

## Digital Transformation of Insurance Sector

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### Abstract

*Nowadays the digital revolution is one of the most important determinants of economic development. The penetration of Internet and the dynamically changing business environment confronts the conservative insurance sector with the opportunities and challenges, arising from the need to adapt to the digital economy. The global pandemic COVID-19 has had its impact and accelerated the digitalization process in the lagging insurance sector. The subject of this study are the problems, related to the determination of the nature and features of the digital transformation in the insurance sector. The purpose of this report is to examine the need of digital transformation in the insurance sector and the change in business models, due to the implementation and expansion of information technology. Through a theoretical summary will be revealed the impact of digitalization on the activities of insurance companies, on customers' behavior and will be drawn conclusions about the application of technologies for increasing the competitive power.*

*Keywords: digital transformation, digital insurance, digital insurance leaders, SOG-e model, value chain*

*JEL Code: G22, O33*

### Introduction

The digitalization sets new dimensions and ways of doing business not only in its digital realities, but also with regard of a new approach of performing traditional and well-known processes and functions. The insurance sector is an important element of the modern market infrastructure, an accompanying component of the economic and social sphere. The biggest risk, facing the insurance sector at the moment, is the ability of business to meet the structural and technological changes, associated with digitalization, which is a mandatory necessity and a determinant of achieving competitive advantages of insurance companies. The actuality of the topic is also determined by the increased significance of remote insurance modes in the context of the global COVID-19 pandemic.

The main purpose of the research is to be determined the need and the extent of use of technological innovations in the sector and the change in the relationship with consumers and for its achievement, it is necessary to be performed the following tasks:

- Analysis of the impact of the digital transformation on business processes in insurance and the competitive power.
- To be drawn conclusions about the need and the opportunities for implementation of digital innovations in the insurance sector.

### 1. Essence, stages, a model and necessity from digital transformation in insurance

The digital transformation can be defined as a cultural, organizational and operational change in the insurance organization through intelligent integration of digital technologies, processes and competences step-by-step in all functions and on each level through a strategic approach. According to Capgemini Consulting, the digital transformation is the implementation of technologies in order to achieve radical improvements in performance, productivity and market share of organizations. It's concerned with a change in customer relationships, internal processes and the value of proposals as a consequence of the use of digital technologies in the form of mobile devices, data analysis tools, social networks and smart devices in combination with the improvement of traditional technologies such as ERP (Capgemini, 2011). This makes the digital transformation a stage by stage process, related to a preliminary analysis of the needs of the specific insurance company and their integration through digital technologies in the processes and activities

of the company.

According to Novarica study, the biggest challenges stem from not knowing where to start the "journey" of digital transformation, how to minimize the "destruction" of business, how to speed up assessment time and how to ensure stability, sustainability and flexibility during this process. According to C. McFarlane, the digital transformation in insurance has evolved through three phases: digital enablement, digital optimization and digital transformation (McFarlane, 2019).

The awareness of necessity for change by insurance companies is a preceding "engine" to the first stage of digital activation. It is caused by the lack of connectivity and complex vision on business processes and customer information. The Information Technology Gartner Glossary gives the following definition of digital optimization: "the process of using digital technology to enhance existing operational processes or business models" (Gartner, 2021). At this stage, insurers often apply the same business processes, but they use specific technology to optimize procedures and use knowledge for end-users. Accelerating the process through a digital optimization model and directing the right information to the right handler through digital workflows at the right time, reduces decision-making time, while at the same time the customer satisfaction is increased. According to McKinsey report Digital Disruption in Insurance, "by digitizing existing business, a large incumbent could increase more than double profits over the course of five years." (Catlin & Lorenz, 2017). Achieving digital transformation is an ongoing process that is never fully finalized, but it proceeds systematically and evolutionarily. In the third stage, insurers create revenue streams, that are not possible in the earlier stages of the digital transformation. The digital information and data become accessible anywhere, anytime.

The insurance industry has undergone a dramatic transformation related to a number of factors, including increased consumer expectations, unprecedented competitive pressure, the necessity of automation and optimization of processes and the increased amount of paid claims. Every insurer must accept the four key strategic imperatives: increasing customer engagement, expanding the insurance offer, ensuring process simplification, automation and ecosystem partnership.

The possible most important innovations, accompanying and forming the digital transformation are: big data analysis, artificial intelligence, Internet of Things (IoT), cloud computing, block chain technology, etc. In Table 1 are explained Eckert & Osterrieder' achieved generalizations, concerned to basic technologies, used by insurers, and the benefits and opportunities for each technology and its specific application in insurance (Eckert & Osterrieder, 2021).

Table 1. Benefits and opportunities of application of the basic information technologies in insurance

<b>Technology</b>	<b>Benefits and opportunities</b>	<b>Application in insurance</b>
<b>Big data</b>	comprehensive registration and real-time updating of all information flows	insurance ratings, ratings, pricing, customer data, personalized offers, cross-selling, etc.
<b>Artificial intelligence</b>	increasing the efficiency, the quality of the customer experience, optimizing the costs, speeding up the service process and eliminating damages	customer segmentation and management, risk assessment, fraud detection, cross-selling, service transparency, chatbots, digital assistants, robo-consultations
<b>Internet of Things</b>	information accumulation, customer behavior research, real-time information in claims processing, risk assessment, customer guidance, prevention and loss reduction	risk assessment and management, digital monitoring, new products implementation, usage-based insurance, holistic insurance platforms, automated assistance services, cross-selling, fraud prevention
<b>Cloud computing</b>	process efficiency and flexibility, cost savings for configuration, development, hardware, licensing, installation and	improvement of communication processes, self-service functions, customer-oriented cloud-based products, partnership models to

	maintenance of a legacy system; data availability anywhere and anytime	promote cooperation with brokers, cross-selling
<b>Blockchain</b>	"Trust", sustainability and security; effective organization of information flows, generalized, comprehensive customer information database	Smart contracts, risk assessment and refinement of the insurance rate, detection of insurance fraud, insurance "on demand", parametric insurance, Peer-to-peer insurance

## 2. Research and effects of digital transformation

Innovative insurance leaders use the arisen opportunity, accelerate their development through large-scale introduction of new technologies and leave the traditional insurers behind (see fig.1).

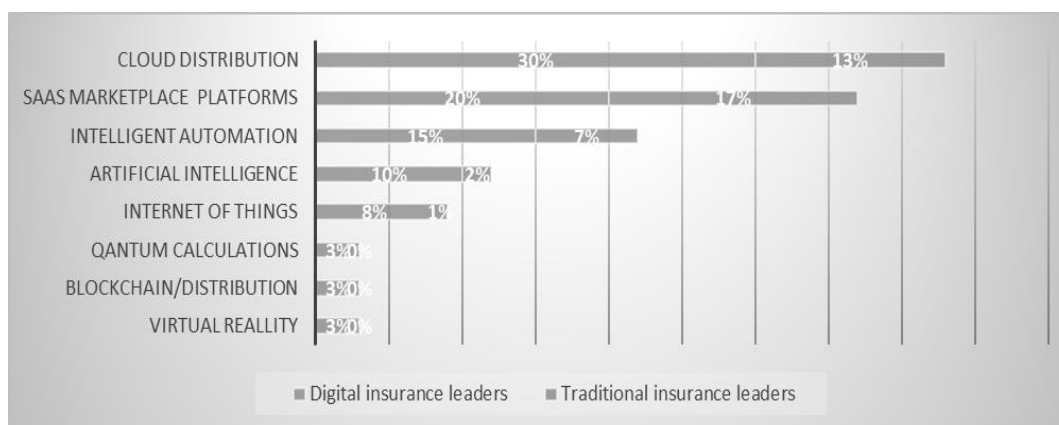


Figure 1. Large-scale deployment of emerging technologies: digital insurance leaders versus traditional insurance leaders

Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International.

The result of the right decisions is the opportunity to conquer new markets. The use of digital technologies is a significant digital leaders' competitive advantage over traditional insurers (as a result, according to a KPMG study, 50% of digital leaders achieve very good or exceptional efficiency, while the percentage of much effective and highly effective traditional insurers is 12%), using digital offerings much more effectively to improve customer's experience and collect valuable data (see Figure 2).



Figure 2. Aspects of insurance leaders' activity improvement compared to traditional companies

Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International.

To analyze the implementation of ICT in insurance companies can be used a phase e-business development model (Stages of Growth for E-Business-SOG e-Model) (see fig.3). This model indicates the traditional forms of IT implementation in the organization, as well as the activities of internet-based organizations and high-tech organizations.

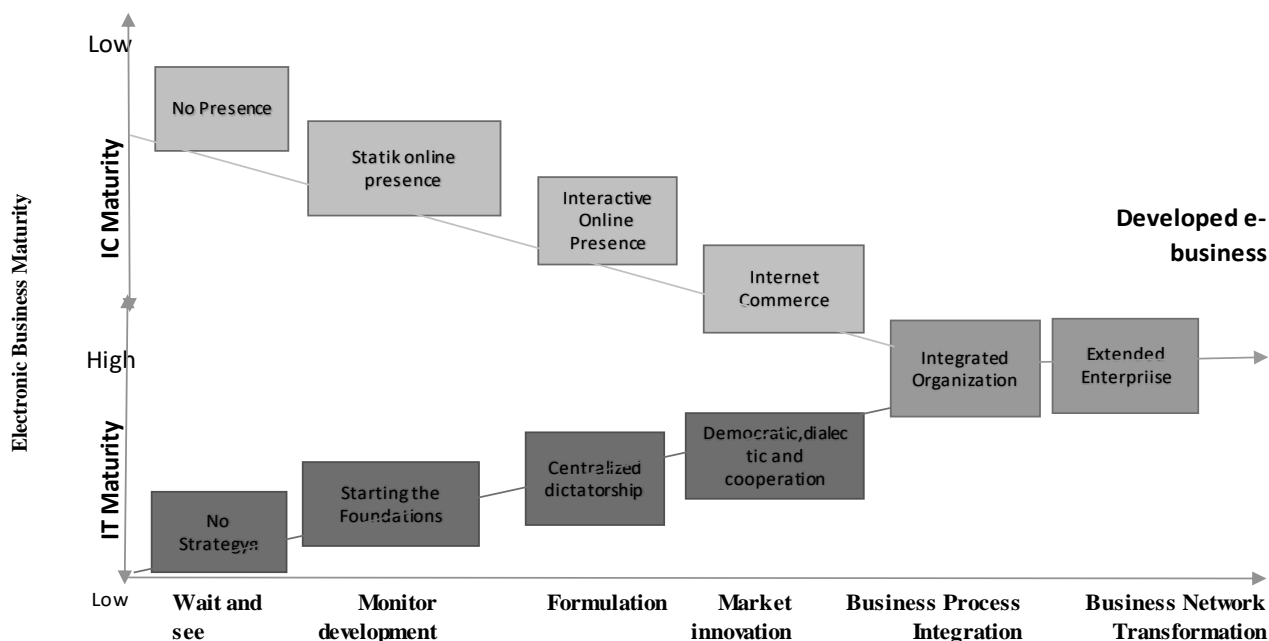


Figure 3. SOG-e model for e-business development

Source: McKay, et al., 2020.

The SOG-e model includes six levels of e-business development (McKay, et al., 2020): no online presence, static online presence, interactive online presence, e-commerce, internal integration, external integration and the assessment at each level is determined by four indicators (Prananto, et al., 2003): strategy, system, human resources and skills and impact on business processes. Initially, the orientation on e-business initiatives of the "no online presence" insurance organization is not clear. There is no strategy and plan for development and implementation of Internet technologies. The systems are with limited applications, uncoordinated and unconnected, and traditional business processes remain unaffected by innovation. Insurance companies are waiting to see what the results of ICT implementation by their competitors or partners would be. Moving on to the "static online presence" stage, insurance companies establish an initial Internet presence, limited to a static informative role - providing product information through a company website. In this essential phase of development, companies are learning to invest in basic business systems and technologies that are necessary for an Internet presence. If they continue to invest in ITC, insurers will evolve to a stage of interactive online presence and from a one-way communication model, insurance companies will move to a two-way model of communication and interaction with customers via Internet. The fourth stage marks a fundamental change, as insurers now have the ability to make all transactions via Internet. Internet commerce has an effect on organizational structures and processes, the changes are urgently needed and new transactions are emerging in the insurance business, leading to a fifth stage of "internal integration". The integration between traditional and electronic business processes and activities creates a seamless communication and process flow in the insurance organization. E-business initiatives aim to deliver

strategic benefits by building strategic systems. In the final stage of "external integration", IT plays a key role in entire business networks. Beneficial essential relationships are created between all participants: buyers, service providers (insurers) and business partners. IT creates exceptional competitive advantages at this stage of development.

### 3. The impact of digitalization on the insurance value chain

The main stages of the value chain of the insurance company include development of insurance products, marketing, sales and distribution, pricing and underwriting processes, insurance and claims administration and risk management. The digitalization affects the entire value chain- it becomes more integrated (Figure 4).

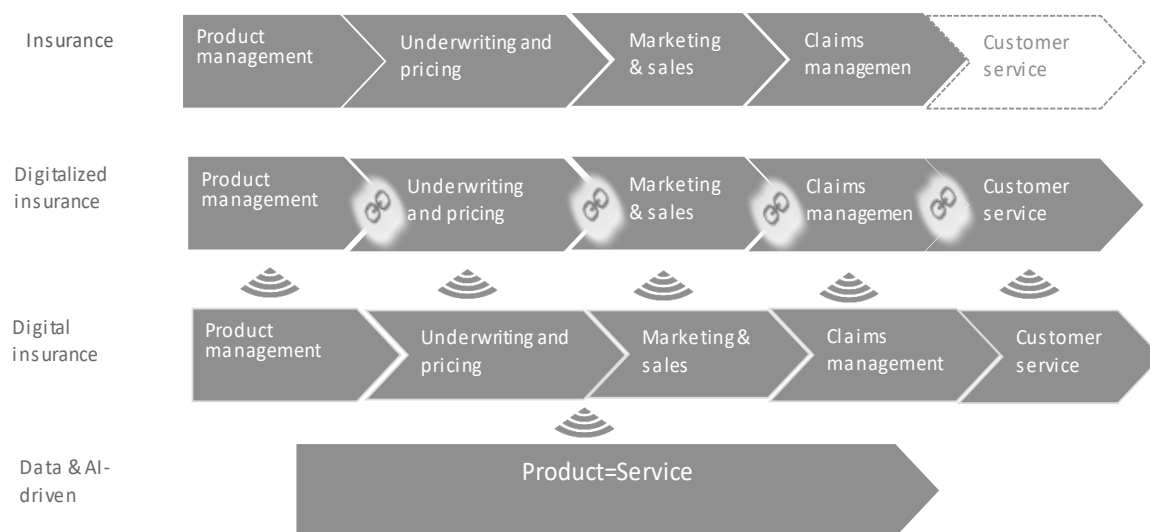


Figure 4. Insurance value chain transformation

Source: Swiss Re, 2020

The first wave of digitization makes the insurance value chain more efficient. Although insurers manage to collect a large amount of information, many of the individual databases remain unconnected and insurers cannot exploit the potential of fragmented information. When connecting critical processes, insurers will switch from ordinary "digitalized insurance providers" to "digital insurers". As a result of improving data quality and algorithms, the next generation of insurers are "artificial intelligence" insurers who teach themselves from user-generated data. The term "digital insurance" can be defined in the light of the perceived insurers' prism "business adhesion" of technological innovations, as "modern organizational and product innovation that can achieve the set goals" (Rafailov, et al., 2020). Digital insurance requires a new model in communication with customers and can be interpreted as a category that "covers all innovations in products, processes, organization and business models that are perceived by policyholders as more attractive, convenient and indispensable" (Rafailov, et al., 2020). Customer's demand is turning into one of the engines of digitalization. In digital economy, consumers are the ones who set and dictate the conditions. Consumer's power is increasing. Marketing is converted and the phenomenon of "reverse marketing" appears, democratizing and starting not from the company down, but from consumers up (Anastasova, 2013) (see Fig. 5).

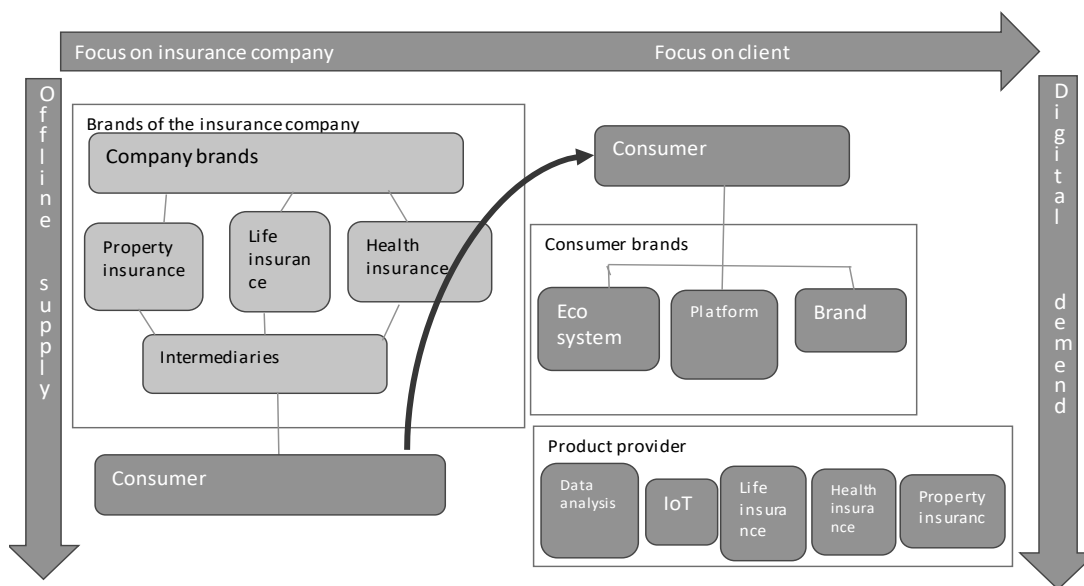


Figure 5. Shifting the focus from the insurance company to the customer

Source: Vanderlinden, et al., 2018.

The transfer of power from insurers (manufacturers) to buyers changes the process of product development. Complex products are replaced by "simple" insurance solutions, as consumers now have the opportunity to configure their own package insurance coverage, choosing from a set of options (coverages), summarized and calculated in one final offer to be offered to the customer. Easy-to-use websites and applications provide seamless digital interaction, fast and personalized customer service, which increases their satisfaction and loyalty. Opportunities for online research and feedback from social networks inspire consumers to make quick decisions about taking out an insurance policy without the brokers and agents' involvement or through a direct channel. Consumers of insurance services prefer to be able to independently research and compare products through different information channels. More and more consumers are choosing to purchase insurance directly without intermediation through mobile applications (see Fig. 6).

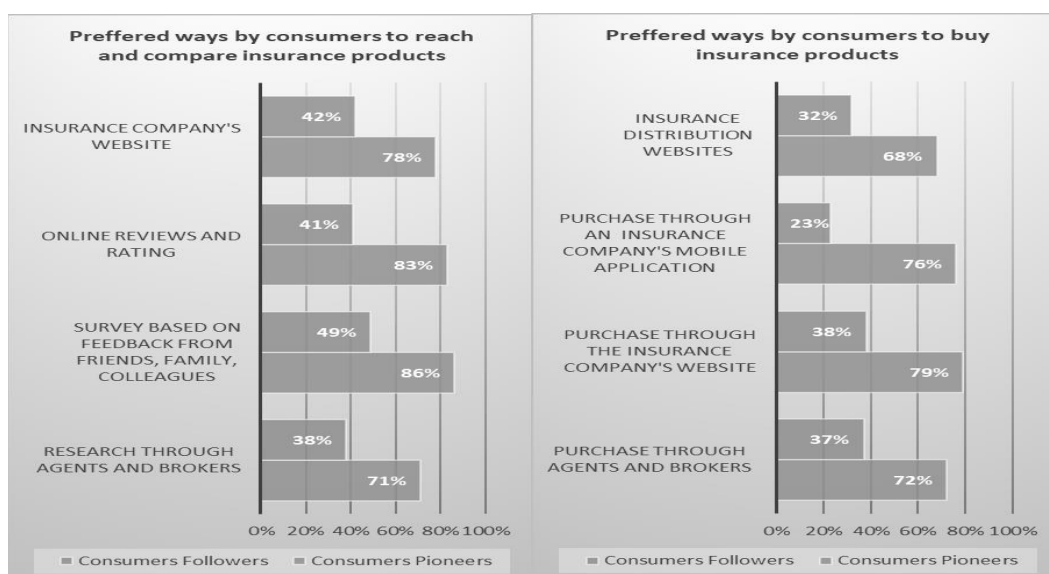


Figure 6. Consumer preferences for research, comparison and purchase of insurance products

Source: Capgemini World Insurance Report 2020.

Buying an insurance policy is both an emotional and a financial decision. Consumers expect to communicate quickly, expertly and they want to find emotional sympathy and reassurance in the face of their insurer. That is why it is so important for insurers to “humanize” the digital customer experience (Bose, 2020). Here belongs the emotional artificial intelligence, which can recognize and react to human feelings. Cognitive automation contributes to provide personalized and sensitive communication by offering real-time adequate response to the customer's situation, behavior and preferences. The integration of empathy, combined with a customer-oriented approach to a more humane experience, builds a strong relationship between the insurer and the customer and turns into a source of competitive advantage.

Among the main areas that insurers have focused on in response to the changing business environment under the influence of COVID-19 are the ability to respond in real time, offer crisis-resistant processes, offer maximum convenience when purchasing insurance products and offer a complete digital experience. Insurance products should be developed from the customer's point of view, grouped, fragmented and specialized, offering all-in-one solutions, meeting the conditions of the optimal commercial offer, providing access to prevention and assistance services by offering the right product to the right customer at the right time.

### **Conclusion**

The introduction of information technology in the insurance sector creates competitive advantages by relying on partnerships with high-tech companies and offering a qualitatively different and "transparent" insurance service, while modifying existing products. Digitalization is changing the relationship between insurers and consumers, where the guiding principles are transparency and trust, and the interaction between them is carried out through digital sales and distribution channels. The successful implementation of innovative technologies enables insurers to increase profits by optimizing costs and increasing sales, due to the adequate response to customer needs and expectations, based on big data analysis, increased added value for consumers and more. Every insurance company, based on a precise analysis of personal needs, must focus on choosing a future digital strategy, which is an important condition for transforming into a sustainable and profitable organization. This is not only need to follow technological innovations, but also to achieve the desire to become an innovative leader, who dictates the changes in the present.

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