

**Analysis of the German Insurance Market with regard to InsurTechs
and the Implementation of Chatbots**

Masterarbeit

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1 Introduction

1.1 Motivation and Relevance

In an increasingly fast-paced and interconnected world political, social and economic risks are growing. In this respect, insurers are of particular importance for society and economy. Insurance companies fulfill a central early warning function. They forecast future perils based on historical data and thus draw attention to changes in risk expectations.¹ They cover risks and enable corporate action and economic growth and therefore are an essential component of economic development.² In the recent past serious market changes such as the financial and economic crisis have been coped comparatively well by the German financial services industry.³ But the combination of various trends as the emergence of new entrants and the development of new technology leads to movement on the insurance market. The so called Insurtechs are entering the insurance ecosystem.⁴ In addition, the accelerating digitization of the market – the elaboration of new business models and services due to technology - changes communication and interaction between customers in a fundamental way and thus perceptions of financial products. Changing customer behavior leads interaction channels into digital. As a result, a profound transformation is required, which involves a restructuring of the business model as well as a realignment to the needs of the customers.⁵

1.2 Research Questions and Objectives

The overarching aim of this thesis is the structured analysis of the German insurance market in context of the Insurtech sector as well as possible applications for the technology Chatbot. In a more detailed sense, the aim is to explain how the Insurtech market in Germany is developed and how much potential the sector has to change insurance positioning. Of further interest is whether and to which extent the application of Chatbots can support the digital appearance of German insurance companies or in what sense this can be recommended from a scientific perspective. As overarching goal following research questions will be paramount, which are to be answered by the provided exposition and expected to offer capability for relevant implications of scientific level:

- A. *What is the potential of Insurtechs technologies and processes to replace the old structures of the insurance market?*
- B. *To what extent Chatbots can influence the degree of digitization of the insurance industry?*

The objective of the investigation is to analyze the characteristics of Insurtechs business models in regard to profitability, stability and disruption ability and therefore to specify in which points of the classical value chain Insurtechs should attach to be successful in the market. A concept of a modern value chain aligned to the analyzed business models structure shall be

¹ Cf. Maas/Milanova (2014), p. 23.

² Cf. Arena (2008), pp. 922-923,938; Outreville (1990), p. 488.

³ Cf. Maas, et al. (2017), p. 93.

⁴ Cf. Schreiber (2017), pp. 365-366.

⁵ Cf. European Commission (2015), p. 2; Schreiber (2017), p. 366.

designed. Within the second research question the objectives are linked to evaluate the current state of incorporation and acceptance of Chatbots as well as to explore the potential of Chatbots to increase the digitalization factor in the German insurance ecosystem. Of particular interest is in which way both areas can merge together. This means to examine how Insurtechs can use the technology of Chatbots to improve digitalization developments in the market.

1.3 Thesis Framework

To attain an extensive investigation of the stated research questions the proceedings of the study will include five succeeding Chapters. Chapter 2 treats with the illustration of the theoretical foundations in the fields of Insurtech and Chatbot features. In this context important insurance market data as well as main drivers for the emergence of the development of Insurtechs and Chatbots will be presented first. Successively, a theoretical foundation on the general profile about the German Insurtech sector including their process of development will be described. It follows a main illustration of Chatbot features including the presentation of the origins and evolutions. To complete the theoretical section of this thesis a literature analysis will be performed to establish an understanding of the problem of interest.

The research design and methodology is assigned to Chapter 3. Here, the applied research design will be presented and the foundations of empirical methods, which are used in this thesis in order to be able to answer the stated research questions will be described and the individual procedure explained in more detail. Latter contains research settings of a Canvas Business Model (CBM) analysis, an accomplished survey and the setup of interviews as well as the purposes of settings for an application scenario. In Chapter 4 the implementation of the above mentioned empirical methods will take place. This research will follow a Canvas Business Model analysis, which is presented in the first part of the fourth Chapter. The CBM analysis will be prospectively applied in order to identify characteristics of Insurtechs business models and to transmit them into a new design of a modern value chain. A quantitative analysis of Chatbots acceptance by means of a survey within Chapter 4.2 is stated to quantify the status quo of the customers view and to empirically evaluate the assumed causalities through practical testing. Further, the analysis of interviews is intended to generate and support important statements and assessments from experts. The statements conducted in the interviews and the results from the survey will be used to transpose theory into practice and to demonstrate the usability and performance of a Chatbot in the insurance industry. Therefore, a Chatbot programmed by means of the programming language Python will be introduced at the end of this Chapter 4 within the application case "car insurance". To each of the treated research areas the results of the analysis will be represented in the appropriate subchapters and used for further conclusions.

With the results of the implemented analyses and findings in the previous Chapter, limitations and recommendations regarding the stated research questions and objectives are presented in Chapter 5. This include a critical investigation of the propositions as well as a reflection of the initially posed objectives of the thesis. The aim is to link the findings of the applied methods and tools together and thus to develop the ability to answer the research questions in a profound and substantiated way. In conclusion, Chapter 6 summarizes the key findings of the thesis and points out future perspectives and potentials for further research possibilities and extended analysis.

6 Conclusion and Discussion

Within the scope of this study the German insurance industry has been investigated with regard to its change and reaction to current market circumstances. Particular focus has been placed on Insurtechs and the Technology Chatbot. Important statements could be developed. The Chatbot Technology can be referred to as a driver for digitization in the German insurance industry but just in a small degree and Chatbots do not function as a main driver. Insurance is an emotional product associated with financial dependencies, especially in the field of health or life insurance. The customer's confidence in the technology is not yet matured enough to process important decisions in insurance questions without human beings (Compare Survey outcome (2017); Interview B (2017), row 171-174; Interview C (2017), row 264-267). Within this thesis a hybrid approach has been developed as a solution, which was exemplarily programmed for the use case car insurance. According to this approach, the Chatbot assumes the first simple but time-consuming questions and then the human employee takes over the customer with already known basic data. But this solution holds only against the background that the current possibilities of the technology will be fully exhausted and the Chatbot works according to the current status of technology. A Chatbot only can function as a digitization accelerator if the IT- system in the insurance company runs properly. Chatbots sit on the top of the IT and can only be as good at the front-end as the needed information is proceeded in the back-end. Before setting up the Chatbot technology the in-house systems and processes should be adapted to the current state of development. For the present state of technology Chatbots do not replace human interactions but represent an attractive channel to transmit behavioral interventions in combination with human support.³⁰²

The insurance industry must follow the other branches in the direction of digitization. Financial service providers need to deferral from traditional product provider toward market orientation. Further, Insurers have to re-organize their intermediary networks and restructure their distribution management towards hybrid client interaction.³⁰³ This has to be done in a way that they add value for customers by becoming part of their daily lives with preventative and proactive services. A strategic position with innovative technologies should be implemented.³⁰⁴ When looking at the Fintech movement within the banking sector, it can be seen that this development is further advanced. Therefore, it is likely that there will be further developments in this area on the insurance market as well. Insurtechs have innovative ideas and bring renewed approaches into the market, in particular at the customer interface. Insurtechs can have a supporting effect to modify the classical structures but not to replace them. Because the majority of Insurtechs do not have licenses and therefore are not allowed to sell own insurance products, it is recommendable to currently cooperate with insurers. Further, the branch external partnering with technology firms could lead to new concepts for the market. Insurtechs should focus on the new technologies around AI as the big insurers often have deficits here. Within this thesis a modern concept of a value-added chain has been developed, which illustrates the starting points for Insurtechs at the edges of the traditional value chain but also identified supportive effects at the traditional areas. Nevertheless, it remains to be noted that at the current status quo Insurtechs do not have a disruptive effect.

³⁰² Cf. Fadhil/Gabrilli (2017), p. 3.

³⁰³ Cf. Puschmann (2017), pp. 69-70; Schreiber (2017), p. 366; Gao, et al. (2016), p. 794.

³⁰⁴ Cf. Wilson (2017), pp. 124; Hofstede, et al. (1999), p. 2.

The developments around Insurtechs and Chatbots has grown since 2016 and the combination of both approaches is also conceivable and may be successful in the future if the user acceptance increases. The systematic literature review has shown that scientific research has only taken place in the field of Chatbots but Insurtechs and both field combined indicate a research gap. Here, further research should be implemented, especially against the background that the evolution of technology will rise and customer acceptance often needs some time till spreading. In all respects, however, it will take a few years until the movements can really take place and only then long-term forecasts can be drawn. In conclusion, the following statement can be made for this thesis: The German insurance industry will continue to evolve step by step in an evolutionary manner and will keep up with the time. In this process each group will contribute their appropriate proportion to the development- also Chatbots and Insurtechs.