

## **Innovations in the Insurance Business – Implementation and Economic Effects**

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### **Abstract**

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*The article emphasizes the importance of innovation for the sustainable development of insurance companies. The prerequisites and effects of implementing innovations in the insurance business are analyzed. The process of implementing innovations and choosing an innovation strategy in insurance activities is presented.*

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**Keywords:** innovation insurance, insurance business, InsurTechs companies, digitalization in insurance, artificial intelligence, insurance products and services

### **Introduction**

Climate change, financial market concentration processes and economic uncertainty today present insurers with a number of challenges. Growing threats from cyber risks, rapid technological progress, increased consumer demands are key factors that determine the need for innovation in the insurance business. To stimulate innovation, the insurance industry is increasingly investing in advanced technologies such as Artificial Intelligence (AI), cloud technologies and big data analysis. Studies show that in 2024, over 70% of insurance companies are currently using, planning to use or planning to explore the application of artificial intelligence in insurance activities.<sup>1</sup>

According to experts, AI is “the main attraction for the insurance industry, but it will not be the only technology or the only strategic focus for the sector.” Analysts are adamant that the development of generative AI will define the socio-economic context, and insurers will use this opportunity to drive projects aimed at increasing operational efficiency and strengthening customer relationships. Cybersecurity and emerging insurance modalities (such as embedded and parametric) will continue to be key areas of focus for the sector.<sup>2</sup>

The article outlines the need to use new information and communication technologies in insurance and justifies the process of implementing innovations in insurance activities. The author's aim is to highlight the role of technological innovations in improving insurance business processes. The goal is to highlight the effects of electronic innovations on both elements of the insurance market – demand and supply.

#### **1. Process of introducing innovations in the insurance business**

*On the one hand*, digitalisation in the insurance sector determines the future of consumer service. Automation of processes in the insurance industry facilitates the placement of insurance contracts. New information and communication technologies allow consumers not only to quickly and easily compare insurance products online, but also to conclude insurance through their mobile phone or computer within minutes. Experts expect that in the coming years, buying insurance will be done “with a few clicks on the phone” of the client.

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<sup>1</sup> State of innovation in the insurance industry Australia & New Zealand (ANZ) N O V E M B E R 2 0 2 4.

<sup>2</sup> Angela Puga Garcia. Innovation Trends in the Insurance Sector for 2024,  
<https://www.mapfre.com/en/insights/innovation/innovation-trends-insurance-sector/>.

On the other hand, the implementation of new technologies for digital transformation determines the efficiency of business processes in insurance companies. Telematics and data analysis make it possible to accelerate and simplify insurance operations and servicing of insured persons. Offering automated and personalized digital services in the insurance sector is a serious competitive advantage for insurers. There are currently three types of insurance companies operating in the international insurance market: traditional insurers that have not yet started digital transformation, traditional insurers that are in the process of changing and InsurTechs companies (new technology or software companies in the insurance sector that automate business processes).

The implementation of innovations in insurance is determined by the influence of a number of factors of the internal and external environment in which insurance companies operate. The introduction of innovations in insurance activities depends on the types, types and directions of innovation activity. Management decisions in the sector are determined by the degree of development of innovations, as well as by the factors hindering their introduction into insurance practice. The transformation of the insurance industry depends not only on the type of innovations, but also on the time for implementing innovations.

The socio-economic conditions and the state of the insurance markets determine the opportunities for implementing innovations in the broad and narrow sense of the word in insurance. The competitive environment, the globalization of the insurance market and the establishment of an effective regulatory framework for innovations in insurance are “a challenge to match the pursuit of profitability as an inherent business trait with the need to address issues that are of public importance at the national and international level. This means that they must successfully introduce managerial, technological and product innovations and at the same time CSR policies support sustainable social, economic and environmental development”.<sup>3</sup>

Figure 1 presents the process of implementing innovations in insurance activities, which includes several main stages.

**The prerequisites** for implementing innovation strategies in the insurance business can be sought in the following directions:

- Through investments in staff training to increase technical literacy and skills in applying new technologies, insurers have the opportunity to assist insurance specialists, experts and agents in the use of new technologies and to increase the efficiency of insurance operations and types of work.
- According to traditional insurers, in the new conditions, innovations are necessary for: adapting to rapidly changing customer preferences, optimizing their internal operations and conquering new markets.

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<sup>3</sup> Zahariev, A., Ivanova, P., Zaharieva, G., Slaveva, K., Mihaylova, M., & Todorova, T. (2 August 2023). Interplay between CSR and the Digitalisation of Bulgarian Financial Enterprises: HRM Approach and Pandemic Evidence. *Journal of Risk and Financial Management*, pp. 1-18, doi:<https://doi.org/10.3390/jrfm16090385>.

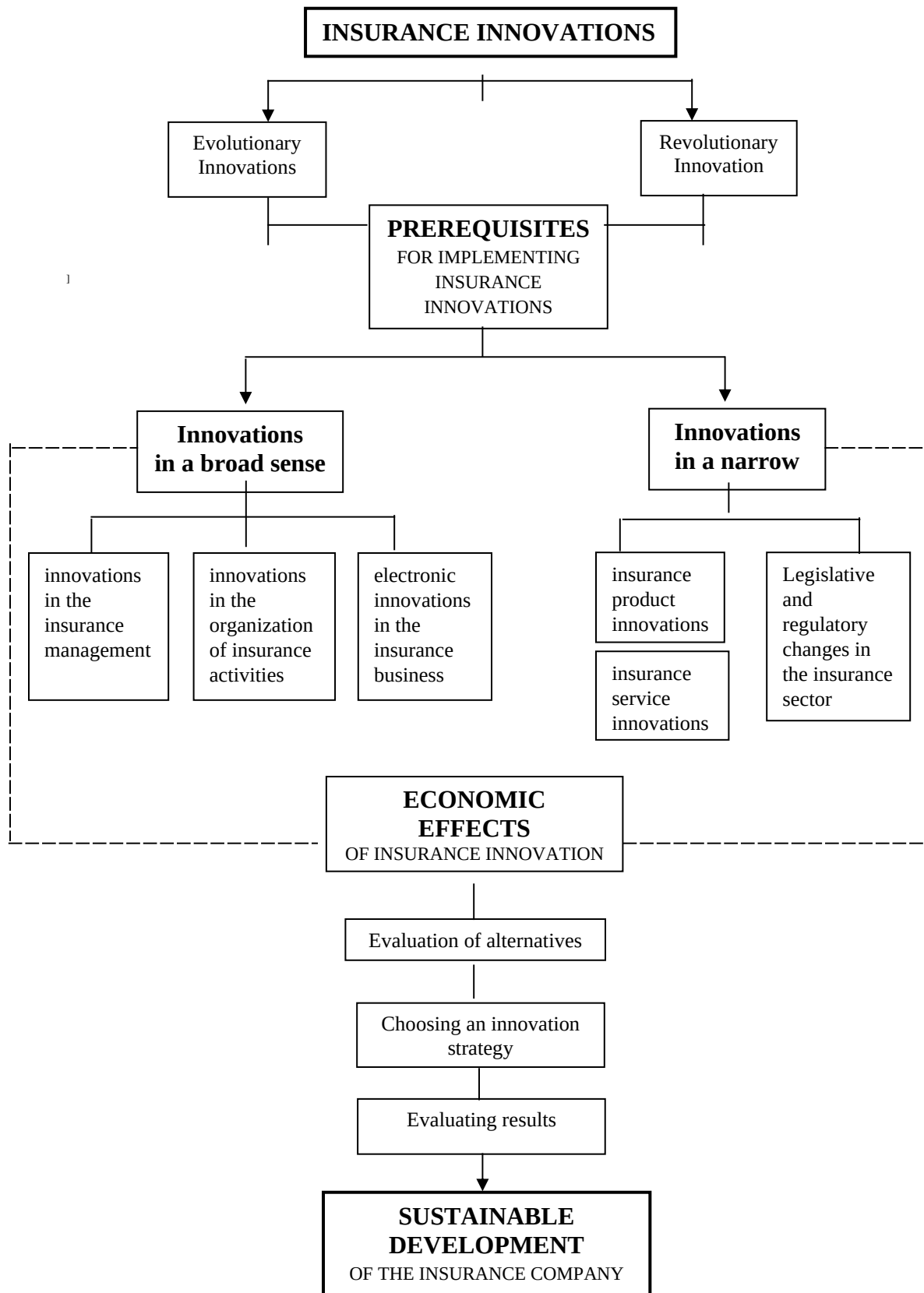


Fig. 1. Process of implementing innovations in insurance activities.

- For InsurTechs companies, improving operational efficiency, such as streamlining claims processing, is not a top priority, compared to the strategic focus on market positioning and innovation, which are the basis of their value proposition and a top priority for maintaining competitiveness.

- The Covid-19 pandemic, which has caused many health problems, is forcing insurance companies to adapt very quickly to the situation. Part of the strategies of health insurers, for example, is to promote healthy habits of the population, create new insurance products, use personalized notifications and advertisements on social media. In other words, insurers are forced to rethink their product strategies to attract new insureds and retain existing ones. Accelerating innovation in the narrow sense requires insurers to adopt a new approach oriented towards improving customer relationships.

- Overcoming resistance to change and adopting innovative technologies is a key prerequisite for the functioning of traditional and InsurTech companies, which are increasingly oriented towards building stable partnerships and cooperation to attract insured persons and increase consumer satisfaction. Cooperation with partners from other fields of activity, such as software companies, internet providers, social network owners, web providers, telecommunications companies and others, is an opportunity to increase the competitiveness of insurers.<sup>4</sup>

- The desire of insurers to *standardize services* and automate business processes determines the use of digital platforms and mobile applications. The capabilities of online platforms for comparing insurance products are expressed in facilitating customers in choosing the best insurance offer. The use of mobile applications in insurance activities facilitates the signing of insurance policies, filing claims and managing insurance in real time.

- The orientation of insurers towards *individualizing insurance protection* determines the approach to personalizing services, or the application of innovative approaches to Big Data analysis to offer individual insurance solutions according to consumer evaluation criteria.

## 2. Economic effects of implementing insurance innovations

The issue of innovations in insurance is at the forefront of insurance practice today. Insurance companies have a complex of tools and opportunities for using modern communication and information technologies, expert systems, etc. to identify, assess and manage risk. When it comes to implementing innovations in insurance activities, the topic acquires a broad character. However, the priority is the issue of **the effect of innovations** for *both parties in the insurance relationship* and in obtaining added value.

*First of all*, the choice of an adequate innovation strategy in the narrow sense in insurance has an impact on the effectiveness of the insurance company's risk management. The correct selection and assessment of new risks based on new technologies reflects on the solvency of the insurance company and leads to a reduction in the insurer's risk. Such risks can be: space risks, the risk of terrorism and sabotage, environmental risks, the risk of “piracy” in marine insurance<sup>5</sup> and others.

*Secondly*, with the help of an *effective reinsurance program*, it is possible to achieve a reduction in insurance-technical risk, despite the inclusion in the insurer's liability of insufficiently identified risks, for example, risks related to cyberterrorism, information risks, risks related to works of art and cultural and historical values, etc.

The construction of *precise actuarial calculations* regarding new insurance products is *the third aspect* related to the implementation of “solid expertise” in several areas – mathematics, statistics, demography, accounting, finance, investments, informatics, law, etc. In recent years, attention has been paid to “risk models in financial organizations and insurance companies” in order to achieve greater transparency and reliability in risk assessment, forecasting and management.<sup>6</sup>

*Next*, the transformation of the insurance business based on digitalization improves the quality of insurance services and predetermines *the benefits for insured persons*.

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<sup>4</sup> Рафаилов, Д. и др. Финансовата инфраструктура – състояние, проблеми, иновационен потенциал. Варна: „Наука и икономика“, ИУ-Варна, 2020, p. 207.

<sup>5</sup> Misheva, Ir. Le risque “piraterie” dans de champs de l'assurance maritime – problèmes et perspectives. ANNUAIRE de droit maritime et océanique, TOME XXXVI – 2018, Université de Nantes, France, ISSN: 1259-4962, p. 497-519.

<sup>6</sup> Чолаков, Н. Актюерски разчети в застраховането. София, Университетско издателство „Стопанство“, 2008, ISBN 978-954-644-002, p. 10 – 11.

Digital services allow users to take out insurance quickly and easily online, instead of visiting offices, which saves time and effort, respectively, online portals and sites offer extensive information on different types of insurance, which helps users make informed decisions.<sup>7</sup>

Digital platforms provide consumers with quick and easy access to information about insurance products and facilitate the decision-making process for choosing insurance among various alternative options;

Digitalisation promotes transparency regarding the financial sustainability and solvency of insurers and enhances their economic and public image, respectively. leads to increased trust and loyalty of consumers. Innovations in insurance products determine the development of the so-called microinsurance, which enables affordable and flexible insurance solutions for people with lower incomes or specific insurance needs.

The digitalisation of insurance services is also related to the preventive activities of insurers. For example, Honey Insurance<sup>8</sup> offers integrated smart technology, providing customers with advanced home sensors to prevent incidents such as fire, flood and theft. These smart sensors, included as part of insurance contracts, are synchronized with a smartphone application to monitor the home environment in real time, which improves the risk situation in the insured's home.<sup>9</sup>

*The next direction* is related to the effects of using innovative technologies for insurance companies. The choice of an appropriate innovation strategy in a broad sense in the insurance company leads to achieving the main strategic goal – increasing the market value of the insurance company. In the era of the digital world, effective insurance management in the future will increasingly be determined by the use of new methods for assessing and predicting risks, for assessing damages,<sup>10</sup> as well as by the application of financial mathematics, Financial Engineering and mathematical modelling.

AI can positively impact all areas of the insurance value chain, especially underwriting and risk profiling. AI's impact on these value chains can lead to more accurate risk assessments and pricing models.<sup>11</sup> The use of AI, blockchain and IoT by InsurTech companies is fundamentally changing traditional insurance processes. The changes concern insurance policy underwriting, risk assessment and customer service. Forecast data indicates that the InsurTech market will “explode in the coming years, reaching a staggering growth rate of 52.7 percent by 2030”.<sup>12</sup>

Technological innovations in insurance are reflected in so-called *telematic insurance*, based on data from devices such as GPS and sensors in cars that measure driver behavior (e.g. “Pay-as-you-drive” insurance). The use of AI for processing claims of insured persons and third-party claims leads to a reduction in the insurer's liquidation costs and to a reduction in insurance premiums in automobile insurance. The used “*Internet of Things*” (*IoT*) *technology* is at the heart of digital insurance of movable and immovable property. For risk assessment and for preparing personalized offers in art insurance, for example, it is possible to obtain real-time information about the risk situation of exhibits in an art gallery. Systems of scanners and sensors monitor humidity, temperature and movement in the premises and support risk prevention and mitigation.

An example of innovation in a broad sense is the implementation of *controlling* and *reengineering*<sup>13</sup> in the organisation and management of the insurance company, which leads to a reduction in costs, reflects on the price of insurance products and leads to an increase in corporate culture.

<sup>7</sup> <https://glasnews.bg/balgariia/digitalizatsiia-zastrahovaneto-535554/>.

<sup>8</sup> <https://www.globaldata.com/store/report/innovation-in-insurance-trend-analysis/>.

<sup>9</sup> Honey Insurance е пример за преуспяваща InsurTech компания, стартиралата през 2020 и базирана в Сидни. Тя е специализирана в жилищното застраховане и бързо разширява пазарното си присъствие, като постига впечатляващ годишен приход от \$40 милиона след 3 години работа. Тя създава партньорства с големи компании като ALDI и RACQ.

<sup>10</sup> Например, използването на дроне за оценка на щетите при застраховането на земеделски култури.

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<sup>12</sup> <https://www.avenga.com/magazine/insurance-industry-tech-trends/>, January 18, 2024.

<sup>13</sup> Мишева, Ир. Застрахователен маркетинг. София, ИК – УНСС, 2016, ISBN 978-954-644-908-5.

In the context of undertaking environmental and socially responsible initiatives by insurance companies, *social innovations in insurance* are of decisive importance. The integration of insurance activity with social entrepreneurship is a factor in achieving social impacts on both insured and uninsured persons and is a prerequisite for sustainable economic development.

### Conclusion

The new generation of mobile networks (5G), AI, Big Data, IoT and other cutting-edge technologies are at the heart of the technological transformation in the insurance business.

The process of digitalization on a global scale is accompanied by increased information security, but also by the emergence of new risks in various sectors of national economies. This process creates greater potential for the development of the insurance business in response to new insurance needs. Therefore, innovations in terms of insurance products and product strategies are a determining factor for increasing the quality of products and the quality of customer service, as well as for the sustainable development of insurance companies.

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