

MASTER'S THESIS

Organizational design for digital success

*A Qualitative Study on Digital Transformations in the
Dutch Insurance Industry*

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Preface

Dear reader,

The last semester of the Organizational Design and Development Master's program is dedicated to writing a Master's Thesis. After an intensive period of seven months, I have been able to fulfill this final challenge of five years of academic education. Reflecting on the past seven months, I can say that writing a thesis has been an intensive and instructive process in which I have developed myself both on scientific and personal level. Thanks to Magnitude Consulting, I have been able to conduct a comprehensive research in the insurance industry. I have had the opportunity to get in touch with many different companies and to interview very inspiring people. This offered me the perfect combination between theory and practice.

I would like to take this opportunity to express my gratitude to the people who supported me in the realization of my Thesis. Firstly, I would like to thank my colleagues at Magnitude Consulting for their help and the pleasant cooperation during my internship period. In particular, I want to thank Mark de Weers, my company mentor, for his intensive support. I would also like to express my gratitude to Dr. G. D. Patru for the excellent supervision. She encouraged me to get the most out of myself. Finally, I would like to thank Dr. W. Kremser for the extensive feedback on my research proposal.

I hope you all enjoy reading,

Denise Hartog

Nijmegen, August 13, 2018

Abstract

The insurance industry is one of the industries that is strongly influenced by the digital disruption of the business world, forcing insurance companies to digitally transform their organizations. This study generated knowledge that contributes to literature on digital transformations in the insurance industry. By means of an explorative research approach, I examined how Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry. First, I interviewed experts from nine different insurance companies in the Netherlands. Subsequently, I studied two insurance companies more thoroughly through qualitative case studies. Clustering the collected data from this research led to new insights and knowledge about digital transformations in the insurance industry. The findings showed that insurance companies use both incremental and disruptive digital innovations in order to become future-proof in a rapidly digitizing industry. Incremental digital innovations already have clear implications for the organizational design of insurance companies as opposed to disruptive digital innovations. Moreover, the findings also indicated several factors that impede the realization of both incremental and disruptive digital innovations, including the organizational structures of most insurance companies. This study therefore not only contributed to the literature on digital transformations, but also provided relevant insights for the literature on organizational design.

Key words: digital transformations, future-proof, insurance industry, organizational design

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Chapter 1: Introduction

Background

“The business world is rapidly digitizing, breaking down industry barriers and creating new opportunities while destroying long-successful business models” (Weill & Woerner, 2015, p. 27). The digital disruption of the business world started sixty years ago with the introduction of the first computer. Ever since, information technologies are becoming increasingly important in every industry and company. This trend is enabled by continuous technological development (Châlons & Dufft, 2017). Today, more and more innovative digital technologies are emerging, such as Artificial Intelligence, Big Data, Block Chain, Internet of Things and Robotics. These technologies offer competitive advantages to companies, for example by streamlining processes, improving customer experience and developing customized products and services (Zheng et al., 2016; Chui, Ganesan & Patel, 2017; Garnham, 2017; Van Leeuwe & Van de Peppel, 2017). Airbnb and Uber are well-known examples of companies that have benefited cleverly from the opportunities of such innovative digital technologies by building online platforms that completely changed the hotel and taxi industry (De Reuver, Sørensen & Badole, 2017). These are just two examples of which many more will follow because it is certain that the digitization of the business world is constantly increasing. It is, however, uncertain how digitization will impact different industries in the future (Weill & Woerner, 2015; Kilpeläinen & Tyrväinen, 2004).

The insurance industry is one of the industries that is currently under heavy pressure due to digitization (Accenture, 2014; Deloitte, 2016; De Nederlandse Bank, 2016; EY, 2017; McKinsey & Company, 2016; PricewaterhouseCoopers, 2014). The digital disruption in this industry is reinforced by a highly competitive landscape in which an increasing number of InsurTechs enter the market to compete with traditional insurance companies. InsurTechs are start-up companies in the insurance industry that are built upon the newest digital technologies and pose a major threat to traditional insurers since they are able to serve customers faster and more effectively (Svetlana, 2016; Huckstep, 2015; Ter Steege, 2017; De Groot, 2017). A striking example of such an InsurTech is Lemonade in the US (Huckstep, 2015). The following quote illustrates why Lemonade poses a threat to traditional insurers:

“From signing up to submitting a claim, the entire experience is mobile, simple, and remarkably fast. What used to take weeks or months now happens in minutes or seconds. It’s what you get when you replace brokers and paperwork with bots and machine learning” (Sawers, 2016, Good Behavior section, para. 8).

In order to become future-proof in a rapidly digitizing industry, the incumbent operators in the insurance industry should respond to the possibilities that digitization offer them. The speed at which they do so will determine their future market share (Catlin et al., 2017). In other words, traditional insurance companies are forced to digitally transform their organizations (Accenture, 2014; Deloitte, 2016; De Nederlandse Bank, 2016; EY, 2017; McKinsey & Company, 2016; PricewaterhouseCoopers, 2014). Building on the conceptualizations of Venkatraman (1994), Westerman et al. (2011), Reddy and Reinartz (2017) and Hess et al. (2016), I define digital transformations as the changes organizations make to their organizational design in order to create a future-proof organization in a rapidly digitizing industry. A future-proof organization is one that is unlikely to become obsolete in the future (Klososky, 2011).

Motivation and gap

Digital transformations in the insurance industry is a hot topic. However, research on this subject is currently limited to a strategic perspective. More and more is published about digital trends, digital strategies and new business models (Ghosh, 2017; Hirt and Willmot, 2014; Kendler, 2016; Weill & Woerner, 2013; De Jong & Van Dijk, 2015), but very little is known about *the actual changes* insurance companies make to their organizational design in order to become future-proof in a rapidly digitizing industry. I concluded this after systematic search in several databases on February 10 and May 14, 2018, including Web of Science, Business Source Complete and Google Scholar, using the following key words in both the title and the abstract: 'digital transformations' and 'insurance industry', 'digitization' and 'insurance industry', 'organizational design' and 'insurance industry', 'organizational changes' and 'insurance industry' and finally 'future' and 'insurance industry'. My search yielded only strategically oriented literature, while literature from an organizational design perspective was missing. This lack of knowledge is specifically relevant because of the the topicality of the subject – i.e. the pressure that insurance companies currently experience to respond to developments in the field of digitization (Achmea, 2017; Vivat, 2017; Limburg, 2017; Nationale-Nederlanden 2017; Financieel Dagblad, 2017). Literature on digital transformations from an organizational design perspective is, however, not completely lacking, because there are several studies on this subject that are not aimed at a specific industry (Brynjolfsson and McAfee, 2012; Gulati and Son, 2015; Henriette and Boughzala, 2015; Matt, Hess and Benlian, 2015; Venkatraman, 1994).

Research objective and research question

In this study, I attempt to fill the previously described gap. The objective of this research is to generate knowledge that contributes to literature on digital transformations in the insurance industry by examining how Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry. This leads to the following research question:

- How do Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry?

I answer this research question with the aid of two subquestions, namely:

1. According to Dutch insurance companies, what are the most important developments in the field of digitization to which they need to respond in order to become future-proof?
2. How do Dutch insurance companies translate abovementioned developments to their organizational design?

This study consists of two parts. First, I interview experts from nine different insurance companies in the Netherlands. These interviews give me an indication of how Dutch insurers (re)design their organizations to become future-proof in a rapidly digitizing industry. Subsequently, I examine two insurance companies in-depth through qualitative case studies in order to develop a more comprehensive understanding of the changes Dutch insurers make to their organizational design. Clustering the collected data from this research leads to new insights and knowledge about digital transformations in the insurance industry.

Academic and social contribution

This study contributes to literature on digital transformations and provides in particular insights for the insurance industry. These acquired insights add an extra dimension to the existing literature on digital transformations in the insurance industry that mainly consists of strategic knowledge. Such novel insights are valuable due the inconsistency between strategy and translation of strategy to actual organizational changes. More concretely, companies experience difficulties in realizing initial plans because of various organizational factors that impede their implementation (Kaplan & Norton, 2001). This study focuses on the actual changes in the organizational design instead of the strategy and therefore contributes to the development of a

more comprehensive understanding of digital transformations in the insurance industry. The theoretical relevance of this study is supported by literature that demonstrates the importance of highlighting an organizational phenomenon from multiple perspectives in order to fully understand the phenomenon (Gioia & Pitre, 1990; Lewis & Grimes, 1999; Hatch & Cunliffe, 2013). In addition, this research also contributes to literature on organizational design, because it provides new insights about organizational design in relation to future-proof organizations.

In addition to the theoretical contribution, this study also contributes to practice. Research into digital transformations in the insurance industry is currently relevant because of the pressure that insurance companies experience to respond to developments in the field of digitization (Achmea, 2017; Vivat, 2017; Limburg, 2017; Nationale-Nederlanden 2017; Financieel Dagblad, 2017). In this study, organizations are seen as “social systems conducting experiments” (Achterbergh & Vriens, 2010, p.1). Given this consideration, the present study provides insights into the way several insurers experiment with elements of their organizational design to become future-proof in a rapidly digitizing industry. These insights offer some design rules and guidelines with regard to digital transformations in the insurance industry. Insurance companies – those I study and others in general – benefit from these outcomes, because it allows them to learn from each other’s experiments. Theories on organizational learning confirm the importance of vicarious learning for companies’ success. (Huber, 1991; Dodgson, 1993; Bapuji & Crossan, 2004; Manz & Sims; 1981).

Structure

In the following chapter, I explain which theoretical framework I use to underpin this research. In chapter three, I discuss the research approach, data collection sources and methods, data analysis and research ethics. Subsequently, I highlight the relevant findings of this study in chapter four. Finally, I answer the research question and discuss the implications and limitations of the present study in chapter five.

Chapter 2: Theoretical framework

In this chapter, I define and explain the key concepts of this study and discuss what is known about their relationship. In addition, I explain which theoretical perspective I use as a lens through which I examine how Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry.

Digital transformations in the insurance industry

The primary goal of this thesis is to contribute to literature on digital transformations in the insurance industry. Literature on digital transformations in the insurance industry is mainly available from a strategic perspective – i.e. the literature focuses, among others, on digital trends, digital strategies and new business models. A recent study on this subject identified, for example, five major digital trends that will significantly impact the insurance industry, which are: (1) data and analytics; (2) the internet of things; (3) block chain; (4) application programming interface and (5) artificial intelligence (Ghosh, 2017). The study of Kendler (2016) explained why insurers should take advantage of such digital trends. She showed that digital transformations essentially have everything to do with improving customer experience, because digitization offers insurance companies the opportunity to connect with their customers and develop personalized services in order to increase their customer satisfaction. In addition, digitization makes it also possible to maximize operational efficiency and reduce costs. Furthermore, De Jong and Van Dijk (2015) and Weill and Woerner (2013) examined the current business models of insurance companies. They concluded that these business models should be reinvented in order to cope with the demands and challenges that digitization offers. They advised insurers to reformulate their beliefs about value creation and translate these subsequently into new business models. Moreover, Hirt and Willmot (2014) stated that digitization will change the insurance industry because a new set of competitors will emerge. These new competitors are highly competent with digital technologies, making them change the industry standard. They argued that incumbent operators in the insurance industry should digitally transform their organizations before the tipping point between the old and the new standard takes place. It is, however, uncertain when this will be as it is a continuous repeating process. Insurance companies should therefore closely monitor their competitors and regularly reformulate their digital strategies, because “it is important to keep in mind that digitization is a moving target. The emergent nature of digital forces means that harnessing them is a journey, not a destination” (p. 13).

The above literature demonstrates the need for digital transformations in the insurance industry. However, it does not deal with the actual changes that insurance companies make to their organizational design in order to become future-proof in a rapidly digitizing industry. Fortunately, the subject under study is not entirely unknown, because there are several studies on digital transformations that are not aimed at a specific industry. I discuss a few of these studies to provide insight into what is already known about digital transformations from an organizational design perspective.

Digital transformations across industries

A well-known study on digital transformations is performed by Venkatraman (1994). He distinguished five levels of digital transformations, varying from automation of processes to entire business scope redefinitions. The first level is about automating some of the company activities. The second level is an extension of the first, because it is about automating the entire business process. The third level goes beyond the second level, because it deals with redesigning the entire business process. The fourth level is about redesigning the entire business network – i.e. partnerships with other companies. Finally, the fifth level is about redefining the entire scope of the organization. These five levels of Venkatraman (1994) are still acknowledged and used by many researchers (Veit et al., 2014; Gregory et al., 2015; Gray, 2017; Wang et al., 2018).

A number of studies on digital transformations across industries focus on specific elements of the organizational design. Matt, Hess and Benlian (2015), for instance, stated that the scope of digital transformations is determined by the technological ambitions of organizations. Companies should decide whether they want to take the lead in the use of new technologies or whether they prefer to use technology solely as a means to realize business activities. Furthermore, Henriette and Boughzala (2015) indicated that digital transformations affect the entire organization and the processes in particular. They did not explain what these process changes imply. Other literature on processes in relation to digital transformations is mainly aimed at production companies (Kohli and Johnson, 2011; Berman, 2012) and is therefore less suitable for the present study. Moreover, Gulati and Son (2015) focused on digital transformations in relation to the structure of organizations. They indicated that responding to digitization requires a whole different organizational structure. They argued that functional departments no longer serve their purpose in times of digitization, because it is important that marketing and IT teams work closely together with other departments such as operations, customer services, sales and human resources. Ashkenas et al. (2015) agreed with Gulati and

Son (2015), because they argued that organizations of the future do not need functional boundaries. They went even further by saying that horizontal boundaries in organizations and boundaries between organizations will fade. Brynjolfsson and McAfee (2012) addressed the impact of digital technologies on jobs, skills and the demand for human labor. Their study showed that the use of digital technologies results in fewer employees being required for a growing number of tasks. In addition, the tasks that remain for human action require different skills and competences.

Although these studies were not carried out in the insurance industry in particular, their insights provide some valuable input for how organizations deal with digital transformations, and the impact of such transformations on the organizations' structures, processes, information technologies, personnel and culture. Considering the focus of this study, another useful stream to explore is that on organizational design, as outlined in the following section.

Organizational design

“Organization design is often used synonymously and incorrectly to mean organization structure” (Galbraith, 2001, p.2). However, organizations consist of multiple elements, such as processes, systems, people, culture and technologies. Therefore, organizational design is the process of designing and aligning *all* different organizational elements, in order to achieve organizational goals (Waterman, 1980; Galbraith, 2001; Noordam, 2006). In this study, I use the theoretical perspective of Noordam (2006) as a lens through which I examine how Dutch insurance companies (re)design their organizations. I have chosen this perspective out of the multiple theories on organizational design that exist, because it deals with a plurality of elements of the organizational design and is closely related to the context of this study. In the next section I will discuss a number of theories in order to prove this.

Over the years, many theories on organizational design have been developed. A distinction can be made between theories with an open and closed system perspective. Theories with a closed system perspective focus solely on variables within the organization and ignore influences of the organizational environment. In contrast, theories with an open system perspective do take into account variables outside the organization (Thompson, 1967; Scott, 2003). Theories with an open system perspective are expected to be relevant to this study, because I am interested in the relation between internal variables – i.e. organizational design – and external variables – i.e. the rapidly digitizing insurance industry.

In the open system perspective, several theories relate to contingencies. Contingency theories argue that “organizational effectiveness results from fitting characteristics of the

organization, such as structure, to contingencies that reflect the situation of the organization” (Donaldson, 2001, p. 1). The three contingency theories described hereafter provide guidelines on how organizations should respond to certain conditions. First of all, Burns and Stalker (1961) developed a contingency theory in which they distinguished between mechanistic and organic structures. They argued that mechanistic structures should be applied in stable environments while organic structures are appropriate in flexible environments. Mechanistic structures consist of strict hierarchy, formal rules, vertical communication and structured decision making. Conversely, organic structures consist of a less rigid hierarchy, less rules, both vertical and horizontal communication and participatory decision making. Mintzberg (1980) extended the contingency theory of Burns and Stalker (1961) and argued that “effective structuring requires a close fit between contingency factors and design parameters” (p. 328). He developed a typology of five basic configurations that are composed of contingency factors and design parameters. In addition, Birkinshaw and Gibson (2004) developed a theory on ambidextrous organizations. They argued that successful organizations should master both adaptability and alignment. According to them, structures should be able to respond quickly and flexibly to changes in the environment and should be aligned to optimize activities and create value in the short term.

Abovementioned guidelines may be relevant to this study because I am interested in the way insurers adjust their organizations to the rapidly digitizing industry, or in other words, to contingencies. However, a disadvantage is that the three theories focus exclusively on organizational structures. Focusing on just one of several elements of the organizational design can lead to distorted results (Galbraith, 2001). An example of a distorted result is one that provides insight into the structure of a company, but does not mention anything about the people who are part of the structure. Therefore, the theoretical perspective I use in this study needs an open system perspective and should focus on a plurality of elements of the organization design.

Galbraith et al. (2001) developed a theoretical perspective that fits those requirements. They defined organizational design as “the deliberate process of configuring structures, processes, reward systems, and people practices to create an effective organization capable of achieving the business strategy” (p. 2). They approached organizational design holistically and explained that all elements of the organizational design should be aligned to create the most effective organization. A similar theoretical perspective is McKinsey’s 7S model. Waterman et al. (1980) developed this model with the premise that only focusing on designing the structure of an organization is rarely adequate to realize its goals. The framework consists of seven design elements, all of which should be aligned. Noordam (2006) developed an additional

perspective with multiple design elements. His approach goes beyond the ones of Galbraith et al. (2001) and Waterman et al. (1980) as it explains that organizational design should realize both innovation and control. This theoretical perspective aims at creating future-proof organizations. In other words, designing organizations in such a way that they can respond quickly and flexibly to new, as yet unknown developments and at the same time continue to offer competitive products and services. It can be argued that the perspective of Noordam (2006) is comparable with the one of Birkinshaw and Gibson (2004) on building ambidexterity into organizations. However, an important difference is that Noordam (2006) focuses on more than one design element, namely: (1) structures; (2) processes; (3) information technologies and (4) personnel and culture.

Noordam's (2006) perspective is most suitable to use as a lens through which I study how insurers (re)design their organizations because of two reasons. First of all, the theoretical perspective is complete as it deals with a plurality of elements of the organization design. Secondly, his theoretical perspective explains the relationship between organizational design and creating future-proof organizations, which is closely related to the context of the present study. Therefore, in this study I define organizational design as the process of constantly aligning and balancing structure, processes, information technology, personnel and culture to create organizations that can respond quickly and flexibly to new, as yet unknown developments, and at the same time continue to offer competitive products and services (Noordam, 2006).

Organizational design to create future-proof organizations

To clarify how I use the theoretical perspective of Noordam (2006), I elaborate on it by explaining the requirements he suggested for building future-proof organizations. Subsequently, I challenge his perspective to elucidate the theoretical contribution of this study to the organizational design literature.

First, organizational structures determine how tasks and responsibilities are distributed and coupled. Noordam (2006) argued that it is not quite important what the organizational structure looks like, as long as the structure is simple and in line with the strategy of the organization. In addition, future-proof organizations should focus on the balance between short-term and long-term objectives. Second, processes concern the activities necessary for realizing products and services. According to Noordam (2006), processes can be more or less standardized. He argued that future-proof organizations should minimize the use of standardized processes, because this allows employees to continuously reorganize the processes

and adjust them where necessary. Third, information technology supports organizational processes. Noordam (2006) stated that more standardized processes are ideally supported by automated IT applications, while more flexible processes are ideally supported by user-friendly and quickly adaptable IT applications. Future-proof organizations require therefore flexible and rapidly adaptable IT applications. Finally, personnel and culture refers to both the hard side and the soft side of human resources. The hard side consists, for example, of expertise and competences and the soft side consists of behaviors, norms and values. Noordam (2006) distinguished between two types of employees, namely specialists and generalists. Specialists focus solely on specific tasks while generalists focus on multiple tasks and oversee the entire process. According to Noordam (2006), future-proof organizations should develop teams composed of both generalists and specialists, because it has been shown that such teams can respond more quickly and flexibly to changing customer needs. Furthermore, he argued that teams with self-organizing capabilities stimulate the continuous development and improvement of organizational performance as it allows employees to initiate, develop and implement bottom-up changes.

The perspective of Noordam (2006) has some limitations. My main criticism is that the elaboration of the various design elements is limited. Noordam (2006) makes a number of propositions about how organizations should be designed to become future-proof. He indicated, for instance, that future-proof organizations should (1) focus on a balance between short-term and long-term objectives; (2) standardize their processes as little as possible; (3) use flexible and quickly adaptable IT applications and (4) create teams with both generalists and specialists. However, these propositions are on a high level of abstraction and detailed information about the four design elements is lacking. Questions like “How should tasks and responsibilities be divided?” and “What kind of specialists are needed?” remain unanswered. This study yields more in-depth information about the distinguished design elements and therefore contributes to literature on organizational design and the theoretical perspective of Noordam (2006) in particular.

Relationship between both streams of literature

To repeat briefly, the discussed literature on digital transformations across industries is about the changes organizations make to their organizational design in order to become future-proof in a digitizing world. This overlaps considerably with the theoretical perspective of Noordam (2006) that focuses on organizational design to create future-proof organizations. In this section, I compare both streams of literature and show how they mainly complement each other.

Firstly, Matt, Hess and Benlian (2015) indicated that information technologies can play a leading or a supporting role in organizations. Noordam (2006), on the other hand, did not focus on the role that information technologies play, but argued that information technologies must be flexible and quickly adaptable. Furthermore, Henriette and Boughzala (2015) stated that processes will change through digital transformations, but they did not address what the changes imply. According to Noordam (2006), it is important that processes become more flexible, allowing for a faster response to changes in the environment. Moreover, Gulati and Son (2015) and Ashkenas et al. (2015) argued that digital transformations require organizational structures without a functional design. Noordam (2006), on the contrary, argued that is not quite important what the organizational structure looks as long as it focuses on the balance between short-term and long-term objectives. However, Noordam (2006) formulated a proposition that is fairly similar to the arguments of Gulati and Son (2015) and Ashkenas et al. (2015), because he said that teams should be composed of both generalists and specialists. He added that the teams should have self-organizing capabilities, because this would stimulate the continuous development and improvement of organizational performance. Finally, the literature on digital transformations showed that organizations need fewer employees for a growing number of tasks in the future. Moreover, the tasks that remain for human action require different skills and competences. I did not find a comparable explanation hereof in the literature on organizational design.

Relationship between concepts

To summarize, I use the theoretical perspective of Noordam (2006) as a lens to examine how insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry. This relationship between, on the one hand, organizational design and, on the other hand, creating a future-proof organization in a rapidly digitizing industry can be explained with the aid of the arguments of Achterbergh and Vriens (2010). They argued that if an organization wants to survive in a constantly changing environment, it must be able to realize its goals and more importantly, adapt its goals. The latter means that an organization needs to make choices regarding, among others, structure, human resources and technology. These selections indicate the experimental character of organizations. Based on their explanation, the relation between organizational design and creating a future-proof organization in a rapidly digitizing industry is shaped by the way insurance companies experiment with different elements of their organizational design.

In the next chapter I explain how I use the theoretical perspective of Noordam (2006) to gather and analyze data. In addition, I discuss the research approach, plan of data collection, type of data analysis, methodological quality and research ethics of this study.

Chapter 3: Methodology

In this chapter, I explain the methodological choices I made. I discuss respectively the research approach, plan of data collection, type of data analysis, methodological quality and research ethics of this study.

Research approach

This study aims to generate knowledge that contributes to literature about digital transformations in the insurance industry. To achieve this aim, I used an exploratory research approach. An exploratory research approach is appropriate to “tackle new problems on which little or no previous research has been done” (Brown, 2006, p. 43). This approach fits my study well as very little is known about the way insurers (re)design their organizations to become future-proof in a rapidly digitizing industry. The goal of explorative research is to create a better understanding of the research problem. Through this type of research, I explored the research area and laid the foundation for follow-up research (Dudovskiy, 2016). I accomplished that by using inductive reasoning. Inductive reasoning is a bottom-up approach that starts with specific observations in order to develop theoretical insights (Hayes, 2007). Although I followed a bottom-up approach, I guided myself by using the theoretical perspective of Noordam (2006) as a lens through which I looked at organizational design.

I used a qualitative methodology to answer my research question. Qualitative research is the process of “collecting, analyzing, and interpreting data by observing what people do and say” (Monfared & Derakhshan, 2015, p. 1111). Qualitative research methods were appropriate as the research question of this study concerns a *how* question (Pope & Mays, 1995). This type of research allowed me to find out what changes insurance companies make to their organizational design, but more importantly, it allowed me to learn more about the motivations behind certain changes and choices (Bleijenberg, 2015). The latter is relevant for the development of a comprehensive understanding of how insurance companies transform their organizations to become future-proof in a rapidly digitizing industry.

The research strategy I used to examine how insurance companies (re)design their organizations consists of expert interviews followed by a multiple case study. Experts are people who are relevant sources for the purpose of the study based on their knowledge or experience (Dorussen, Lenz & Blavoukos, 2005; Tongco, 2007). In the context of this research, experts are employees of insurance companies who are well informed about the digital transformation of their organization, such as directors, innovation managers and digital

transition managers. I interviewed nine experts from different insurance companies in the Netherlands. These nine expert interviews enabled me to form an indication on how Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry.

Subsequently, I studied two insurance companies in more depth by means of a multiple case study. A case study provides a proper way to investigate why decisions are made, how they are implemented and with what result (Yin, 2017). Performing a case study therefore allowed me to develop a more comprehensive understanding of the changes Dutch insurance companies make to their organizational design. I have chosen to perform a multiple case study instead of a single case study. A benefit of studying multiple cases is that I was able to develop some insights about the similarities and the differences between cases (Stake, 1995; Baxter & Jack, 2008). These insights are valuable for this study as they allowed a wide exploring of my research question (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). In addition, the evidence from multiple cases is often considered more convincing, which makes to overall study more robust (Yin, 2017).

Case selection

According to Yin (2017, p. 45), in a multiple case study “every case should serve a specific purpose within the overall scope of inquiry”. In other words, he argued that each case must be purposely selected so that it provides similar results or provides different results for a predictable reason. Based on the expert interviews, I opted to examine two cases – organization E and organization F – that showed similarities with regard to the subject of this study. The organizations have undergone similar changes in their organizational design and struggle with similar questions on how to become future-proof in a rapidly digitizing industry. I provided some details about both case organizations in table 1.

Case organizations	Products/Services	Revenue model	FTE	Offices
Organization E	Property, casualty, life, income, health, travel, leisure and funeral insurances	Non-profit cooperation with members	2700	Two head offices and a large network of regional departments
Organization F	Property, casualty, life, income, health, travel, leisure and funeral insurances	Listed on the stock exchange	3500	One centralized head office

Table 1: Information about case organizations (personal communication, April 20 and April 23, 2018).

Data collection methods

Table 2 provides an overview of data collection sources of this study. The first part of my data collection consisted of expert interviews. I used purposive sampling to find experts within the ten largest insurance companies in the Netherlands. I created a list of experts for each organization with the aid of LinkedIn where I searched for relevant job titles and function descriptions. I approached these experts by telephone, informed them about my study and asked them to participate in my study through an interview.

In the second part of my study, I conducted additional interviews per case organization. I used the snowball method to select these employees. This means that I asked the experts that I had already interviewed to introduce me to colleagues who could be of interest to my study (Tansey, 2007). I interviewed employees from various departments in order to highlight the issue under study from different perspectives. In addition, I analyzed several documents per case organization. I aimed for data saturation per case, which means that “there is enough information to replicate the study when the ability to obtain additional new information has been attained, and when further coding is no longer feasible” (Fusch & Ness, 2015, p. 1408).

Part 1: Expert interviews			
Data collection method	Organization	Additional information	
Interview	Organization A	Participant 1	Director IT & Innovation
Interview	Organization B	Participant 2	General Manager Insurance
Interview	Organization C	Participant 3	Digital Transition Manager
Interview	Organization D	Participant 4	Senior Manager Insurance
Interview	Organization E	Participant 5a	Manager Innovation
		Participant 5b	Enterprise Architect
Interview	Organization F	Participant 6	Innovation Funnel Manager
Interview	Organization G	Participant 7a	Director Organizational Development
		Participant 7b	ICT Manager
Interview	Organization H	Participant 8	Director Digital & Innovation
Interview	Organization I	Participant 9	Managing Director Innovation Department
Part 2: Case study organization E			
Interview ¹	Organization E	Participant 5a	Manager Innovation
		Participant 5b	Enterprise Architect
Interview	Organization E	Participant 10a	Senior Advisor of the Property & Casualty business line
		Participant 10b	Senior Advisor of the Property & Casualty business line
Interview	Organization E	Participant 11	Manager Transformation
Document	Organization E	Annual Rapport 2017	
Document	Organization E	Article about innovation and transformation at Organization E	

¹ The expert interview of organization E is also used for the first case study.

Part 3: Case Study Organization F			
Interview ²	Organization F	Participant 6	Innovation Funnel Manager
Interview	Organization F	Participant 12	Marketer of the Property & Casualty business line
Interview	Organization F	Participant 13	Director of the Life business line
Document	Organization F	Interview with Director Innovation & Digital published by Magnitude Inc.	
Document	Organization F	Annual Rapport 2017	
Document	Organization F	Annual Magazine 2018	

Table 2: Data collection sources

The interviews that I conducted were semi-structured. A semi-structured interview is a conversation where the interviewer asks the questions while the respondent is given enough freedom to raise issues he or she finds important (Longhurst, 2003). This type of interview was appropriate for this study, because it allowed me to determine the direction of the interviews to ensure that the relevant topics for answering my research question were discussed. In addition, this type of interview offered me sufficient freedom to deviate from the questionnaire when I thought it would benefit the results of my study.

I formulated the interview questions for the expert interviews with the aid of the sensitizing concepts of this study, as presented table 3. Sensitizing concepts are the key concepts of this study that provide direction to the process of data collection and data analysis (Hoonard, 1997; Bowen, 2006). I slightly modified the first version of my interview questions before I started with the second round of interviews for the multiple case study. The adjustments allowed me to easily explore a number of topics that were already discussed during the expert interviews in more detail. Subjects that emerged during the expert interviews were, for example, the establishment of innovation departments and the exploration of innovative digital technologies. The two interview guidelines can be found in Appendix 1 and Appendix 2. Although these guidelines are in English, the actual interviews were held in Dutch, which is the native language of the participants. I agree with Welch and Piekkari (2006) that a researcher collects the richest information by talking to participants in their native language. The interviews all lasted one hour on average and I recorded all of them.

Data analysis

I used grounded theory methods for the data analysis of this study (Glaser, 2017), which means that “the patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis” (Patton, 1980, p. 306). This method is in line with the inductive character of this exploratory study.

² The expert interview of organization F is also used for the second case study.

The sensitizing concepts of this study provided the starting point to the data analysis process (Hoonard, 1997; Bowen, 2006). Their stipulative definitions explain how I recognized these concepts in the collected data.

Sensitizing concepts	Stipulative definitions
Digitization	The way insurance companies make use of the possibilities that information technology offers them.
Culture	The behaviors, norms and values that employees of insurance companies share with each other.
Future-proof	Insurance companies that do not become obsolete in the future.
Information technology	The technologies that insurance companies use in their business operations.
Personnel	The expertise and competences of employees of insurance companies.
Processes	The activities that insurance companies need in order to realize their products and services.
Structure	The way in which tasks and responsibilities are divided in insurance companies.

Table 3: Sensitizing concepts with their stipulative definitions

Before I started with the data analysis, I first transcribed the recorded interviews verbatim. Subsequently, I identified categories in the transcripts by means of coding. In the beginning, coding was mainly descriptive, which means that I attached descriptive labels to certain parts of the verbatim transcripts. As coding progresses, I tried to “identify higher-level categories that systematically integrate low-level categories into meaningful units”, also called analytical coding (Willig, 2013, p. 70). During the coding process, I moved back and forth between different categories to identify similarities and differences (Strauss and Corbin, 1994). An overview of the codes I came up with during the coding process is presented in Appendix 3.

During the analysis, I performed multiple steps. Firstly, I coded the expert interviews and summarized the findings. Secondly, I coded the interviews and documents from both case studies and summarized the findings per case. Thirdly, I compared the findings of both case studies to see whether there were similarities and dissimilarities between the cases, and then, I compared the findings of the cases studies with the findings of the expert interviews to see if there were interesting patterns to recognize. Finally, the data analysis revealed five themes that explained how insurance companies (re)design their organizations to become future-proof in a rapidly digitizing world. These themes are described in the next chapter. The analysis led to a context-specific theory, or in other words “an explorative framework with which to understand the phenomenon under investigation” (Willig, 2013, p. 70).

Methodological quality of the study

Credibility, transferability, dependability and confirmability are assessment criteria for qualitative research (Symon & Cassel, 2012). I have taken various measures to meet these criteria, which I will discuss in this section.

First, a qualitative study is credible when the data is processed truthfully according to the participants (Symon & Cassel, 2012). I tried to ensure credibility in this study by executing member checks. This means that I sent the verbatim transcripts to the participants so that they could read the transcripts and decide whether the collected data from the interviews were truthfully processed and could be used for further analysis. Second, transferability means that the researcher provides detailed information of the research case wherefore the reader can determine whether the results are relevant for other contexts as well (Symon & Cassel, 2012). In order to meet this criterion, I provided an extensive description of the research context that I have studied. Third, a qualitative study is dependable when methodological changes are clearly described (Symon & Cassel, 2012). Therefore, I kept record of my methodological changes in a research diary. I included this information in the discussion part of this study to make any changes in methodology available for evaluation. Finally, confirmability means that the study clearly indicates the data sources and the way data has been gathered and processed into results (Symon & Cassel, 2012). To assure confirmability, I accurately described all steps I performed during my study – from approaching participants to processing of results – to make it possible for a third person to imitate this study.

Research ethics

As a researcher, it is extremely important to understand how your study affects others. Therefore, awareness of proper research conduct is required (Symon & Cassel, 2012). In this section, I discuss how I addressed potential ethical issues in this study.

To protect the participants in this study, I anonymized the transcripts of the interviews. By this I mean that I used pseudonyms for the participants and the companies that I have studied. In addition, I stored the collected data – both recordings and transcripts – at my personal drive at the university server which is well-protected. Moreover, I handled the gathered data confidentially. This means that I only shared it with my thesis supervisor, second examiner and company mentor. Finally, I shared the results of the study with the participants of this study in

the form of a non-scientific article. In addition, I provided permission to upload the thesis on Radboud Thesis Repository.

To inform the participants of this study properly about abovementioned issues, I approached the potential participants by telephone. This way of approaching provided me ample opportunity to be transparent about important issues concerning this study, such as the goal, the process and how findings will be applied. Moreover, it gave the potential participants the opportunity to ask questions about this study in order to make an informed choice whether or not to participate. Additionally, I repeated what was discussed during the telephone conversations in the introduction part of the interviews in order to double-check if the participants were well informed about this study. Furthermore, I asked the participants explicitly prior to the interview if I was allowed to record the interviews. In addition, I also explicitly mentioned that participants were free to withdraw from this study at any time and that I would send them the interview transcripts for approval.

Chapter 4: Findings

In the previous chapter, I explained how I collected empirical data for this study. In this chapter, I present the empirical findings and elaborate on their meaning.

Developments in the field of digitization

The research question of this study is divided into two subquestions. In this section, I answer the first sub-question, that is: According to Dutch insurance companies, what are the most important developments in the field of digitization to which they need to respond in order to become future-proof? This question helps to understand what future-proofness in the insurance industry means. Based on the collected data from both the expert interviews and the multiple case study, two important developments in the field of digitization can be distinguished.

Increasing customer demands

The first development is about changing customer requirements. Customers are becoming more demanding towards insurance companies. In the digital age, they demand for more than just good pricing and high quality products. For example, today's customers expect insurance companies to serve them 24/7 through each channel, as the following quote illustrates:

So the customer determines and you see that the customer simply wants to be helped at any time via every channel. That is a danger in itself! Why? Because you have to keep everything open for them. That you chat, that you e-mail, that you phone. So then we also have to make choices in what we find most important in terms of means. So that is one side; the customer determines (Interview organization B, participant 2).

In addition, customers want to arrange as much as possible online, such as passing on address or policy changes, submitting claims and reading policy conditions. This requires simplicity of the systems so customers can quickly find the right information. Moreover, customers request a quick settlement of their claims and prefer payment within 24 hours. To make this possible, internal processes should be automated as much as possible. Furthermore, customers want these processes to be as transparent as possible. For example, by means of a track-and-trace code for the claims handling process, so that customers can see exactly what happens to their claims and when they can expect pay-outs. This is described in the following excerpt:

Because if you report damage by telephone or online, you also want to be kept informed of every change as a kind of web shop. That you can see that the claim is now to the repairer or to an expert. Yes, we do not have that kind of process right now (Interview organization C, participant 3).

These increasing customer demands arise because customers no longer make a distinction between different industries, which means that they, for instance, expect the same from insurers as from online retailers. As the online retail sector is far ahead of insurers in terms of digitizing, it increases the pressure for insurance companies to keep up with them.

Insurance companies can respond to changing customer demands with the help of incremental digital innovations. This concerns small successive digital improvements to their existing business activities in order to improve their competitive position. Incremental digital innovations often refer to the application of existing technologies and not so much to the application of new or innovative technologies. Insurance companies, however, find the application of existing technologies already very challenging, as outlined in the quote below. Insurers implement, for example, a number of digital features that are increasingly desired by customers, such as online customer portals and chatbots. However, the nature of their existing products and services does not change through incremental digital innovations.

But that is, that is more, that is nothing revolutionary. That is actually applying existing technologies in an existing environment. Or you can chat or you can do video conferencing while an expert is recording the damage. Those kind of things. You see that. But we often find that even though exciting in our services (Interview organization B, participant 2).

Emergence of innovative digital technologies

The second development relates to the emergence innovative digital technologies – such as Artificial Intelligence, Big Data, Block Chain and Internet of Things – that offer insurance companies many opportunities to radically change their business activities. Established insurance companies believe that they should quickly respond to the possibilities that these technologies offer due to the threat of new competition. They are afraid of two types of companies that are likely to enter the industry. Firstly, they fear InsurTechs, which are start-up companies in the insurance industry that are built on the newest digital technologies and can therefore deliver high customer value. Secondly, they fear large tech companies – such as Facebook, Google and Amazon – that have a lot of experience with digital technologies and also have huge amounts of customer data at their disposal. The incumbent operators are not only concerned that these parties can carry out their work more effectively and more efficiently.

They are also concerned that these parties develop new types of insurance products and services that better meet the needs of the customer, wherefore they become redundant. The following quote expresses the fear of insurers:

And you are just completely out of business! You are simply being bypassed! (Organization I, participant 9).

There is a lot of uncertainty about what the insurance landscape will look like in the future. As the market is very sensitive to new competition, the incumbent operators are looking for ways to differentiate themselves. The use of innovative digital technologies alone is not sufficient to stand out, as the excerpt below illustrates:

And you can lay down incredibly perfect methods. Like a Block chain. But that is not the money machine, because many other companies will adopt that technology very quickly (Interview organization B, participant 2).

Therefore, insurance companies try to distinguish themselves by developing disruptive digital innovations – i.e. developing new products and services that are built upon innovative digital technologies and that considerably differ from their existing products and services. Disruptive digital innovations should ensure that insurance companies serve a different purpose in the future than just traditional insurance. The development of disruptive digital innovations is much harder than that of incremental digital innovations as it requires, on the one hand, a creative attitude towards product and service development, and, on the other hand, much knowledge of the possibilities that innovative digital technologies offer. A trend that is already visible is that technologies – such as the Internet of Things or Artificial Intelligence – make it possible for insurers to develop new products and services that focus on prevention and reduction of risks. In doing so, they will take on the role of managing risks in the future instead of solely insuring risks, making them a completely different company. This is illustrated in the following quote:

But within the entire organization, yes, we also go towards other services, which are related to the prevention and reduction of damage. And what I just said, insure only when there are no other possibilities (Interview organization E, participant 10).

Overview

The first sub-question provided insight in the two developments that trigger digital transformations in the insurance industry, namely increasing customer demands and the

emergence of innovative digital technologies. The organizations that I studied – either through expert interviews or the case studies – suggested that insurance companies should respond to these developments through incremental and disruptive digital innovations. It is important to understand why insurance companies need to divide their attention between both forms of innovations. On the one hand, incremental digital innovations help insurers to meet the requirements of their customers, keeping them viable and competitive in the *current* market. On the other hand, insurance companies expect that the current market will considerably change in the (near) future. Insurers therefore must also develop disruptive digital innovations to figure out how they remain viable and competitive in the *future* market. Based on the findings, a key insight of this study is that insurance companies need to realize both incremental and disruptive digital innovations in order to become future-proof in a rapidly digitizing industry. However, the findings of the present study indicated that it is very difficult to simultaneously focus on both forms of innovations as they do significantly differ in scope. Incremental digital innovations should improve insurers' existing business activities, while disruptive digital innovations should ensure that insurance companies serve a different purpose in the future than just traditional insurance. The new products and services that will be developed by means of disruptive digital innovations can eventually cannibalize the sale of existing products and services. For example, if insurers begin to offer products and services in the area of reduction and prevention of risks, this will ultimately be at the expense of the products and services they sell to insure risks. It is understandable that not everyone in the organization is in favor of this, especially the people who are currently responsible for the existing products and services have little benefit here. This complicates the simultaneous realization of both types of innovations.

In the next section, I discuss the actual changes that Dutch insurance companies make to their organizational design to create future-proofness. Herewith, I contribute to developing a better understanding on what digital transformations in the insurance industry mean.

Translation of developments to the organizational design

The analysis of the expert interviews and multiple case study revealed five themes that explain how Dutch insurers (re)design their organization to become future-proof in a rapidly digitizing industry. In this section, I will discuss all five themes. For each theme, I discuss both the empirical findings and elaborate on the meaning of these findings.

The matrix organization

The first theme that emerged from the collected data is concerned with the organizational structure of insurance companies. The research context indicated that most of the insurance companies that I have studied – either through expert interviews or the case studies – are structured as matrix organizations. Matrix organizations consist of separate functional divisions that occasionally work together to execute certain projects (Miles et al., 2010 and Galbraith, 1971). Insurance companies that are structured as matrix organizations consist of several business lines – such as property, casualty, income, life and health – and a number of central departments – such as finance, marketing and IT. All business lines are responsible for a particular group of products or services. In the current digital age, the business lines have also been given the responsibility for incremental digital innovations – i.e. making small successive digital improvements to their existing business activities. However, these business lines do often not have sufficient knowledge and expertise to independently realize incremental digital innovations, since a large part of the required knowledge and expertise is located in the central departments. The business lines therefore have to work together with central departments – such as IT, online and innovation – to realize their incremental digital innovations. Nevertheless, insurance companies that are structured as matrix organizations consist of several business lines that all need the help of the same central departments to carry out their digitization projects. The central departments do not have sufficient capacity to facilitate all projects at the same time and therefore need to prioritize them. As a result, some projects may be delayed for a long time or even be rejected. In short, the business lines depend on central departments for the realization of their incremental digital innovations, which ensures that they often cannot realize these innovations as quickly as they would like. The aforementioned situation is described in the following quote:

We depend on the IT department, or on an online team or... We all have dependencies outside our company where we do not directly influence planning and so on. We as a company just have a huge ambition in different areas. For example, realizing our strategy, the development of new services, doing the things we already did but then smarter, better and faster. And all projects have an IT component and also an online component. So the projects enter a number of funnels. For example, a funnel of the IT department. They have however so much to do at the IT department that not all projects actually come out of the funnel. They cannot do everything (Interview organization E, participant 10).

In the rapidly digitizing insurance industry, it is more important than ever that insurance companies are able to quickly and flexibly make successive digital improvements to their

existing business activities. However, the interview insights suggested that the current matrix structures inhibit the speed at which insurers can realize such incremental digital innovations. It seems therefore that matrix structures do not comply to the needs of the rapidly changing insurance industry. Based on this key insight of my study, I can argue that an important step that many insurers still have to take in the digital transformation of their organizations is to create the right organizational structure in which incremental digital innovations can be quickly and flexibly realized. This outcome indicates a design issue with respect to the organizational structure of insurance companies.

One of the organizations – which I studied through an expert interview – has come up with an alternative to such a matrix structure. This organization is divided into twenty-five teams that are all responsible for a particular group of products or services. The teams are multidisciplinary designed, which means that they consist of, among others, information technology specialists, commercial and operational employees. The teams work – according to the agile methodology – in short cycles of two to three weeks. In these few week, one or a couple of small-scale projects must be completed. The teams decide for themselves which projects they want to realize, such as creating an online application or robotizing a certain sub-process. The teams have extensive knowledge and expertise, because they consist of employees with different specialisms. The teams can therefore carry out most of their digitization projects independently, without help from other departments or teams. This way of organizing ensures that the organization can quickly and flexibly realize incremental digital innovations. Such a structure offers a possible solution to the design issue that I pointed out before. Some of the principles of this structure are described in the next quote:

And from the BusDevOps concept you try to organize all three qualities in one team and then suddenly it becomes a kind of micro company within a corporate. The teams all have a clear vision given the strategic theme they are working on. They themselves translate it into empowerment, and they themselves translate it into their purpose, their scope, their KPIs and their backlog (Interview organization H, participant 8).

The central innovation department

The second theme that emerged from the data is about the central innovation department and builds further on the previously described theme. The current study revealed that most of the insurance companies that I studied – either through expert interviews or the case studies – have set-up some sort of central innovation department. Such departments have the purpose to

contribute to the future-proofness of their organization in the digital age, as outlined in the following excerpt:

To speed up the digital transformation and better anticipate evolving customer needs, we also established the Innovation & Digital team to meet growing customer demands for online communication (Annual Rapport 2017, Organization F)

Innovation departments are of great importance to insurance companies. In most organizations, innovation departments therefore report directly to the Board of Directors about their activities and progression. It differs per company how large the departments are, varying from six to forty employees. The main function of innovation departments is to develop disruptive digital innovations. This means exploring the potential of innovative digital technologies and, based on that, developing new products or services that differ significantly from the existing products and services. The present study indicated that most of the innovation departments have already developed some promising pilots for new products and services. The pilots that seem to be successful must subsequently be implemented in one of the business lines, because the innovation departments are only responsible for the development and not for the final sales results. This has, however, not yet succeeded as the cooperation between the innovation departments and the business lines does not function properly in most of the organizations that I have studied. The unsatisfying cooperation could have multiple causes according to the participants of this study. Firstly, the business lines do not devote any time to the implementation of new products or services as a result of strict objectives and critical performance indicators for their existing products and services. Secondly, the business lines do not understand the importance of new products or services, especially because their existing products and services are still very profitable. Finally, the not invented here syndrome prevails, which means that the business lines only want to make a success of something they have come up with themselves.

In addition to developing disruptive digital innovations, most innovation departments also act as a knowledge center for the rest of the organization as they possess a great deal of knowledge and expertise in the field of digital technologies. This means that innovation departments, among others, facilitate business lines in realizing incremental digital innovations. However, the case studies suggested that the business lines are not always satisfied with the amount of help they receive from the central innovation department of their organization. This finding shows overlap with the previously described findings on matrix structures. More concretely, the business lines believe that the innovation department of their organization is too

concerned with disruptive innovations – i.e. figuring out how their organization remains relevant in the future market – and as a consequence pays too little attention helping them with matters that are relevant today. This is illustrated in the following quote:

I am very often talking to a number of people from innovation, and I say "not just looking at the new propositions, but we also have a business to run". We are now setting up something with data and analytics ourselves, and that is also because we have a number of good people for that, but actually we should also be working on that with innovation (Interview organization E, participant 10b).

The described outcome reveals an interesting insight. Both the innovation departments and the business lines are dissatisfied with their cooperation. The innovation departments believe that they do not receive support from the business lines to implement disruptive digital innovations. Moreover, the business lines believe that they receive too little help from the innovation departments in realizing their incremental digital innovations. One explanation for the inadequate cooperation between the two divisions is that they both pursue conflicting goals. More concretely, the innovation departments are responsible for disruptive digital innovations and the business lines are responsible for incremental digital innovations. As I have explained before, it is very difficult to simultaneously focus on both forms of innovations as they significantly differ in scope. The business lines could consider disruptive digital innovations therefore as a threat to their existing products and services, making them less inclined to participate in implementing such innovations in their business lines. In the meantime, the innovation departments could also assume that the existing products and services will become obsolete in the future, making them less inclined to invest their time in helping the business lines with incremental digital innovations.

In short, the goals of the innovation departments and the business lines conflict with each other. Ironically, the divisions do need each other's help to achieve their conflicting goals, which unavoidably leads to inadequate cooperation. This outcome suggest that insurance companies have not properly aligned the goals of the different divisions in their organizations. This adds an interesting insight to the previously described section on matrix structures as it again indicates a design issue with respect to the organizational structure of insurance companies. The matrix structures of insurance companies do not only impede the realization of incremental digital innovations; they also ensure that disruptive digital innovations are not achieved. This key insight of my Thesis once more emphasizes the need for insurers to restructure their organizations in order to become future-proof in a rapidly digitizing industry.

Some of the interviews suggested a way to solve the abovementioned design issue. According to these interviews, innovation departments should only focus on the development of disruptive digital innovations. The new products and services that they develop should then not be implemented in one of the business lines, but should instead be implemented in newly designed business lines. Although this seems as a possible solution, it must be taken into account that the business lines in this case need more knowledge and expertise to be able realize incremental digital innovations without the aid of the innovation departments.

Incremental digital innovations

The third theme that emerged from the data is about incremental digital innovations. This theme has already come up a few times in this chapter. In this section I concentrate on the effects of incremental digital innovations on the organizational design of insurance companies. As I explained, incremental digital innovations are small successive digital improvements to existing business activities. Nevertheless, the findings of the present study showed that these small improvements together end up having a large impact on the organizational design of insurance companies. In this section, I elaborate on this finding.

The research context indicated that incremental digital innovations mainly affect the administrative processes of insurance companies. These processes are becoming more and more digitized, which means that less human action is required. The processes are digitized in two ways. First, customers increasingly want to arrange their insurance affairs online. Insurance companies respond to this request by increasing the online convenience for their customers. They, among others, develop their online customer portals, install chatbots on their websites and make sure that all the relevant information about their products and services is available online. As a result, administrative activities that were originally performed by employees of insurance companies are now more often performed by customers themselves, such as taking out insurance policies, passing on policy changes and submitting claims. Abovementioned is illustrated in the following quote:

And then you actually see the percentage that customers can do online immediately grows tremendously. So in fact, all the work you can catch in standard processes, you should just let people try to do it themselves. Just give them the tools and they will do it (Interview organization D, participant 4).

Second, insurance companies also need to perform many internal administrative activities. Most of these activities were originally manually executed by employees. Today, more and more

activities are being automated. Some activities are, however, too expensive to automate as they do not occur frequently. Insurance companies are therefore increasingly using robotics to also digitize these activities. It varies per insurance company how much of their administrative activities are already automated or robotized, but the goal that they share is that most of their administrative processes are ultimately straight through processed (STP). This means that all actions are automatically processed without human intervention, such as explained in the excerpt below:

57% of all single claims is completely STP settled. So what is that? You look at our website. Then you enter a kind of funnel. Type in your answers. If you do not fall out, of course we have some drops out, then you will have the money in your account within 24 hours (Interview organization H, participant 8).

The organizations that I studied – either through expert interviews or the case studies – indicated that the digitization of their administrative processes means that a large part of the administrative jobs in insurance companies will eventually cease to exist. Initially, this will involve jobs in which employees repeatedly carry out simple administrative tasks. Eventually, this will also involve jobs in which employees perform more complex administrative tasks. This becomes possible as insurance companies are becoming increasingly sophisticated in digitizing administrative processes. The disappearance of these jobs will in time have a large impact on insurers' organizations, since the majority of the workforce of insurance companies consist of administrative jobs. On the one hand, the workforce will become much smaller in the upcoming years, as illustrated in the next quote:

Yes, then I have really been successful. Because then I have reduced it from 300 FTE to approximately 60 (Interview organization F, participant 13).

On the other hand, the characteristics of the workforce will also change considerably. Besides the fact that the number of employees with administrative jobs will decrease, the number of employees with IT related jobs will increase. Insurers even expect that their future workforce will consist for the majority of employees with IT related jobs, which is outlined in the next excerpt. Insurers are, therefore, heavily recruiting, among others, many IT developers, programmers, data analysts and enterprise architects. These specialists have the knowledge and expertise to contribute to the digital transformations of insurance companies. They often follow short-cyclical work methods which allow them to flexibly carry out digitization projects.

If I take a look, there work plus minus 100 people for the IT organization and we have 600 people in total. Well you know more and more will be digitized. New technologies will be introduced. So the IT will grow more and more. We become more of an IT company (Interview organization A, participant 1).

The described developments have great impact on the employees of insurance companies that are in danger of losing their jobs. These are often employees that have been employed for many years and that started working for insurance companies because they offered job security and stability. In digital age, this is no longer the case. Employees feel threatened – as they do not know whether they keep their jobs – which results in resistance to all digital innovations that could jeopardize their jobs. The prevailing uncertainty among employees causes unrest in insurers' organizations what subsequently negatively impacts the working environment. This is illustrated in the next quote. Insurance companies try to reduce this uncertainty by communicating as clearly and honestly as possible how the upcoming digitization projects will affect the jobs of their staff.

That is in itself is a lot of work, because there is prevailing uncertainty among many people: "What can I still in that new world? It's all so hard. It all goes so fast. Do I still have a job? Do I still have income?" (Organization E, participant 5).

Summarily, incremental digital innovations together already have large consequences for the organizational design of insurance companies, because administrative processes are being digitized, administrative jobs disappear and IT related jobs emerge. A key insight of this study is therefore that insurance companies are gradually transforming from administrative focused companies to IT focused companies in order to deal with the rapidly digitizing industry. It is, however, important to emphasize that incremental digital innovations relate to improving the existing business activities of insurers, allowing them to better meet the needs of their customers. This means that the nature of insurers' products and services will not change due to this type of innovations, wherefore they remain the same type of company for their customers. Disruptive digital innovations, on the other hand, will change the nature of insurers' products and services, as I will discuss in the next section.

Disruptive digital innovations

The fourth theme that emerged from the data is about disruptive digital innovations. In contrast to incremental digital innovations, there are currently less concrete consequences of disruptive digital innovations for the organizational design of insurance companies. The interviews

showed that these types of innovations are still in the exploratory phase, because insurers have not yet succeeded in implementing them.

A concrete consequence of disruptive digital innovations that is already visible in insurance companies is that innovation departments have been set up. The people working in these departments are responsible for developing disruptive digital innovations. As I mentioned before, disruptive digital innovations are much harder to realize than incremental digital innovations as more technological knowledge and creativity of employees is needed. Such expertise and competences must be present in the innovation departments. The interviews suggested that most innovation departments consist therefore of a mix between specialists and generalists. The specialists are experts in the field of innovative digital technologies. For example, they are specialized in block chain, artificial intelligence or big data. The experts that are best in their profession are often employed at the innovation departments. The generalists are mostly project managers with a creative attitude towards product and service development. Together, these employees must be able to develop disruptive digital innovations that will contribute to the future-proofness of their organization. They use flexible, short cyclical work methods to quickly develop new ideas. However, innovation departments sometimes also lack ideas or relevant knowledge. Therefore, they often work together with start-ups and scale-ups that are technically skilled and have some creative ideas to apply innovative technologies. This is illustrated in the following fragment:

And how can a start-up look at it completely new and different, because that is also innovation for me with the new technologies that they offer, how do they look at it and how can they surprise us and the customer? (Interview organization B, participant 2).

As I explained earlier, it is currently very difficult for insurance companies to implement disruptive digital innovations in one of their business lines. The realization of this type of innovations is complicated because not everyone in the organization is in favor of this. Especially the managerial staff of the business lines considers disruptive innovations as a threat to the products and services that they are responsible for. In addition, they also do not understand why new products and services must to be developed as their existing products and services are still very profitable. This causes unwillingness to implement disruptive digital innovations in their business lines. The findings of the current study showed that the Board of Directors of insurance companies therefore face a major challenge to create understanding among their managerial staff about the importance of disruptive digital innovations. They try

to create this by, among others, organizing information and knowledge sessions and taking their managerial staff to innovative exhibitions about the future of the insurance industry. The positive consequences of such measures are described in the quote below. Insurance companies also need new managerial staff who are more open to change, mainly young people have positive attitudes towards more radical forms of innovation. In addition, insurance companies need to dismiss the part of their managerial staff that is not willing to support this type of organizational change.

I think in the parent company, that it really starts to come. Three years ago it was very different than it is now. Everyone now knows that the world is changing and we have to do something with it (Interview organization I, participant 9).

In short, as disruptive digital innovations are still in the exploratory phase, it is unclear how they will eventually change the organizational design of insurance companies. An organizational change that is already visible is that insurance companies establish innovation departments in order to develop disruptive digital innovations. To subsequently implement these innovations, the managerial staff of insurance companies first have to show some understanding and support. In addition, a procedure must be devised to successfully implement disruptive digital innovations somewhere in the organization – either in an existing or in a new business line. Nonetheless, if insurance companies will succeed in implementing disruptive digital innovations, the consequences will be more far-reaching than those of incremental digital innovations. The reason for this is that disruptive digital innovations will change the nature of insurers' products and services, allowing them to serve a different purpose than traditional insurance. Insurance companies are thus becoming a completely different type of company. Offering new products and services means new processes, new technological applications and requires probably other types of employees and a shift in culture. A key insight that can be derived from these findings is therefore that implementing incremental digital innovations is just the beginning of digital transformations in the insurance industry. The more radical organizational changes will come when disruptive digital innovations are implemented. It is, however, too early to predict the exact consequences of disruptive digital innovations on the different elements of the organizational design.

Factors that impede digital transformations

The last theme that emerged from the data is about factors that impede digital transformations in the insurance industry. The organizations that I studied – either through expert interviews or

the case studies – suggested that all insurance companies have the intention to digitally innovate their organizations. The realization of digital innovations is, however, impeded by various factors. Some of these factors are outside the control of insurance companies, such as laws and regulations, limited investment opportunities and deteriorating financial results. Nevertheless, some of the factors can be controlled by insurers. One important insight of this study is therefore that insurers have to create the right organizational conditions that enable the digital transformations of their organizations. During the discussion of the previous four themes, a number of factors have already been addressed that impede the realization of incremental and disruptive digital innovations, such as the matrix structures, resistance of employees and lack of support of the managerial staff. In this section, I supplement these findings by discussing two other factors that impede the realization of digital innovations in the insurance industry.

An important factor that impedes the realization of digital innovations in the insurance industry is the shortage of personnel that is specialized in information technologies, as illustrated in the next excerpt. IT specialists are needed to realize both incremental and disruptive digital innovations. Insurance companies therefore invest heavily in recruiting, developing and preserving IT specialists. Insurance companies are, however, not the only companies that need a growing number of IT specialists to become future-proof in a rapidly digitizing world. In almost all industries, an increasing number of IT specialists is required. There are, however, not enough available IT specialists on the labor market to fulfil all jobs. As a result, companies from different industries compete for the same available personnel. Insurance companies can only tackle this issue by making it attractive for IT specialists to become part of their organization.

But as a result, the IT capacity is also hugely locked. So we have to do very creative marketing with as little IT effort as possible. There is simply no capacity at the moment. So that also stops us in digitizing (Interview organization F, participant 12).

Another factor that impedes the realization of digital innovations in the insurance industry is the large amount of legacy systems that insurance companies have at their disposal. Legacy systems are outdated computer systems that still have a function, but that do not meet the standards of the digital age, such as speed, adaptability and flexibility. These systems support the processes of insurance companies. Process changes are therefore accompanied by adjustments in multiple legacy systems. As these legacy systems are not easily adaptable, it frequently takes a long time to realize a process change. Legacy systems thus negatively impact

the change capacity of insurance companies and therefore inhibit the speed at which insurers can digitally innovate their organizations. In order to reduce this obstruction, insurers have to transfer their legacy systems into one target system, wherefore all processes in the organizations are supported by the same system. Such target systems are quickly and flexible adaptable and meet the standards of the digital age. The next quote describes the need for one target system:

This is due to the legacy of the amount of systems. The spaghetti of systems. So we also have to meet the basics by getting everything to a platform. So that we at least have everything in one hand, otherwise the management becomes too confusing and too expensive. So we really have to take those steps (Interview organization B, participant 2).

Overview

The second sub-question provided insight in the changes that Dutch insurance companies make to their organizations in order to become future-proof in a rapidly digitizing industry. In the previous overview section, I explained that insurance companies need to realize both incremental and disruptive digital innovations to create future-proofness. The findings of the present study showed that the matrix structures of insurance companies have two characteristics that impede the realization of both incremental and disruptive digital innovations. First, the business lines depend on central departments to realize incremental digital innovations. As these central departments do not have sufficient capacity to simultaneously assist all business lines, the realization of incremental digital innovations is often delayed. Second, the business lines and innovation departments are mutually dependent on each other to realize both incremental and disruptive digital innovations. Insurance companies experience, however, a lack of cooperation between the two as their goals are not properly aligned. In short, the many dependencies and the misaligned goals between different divisions indicate a design issue with respect to the organizational structure of insurance companies. A lesson that can be derived from this main finding of my Thesis is that the structure of insurance companies should stimulate the realization of both incremental and disruptive digital innovations as a prerequisite to become future-proof in a rapidly digitizing industry.

Even though the realization of incremental digital innovations is delayed by the matrix structures of insurance companies, the outcomes of the present study showed that all incremental digital innovations together already have large consequences for the organizational design of insurance companies. A trend that is visible is that administrative processes are being digitized and that administrative jobs as a result disappear. The disappearance of these jobs will in time have a large impact on insurers' organizations, since the the majority of their workforce

consist of administrative jobs. To enable this trend, insurance companies need a growing number of specialist in information technologies. In the course of time, IT personnel will cover the majority of the workforce of insurance companies. A key insight that derived from these findings is that insurance companies are gradually transforming from administrative focused companies to IT focused companies in order to become future-proof in the rapidly digitizing industry.

There are currently less concrete consequences of disruptive digital innovations for the organizational design of insurance companies, because they are still in the exploratory phase. Ultimately, the consequences of disruptive digital innovations will reach beyond that of incremental digital innovations, because disruptive digital innovations will change the nature of insurers' products and services, making them a completely different type of company. Another crucial insight of this study is therefore that implementing incremental digital innovations is just the beginning of digital transformations in the insurance industry. The more radical organizational changes will come when disruptive digital innovations are implemented. It is, however, too early to predict the exact consequences for the organizational design of insurance companies.

In addition to the aforementioned design issue, there are more factors that impede the realization of both incremental and disruptive digital innovations in the insurance industry, such as resistance of employees, lack of support of managerial staff, shortage of IT personnel on the labor market and limited change capacity due to multiple legacy systems. The final insight that I have gained in this study is therefore that there is one important step that precedes digital transformations in the insurance industry; insurance companies first have to create the right organizational conditions that enable the digital transformation of their organizations.

Chapter 5: Conclusion & Discussion

Conclusion

The objective of this study is to generate knowledge that contributes to literature on digital transformations in the insurance industry by examining how Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry. I gathered this knowledge by exploring: (1) the most important developments in the field of digitization to which insurance companies need to respond in order to become future-proof and (2) how insurance companies translate these developments subsequently to their organizational design. In this section, I discuss the outcomes of the present study.

Based on the findings of the study, I identified two developments in the field of digitization to which insurance companies need to respond in order to become future-proof. First, customers are becoming more demanding towards insurance companies and require more than just good pricing and high quality products. Incremental digital innovations – i.e. small successive digital improvements to existing business activities – help insurers to meet these requirements, keeping them viable and competitive in the current market. The findings of the present study showed that all the incremental digital innovations together already have large consequences for the organizational design of insurance companies. A trend that is visible is that administrative processes are being digitized, administrative jobs disappear and an increasing number of jobs in the field of IT emerge. Insurance companies are therefore gradually transforming from administrative focused companies to IT focused companies in order to become future-proof in a rapidly digitizing industry.

Second, it is expected that the insurance industry will significantly change in the (near) future due to the emergence of innovative digital technologies and the threat of new competition. Insurance companies therefore try to distinguish themselves by developing disruptive digital innovations – i.e. new products and services that are built upon innovative digital technologies and that considerably differ from the existing products and services. These disruptive digital innovations should ensure that insurance companies serve a different purpose in the future than just traditional insurance, keeping them also viable and competitive in the future market. At present, disruptive digital innovations are still in the exploratory phase, wherefore they have little concrete consequences for the organizational design of insurance companies. Ultimately, the consequences of disruptive digital innovations will reach beyond that of incremental digital innovations, because disruptive digital innovations will change the

nature of insurers' products and services, making them a completely different type of company. The implementation of incremental digital innovations is therefore only the beginning of digital transformations in the insurance industry. The more radical organizational changes will come when disruptive digital innovations are implemented.

Most insurance companies have adapted their matrix structures in order to be able to realize both incremental and disruptive digital innovations. In these structures, the business lines are responsible for incremental digital innovations and the innovation departments are responsible for disruptive digital innovations. The findings of the present study, however, revealed that these matrix structures impede the realization of both forms of innovations, because of the many dependences and misaligned goals between the different divisions. This indicates a design issue with respect to the organizational structure of insurance companies. In addition, there are more factors that impede the realization of both incremental and disruptive digital innovations in the insurance industry, such as resistance of employees, lack of support of the managerial staff, shortage in IT personnel and the presence of multiple legacy systems. In order to become future-proof in a digitizing industry, insurance companies should therefore first create the right organizational conditions that enable the digital transformation of their organizations.

Reflection on theory

In this section I discuss the theoretical implications of the main findings of this study. I explain respectively how the findings contribute to literature on either organizational design and digital transformations.

Literature on organizational design

My findings contribute to literature on organizational design in two ways. First, this study showed that insurance companies need to realize both incremental and disruptive digital innovations in order to become future-proof. This means that the tasks and responsibilities for both types of innovations must be distributed in the organizational structures of insurance companies. This finding supports the insights of Noordam (2006) and Birkinshaw and Gibson (2004) who argued that future-proof organizations should be structured in such a way that they, on the one hand, can continue to offer competitive products and services and, on the other hand, can respond to new, as yet unknown developments. In the context of this research, incremental digital innovations contribute to the first objective and disruptive digital innovations to the latter. The present study adds an additional insight to this literature, because it shows that the

organizational structures of most insurance companies impede the realization of both incremental and disruptive digital innovations. These insurance companies are structured as matrix organizations that consists of separate functional divisions – i.e. business lines and central departments – that have to work together to realize innovations. The dependencies between the different divisions delay the speed at which innovations are realized. In addition, the goals of some interdependent divisions conflict with each other, which inevitably leads to inadequate cooperation and impedes the realization of innovations. In short, the many dependencies and misaligned goals between different divisions impede the realization of both incremental and disruptive digital innovations, which indicates a design issue. Such matrix structures are therefore unsuitable organizational structures for companies that want to become future-proof – i.e. that want to continue offering competitive products and services, and at the same time, want to respond to new, as yet unknown developments. This insight contradicts the results of the literature review by Van der Panne, Beers and Kleinknecht (2003), which showed that matrix structures are generally seen as the appropriate organizational design for organizations that aim to innovate, because they combine the efficiency benefits of a functional organization with the flexibility benefits of a multidivisional organization. However, more recent literature on organizational design recognizes that matrix structures are not suitable to deal effectively with the opportunities and challenges of the 21st century (Saunila, Mäkimattila & Salminen, 2014; Fjeldstad et al., 2012; Miles et al., 2010; Dougherty, 2008). The present study strengthens these latter insights and thereby contributes to literature on organizational design.

Second, Noordam (2006) made a number of propositions about how organizations should be designed to create future-proofness. As mentioned in chapter two, his propositions are on a high level of abstraction and detailed information is lacking. This study yielded additional information about some of his propositions and therefore contributes to Noordam's (2006) perspective. Firstly, Noordam (2006) argued that it is not quite important what the organizational structure looks like, as long as it focuses on the balance between short-term and long-term objectives. In contrast to his proposition, the findings of this study showed that it is of great importance what the structure looks like. As explained in the previous paragraph, matrix structures are, for instance, not suitable for organizations that want to become future-proof. This insight contributes to Noordam's (2006) perspective as it provides more detailed information on how organizational structures should (not) be designed in order to create future-proofness.

This study also reveals an alternative to the commonly used matrix structure. That is a structure that consists of self-organizing, multidisciplinary teams that can independently, quickly and flexibly realize incremental digital innovations. This finding closely matches a second proposition of Noordam (2006) in which he stated that future-proof organizations should develop teams composed of both generalists as specialists, because it has been shown that such teams can respond more quickly and flexibly to changing customer needs. In addition, these teams should also have self-organizing capabilities to stimulate the continuous development and improvement of the organizational performance. Additional information that my study contributes to this proposition is that such multidisciplinary teams should, among others, consist of IT specialists to meet the customer needs of the digital age.

A third proposition that Noordam (2006) formulated is that future-proof organizations should minimize the use of standardized processes, because this allows employees to continuously reorganize the processes and adjust them where necessary. However, the results of this study showed that insurance companies are currently digitizing, or in other words standardizing, most of their administrative processes in order to become future-proof. This contradiction can easily be explained by the broad definition that Noordam (2006) used for processes, namely; all activities that are necessary for realizing the companies' products and services. An additional insight that the current study contributes to this third proposition is that it differs per process whether it is useful to standardize or not. The findings, for example, indicated that the activities of IT specialists and employees of the innovation departments are deliberately not standardized, allowing them to work on projects in a flexible way.

Finally, Noordam (2006) indicated that future-proof organizations require flexible and rapidly adaptable IT systems. This proposition is consistent with the findings of this study that suggested that insurance companies have to transfer their legacy systems to flexible and quickly adaptable target systems in order to meet the standards of the digital age. Extra information that my study adds to this last proposition is that all processes should ideally be supported by the same IT system.

Literature on digital transformations (in the insurance industry)

I have also made a number of contributions to the literature on digital transformations. First, Gulati and Son (2015) and Ashkenas et al. (2015) argued that organizations that digitally transform do not need functional boundaries, because it is important that employees with different specialisms work closely together. The findings of the present study strengthen this insight as they indicate that the matrix structures – in which different divisions are separated by

functional boundaries – impede the digital transformations of insurance companies, because of the many dependencies and misaligned goals between divisions. This is, however, the only condition that I have found in the literature on digital transformations across industries, which organizations have to meet in order to be able to digitally transform. A contribution of the current study to this stream of literature is therefore that it distinguishes multiple conditions that organizations have to meet to enable their digital transformation. In addition to the organizational structure with few dependencies and properly aligned goals, it involves: limited resistance of employees, support of the managerial staff, sufficient IT personnel and flexible and adaptable IT systems.

Second, some studies on digital transformations have suggested that digital transformations mainly affect the processes of organizations (Henriette and Boughzala, 2015; Kohli and Johnson, 2011 and Berman, 2012). Others emphasized the impact of digital transformations on jobs, skills and demand for human labor. Brynjolfsson and McAfee (2012), for instance, argued that the use of digital technologies results in fewer employees being required for a growing number of tasks. In addition, the tasks that remain for human action require different skills and competences. The present study supports these insights, but also provided new insights by adding information specific to the insurance industry. The current study showed that digital transformations in the insurance industry primarily influence the administrative processes of insurance companies. These processes are increasingly being digitized by means of incremental digital innovations, as a result of which many of the administrative jobs disappear. To enable this trend, insurance companies need a growing number of specialist in information technologies. Insurance companies are therefore gradually transforming from administrative focused companies to IT focused companies in order to become future-proof in a rapidly digitizing industry.

Third, the findings of this study indicated that insurance companies need to perform both incremental and disruptive digital innovations to become future-proof in a rapidly digitizing industry. Incremental digital innovations already have clear implications for the organizational design of insurance companies, as I have outlined above. The organizations that I studied, however, suggested that implementing incremental digital innovations is just the beginning of digital transformations in the insurance industry. The more radical organizational changes will come when disruptive digital innovations are implemented. This finding can be substantiated by the well-known study of Venkatraman (1994), who distinguished between five levels of digital transformations, varying from automation of processes to entire business scope redefinitions. Incremental digital innovations belong to one of the first levels of digital

transformations, while disruptive digital innovations belong to the fifth level as they lead to entire business scope redefinitions. This study therefore provides insight into the current state of affairs regarding the digital transformations of insurance companies and contributes therewith to the literature on digital transformations in the insurance industry.

Reflection on practice

The findings of the present study offer several design rules and guidelines that can assist insurance companies with the digital transformation of their organizations. In this section, I discuss these rules and guidelines to demonstrate how this study contributes to practice. As the previous sections mentioned, it is important that insurance companies invest in both incremental and disruptive digital innovations to become future-proof in the rapidly digitizing industry. In order to realize this, their organizations have to meet certain conditions. First, it is important that the organizational structures of insurance companies smoothly stimulate the realization of both types of innovations. The findings of the present study suggested two design rules with regard to this subject. The first design rule states that organizations should minimize the dependencies between departments. The second rule states that organizations should properly align the goals of the departments that remain interdependent. In addition, the present study also provided some specific examples that showed how certain parts of the organizational structure can be designed in order to stimulate the realization of either incremental or disruptive digital innovations. Insurance companies, for instance, can divide their organizations into multidisciplinary teams. Multidisciplinary teams possess a great deal of knowledge and expertise from various disciplines and can therefore quickly and flexibly realize incremental digital innovations without depending on other teams or departments. This measure reduces the dependencies in the organizational structure. Moreover, insurance companies can also establish innovation departments that solely deal with the development of disruptive digital innovations. The developed innovations that seem successful should then be implemented in newly designed business lines. In this way, the innovation departments do not depend on the support of the existing business lines, which again reduces the dependencies in the organizational structure.

Secondly, employees of insurance companies – who risk losing their jobs – exhibit resistance to digital innovations. Insurance companies need to deal with this resistance to be able to innovate digitally. The current study offered no guidelines that indicate how insurers can deal with resistance. The findings only showed that insurers should reduce the unrest in the organization by being honest and clear to their employees about how upcoming digitization

projects will affect their jobs. Literature on organizational change offers some additional measures that insurance companies can take to address the resistance of their personnel. For example, Zwick (2002) stated that resistance against innovations can be reduced by rewarding employees with bonuses when an innovation is successfully implemented. Moreover, Erwin and Garman (2010) argued that resistance to change can be reduced if organizations allow their employees to be involved in the organizational change process.

Thirdly, the findings of this study also indicated that it is important that the managerial staff shows supportive behavior towards disruptive digital innovations. Supportive behavior only arises when the managerial staff understands the need for disruptive digital innovations. The current study offered several guidelines to create such understanding. First, insurers should inform their managerial staff about the importance of disruptive digital innovations by means of, for instance, knowledge sessions and innovative exhibitions. Second, insurance companies should attract new managerial staff who have positive attitudes towards radical forms of innovations. Third, insurance companies should dismiss managerial staff that is not willing to support disruptive digital innovations.

Fourthly, another condition that insurance companies have to meet – in order to realize both incremental and disruptive digital innovations – is that they recruit sufficient IT personnel. It is important that insurers make it attractive for potential employees to join their organizations as there is a shortage of IT personnel on the labor market. Unfortunately, the current study did not provide specific guidelines that explain how insurers can increase the attractiveness of their organizations to potential employees. A search through literature showed that there are many studies available on this topic. Pingle and Sodhi (2011), for instance, stated that companies who want to attract new personnel should extensively illuminate the advantages of the work place, such as growth and development opportunities. In addition, Leekha Chhabra and Shamra (2014) add thereto that attributes such as organizational culture, brand name and compensation also weigh heavily in determining the attractiveness of an employer. Such studies can provide insurance companies with useful guidelines to increase their attractiveness as an employer.

Finally, another condition that insurance companies have to meet is that they have sufficient change capacity in order to realize incremental and disruptive digital innovations. The change capacity of insurance companies is often limited by the presence of multiple legacy systems. A guideline that can help insurance companies in realizing digital innovations is that they need to replace these outdated computer systems as quickly as possible. It is most convenient to transfer all those different systems to one target system, wherefore all processes

in the organizations are supported by the same system. This transition must be the top priority of the IT department.

Reflection on methods

Limitations

In this section I discuss the limitations of this study and provide suggestions for future research. Firstly, in this study I examined how Dutch insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry. This study did, however, not cover the whole population of insurance companies in the Netherlands, which makes it questionable whether my findings are robust for the entire industry. Nevertheless, this study still covers a large part of the Dutch insurance industry as I have examined nine organizations of which two relatively in-depth through case studies. In order to assess the robustness of my results, I do recommend further research.

Secondly, another limitation of the present study is the broadness of the subject under study. During the interviews I noticed that an hour of interviewing was actually too short to discuss all relevant information. Moreover, during the case studies I noticed that the ability to obtain additional information has not been attained, because I gathered new information in each interview. I therefore believe that I have not been able to achieve complete data saturation. Nonetheless this study offers a broad exploration of the research question as I have spoken to multiple participants from a wide range of organizations and conducted two relatively in-depth case studies. My suggestion for future research is to conduct more in-depth research on the subject under study. This can, for example, be done by focusing on a certain part of the industry. The industry can be divided into life, income, property, casualty and health insurance. Another possibility is to focus on a particular part of the organizational design. However, it is important to realize that focusing on just one of several elements of the organizational design can lead to distorted results (Galbraith, 2001). The last opportunity I see for in-depth research is to focus on either incremental or disruptive digital innovations.

A third limitation of the current study is the lack of diversity in participants. Many of the participants I have interviewed fulfill similar positions in their organizations. More specifically, the majority of the participants of this study are members of the board of directors or fulfill a particular management function. I have collected useful information because these participants knew a lot about the subject under study. However, as these participants are high in the hierarchy of their organizations, it is likely that they look at the subject under study from a different perspective than someone within a lower rank in the organization. A suggestion for

future research would therefore be to interview a more diverse group of participants from different layers in the organizations in order to develop a more comprehensive understanding on digital transformations in the insurance industry.

Fourthly, another limitation of this research is that it has not been completely inductive. I was guided by the theoretical perspective of Noordam (2006) in formulating my interview questions and analyzing my data. This may have led me to overlook some interesting findings. I have, however, taken a number of measures to mitigate this issue. Firstly, I tried to steer the conversation as little as possible during the interviews and asked follow-up questions on topics that differed from my questionnaire. In addition, I always ended the interviews with the following question: “Are there important issues that have not been discussed during the interview?” Furthermore, during the data analysis I took as much distance as possible from the theoretical perspective of Noordam (2006). By this I mean that I concentrated on the general themes that emerged from the data instead of trying to fit the findings in the perspective of Noordam (2006). These measures helped me to gather additional information that differed from Noordam’s (2006) concepts. In this way I have tried to ensure the inductive character of this research.

The last limitation that I recognize is that I was guided – both consciously and unconsciously – by the results of the expert interviews during the case studies. This may have limited the richness of my data as I pushed the participants of the case studies in a certain direction. To mitigate this issue, I took the same measures as described above. Firstly, I tried to steer the conversations as little as possible during the interviews and asked follow-up questions. Additionally, I ended the interviews with the question: ‘Are there important issues that have not been discussed during the interview?’ These measures hopefully guaranteed the richness of the data that I have collected during the case studies.

Research ethics

In the third chapter of this Master’s Thesis I explained how I conducted this study and how I dealt with potential ethical issues. In this section I reflect on the ethical implications of the choices that I have made. First of all, I used the snowball method to select the participants for the case studies. This means that I asked the experts – that I had already interviewed – to introduce me to colleagues who could be of interest to my study. It may be that some participants therefore felt obliged to cooperate in this study as their colleague also cooperated. Reflecting on this, I can state that the snowball method was not the best method to ensure ethical participation. However, I have taken various measures to ensure ethical participation. First, I

approached these respondents by phone to inform them about my study and to ask them if they wanted to cooperate. Second, I informed them about the possibilities to withdraw from the research.

Moreover, my company mentor participated in almost all of the interviews that I conducted. Although I have asked the participants for permission in advance, I can now state that it was not the most ethical decision. It is namely important that researchers are independent. My company mentor works for a consulting firm that specifically provides advice to financial service providers. The results of the interviews may be of interest to his consulting practices, what makes him a non-objective researcher. Moreover, it is also possible that this has influenced the results of my research as the participants did not discuss certain confidential subjects because of his presence.

Furthermore, I sent the participants the interview transcripts for approval. For practical reasons there were several weeks between the interviews and the moment I sent the transcripts, which meant that the participants were less able to check the transcripts for accuracy. In addition, after the data analysis, I did not check with the participants whether they agreed with the way I interpreted the raw data. Reflecting on both points, it would have been more ethical to send the transcripts to the participants shortly after the interviews and also ask them to check my interpretations.

Reflection on process

Qualitative inductive research is characterized by its iterative character (Hayes, 2007). During the research process of the present study, I made three major methodological changes. In this section I make – as indicated in chapter three – these methodological changes available for evaluation. Firstly, I have adapted my research strategy while approaching organizations for this study. The initial plan was that I would perform a multiple case study in which I examined three or four organizations. However, more organizations wanted to participate in this study than I expected on forehand. I therefore chose to conduct expert interviews in combination with two case studies. This change made it possible to include a larger share of the population of Dutch insurance companies in my research, wherefore the findings of this study are applicable to a larger part of the industry.

Secondly, during the research process, I divided my research question into two subquestions. My main question is very broad, which made it at the beginning of the research process difficult for me to determine focus points. By means of the two subquestions, I have been able to further delineate this study. I focused on the two major developments in the context

of digitization that were discussed during the interviews. I then looked at how insurers translate these two developments to their organizational design. Additional data that did not relate to these two developments could therefore be left out of consideration. This helped me to further define my research. More practically, the subquestions helped me to ask the right questions during the interviews and they served as a guide during the data analysis.

Thirdly, I have modified my data analysis strategy during the research process. The first time that I have analyzed my data, I guided myself by the theoretical perspective of Noordam (2006). This means that I tried to fit the collected data in the perspective of Noordam (2006). I thereby omitted relevant insights that did not directly fit into this theoretical perspective. To prevent this, I have adjusted my data analysis strategy. During the second round of data analysis, I guided myself by the overall themes that emerged from the data. This allowed me to distinguish five themes from which I could derive the key insights of this study. These insights do not exclusively relate to the concepts of Noordam (2006), what increases the inductive character of this research.

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Appendix 1: Interview guideline expert interviews

Interview guideline

(Time +/- 60 min)

Name participant:
Company:
Function:

General note:

Try to let the participant talk as much as possible. Stimulate this by asking 'How' and 'Why' questions.

Introduction of attendees +/- 5 min

- Short social talk
- Introduction of attendees

Short introduction about my Thesis and the interview +/- 5 min

Practical

- TIME!
- Recording equipment (ask permission!)
- Confidentiality and anonymity of participant and company
- Member checks
- Results
 - Thesis + Article
- Possibility to withdraw at any time

Content

- Explanation study
 - Digital transformations in insurance industry
 - RQ: How do insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry?
 - Structure, processes, IT, personnel & culture
- Questions/comments

Broad starting questions +/- 20 min

- What are, according to you, the most important digitization trends in the insurance industry?
- What measures does your organization take to respond to these trends?

- Given this theme, where do you see opportunities for your organization? Where do you see threats?

Possible follow-up questions about organizational design +/- 30 min

- Is the organizational structure of your organization adapted to respond to digitization? If so, what adaptations have been made?
- What does this mean for the way that tasks are divided?
- What does this mean for the way that responsibilities are divided?

- How does digitization affect the processes within your organization?
- Which processes have changed or need to change?
- What does this mean for the way people in your organization work?

- How do developments concerning digitization influence the IT part of your organization?
- Which changes have or have to be implemented?
- How does your organization apply innovative digital technology in its business?

- What type of culture is needed digitize your organizations successfully?
- To what extent does this go hand in hand with the existing organizational culture?
- How does your organization try to bring about culture change?

- Which skills and competences of employees are necessary to become future-proof in a digitizing industry?
- To what extent does this go along with the existing skills and competences?
- How does your organization try to invest in certain skills and competences?

Closing questions +/- 5 min

- What is the biggest challenge for your organization regarding its digital transformation?
- Are there important issues that have not been discussed during the interview?

Completion interview +/- 5 min

- Thank the participant
- Member checks
- Inform about planning

Appendix 2: Interview guideline multiple case study

Interview guideline

(Time +/- 60 min)

Name participant:
Company:
Function:

General note:

Try to let the participant talk as much as possible. Stimulate this by asking 'How' and 'Why' questions.

Introduction of attendees +/- 5 min

- Short social talk
- Introduction of attendees

Short introduction about my Thesis and the interview +/- 5 min

Practical

- TIME!
- Recording equipment (ask permission!)
- Confidentiality and anonymity of participant and company
- Member checks
- Results
 - Thesis + Article
- Possibility to withdraw at any time

Content

- Explanation study
 - Digital transformations in insurance industry
 - RQ: How do insurance companies (re)design their organizations to become future-proof in a rapidly digitizing industry?
 - Structure, processes, IT, personnel & culture
- Questions/comments

Broad starting questions +/- 20 min

- What developments in the field of digitization does your organization have to respond to in order to become future-proof?
- Based on the previous question, what measures does your organization take to become future-proof?

- Where do you see opportunities for your organization? Where do you see threats?
- How does the exploration of new initiatives in your organization go hand in hand with the exploitation of business as usual?
- Given the previous question, what are the biggest challenges?
- What are the most important successes your organization has achieved in the field of digitization?
- Which factors are essential to achieve such successes? Which factors are prohibitive?

Possible follow-up questions about organizational design +/- 30 min

- Is the organizational structure of your organization adapted to respond to digitization? If so, what adaptations have been made?
- What does this mean for the way that tasks are divided?
- What does this mean for the way that responsibilities are divided?

- How does digitization affect the processes within your organization?
- Which processes have changed or need to change?
- What does this mean for the way people in your organization work?

- How do developments concerning digitization influence the IT part of your organization?
- Which changes have or have to be implemented?
- How does your organization apply innovative digital technology in its business?

- What type of culture is needed digitize your organizations successfully?
- To what extent does this go hand in hand with the existing organizational culture?
- How does your organization try to bring about culture change?

- Which skills and competences of employees are necessary to become future-proof in a digitizing industry?
- To what extent does this go along with the existing skills and competences?
- How does your organization try to invest in certain skills and competences?

Closing questions +/- 5 min

- What is the biggest challenge for your organization regarding its digital transformation?
- Are there important issues that have not been discussed during the interview?

Completion interview +/- 5 min

- Thank the participant
- Member checks
- Inform about planning

Appendix 3: Code book

Translated quotes	Open codes	Axial codes	Selective codes
And within the board of directors this is going pretty well so far, to get what we need and to find commitment. So that's good (Interview organization F, participant 6).	Board of Directors	Creating support	Central innovation department
Make sure you get that leading coalition, so those people who say I'm going to pull that cart, that you invest a lot in that (Interview Organization E, participant 11).	Leading coalition		
And that is why I am glad that we have someone who has also been the head of such a club, so that he understands the language and knows how that game works and knows those types. And that he knows how he needs to get something done at the Executive Board (Interview organization F, participant 6).	Politics		
It has now been just a year. So that's a bit of the interaction. Or they think of something and invite us, like this is fun for you. Or we have an issue and we put that down with them. And then we will roll it out (Interview organization F, participant 12).	Collaboration	Link between the innovation department and the business lines	
That in addition perhaps a new business model is being worked on, yes that is just a little less important for us. We contribute to this by thinking along and allowing people to participate in all kinds of processes (Interview organization E, participant 10).	Different interests		
I am very often talking to a number of people from innovation, and I say 'not just looking at the new propositions, but we also have a business to run'. We are now setting up something with data and analytics ourselves, and that is also because we have a number of good people for that, but actually we should also be working on that with innovation (Interview organization E, participant 10b).	Lack of clarity about the division of responsibilities		
Your second point is that you do deprive the corporate to learn. Yes, you do so in a certain way (Interview organization I, participant 9).	Learning ability		
So you cannot innovate with all existing processes. So you have to make sure that you create your own world for it. So for example an investment committee. And you need a safety net (Interview organization I, participant 9).	Safety net		
Ultimately we will organize a disruptive idea in one of the following ways: (1) We bring it all the way back to the business where it is integrated (2) It is a "bolt-on" idea that comes on top of existing business as an addition; (3) We launch it as a separate company (Interview Director Innovation & Digital of organization F, published by Magnitude Inc.).	Scale-up		
And once the time comes from there is a MVP, then it goes to the business (Organization B, participant 2).	Transfer		
One party wants horizon 1 and the other also 2 and 3 because otherwise we miss the boat. I think you should split it. I think you should	Disruptive initiatives	Organize separately	

just say that there is just a department that deals with horizon 1 to just think about things that are very relevant for the next 2 a 3 years. And I think it's a good idea to set aside a piece for 2 and 3. And if you do not set it apart, you never get to two and three (Interview organization E, participant 11).			
But horizon 3 is actually out of order. Then you really come across very different types of teams. Sometimes with a partner, sometimes totally external, sometimes a start-up from Barcelona. I don't care, as long as horizon 3 is being worked on. But sometimes it just does not fit in your organization (Interview organization H, participant 8).	Horizon 3		
To speed up the digital transformation and better anticipate evolving customer needs, we also established the Innovation & Digital team to meet growing customer demands for online communication (Annual Rapport 2017, Organization F)	Consequences of digitization for the organizational structure	Structure of the innovation department	
But no, he asked for it 'Goh, I really do not get along with digital innovation within the business line. Can I just set it up for the whole organization separately with a club?' (Interview organization F, participant 6).	Director		
But there is no longer a central innovation department (Interview organization C, participant 3).	No separate innovation department		
Yes we belong to P&C and income (Interview organization I, participant 9).	Place in the organization		
The Innovation & Digital team reports directly to the Executive Board (Annual Rapport 2017, Organization F).	Positioned directly under the board of directors		
There were 2 men and now there are 10 to 12 approximately. With a core and a flex shell that brings really important knowledge (Interview organization E, participant 5).	Task distribution of the innovation department		
So you have to start looking at where you want to invest in to ensure that you remain relevant in the future (Interview organization I, participant 9).	Responsible for the future of the company		
I have been asked to map initiatives within the organization in the field of digital innovation, how they run, what bottlenecks are and what can be improved (Interview organization F, participant 6).	Collect ideas internally	Tasks of the innovation department	
With transformation you do make big changes, but the business model remains the same. You then go faster and more relevant to the market. Especially digital (Year magazine 2018, Organization F).	Contribute to transformation		
That is also the essence I think because we are talking very much about techniques, but in the end I am more of a believer of how do you take the people with you? And how do you ensure that they get perspective? (Interview organization E, participant 5).	Employee support		
Exploring new technologies. So that we independently pick up a specific technique from the team and get an exploration there. So that translation computer for example, how will it help us interact with the customer? (Interview organization E, participant 5).	Exploring		

That we are also responsible for actually pulling certain propositions through the innovation funnel (Interview organization E, participant 5).	Guiding the innovation funnel		
Finally, we initiate level 3 innovations. Thanks to their disruptive business models, these initiatives have the potential to gain market share very quickly or to tap into a completely new market. We brainstorm and test in our lab (Mission Control). We can take the initiatives from the proverbial student room to the garage. If at some point it becomes a store, it can become a separate company or even go back into the business (Interview Director Innovation & Digital of organization F, published by Magnitude Inc.).	Leading disruption		
I just told you about the first pillar with all trends and developments. You should actually see that. These are all sparks that enter the second pillar. And the second pillar is our MVP machine. So there we try to put a new idea live in six weeks. And live means you can buy it (Interview organization I, participant 9).	Lean start-up method		
And in optimization we say that the business is in the lead. Good luck. If you need us, we cannot do much more than consultancy (Interview organization F, participant 6)	Facilitate optimization		
And so we have our innovation center and there are six people there. And they ensure that all the innovative ideas we have, as crazy as you can imagine, that they are developed there (Interview organization B, participant 2).	Projects of the innovation Departments		
I always mention [name name] my favorite friendly competitor, I always say you should just come by. That can then all be done. And I also share the lessons we have learned at a conference. So why not with them? It does not bother me. I think that we should all be more transparent in this (Interview organization I, participant 9).	Collaboration with competitors	Technology trends	Disruptive digital innovations
I work there together with a colleague who takes the external side more, so what can be found outside our organization at governments, universities, but also incubators, accelerators and you name it. And can we connect those two? So for example, you have a start-up that is doing something very sexy and has only just begun and that you have the idea that it can really become something. Can we not link them to an organization where they have a problem that could immediately be a solution for that (Interview organization F, participant 6).	Collaboration with externals		
And how can a start-up look at it completely new and different, because that is also innovation for me with the new technologies that they offer, how do they look at it and how can they surprise us and the customer? (Interview organization B, participant 2).	Collaboration with start-ups		
But you will not see the applications in short term. And with short term I mean 3 to 5 years. Of well for example block chain, artificial intelligence. That is just very	Innovative digital technology		

difficult (Interview organization B, participant 3).				
But we are going to build portals. So we have 2 portals in mind. One portal for consumers and one portal for the entrepreneur (Interview organization G, participant 7).	Digital portals	Use of technology to develop new products and services.		
Well limit and prevent technology, then we are talking about sensors. We can identify certain risks. Can I see smart connections with the data that I retrieve from the sensors and can I then also project that into the future? So than you get a kind of predictive model (Interview organization E, participant 5).	Digitization as facilitator			
So left you see technology components emerging everywhere, technology is not a goal, no, we have a commercial strategy, but we are constantly bringing in new technologies to support that strategy (Interview organization H, participant 8).	Supporting role of technology			
And you can lay down incredibly perfect methods. Like a Block chain. But that is not the money machine, because many other companies will adopt that technology very quickly (Interview organization B, participant 2).	Using only innovative digital technologies is insufficient			
But it was more with us that we were watching these technologies, what can help us with such a closed book? We do not have that much time anymore. So you cannot dive in everywhere. Block chain is also one of those themes. Yes, that is quite difficult to invest in (Interview organization F, participant 13).	Decline in demand			External factors that inhibit digitization
We always have that advisor. That, of course, is just a human being. That will not be a computer. And that always remains a challenge in terms of digitization (Interview organization F, participant 12).	Intermediaries			
But also just law and regulations. AVG for example. To name a few... It all comes in between (Interview organization F, participant 12).	Laws and regulations			
Nevertheless, this is a great risk in combination with the fact that we do not have the size and investment budgets that the large parties have. So we have to be very emphatically, we have to choose very sharply, where do we use our resources? We cannot afford to shoot with hail and hope that we hit once. So yes that is a threat (Interview organization A, participant 1).	Limited size of investment budgets			
But as a result, the IT capacity is also hugely locked. So we have to do very creative marketing with as little IT effort as possible. There is simply no capacity at the moment. So that also stops us in digitizing (Interview organization F, participant 12).	Capacity shortage	Internal factors that inhibit digitization		

<p>This is due to the legacy of the amount of systems. The spaghetti of systems. So we also have to meet the basics by getting everything to a platform. So that we at least have everything in one hand, otherwise the management becomes too confusing and too expensive. So we really have to take those steps (Interview organization B, participant 2).</p>	<p>Internal legacy systems</p>		
<p>So the customer determines and you see that the customer simply wants to be helped at any time via every channel. That is a danger in itself! Why? Because you have to keep everything open for them. That you chat, that you e-mail, that you phone. So then we also have to make choices in what we find most important in terms of means. So that is one side; the customer determines (Interview organization B, participant 2).</p>	<p>Changing customer demands</p>	<p>Customer centrally</p>	<p>Important developments in the field of digitization</p>
<p>Yes, I think that we should be more customer-focused eventually. We are very much based on our internal considerations and products and legislation, and IT systems, all difficult. Yet much more that step forward in the direction of customer and advisor and let that really lead your entire design of your organization. From your website, to your processes, to your way of working. I think that is the big turnaround (Interview organization C, participant 3).</p>	<p>Thinking from a customer perspective</p>		
<p>And the first portal will go live on May 1st and the second portal in the second half of this year. And then we practice a bit, but the deadline, the dot is mega. So we thus become a completely different company (organization G, participant 7).</p>	<p>Different revenue model</p>	<p>Different role for insurers</p>	
<p>Yes, then, I think you have a number, I'm not just looking at digital trends, I'm looking at all the trends, and I think that's actually one of the biggest defects of consultancy parties that they only look at digitization and not at behavior, because I think that, that much more definitive is ultimately how we embrace something (Organization I, participant 9).</p>	<p>Human behavior</p>		
<p>I think that if you look at the Dutch market that Dutch players get it very difficult, because if you look at the movement that is now being used by new companies, the platforms, which only think internationally. So if you can only underwrite nationally, then you will no longer participate. So I think that will be a problem for a number of national players. I do not know if the big players, like Ali baba and Google and Amazon, really get into the insurance (Organization I, participant 9).</p>	<p>New competitors</p>		
<p>But within the entire organization, yes, we also go towards other services, which are related to the prevention and reduction of damage. And what I just said, insure only when there are no other possibilities (Interview organization E, participant 10).</p>	<p>Reduction and prevention of risks</p>		
<p>And what you see then. Then you have to think further. Then you should see that we are becoming more and more providers for unburdening and actually manage risks for</p>	<p>Risk manager</p>		

you. Instead of offering the pure product. So you manage the risk with the customer. For a company or a private individual (Interview organization B, participant 2).			
And the shift of interests within the market place is also important to us (Interview organization F, participant 6).	Shift of interests within the market		
But if you take on a completely different role in the market or will develop a whole new market. That is our responsibility. Yes, just bluntly said, then we have no idea. We just have no idea (Interview organization F, participant 6).	Unclarity		
And you are just completely out of business! You are simply being bypassed! So you have to make sure that you have to excel in your three roles. And that is exactly what we are trying to do (Organization I, participant 9).	Urgency for innovation		
We are now working on a pilot in the field of machine learning. We have a premium model and that is fed by all kinds of sources and if we put that into a machine learning environment. Do we get very different results or does that come back with the same story? So actually man versus machine. What are the differences? And what are the differences over time? (Interview organization E, participant 10).	Artificial Intelligence	Use of technology for process improvement	Incremental digital innovations
We also do a lot with data analytics. There is also a large team that is working on this. Data scientist building algorithms, where every time the question is 'Okay, is there a business owner that we do something for?' So we are not going to start nice projects that we find exciting ourselves if the need is not there. So yes, in many different ways from dynamic pricing to fraud detection and much more. So that's an important stream (interview organization C, participant 3).	Big data		
But that is, that is more, that is nothing revolutionary. That is actually applying existing technologies in an existing environment. Or you can chat or you can do video conferencing while an expert is recording the damage. Those kind of things. You see that. But we often find that even though exciting in our services (Interview organization B, participant 2).	Existing technologies		
I am working to robotize sub processes. So at the beginning of this year we started with proof of concept to see which tool we will select and which implementation partner. And that worked out well. And we are now up running and we are busy robotizing processes. Actually, in particular, processes that do not add value, but cost a lot of time (Interview organization E, participant 10).	Robotics		
This gives employees more time for more complex customer questions and other activities that add more value (Annual Rapport 2017, organization F).	Add real value	Complex work	

You want people to be engaged in the relationship. And some of our employees, too, have difficult files, but they still have to think 36 times about simple things that are not automated. That is the old system. You do not want people to do that either. Let them contact that customer. "Can I do something for you, how are you?" Or go help that customer in his portal (Interview organization G, participant 7).	Close to the customer		
And we also encourage people not to stay here too long, but at some point also to flow out and continue to do something else. To have their papers in order and... So that is really behind it. So people are not insecure (Interview organization F, participant 13).	Encourage rapid flow		
Yes, you also get a significant reduction of your FTE every year (Interview organization D, participant 4).	FTE reduction		
That is in itself is a lot of work, because there is prevailing uncertainty among many people: "What can I still in that new world? It's all so hard. It all goes so fast. Do I still have a job? Do I still have income?" (Organization E, participant 5).	Prevailing uncertainty among employees		
This means that first we could employ someone at the customer service for the standard claims, but now we have to put people who are good at solving complex problems (Interview organization D, participant 4).	Work that remains for people		
Obviously, the administrative processing at the back will change substantially, so we are experimenting to be able to do that properly (Interview organization F, participant 6).	Change in administrative procedures	Digitizing administrative processes	
So our organization no longer needs to be organized around the standard, but our organization must be organized around customization. Because the standard is gone. Because people do it themselves (Interview organization D, participant 4).	Change in design of processes		
A lot is done manually. Just look at a Bol.com or a Coolblue, or look at all other companies. How they can quickly do the ordering, make the workflow accessible. And we cannot do that as insurer (Interview organization B, participant 2).	Manual labor		
And on the other hand, you also have operational management. These are the operational processes. And we are still in its infancy, because we have made very few digitization strokes, I think... (Interview organization B, participant 2).	Reach hygiene level		
That is another important development, of course. The entire domain of app and making your propositions available online, making it actually much more accessible of you, as an insurer (Interview organization E, participant 5).	Online accessibility		
If you then look at what that means in an organization. This means that the most important part of the processes will actually be automated (Interview organization D, participant 4).	Standardization/automation		
And then you actually see the percentage that customers can do online immediately grows	Self-serving		

tremendously. So in fact, all the work you can catch in standard processes, you should just let people try to do it themselves. Just give them the tools and they will do it (Interview organization D, participant 4).			
57% of all single claims is completely STP settled. So what is that? You look at our website. Then you enter a kind of funnel. Type in your answers. If you do not fall out, of course we have some drops out, then you will have the money in your account within 24 hours (Interview organization H, participant 8).	Straight through processing		
Only we are pushing more and more towards delivering real added value for the customer (Interview organization E, participant 5).	Customer value	Process improvement	
And you could summarize that in operational excellence, we understand that game. So we can do what we always do, but we do it faster, better, more efficiently and preferably also cheaper, because we understand that (Interview organization F, participant 6).	Operational excellence		
And in this way learn, test and improve. Optimize (Interview organization C, participant 3).	Optimization		
Yes, I think, it also depends on flexibility, is that processes are also very shortened and actually shift from annual plans or multi-year plans to quarterly plans. And yes in this way we still have plans, but it is much shorter cyclically (Interview organization C, respondent 3).	Short cyclically		
So we have said, 60% of our workforce works indeed agile (Interview organization H, participant 8).	Agile	Alternative to matrix structure	Matrix organization
It is true if you have 25 teams. We have certain routes that may require 3,4,5 teams. They found that very difficult at the beginning (Interview organization H, participant 8).	Dependencies between teams		
We have a management team with two board members and 3 senior managers (Interview organization H, participant 8).	Hierarchy		
But most of them are still working on customer and process innovation, which is closer to home. Horizon 1 or horizon 2 (Interview organization H, participant 8).	Horizon 1 and 2		
Yes, we have a sponsor model. Each team has one or more sponsors. That is basically the one you need most (Interview organization H, participant 8).	Monitoring teams		
And from the BusDevOps concept you try to organize all three qualities in one team and then suddenly it becomes a kind of micro company within a corporate (Interview organization H, participant 8).	Multidisciplinary teams		
The teams all have a clear vision given the strategic theme they are working on. They themselves translate it into empowerment, and they themselves translate it into their purpose, their scope, their KPIs and their backlog (Interview organization H, participant 8).	Teams responsible for realizing strategic themes		
I think there is a bit of a movement going on from digital as a separate island, a separate team that has a kind of pioneering role, to	Functions in the field of digitization are decentralized	Business lines	

make changes to more digital as part of every function or business line (Interview organization C, participant 3).			
There is a lot of contact between business lines, so that knowledge exchange is certain and is also encouraged (Interview organization C, participant 3).	Knowledge sharing		
It is actually more of a cycle that we then go into and then set up internal projects for that, or that certain departments pick it up, that it happens in the line (Interview organization E, participant 10).	Organize optimization		
Just look, at the end of the day we should just naturally produce a profit and loss account that is, with a bit of luck, just positive. That yields green figures. So that does not always work in this poor market. But of course we work very hard on that (Interview organization E, participant 10).	Responsible for existing products and services		
So we can do what we do faster, better, more efficiently and preferably also cheaper, because we understand that. And then, if it falls inside, then it works. That is what the business is responsible for (Interview organization F, participant 6).	Responsible for operational excellence		
That's with us. That is a very interesting one. In the end we are the risk bearer, we bear the risk (Interview organization B, participant 2).	Risk bearer		
Well in recent years there has been substantial investment in building a data science team, so we now have a data science team of four people (Organization A, participant 1).	Data science	Functional design	
We depend on the IT department, or on an online team or... We all have dependencies outside our company where we do not directly influence planning and so on. We as a company just have a huge ambition in different areas. For example, realizing our strategy, the development of new services, doing the things we already did but then smarter, better and faster. And all projects have an IT component and also an online component. So the projects enter a number of funnels. For example, a funnel of the IT department. They have however so much to do at the IT department that not all projects actually come out of the funnel. They cannot do everything (Interview organization E, participant 10)	Dependencies		
In the channels you will find marketing knowledge or digital service knowledge or customer service know-how or whatever you call it, sales knowledge. Yes. Look in every large organization you keep that kind of matrix structures (Interview organization C, participant 3).	Matrix structure		
Only now do we notice that what you often see is that when innovation and digital have come up with something and it has to be implemented on the business line, then we need our IT (Interview organization E, participant 10).	IT department		
You do not want that customer to log in in three different ways. There you want to have a front door. We have a central department	Online department		

for that (Interview organization F, participant 12).			
Transformation management is responsible for the development and support of the transformation to the new course of [name] and the related transformation goals. In doing so, she not only looks at the results-oriented approach, but also connects the different parts of the organization in order to join forces and increase and accelerate the change capacity (Article organization E transforms and innovates).	Transformation department		
And that does not mean that it is not right what happens, but I would welcome a bit more awareness in that process. I would be welcome that for our company (Interview organization A, participant 1).	Awareness	Innovative orientation	Relation between personnel/culture and digital innovations
And what you see, for example, is that we sit together with them all on Tuesdays. A number of people from innovation, a number of people from the regional offices. And that works very well. Just the fact that you sit together for certain subjects (Interview organization E, participant 5).	Bring different types of people together		
That is quite difficult. People are inclined, and we also agree about this in our team, to judge very much in fixed patterns that they recognize. Somewhere it has a function, but we need employees who can really puzzle in the moment, sounds a bit woolly. In other words, putting all the experiences overboard, because that does not always work (Interview organization E, participant 5).	Change way of thinking		
So you basically just have to come up with examples that are already very close to home. And that is the piece of urgency (Interview organization E, participant 11).	Create urgency		
That is called future fit within the organization. Last two weeks, everyone from the private company has followed the program, say, to undergo a reboarding program (Interview organization C, participant 3).	Culture change program		
So we become a huge learning organization. Continuously the retrospective and continuous planning (Interview organization H, participant 8).	Develop a learning organization		
I also think that we just have to set tight frames. Well, you just have to set high ambitions, because only then will there be movement (Interview organization F, participant 13).	Establish tight frameworks		
I think in the parent company, that it really starts to come. Three years ago it was very different than it is now. Everyone now knows that the world is changing and we have to do something with it (Interview organization I, participant 9).	Growing understanding		
So therefore, what you just said about communicate, you see it coming. Communicate about it so you cannot say in 5 years: 'I did not see it happening and now I am here and you have nothing for me'. Of course you can never say that exactly, but that is why you communicate a lot. To make people enthusiastic, but also to let them think;	Inform about direction of organization		

'Hey, does this suit me?' (Interview organization G, participant 7).			
You have the people who are actively looking for it and always want to help and find it difficult because it does not fit in with their KPIs, but they still help you. And you have people who say I think it is important, but if it touches their own skin, then suddenly it cannot happen. Because yes ... we all want innovation, but it has to fit into the existing framework. Yes, that does not work (Interview organization I, participant 9).	Mind-set		
And of course everyone should also have some skills in digitization. So the people who could think of 'Joh you know what, power point will take my time'. N. .. That does not work anymore. So you need some basic digital skills (Interview organization D, participant 4).	Basic digital skills	Required competences and expertise	
We need more and more specialists who can make complex data analysis, build robots and so on (Interview organization I, participant 9).	Different expertise levels		
And that simply requires other competences from certain people. People who now treat a certain flow that may be automated in three years. Those are the people who you want to prepare (Organization E, participant 10).	Different requirements		
But for example robots, where is our chat bot specialist? We do not have that either. Or we hire them, or we will train ourselves, but they will be there (Organization H, participant 8).	Develop		
This requires a lot of flexibility from employees. It is not a one way (Organization E, participant 5).	Flexibility		
A learning organization and therefore also an organization that knows how to attract talent and keep talent on board (Interview organization A, participant 1).	Recruit		
So you will have to invest in that. In those competences (Interview organization E, participant 11).	Invest in knowledge		
So you actually want to put that mandate lower in the organization and then things like working together might become more important. Then you must be able to come up with a solution together. So that kind, yes... Yes, those competences may have become even more important (Interview organization C, participant 3).	Mandate at lower levels in the organization		