

Cooperation in the Digital Era: A Taxonomy of FinTech Start-ups in the Insurance Sector

Masterarbeit

zur Erlangung des akademischen Grades „Master of Science (M.Sc.)“ im Studiengang
Wirtschaftswissenschaft der Wirtschaftswissenschaftlichen Fakultät
der Leibniz Universität Hannover

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Hannover, den 04.03.2019

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1 Introduction

The digital era of today is characterized by innovation and technological advancements. Mobile technologies and applications enable companies to offer their products and services digitally (OECD, 2017). In combination with smartphones and access to the internet, such applications and technologies allow for multiple potential uses, such as the transferal of money between accounts and the online purchasing of goods through applications. Consumers in the digital era require products and services that suit their evolving demands. Thus, the majority of the current population is becoming increasingly reliant on digital technologies and applications and the opportunities they represent. Digital technologies facilitate innovation across numerous industries and it is becoming increasingly evident that companies need to adapt to this transformation or be left behind. By fostering innovation, companies can gain or maintain a competitive edge and cater to the expectations and demands of tech-savvy consumers.

The prevalence of digital innovation is particularly apparent in the highly digitalized financial industry (Alt et al., 2018). In recent years, start-ups in the financial industry have taken advantage of technological developments in order to provide novel products and services. These firms, known as FinTechs, are characterized by modernity and innovation. Such start-ups are the source of innovation in the industry, and challenge traditional business models, products and services. This has caused incumbent companies to reconsider their traditional methods and to consider the ways in which they themselves can meet changing consumer demands.

As part of the financial industry, the insurance sector has undergone similar developments (Gomber et al., 2018). InsurTech, the insurance-specific branch of FinTech, is the source of innovation in the insurance sector and has risen in prevalence relatively recently, meaning it is less established and less researched than FinTech in general (Puschmann, 2017). InsurTechs' innovation stimulates customer satisfaction and challenges traditional business models prevalent in the insurance sector, prompting incumbent insurance companies to reevaluate their approaches (Stoekli et al., 2018). As InsurTechs are the source of innovation in the sector, cooperation with them is unavoidable for incumbents who alone are not capable of meeting the demands of consumers in the digital era.

Cooperation between firms across a number of industries has proven to be valuable for all participants involved (Teece, 1986; Hitt et al., 2000). The insurance sector is of no exception to this. Through cooperation with InsurTechs, traditional insurers may provide innovative products and services that satisfy the needs of consumers (Hagedoorn, 1993). This allows them to profit from new technologies and their applications as well as expansion into new markets. Meanwhile, cooperation allows InsurTechs to profit from the reputation and financial resources offered by incumbent insurers. Cooperation therefore has positive implications for InsurTechs and incumbent insurers alike.

The concept of InsurTech, and its related technological applications in the insurance sector, are still fairly novel. The possibilities for innovation have only just begun to be explored in the insurance industry. Therefore, cooperation as an enabler of innovation is only just beginning to gain traction. Thus, InsurTech, encompassing the application of technological developments in the insurance industry, has not yet been researched to the same extent as other, more established applications of FinTech (Puschmann, 2017). In particular, cooperation between InsurTechs and incumbent insurers has not yet experienced any significant attention from researchers. The aim of this thesis is to fill this research gap. In doing so, this thesis addresses the following research question:

What are the theoretically grounded and empirically validated design parameters of InsurTech – insurer cooperation in the digital era?

Thus, the purpose of this thesis is to demonstrate the elements of cooperation between FinTech start-ups in the insurance sector and incumbent insurance companies. By demonstrating these elements, this thesis aims to contribute to the understanding of innovation in the insurance industry and how it is enabled by cooperation. This will have theoretical and practical implications. For researchers, this thesis will provide a foundation for future analyses of innovation in the insurance sector. For practitioners, it will serve as a basis for self-evaluation and allow for an overview of the current insurance landscape.

In order to address the research question, this thesis develops a taxonomy of cooperation between traditional insurance companies and InsurTech start-ups by applying Nickerson et al.'s (2013) proposed taxonomy development process. Objects for the taxonomy were obtained from three separate databases that served as the exclusive sources of data. By adopting Nickerson et al.'s (2013) taxonomy development process to organize the objects obtained from the databases, it was possible to display empirically and conceptually derived characteristics of cooperation between participants. The resulting taxonomy provides an organized representation of design parameters of InsurTech-insurer cooperation.

This thesis begins by presenting an extensive review of literature and the current state of research in section 2. This review includes an in-depth overview of classification systems and taxonomies as well as a historical review of incumbent insurers' development which has resulted in today's value chain. A conceptualization of FinTech and its ecosystem is then presented, based on which the insurance-specific branch of FinTech, InsurTech, is derived. This allows for an overview of intermediation effects of InsurTech and the digital transformation of the insurance sector as a whole. After the benefits of cross-organizational cooperation have been evaluated, the research gap and the corresponding research question are derived based on previous sub-sections. Section 3 defines the methodological approach to taxonomy development used in this thesis, how it will be applied and the dataset that will be utilized. Section 4 is concerned with the taxonomy development process that leads to the final taxonomy

presented in section 5. The theoretical and practical implications of the developed taxonomy of cooperation between traditional insurance companies and InsurTech start-ups are discussed in section 6. Additionally, section 7 provides information about the limitations of this thesis. Finally, along with recommendations for future research, conclusions are drawn in section 8.

8 Conclusion and Outlook

This thesis has examined *theoretically grounded and empirically validated design parameters of InsurTech – insurer cooperation in the digital era*. The motivation for addressing this research question stems from a general shift toward a more tech-savvy population and the associated transformations of the insurance industry based on developments triggered by digital advancements. To answer the research question, a taxonomy considering the empirical-to-conceptual and the conceptual-to-empirical approaches was developed. The resulting taxonomy has implications for researchers and practitioners alike. It provides a basis for future research and may aid practitioners in developing an understanding of the implications of cooperation.

In this thesis, the components of FinTech as a concept – and the understanding of InsurTech derived from it – were outlined. Defining InsurTech as a narrower sub-category of FinTech, and thus considering it as the area of FinTech that exclusively comprises innovations that are specific to the insurance industry, ultimately contributes to an understanding of the field. A thorough explanation was provided of the ways in which digital transformation influences the insurance sector. The novel technologies that may have a considerable impact, not only on the transformation of the sector as a whole but also on the cooperation between InsurTechs and incumbent insurers, were also discussed.

Developing taxonomies in emerging fields, in which the volume of research available is still fairly limited, is of exceptional importance. For this purpose, the main features of classification systems generally and taxonomies specifically, were examined. The presented classification in the form of a taxonomy allows for the effective representation and distribution of knowledge on the subject of cooperation between InsurTech start-ups and incumbent insurers. By representing knowledge in a structured manner, this thesis took an important step toward providing a starting point for future research in the fields of FinTech and insurance.

The assessment of novel technologies' impact on the status quo of the insurance sector allows for an in-depth understanding of the development of the industry and its future directions. Furthermore, providing this knowledge contributes to an understanding of cooperation between InsurTech start-ups and incumbent insurers. Some notable results of the taxonomy development process may demonstrate the features of current developments in the insurance sector and the cooperation between InsurTech and incumbent insurers.

The majority of cooperation between insurers and InsurTechs appears to be of incubational nature, while the InsurTech's maturity is commonly that of a start-up. The service offerings of InsurTechs are almost equally distributed between B2C and B2B offerings, mostly applying big data analytics and providing insurance software as the dominant technological component. InsurTechs also frequently act as digital brokers or insurers and offer on-demand insurance while they rarely apply blockchain technology, which emphasizes the infancy of this

technology in the insurance industry. By applying novel technologies, InsurTechs most commonly transform traditional infrastructure operations such as claims handling, risk assessment and underwriting. Access to innovative insurance products and processes based on novel technologies is largely restricted by the InsurTech start-ups, while the majority of innovations are product innovations.

The presented taxonomy also has implications for practitioners. It allows insurance companies already cooperating with InsurTechs to examine their cooperation and their adoption of novel technologies. It also allows insurance companies who are not currently cooperating with InsurTech start-ups to gain an understanding of potential innovation facilitated by cooperation. The taxonomy may also allow insurance regulators, who are concerned about the implications of novel technologies for consumers, to gain an insight into current focuses and future directions in the insurance industry.

Suggestions for future research which would address the identified limitations have been provided. Further research in this area may consider a larger sample and thus increase empirical validation of the design parameters of cooperation. A statistical technique for identifying typical patterns of cooperation elements between insurers and InsurTechs could be used to reflect on assumptions made throughout the development process and validate the suggested design parameters of cooperation. Alternatively or additionally, by conducting expert interviews regarding such cases of cooperation, and utilizing such interviews as data sources, one could gain further insights. Therefore, this taxonomy constitutes a foundation for future research into innovation in the insurance sector.