basic concepts of organizations as complex adaptive systems*

3 Leadership of complex adaptive systems

Leadership of complex adaptive systems is different from traditional leadership theories, that often approach organizational transformation as if the outcome of the leader's interventions can be highly predicted or as if effective leadership can eliminate the ambiguity of organizational behavior (Plowman et al., 2007). Due to the missing linear cause-and-effect relation, the role of the leader shifts from directing change to the creation or facilitation of emergence. Leaders in complex adaptive systems rather enable than control the future (Marion & Uhl-Bien, 2001). Leadership becomes an emergent event constituted through interactions (Lichtenstein et al., 2006). While some leading edge work on complexity leadership suggested that a manager's task is about creating the conditions for emergence (P. Anderson, 1999), newer works argue that a combination of bottom-up and top-down behaviors are necessary for effective change in organizations (Lichtenstein & Plowman, 2009; Uhl-Bien et al., 2007). Leadership of

complex adaptive systems can thus be compared to transformational leadership, where the focus lies on shaping organizational form and processes by aligning interests of followers with organizational goals. In other words, transformational leadership tries to evolve mental schemas and fitness functions of organization's agents in a direction that reorients the organization towards the desired vision.

Lichtenstein and Plowman (2009) provide leadership techniques for this subtle process between intervening and facilitating emergence. Their work is based on three empirical studies of emergence and is influenced by the early work of Marion and Uhl-Bien (2001). In their attempt to build a complexity leadership theory, four conditions for new emergent order are identified: Dis-equilibrium state, amplifying actions, recombination - self-organization and stabilizing feedback. These conditions are linked to four specific leadership behaviors. First complex adaptive systems leaders *disrupt existing patterns* to provoke a dis-equilibrium state. Systems far from equilibrium are highly sensitive to changes. In this excited organizational state, leaders should catalyze emergence by *encouraging novelty.* To handle feedback loops, leaders invest in *sensemaking and sensegiving* activities. Leaders serve as interpretative filters (Fulmer & Ostroff, 2016) to give meaning to what is happening in the organization. *Leadership for stabilizing feedback* will prevent a system from spinning out of control. Through constraints the organization can find a new equilibrium. This article borrows from Lichtenstein and Plowman (2009) and uses these four leadership behaviors as the research framework.

Organizational change does not occur separately from contextual factors (Pawar & Eastman, 1997). Although there are shared patterns of organizational behavior, change is always idiosyncratic to its particular organizational ecology (Lichtenstein & Plowman, 2009). Research on organizational context related to change is not new. Early works dealing with the theory of organizations suggest that organizational form, activities and functions are dependent on contextual factors (Eisenstadt, 1959; Pugh et al., 1969). To study organizations, contextual variables such as origin, history, size, resources or interdependence with other organizations have to be considered (Pugh et al., 1969). As noted by Pettigrew (1987), research on organizational change can be divided into content-, context- and process-related, with a lack of research existing for the context-related factors (Pettigrew, 1987). Since the early 1990s the discussion on contextual factors in leadership theory became active (Porter & McLaughlin, 2006). Researchers acknowledged that contextual factors have significant impact on the effectiveness of leadership (Osborn, Hunt, & Jauch, 2002; Osborn & Marion, 2009; Pawar & Eastman, 1997) and bring more robustness to leadership models (Rousseau & Fried, 2001).

Porter and McLaughlin (2006) provide a comprehensive literature analysis on leadership and organizational context. They analyzed 373 articles between 1990 and 2005 in the main journals of organizational behavior on internal contextual factors and suggest seven components of organizational context: Culture and climate, goals and purposes, people and composition, processes, state and condition, structure as well as time. Newer articles on contextual factors emphasize additionally the organizational history (Osborn & Marion, 2009), the capacity and capabilities of agents (Lichtenstein & Plowman, 2009) and the individual motivation (Glor, 2007). Aside from the internal contextual factors, there is support for examining external factors as well, such as the environmental complexity (Osborn et al., 2002), the sensitivity of the organization to the environment (Osborn & Marion, 2009) and environmental dynamics (Shamir & Howell, 1999). Comparing the approaches, reveals that there is currently still no agreed set of contextual factors, what is in accordance with the result of the comprehensive analysis of Porter and McLaughlin (2006). In this regard Osborn and Marion (2007) state that context can be so complex no microscopic view is sufficiently detailed.

Considering the literature on complexity leadership, contextual factors have been widely neglected (Lichtenstein & Plowman, 2009), with exception for Glor (2007). Context, in terms of leadership, has been defined by Osborn & Marion (2009, p. 193) as "the set of overall demands, constraints and choices for leaders". Though context factors are usually not explicitly mentioned, indications for constraints can be found. In complex systems, emergence is sensitive to initial conditions (Plowman et al., 2007). Leaders enable the future by cultivating conditions, like agility, innovation and sensitivity to the environment that lead to efficient system behavior (Marion & Uhl-Bien, 2001). MacIntosh & MacLean (1999, 2001) call these conditions order-generating rules. Leaders must identify and possibly reframe the rules. They are defined as the deep structure or the barely articulated views on what the organization represents and how it operates (MacIntosh & MacLean, 1999). However, they are not specifying the conditioning phase, such as what contextual factors play what role during the transformation of complex adaptive systems. Another aspect that often appears in the leadership of complex adaptive systems, is organizational distress. Osborn et al. (2002) refer to this as the crises situation, where organizations were pushed to disequilibrium, by surfacing issues and conflicts.

Given that there is no generally accepted set of contextual factors available for the study of complex adaptive systems leadership, we derive a very condensed set of contextual factors, which are assumed to likely affecting the change in complex adaptive

systems, as preliminary research variables. The preliminary contextual factors considered in research are situational strength and environmental dynamics. The adaption of a nonlinear system evolves from actions and reactions of system's elements, which are based on perceptions of agents. Contextual factors therefore must be understood as perceived contextual factors. In example, financial distress of a company does not automatically alter mental schemas and lead to more change acceptance of the individual. Only if financial distress is perceived as potentially threatening own fitness goals, then a reaction of the agent is likely.

Considering situational strength as the first contextual factor, this article borrows from Shamir and Howell (1999). It is not an objective measure, but a feeling, which ranges from strong to weak psychological situations (Mischel, 1977 in Shamir & Howell, 1999). Situational strength rests on agents' perception and experience of the situation. Strong situations are characterized by a clear guidance of behavior and individual objectives. Leaders clarify the situation and specify the conditions followers must adhere. Agents construe organization's situation in a way as similar as possible. Mental schemas are highly unified and directed towards the organizational goal. In contrast weak situations are linked to equivocality. Leader exert less pressure towards conformity, leaving room for self-related justification and interpretations. Agents have no clear structural cues to how they should behave. There is no objective measurement for situational strength, but it is considered to be dependent on factors such as organizational structure, mode of governance and organization's goal orientation (Shamir & Howell, 1999).

The second contextual factor is environmental dynamics, which has been recently increased in context of digital transformation of the markets. Environmental dynamics alter the fitness landscape of the organization, as well as the individual fitness functions. In times of high stability, organizations can define long-term goals and execute a high number of initiatives striving towards this goal. Efficiency is the main competitive advantage as fitness peaks are constant disclosed to all competitors. Low stability leads to morphing fitness landscapes with low predictability and preparation time, which puts the organization in a surviving mode. Organizational change is often researched in the context of an organizational crisis. Osborn et al. describe crises as a "dramatic departure from prior practice and sudden threatening of high priority goals" (2002, p. 800), whereas sudden means not necessarily caused by a sudden shock, but also by a sudden realization or shift in perception. For individuals, organizational change provoke often uncertainty or anxiety about their own future (Houchin & MacLean, 2005). People feel

stressed or disillusioned, because previously negotiated arrangements no longer work (Shamir & Howell, 1999). Feelings of uncertainty, anxiety or stress are generally something that individuals try to get rid of and replace it with comfort and security (Houchin & MacLean, 2005), thus crises induces energy into the system. The motivational impact of the crises increases the adaptability of the system. The organization is presumed to be more sensitive to transformation leaders (Shamir & Howell, 1999) and the instability of the system leads to emergence through self-organization (Lichtenstein & Plowman, 2009). Thus, environmental dynamics are likely affecting leadership of complex adaptive systems.

4 Methodology

This research has been conducted to understand the initiation phase of digital transformation in a traditional service company. The study aims to derive leadership patterns and the impact of internal and external contextual factors on leadership. An inductive single case study approach is considered to be consistent with both the research goals and the predominant methodology in studies researching organization change (see in example Plowman et al., 2007). The case was selected to reach the criteria of theoretical usefulness (Eisenhardt, 1989) and applicability to gain managerial implications. Further, cases should be selected to observe extremes or polar types to replicate or extend theory (Eisenhardt, 1989). The study analyzes the process of digital transformation as a comprehensive and profound change situation. Furthermore, a highly traditional pension company was chosen, which is in the process of initiating digital transformation. It is therefore expected that the combination of an episodic change event and a highly traditional organization will provide rich insights. In addition, the ubiquitous challenge of digitally transforming traditional organizations provides adequate representativeness.

4.1 Research strategy and method

Case studies are well accepted when little is known about a phenomenon in order to develop knowledge and collect insights for theory building (R. K. Yin, 1994), but can also be appropriate for descriptive or explanatory purposes (Eisenhardt, 1989). As this article follows an exploratory research goal, a case study method can be qualified as appropriate. Case study research allows the study of systems as a whole. It fosters an

attitude of attention to relationship and interactions, dynamics, contexts and emerging patterns (R. Anderson, Crabtree, Stelle, & McDaniel Jr, 2005). Rousseau and Fried (2001) propose a three-tiered approach to contextualization of organizational research and encourages research to be published that fits into any of these tiers. This article follows a tier 1 strategy and provides a rich description and informed reflection about the influence of contextual factors on complex adaptive system leadership. Tier 1 strategy is particularly useful when the measurement of contextual factors is not elaborated or not possible (Rousseau & Fried, 2001). Applying tier 1 strategy, this article will use the following methodological procedures. Firstly, it will focus on the relevant factors of the phenomena studied, rather than describing minutiae. Secondly, it will draw comparisons to prior research by finding commonalities and differences. And thirdly, it will establish a variety of meanings by including agents with diverse frames of reference.

4.2 Data collection

To meet the third methodological procedure of tier 1 strategy, different viewpoints are derived from all levels of the transformation initiative. Respondents include strategic top-management level, transformation investment group members, transformation group members and employees not participating in the program. Hence, all levels of digital transformation initiation are represented, which can be assumed to be appropriately due to several reasons. Firstly, it provides a comprehensive and multiperspective picture of all actors, roles, processes and contextual factors of the change program. Secondly, it allows for an examination about which internal contextual factors guided leaders to actions. And lastly, common grounds and characteristics of digital transformation as a specific change situation can be analyzed.

A total of 17 interviews were conducted, which lasted around 60 minutes and resulted in 86,000 words or over 250 pages of transcribed raw data. The interviews were planned with the responsible for the organization's digital transformation process. He provided access to additional materials, such as company presentations and video material of the change program and was available for further questions, which arose during the research process. Respondents include 5 executives from the corporate board or the top management, 3 members of the transformation investment group, 7 members of the transformation groups and 2 middle managers not participating in the program. Investment and transformation group members hold predominantly, but not exclusively, middle management positions. The functional areas represented are human resource,

marketing, finance, IT and sales. Tenures varied from one year to over 20 years, with most having a track record of over five years with the company. Thus, the selection of interviewees was dependent on having variation in the role within the transformation initiation, the function and the tenures. The interviews took place at the main office of the pension company from June 2016 to April 2017.

With each participant, a semi-structured interview was conducted predominantly by two members of the research team, with one member primarily responsible for conducting the interview and the other for taking notes or asking supplementary questions. The two researchers crosschecked facts and impressions. According to Eisenhardt (1989), this fosters divergent perspectives and strengthens grounding. Additional resources, such as internal company documents, website or video messages regarding transformation initiation, have been consulted. To estimate the suitability of the case several informal discussions were conducted with the main transformation manager. The interview consisted of three sections. Before starting with the first section respondent's background, his or her role in the transformation initiation program and his or her function in the company was clarified. In the first section, information was gathered to develop a picture of the company. The goal was to identify how it looked like before the change program. The horizon of approximately two years was not chosen randomly. According to the information given by the main transformation manager, the concept of digital transformation was rarely present in management two years ago. Hence, a historic perception of the company's culture and behavior was collected. Additionally, a personal understanding of the meaning of digital transformation was asked to determine whether there were actions taken before the formal transformation initiation started. The second section included questions about the company's transformation initiation program called 'Accelerator'. The meaning of the goals and the individual perception of the measures were examined to get a comprehensive picture about what happened in the 18-months period of the initiation. In the last section, questions were asked about the perceived implications and the contextual factors that could influence the transformation. At the end of the interview, participants were asked to add any details that they felt were important.

The goal of the data collection was to understand the individual perceptions, observations, experiences, meanings and thoughts of the transformation initiation. A set of open-ended questions and the flexibility to move to observations or themes that are particularly interesting for the interviewee was applied. Further questions were asked to elicit details of observations or individual perceptions. Although each interview covered

the same sections, the possibility to explore areas of special significance to an interviewee was kept. Rather than force the questions of the researching team, interviewees were motivated to reveal their frames and interpretations. This procedure is similar to prior research (Isabella, 1990).

4.3 Data Analysis

The data analysis follows the grounded theory approach by Glaser and Strauss (Glaser & Strauss, 1967). Their premise is that "in social research generating theory goes hand in hand with verifying it" (Glaser & Strauss, 1967, p. 2). Constant comparative analysis integrates an inductive and deductive process of data analysis in a recurring loop of constant comparison of emerging constructs with theory (Glaser, 1965). Eisenhardt (1989) used the constant comparative analysis approach when defining the hypothesis shaping process. Eisenhardt writes that "researchers constantly compare theory and data-iterating toward a theory which closely fits the data" (1989, p. 541). This approach was applied in the data analysis. During the analysis, leadership patterns from Lichtenstein and Plowman (2009) and selected contextual factor categories were used as the basis for the preliminary coding categories. In the analysis process, these categories were constantly compared against the data and refined throughout the process. Table 11 outlines the initial and final categories used to code the data.

Initial coding categories, leadership behaviors (Lichtenstein & Plowman, 2009)		Final coding categories	
Disrupt existing patterns	- Embrace uncertainty - Surface conflict and create controversy	- Provoke equivocality - Surface different perspectives	
Encourage novelty	- Allow experiments and fluctuations - Encourage rich interactions in a "relational space" - Support collective action	- Provide open subsystem - Facilitate new interaction paths	
Sensemaking and sensegiving	- Create correlation through language and symbols - Recombine resources - Leaders accept "tags"	- Draw new fitness landscape and handle feedback loops - Establish tags and symbols	
Leadership for stabilizing feedback	- Integrate local constraints		

Table 11. *Initial and final coding categories.*

5 Findings

This article follows complexity leadership theory of Lichtenstein and Plowman (2009) and analyses leadership behaviors during the 18-months period of the digital transformation initiation. In order to understand the impact of contextual factors on leadership behavior, this article proceeds after a short overview of the case with an in-depth description of the contextual factors, followed by an analysis of the leadership behaviors.

5.1 Case overview

The pension company, which was chosen as the case of this research, undergoes a tremendous change from a highly integrated, product-oriented company to a service-oriented company that needs to decide and act quickly, take risk without having fully elaborated business cases and is able to integrate customers and partners into the value chain. Digital transformation is seen by the company leaders as a change of the organization's focus, from a very technical and process-oriented to a customer-oriented view.

> "The focus is on the customer side and then you kind of do everything to design the processes to match the customer world." (Member of strategic top-management)

The initiation phase of digital transformation in the pension company, which is the research object of this study, extends over a period of about 18 months. The initiation was built around an internal innovation competition program, called the 'Accelerator'. Logically, it can be split into three parts: energizing, implementation and selection. The energizing phase entailed hiring someone responsible for the organization's digital transformation process, the implementation of a new workplace structure and creating a common understanding about digital transformation. This was followed by the implementation of the 'Accelerator' program, which can be described as an internal innovation competition. The competition had two rounds. In the first round, teams were built exclusively of voluntary employees. In the second round, one additional member of each team was a customer of the company. In each round of the competition, approximately 300 innovative ideas from the employees were collected. The challenge was to identify opportunities to become a mature company in terms of digital transformation. From the collected ideas in each round ten innovation projects were created and staffed

by voluntary employees, who could submit their application for the program. A specialized external consulting company supported the groups in developing their ideas. After three months, four projects were selected and received monetary funding by an investment board, which consisted of specialists from the company. Executives were not part of the investment board to create a greater openness for new ideas and not be predetermined by executives' existing mental models. Another six month later, each round finished, and it was decided whether the projects were to be continued by the company. In sum, about one quarter of the employees participated in the 'Accelerator' program.

5.2 Contextual factors

Perceived situational strength

The organization's agents perceive and experience situational strength as the level of orientation or direction given by the structuring forces (strategy, structure and culture) and the processes of the organization. Situational strength defines whether conformity is desirable and what behavior of each individual is appropriate within the collective. Thus, it determines the room for action of each agent. According to Shamir and Howell (1999), situational strength is dependent on factors such as organizational structure, mode of governance and organization's goal orientation.

The interviews show that the company was clearly dominated by its technical core (back-office functions), while boundary-spanning units (front-office functions) were secondary. Since the company was an early adapter of information technology, it was governed by the logic of technical routines and followed the pace of the IT-development process. The technical core was isolated from the business environment and was trying to implement technical innovations to become as efficient as possible.

> "We were a company that was run by the IT-department, no customer focus at all, […] we just were looking how to make the insurance policies and how to pay the customers. So, it was kind of two processes that we had." (Member of strategic top-management)

The inside-out perspective of the company was reflected in its product orientation. The sensitivity for environmental changes, such as changing behavior or needs of the customer, was low. This is typical for efficiency-oriented companies. According to Mintzberg (1978), the organization went through a phase of stability-oriented functioning. It was mechanically structured, which implies a high situational strength.

The high situational strength is supported by a bureaucratic mode of governance. Ouchi (1983) identified three modes of governance: market, bureaucracy and clan. In the market mode of governance, activities were compensated by market prices. The clan mode of governance can be viewed as coordinated by shared values, beliefs and commitments to a shared goal or vision (Shamir & Howell, 1999). However, in the case at hand, the high formalization and low autonomy of the individuals can argue for a bureaucratic mode of governance. This can be shown by the view of the innovation process at the company.

> "… because we have a formal way of doing those development programs […] you have those program managers with a lot of PowerPoint's trying to figure out what's going on. It is so formal and full of bureaucracy" (Member of strategic top-management)

In contrast to the high bureaucracy, there is the "everybody communicates" initiative, which began a few years earlier. This initiative encourages individuals to actively communicate about what they are doing and what they have achieved through internal channels. The sharing culture was promoted by internal campaigns and a real openness from the leaders that encouraged employees to publish anything. Surprisingly, the communication was still rather conservative, which can be attributed to a highly risk-averse culture.

> "…everybody has a right to publish […] they don't have to contact the communications department. […] We were like "yeah, you can really do this, it's really easy, just push the button here and then you publish". […] but actually, it has never happened. So, employees are very careful." (Member of strategic top-management)

In the interviews the high-risk awareness was often mentioned. This type of contextual factor can be assigned to the personal characteristics of the organization's agents. Homogeneity of personal attributes can be fostered through the attraction–selection–attrition (ASA) process (Schneider & Reichers, 1983), which makes individuals in the organization likely to behave similarly. But the high risk awareness was not only part of the personal characteristics, it was also due to the highly bureaucratic sense of governance and is therefore seen as a factor of situational strength of the organization.

> "We have a culture where you can't do mistakes. […] It's a culture where it's not a good thing to take risks. If you do something and it goes a wrong, you'll get immediately a bad feedback for that." (Transformation Leader)

To sum up the findings about the internal contextual factors, one can assume a high situational strength, which is derived from the traditional dominance of the IT-department, a highly formulized structure, a top-down rule-based governance and people who are rather risk averse. This constellation is not unusual for traditional service companies, especially within the insurance industry, but seems to be a major roadblock on the way of digital transformation.

Environmental dynamics in context of digital transformation

Environmental dynamics alter the fitness landscape of the organization, as well as the individual fitness functions. Low environmental stability leads to morphing fitness landscapes with low predictability and preparation time. For individuals, it provokes often anxiety about their own future (Houchin & MacLean, 2005). Feelings of uncertainty induces energy into the system, increases the adaptability and leads to emergence through self-organization (Lichtenstein & Plowman, 2009). Thus, high environmental dynamics are likely a promotor of system change.

Digital transformation promises to increase the environmental dynamics as it provides new technology-enabled opportunities for individuals and organizations to act on markets. It affects the habitus of people in their roles as consumers or employees and corresponds to changes in all life-worlds such as working, communication, living, mobility or leisure. For consumers digital transformation offers new options to access services, to design them and to use new ways to reach the providers.

> "…the pressure comes from the customers, that's clearly the case […] the reflexes come from the bank sector. It is very easy to do everything with your mobile gadget and it's not the way people can do things in insurance companies." (Member of strategic top-management)

Alongside changing life-worlds of individuals, companies have new possibilities to design, organize, interact and manage productive work. Technological change will make value chains easier to decompose, which results in a specialization on specific value chain elements (Berman & Marshall, 2014). These specialists have a competitive advantage applicable beyond the industry borders. When competition expands around specific value chain elements, industries will converge and new ecosystems will emerge (Berman & Marshall, 2014). Thus, digital transformation of the markets creates a high degree of instability, which comes with a low predictability of market developments.

However, for many industries digital transformation is not strongly (or not yet strongly) effecting their financials. The pension company is, according to their annual report, in a financially comfortable situation with a steady growth of premiums. There was no pressure for change. The marketing director summarized:

> "…change regarding digitalization is difficult, […] this firm is not in any crisis. So how to introduce the idea, that we must change very quickly in a digital company? We have a nice house here, nice offices, you know a nice atmosphere. Nothing tells us, that we have any need to transform to another company." (Member of strategic top-management)

Thus, it has low financial pressure, is profitable and still exposed to relative stable market conditions, while facing a blurry and unpredictable phenomenon. Furthermore, for the employees of the pension company, digital transformation is a phenomenon, they have heard in the media, but it did not yet affect neither their practices in the organization (except in the change program) nor the risk perceptions about their future. In a sum, it is questionable whether the phenomenon provokes any sense of crises at all.

6 Leadership behaviors

6.1 Disrupt existing patterns

Corresponding to Anderson (1999), a system's openness for transformation is dependent on its state. Through the import of new opportunities, threats or contextual changes into the organization, the system is pushed towards a more energetic state. These out of the ordinary events create a situation in which agents get sensitive to their environment, interpret it and construct new realities, which in turn leads to equivocal images about the organization. Equivocality can thus be seen as an important requirement of transformation (Blomme, 2012). Change often comes with situations, where organizations are in crisis.

Due to this stable equilibrium state of the organization, there needed to be tough measures to push the system to a higher energetic state. However, the executives didn't want to risk too much irritation within the organization, as their traditional business model still was well working. Although the change of the workplace structure provoked uncertainty and some irritation within the organization, it was decided from the beginning that not too much pressure should be put on the organization. Rather than put the organization in a state of crises, the goal was to push the system into a more energetic

state through the import of new opportunities and limit the disrupting activities to a necessary minimum. It was a subtle handling between provoking more equivocality, creating a better understanding about the environmental changes and keeping the system running.

Provoke equivocality

The initiation of digital transformation started with a rather unorthodox process. Before starting with the 'Accelerator' program, the pension company changed its workplace structure. All individual offices were shut and exchanged for open space offices, consisting of non-individual desks, contact zones, quiet individual offices to book and relaxing zones. It turned out to be a major disruption for the employees.

> "The energizing our workplace was very irritating […]. It was a difficult time, because it's a totally different kind of working. You can't have any papers. So, you have to communicate in a digital way. It wasn't very positive in a way." (Transformation Leader)

What was first considered an energizing initiative provoked a lot of irritation. The decision to change workplaces was made top-down and seemed to be a brave step considering the bureaucratic functioning of the organization that consisted of rather risk-averse employees. The reasoning of this decision was to minimize the hierarchical distance and create more interaction. But it was not very well supported by the employees. One long-term employee commented:

> "...I should take a click in my mind and start working in another way. […] But I don't think that works. […] our bosses should show some example, not sitting in their own private glass box. They should live there in front as an example" (Transformation group member)

On the one hand, the unpopular change resulted in some level of resistance and created uncertainty, but on the other hand, for many employees it worked like a wake-up-call, which announced a period of transformation. Even it was unintentional, the decision resulted in various interpretations of the reasoning and created a heightened awareness.

Surface different perspectives

The phenomenon of digital transformation was very irritating for most people. Many different meanings about what digital transformation is and what impact it has existed. These meanings were mainly based on experiences people had in their life as consumers in other more digitally mature markets. People apply their own observations to the insurance market and try to find interpretations about how it affects their own functions within the organization. For example, one employee with high customer interaction in his function perceived digital transformation as the change of the interaction with the customer. An interviewee with an IT background described digital transformation as the creation of interaction interfaces and an employee with a back-office function linked digital transformation to process automatization.

> "Digitalization means for me first of all that as a company we have to look at everything from the customer side" (Transformation group member)

> "…it can be that we create our users a lovely interface to interact" (Transformation group member)

> "The message is, that we should try to get smoother processes. And the way of getting them smoother is to digitalize them" (Investment group member)

The challenge for the organization was to create motivation and a feeling of urgency to move forward without experiencing big hurdles along the way. The new transformation leader decided first to uncover the different perspectives about the environmental reality including his own view, in order to grasp the idea of digital transformation. Therefore, extensive communication activities in internal channels were undertaken, such as blog contributions, animated videos and speeches. People were encouraged to join the discussion about what digital transformation means to the company as well as to the individual and their activities. The active involvement of the employees in the strategy and change process was new to the company. It was a rather surprising process for the employees. What they have been previously accustomed to, was that new strategies were designed within the leaders' circle and then communicated as a final decision to them. For the employees, this was a clear break with the current bureaucratic mode of governance. The goal was to build shared values, beliefs and a commitment to a shared vision.

6.2 Encourage novelty

Systems far from equilibrium are highly sensitive to changes. Small changes induced from leaders can lead to disruptions within the organization (Kauffman, 1995). In this excited organizational state, leaders should catalyze emergence by encouraging novelty. Catalyzing refers to the activities that create the context and the mechanism for emergence (Uhl-Bien et al., 2007). One such mechanism is the interaction in the organization. Effective network conditions are stimulated by interaction (Uhl-Bien et al., 2007). Leaders can generate a relational space, in which people get to know each other, establish high quality interactions, trust and psychological safety (Bradbury & Lichtenstein, 2000). A context factor, which enables emergence, is the openness for experiments. Experiments require a certain level of autonomy, which permit conflicting perspectives to emerge without early interference by leaders or internal investment institutions (Uhl-Bien et al., 2007). Amplification of deviations in the system, induced by out of the ordinary events, create a dynamic, whereby similar events are likely to emerge (Lichtenstein & Plowman, 2009). The high variation of mental schema pushes the system towards the edge of chaos, which in turn creates a process of re-organization, where agents look for new patterns of self-organization that fit to the changed realities within the organization.

Novelty encouragement in the pension company was mainly driven by the 'Accelerator' program. It created conditions, which were effective to enable employees to be innovative. It was a subsystem within the organization, which had its own structure and rules. It was further not fully defined, nor was there an obligation to take part. Thus, the members could create the space that was given to them by themselves. However, the process was structured in a way to create maximum interaction opportunities between employees from different departments. The large number of participating employees (about 25% of all employees) and the high diversity of members from all departments created a high attention and visibility throughout the company.

Provide open subsystem

The 'Accelerator' program can be described as an internal innovation competition program. But the focus was not on generating new products. But rather on a way of getting people involved in the idea of change.

> "Why I started with this accelerator? It was not the output we will get. It was more a cultural project. […] It was the way to get everyone involved in what this [digitalization] really means. It wasn't that someone defines you." (Transformation Leader)

In the first step of the 'Accelerator' program, employees were invited to anonymously provide concrete ideas, which seemed to be helpful in the digital transformation of the pension company. About 300 ideas were collected, including proposals about how to transform internal and external communication, value proposition, functional structure or mode of governance. From the original 300 ideas, 10 projects were created, and employees could voluntarily apply for one of these projects. Although people were used to working in a mechanistic structure with a high number of rules and regulations while trying to mitigate the risk of mistakes, the 'Accelerator' program provided a context, which attracted many employees. In the end, 10 groups were built, each consisting of four to eight members and one facilitator, who was responsible for the organization. Members generally had no background knowledge of the topic at hand that could be used from their regular functions, whereas the facilitator was a specialist in this particular topic. The facilitator could be used as a sparring partner of the group but was instructed not to influence the result. This was of importance to create the openness of the subsystem and for the emergence of new ideas. With regular intervals, the groups had to present their current standing in front of a large internal audience. After 3 months there was a selection process to determine which groups would receive monetary funding to proceed with their project. In contrast to regular innovation processes, the members of the investment group had specialist functions. Executives were not participating the investment decision process. The decision was based on criteria, which were chosen by the facilitators of each group to ensure an objective process. The process of selection was disclosed to everyone in the company and the evaluation was described in detail.

> "After that I wrote down every remark what the investment team said, I published everything. Openness is part of our strategy." (Transformation Leader)

In this initiative people had to take risks of innovating, step out of their regular functions and present results in an early stage of development in front of large auditorium. This was not the way of working they were used to. But the transformation leader managed to create a situation where hierarchical distances are reduced and where experiments are not only allowed but required.

> "It's [the 'Accelerator' program] not tied to any organizational structure. We haven't changed our organizational structure […] But you shouldn't think about your position in hierarchy. […] If you are interested in something, you can promote that, and you can sort of take the power into your own hands." (Member of the strategic top-management)

The openness of the program to create not only solutions but also be empowered to create own modes of governances gave a lot of energy. Rather than give the employees official time off to work on the projects, they were willing to take on the additional workload on their behalf.

Facilitate new interaction paths

A rich interaction of the agents in the organization is recognized as a basic mechanism for emergence (Uhl-Bien et al., 2007). Non-linear interactions can lead to unexpected and mutually supportive outcomes (Plowman & Silansky et al., 2007). The 'Accelerator' program stimulated emergent actions of the innovation group members. Without any directive of the program organizers, they started to promote the change.

> "The facilitators were standing here in the hall with flags and said: "Please ask us about". I didn't do that. But they were interested in changing this company." (Transformation leader)

The emergence of new interaction paths was facilitated in many ways. Sensing the importance of this context to counteract the organizational silos, the transformation leader grouped people from different parts of the organization. For example, the group members of the innovation initiative had various backgrounds, different functions and generally no particular knowledge regarding their project. This created valuable and very energetic discussions because of all the different perspectives. One leader of the actuary department said:

> "They just worked and worked, and they learned to work with people they have never been together. […] What they learned most was to communicate. And for mathematicians it's a really big task." (Investment group member)

Another example can be seen in the investment group, which was responsible for selecting the four initiatives that got funding to proceed with their project. A member of the investment team highlighted the informal atmosphere.

> "When you work here together and you come from two different departments, you have competitive ideas […] In this [initiative] we were not competing about anything, we were just working together. (Investment group member)

In this initiative, leaders could generate a relational space, in which people get to know each other, establish high quality interactions, trust and psychological safety. The initiative has attracted employees, which anyway were rather positive to change. But to spread the idea or culture of the initiative to the whole organization the transformation leaders needed a measure that was compelling. So, they organized large events, where the innovation groups had to present their proposals, even if still at the beginning phases. These pitches were done for several reasons. Firstly, they were a test, to see whether the projects were understood by the audience. Secondly, it was a way to encourage the employees to step out and take a risk for their projects. Thirdly, it created further interaction paths, as it made the group members visible and approachable for other employees. Lastly, it spread the idea of digital transformation and made it tangible.

6.3 Sensemaking and sensegiving

In highly dissipative systems, elements are recombined, new interaction paths have emerged, and new fitness peaks are sought after. This does not ultimately lead to achieving higher fitness peaks. Houchin and MacLean's (2005) empirical research shows that the natural tendency of humans is to seek equilibrium by reducing anxiety, conflict avoidance and minimizing change. Dis-equilibrium in the form of anxiety leads to repetition of trained behaviors (Houchin & MacLean, 2005). To prevent negative feedback loops, leaders are challenged to retrospectively make and give sense of what occurs (Weick, 1995). In this stage of transformation, leaders serve as interpretative filters (Fulmer & Ostroff, 2016). Sensegiving is important to reduce equivocality and thus anxiety. Correlation of different meanings and schema can be reached through language or symbols, which foster the development of a shared understanding (Plowman et al., 2007). Change agents play an important role in creating a shared understanding. Marion & Uhl-Bien (2001) argued that change agents take the role as a tag, an identifier for a specific action or set of behaviors (Lichtenstein & Plowman, 2009). Leaders themselves act as change agents, symbolizing a message or getting individuals to work as change agents themselves.

Leaders have an important role to construct meaningful explanations for the situation of the organization (Gioia & Chittipeddi, 1991). This is particularly important in

complex adaptive systems, where leaders are not directing intended change but rather enable emergent change (Lichtenstein & Plowman, 2009). For the researcher of this case study, it was very conspicuous, how much effort the transformation leader put into sensegiving activities although the company was only in the stage of initiating digital transformation.

Draw new fitness landscape and handle feedback loops

The 'Accelerator' program was accompanied with numerous communication activities in different internal and external communication channels, such as video blogs and speeches made by the transformation leader, animation videos and newspaper articles to transport the idea of the initiative. People were encouraged to join the discussion in workshops about what digital transformation means to the company as well as to the individual and their activities. Additionally, there was time invested to keep the digital interaction active, where anyone could anonymously give comments on their thoughts, expectations or fears linked to digital transformation and get advice, explanations or feedback from the transformation leader.

> "To me it is a story. […] I gave a lot of interviews. […]. I wrote a lot of blogs to other companies' websites. I travelled a lot to have speeches. I publicly told everyone what we are doing. In interviews […] I told the story where we began, where we are going to be and how we get there. But when I'm talking to the press, I'm not talking to the morning paper readers. I'm talking to my people." (Transformation leader)

The highly bureaucratic sense of governance fostered a high-risk awareness of the employees. Actions taken by the employees were normally very well-reasoned. So, it was not unusual that colleagues standing next to each other in the office were writing mails instead of communicating personally in order to ensure evidence. Changing processes or behaviors includes some risk. In order to feel in control, risk-reducing activities could lead to negative feedback loops. Therefore, the transformation leader created a positive story of change, which was well embedded into the organizational history. Like this, the transformation was rather perceived as providing new opportunities than arousing fear. The outcome of the story was to reshape the individual fitness landscapes. They collectively created a future, which gave the individual a justification to take the additional effort of the change. This was supported by focusing the goal of the organization

onto providing value to the customer. Thus, the organizational goal, at least partly, reflects the values of the followers, to produce a type of moral involvement (Shamir & Howell, 1999).

However, the role of the transformation leader was not only to provide sense through explanations. It also involved sensemaking. Thus, the transformation strategy was evolving throughout the process of initiation. The workshops and especially the digital interaction, provided the transformation leader with the required information about potential resistance, which was reflected again in the transformation initiation. It was also a valuable way to handle feedback loops.

> "In hierarchical companies everyone is telling you a better version of the reality and if that happens five times, you have quite wrong vision what is really happening. […] That's why I had this blog. So, everyone could answer. There was a lot of critique in the beginning and I always answered to everyone. It took me a lot of hours. But it was highly important because people tell stories. Otherwise they tell these to their colleagues." (Transformation leader)

Establish tags and symbols

Marion & Uhl-Bien (2001) described the importance of leaders as catalysts to enable emergence. They become "tags" and direct the attention on what is important according to the change. Thus, they are a *"symbolic reference for their corresponding message"* (Plowman et al., 2007, p. 352). In the research, the transformation leader was clearly identifiable as a tag for digital transformation. He began working at the company at the same time as the beginning of the transformation and was, as a leading executive, mainly responsible for the organizational change.

> "…it needed a new guy, who has a title, who is very high […] you need somebody who is talking about these changes." (Transformation group member)

Through the large effort undertaken by interacting with the people, he was able to channel many feedbacks. This allowed for the opportunity to learn about and react to the comments. One investment team member commented:

> "…you are a dartboard in that moment. Even if people don't come to tell you straight, you are a dartboard." (Investment group member)

In addition to the prior research knowledge, it was not only the transformation manager who became a tag for digital transformation. The 'Accelerator' program itself was a symbol for digital transformation. Thus, it was not only the open space, which was provided through the innovation competition program. The initiative can be considered as a new point attractor, who guides the employees to what their future behavior will look like. It reduced the equivocality of the agents, which was induced through the initiation of the digital transformation.

6.4 Leadership for stabilizing feedback

Equivocality must be reduced to find a new emergent order for the system. Stabilizing feedback will prevent a system from spinning out of control (Lichtenstein & Plowman, 2009). Legitimacy of new emergent order must improve the efficiency of the system. Leaders can integrate constraints to find a new equilibrium. In this context, Blomme (2012) mentioned the importance of social identity creation within subnetworks of the organization. Social identity can be defined as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership" (Tajfel, 1972, p. 292 in Hogg, 2001). Through the process of transformation, new interaction ties, different mental schema and fitness functions emerge. This often goes together with contextual changes such as new task assignments or a changed functional structure. Thus, the social identity of agents might deteriorate over the course of the transformation. Reestablishing intragroup boundaries and competitive intergroup relations increases positive identity building.

Although the 'Accelerator' program reduced the equivocality about what digital transformation might means, there was no leadership behavior for stabilizing feedback to find in the initiation phase. As there was a share of 25 percent participating in the initiative and there were no substantial changes to the normal business activities, the social identity of the agents has not yet deteriorated. There are two further explanations as to why leadership activities for stabilizing feedback was not found. First, the organization was not going through a major disruption. There was no crisis, which could drive the system beyond the edge of chaos. Hence, stabilizing feedback was not yet necessary. Second, the context of digital transformation means turning away from a predictable future. Due to the high rate of technological changes it is expected that digital transformation drives organizations' fitness landscapes to be in a constant move. This questions the assumption of Mintzberg (1978) that organizations go through stretches of stability,

interrupted by brief periods of adaptation. Leadership in digitalized markets would therefore need an ongoing act of balancing the organization in a disequilibrium state between stability and chaos in order to keep it adaptable.

7 Discussion and implications

The purpose of this article is to analyze the change leadership behaviors of an incumbent service company in the context of digital transformation based on a profound case analysis. With the exploratory emphasis on studying organizational change in the context of digital transformation, the research reveals insights from a case example, whose challenges are presumably widespread in the service industry. It is likely that a great number of organizations face a similar situation, possessing the structures implying a high environmental strength, while facing the challenges of digital transformation. The article's strategy was the describe change leadership with a high richness of detail applying the theoretical lens of complexity leadership theory. Below are outlined two extensions of the complexity leadership theory, and a set of generalized actions to facilitate change leadership is provided.

7.1 Extension to complexity leadership theory

The initiation phase of the digital transformation of the pension company lasted 18 months. During this time period, the company went through a significant transformation. It started as a traditional service company with a highly formulized structure, a bureaucratic mode of governance, and a dominant IT-department, directing the organizational evolution through its own development process. The actions taken unfroze the prevailing mental schemas, positively influenced interaction paths, and offered new fitness peaks for the agents of the organization. Thus, the initiation phase of digital transformation achieved remarkable accomplishments. An investment group member commented:

> "We always have spoken about the company as a big elephant. It is really stable, strong and really knows what it is doing, but really slow moving. So, if you want to get on then you really need to make a lot of work to get something changed" (Investment group member)

> They [transformation group members] never had a room, they just had really spontaneous meetings all over around. They were in the corridors; they were in the lunchroom and you could just see all the heads together thinking and laughing and trying new things. And it was incredible that so many people got up in the auditorium and started to speak - it was exciting for them. For us it is not simple to get up and speak, it was a great result. (Investment group member)

The setup of the change program was designed to drive the system into a more energetic state through the import of new opportunities and to limit the disrupting activities to a necessary minimum. However, despite the achievements made by the change program, both the permanence and transferability from the program to the overall organization can be questioned. Two aspects attracted empirical attention: The reluctance to change due to high situational strength and the missing actualized environmental pressure of the phenomenon digital transformation. In this case, the low pressure and the high situational strength were mutually reinforcing negative feedback loops. Under strong situations, individuals' performance goals are elaborated in detail and measured. This is particularly possible in situations in which the future is predictable, and competitive advantages can be reached through higher efficiency. Leadership under these conditions is based on the use of extrinsic rewards and punishment, depending on the efficient use of resources (Shamir & Howell, 1999). Followers' mental schemas, fitness landscapes, and interactions are as determined as possible by the rules of the organization, through which a rather administrative (as opposed to charismatic) leadership style emerges (Shamir & Howell, 1999). This is consistent with the substitute for leadership theory (Kerr, 1978). They argue that certain contextual factors, such as formalization and routines reduce or even negate the possibility of the leader's influence on the performance of his followers. Strong situations from the perspective of complex adaptive systems can be considered as highly ordered elements in a fixed organizational structure, very like the ordered arrangement of atoms in a crystal structure. The structure is very efficient but needs a high amount of energy to change. The environmental context of digital transformation did not push the company far enough into a more energetic state. In particular, at the end of each round of the change program, during which the projects turned into regular development projects, negative feedback loops gained a boost. The manner in which the initiative was created generated a lot of excitement. It was a different and involving way to develop and innovate for the company. However, the longer

the initiative lasted, the more involved individuals started to fall back into their old routines. Reversing development gains is further nurtured by missing profound changes in the situational strength of the overall company.

While most of the literature advances the view of a causal impact from contextual factors on the nature of change and the role of leadership, the organizational context is also dependent on leadership. Contextual factors such as the functional structure are dependent on a leader's decisions. Hence, researchers must define whether transformational leaders need to assess and modify contextual factors in order to facilitate change. MacIntosh & MacLean (1999, 2001) propose a separate conditioning phase to reframe the order-generating rules of the organization as a first step of the transformation. However, change in the perceived situational strength is not achieved by directing a new organigram. Shadow systems are likely to emerge if a change in the contextual factors is not carried by the agents (Houchin & MacLean, 2005). The definition of internal contextual factors is an emergent process, which is rather enabled and then directed by the leaders. There is a need for more accurate knowledge about the influence of internal contextual factors on the leadership of change in the context of digital transformation. Identifying baseline measures on the current dynamic state of the organization (Lichtenstein & Plowman, 2009), drawing scenarios (Osborn et al., 2002), or designing generic configurations (Glor, 2007) could be valuable approaches for future research. Furthermore, there is little research about organizational change in non-crisis situations. As Prigogine (1996) states, new emergent order is likely to occur when the system's change capacity dramatically increases. As Blomme (2012) describes, emergent change will take place when exogenous change causes a performance drop and agents become aware that the current logic no longer works. Pawar and Eastman (1997) assert that organizations persist in a mismatch between the organizational activity pattern and external requirements until they face failure. Change is dependent on the agent's attention, perceived pressure, and a certain level of disequilibrium.

The analysis of the leadership behaviors in this case revealed another gap in the complexity leadership theory. Lichtenstein and Plowman (2009) propose four behaviors that co-generate the four conditions for new emergent order. Though there is no direct indication given from the authors, the system conditions appear to be sequential. "Each condition is better seen as a sequence of changes, each sequence involving a series of processes and mechanisms" (Lichtenstein & Plowman, 2009, p. 626). The findings show that the presumed sequential order in complexity leadership theory may not be as sequential as assumed. For example, sensegiving activities started from the beginning and

continued over the whole period of the initiation phase. The 'Accelerator' program occurred throughout, accompanied by several video blogs, speeches, and articles written for external media with the goal to establish a tag or symbol to create a common understanding of digital transformation. The transformation leader created a story around this program, which was embedded in the organizational history. The extraordinary amount of energy devoted to the sensegiving activities was necessary to take action against negative feedback loops. In sum, the various leadership behaviors were rather recurring than sequential. This is in line with the empirical results of MacIntosh and MacLean (2001). In contrast to their expectations, the three phases of their approach of conditioned emergence occurred much more concurrently in their empirical research. Thus, they state that the three phases represent "three different managerial leverage points for the same organization process (namely transformation)" (MacIntosh & MacLean, 2001, p. 1353). Thus, there is a need to examine the temporal dimension of complex adaptive system leadership. Different phases, such as initiation, evolution, and settlement, in the transformation process of an organization must be compared in order to concretize whether leaders must concentrate on specific leadership patterns at a certain time in the transformation and how leaders realize respectively measure the accomplishment of a transformation phase.

There are some limitations in this article. Keeping in mind the exploratory emphasis of studying organizational change in the context of digital transformation, a more systematical identification of contextual factors referring to digital transformation is valuable both in theory and practice. Second, the results are based on a single case study, which is influenced by the organizational history and cultural dimensions. Future research should address these limitations by conducting cross-country and cross-industry studies. Third, there are some limitations in the application of the complexity theory on the organizational context. Unlike the physical system, agents in the organization are humans with histories that contain psychological drivers, which influence behavior (Houchin & MacLean, 2005).

7.2 Managerial implications for the leadership of digital transformation

While digital transformation ultimately includes the utilization of digital tools, there is a tendency to overshadow that transformation happens at the organizational and cultural levels. The exploitation of digital technologies, like digital interaction tools or new digital services that provide a value proposition and supplies the changing demand

of consumers, requires firms to change their business model (what is being offered) and the operating model (how it is delivered) (Berman, 2012). Hence, digital transformation is a comprehensive and cross-divisional, profound change process involving a provider that is driven by the exploitation of digital technologies to interact internally and externally, create new services, as well as analyze and process data. This article employed the complexity leadership theory to examine a change initiative in the context of digital transformation. The advantage of the complexity leadership theory is its focus on identifying behaviors that foster organizational creativity, learning, and adaptability (Uhl-Bien et al., 2007). For practical use, the derived leadership behaviors are summarized into four actions favoring the initiation of emergent change in the context of digital transformation (see Figure 9).

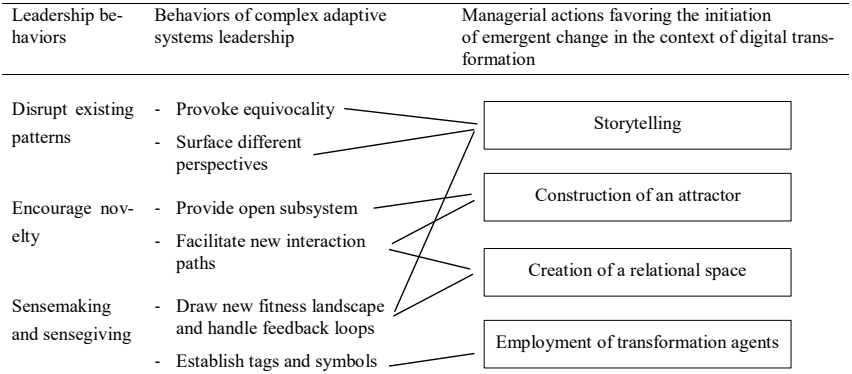


Figure 9. *Actions favoring the initiation of emergent change in the context of digital transformation.*

Storytelling: The initiation of digital transformation of the pension company was embedded in a greater context of organization's history. Thus, a coalescence between the past, the present, and the future was reached (Boal & Schultz, 2007), and employees could better evaluate the importance of the current change situation. Through storytelling, leaders achieve shared mental schemas by providing rationales for the occurring events and create new fitness functions for its followers. A good story of change will on the one hand provide the new fitness landscape of the organization, defining opportunities and threats. On the other hand, it will show off the consequences that affect each individual. Ideally, it provides new opportunities and prevents anxiety. As Brown and

Duguid mention, the value of stories lies "not just in their telling, but in their retelling" (2000, p. 107). Thus, storytelling helps to promote positive feedback loops, which positively influence the emergence of a new order.

Construction of an attractor: The 'Accelerator' program was part of the story the transformation leader tried to create. It was a totally different program, incompatible with the order-generating rules of the company. This created controversy among the agents, including employees and functional leaders. The program demonstrated that capabilities for digital transformation are available within the company. For the employees, the 'Accelerator' program was a symbol for digital transformation, which made this all-encompassing and confusing term comprehensible. The initiative became a new point attractor, which demonstrated the possible new order of the system.

Creation of a relational space: Today's corporate world is often ambiguous and multifaceted. Even when the organization is not in survival mode, the future remains unclear, environmental signals are interpreted differently within the organization, and visions are formulated rather than unspecific, which creates uncertainty and anxiety. To reduce the equivocal meanings about environmental impacts, the organization's future, and its influence on the employees, a relational space is required. It represents an open room for interaction and creation of a shared meaning. Thus, feedback loops can be handled, and leaders can get a sense of the organization's change progress.

Employment of transformation agents: Exemplary for digital transformation is the hire of new agents. The pension company employed an external leader for the organizational and cultural transformation. New agents have generally more credibility than existing leaders and can become tags for change. The existence of tags helps agents to self-reflect their own behavior in the background of the new circumstances. However, transformation leaders are not the only ones who can become agents of change. There is also the possibility to employ external people who serve as identifiers of a new culture. The pension company, for example, hired external facilitators, included a group of students, and engaged consumers in the innovation process.

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