

СУЧАСНІ ТЕНДЕНЦІЇ ЦИФРОВІЗАЦІЇ СТРАХОВОГО РИНКУ

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На сьогодні страховий ринок знаходиться на етапі трансформації внаслідок широкого впровадження цифрових технологій у страхову діяльність. Цифровізація є одним із глобальних трендів розвитку сучасного страхового ринку, яка передбачає використання новітніх технологій не лише для розробки інноваційних страхових продуктів, але й для забезпечення мінімізації страхових ризиків, задоволення потреб клієнтів та підвищення ефективності страхової діяльності. Метою даного дослідження є виявлення впливу процесів глобальної цифрової трансформації на страховий сектор та аналіз рівня використання цифрових технологій у страховій діяльності. Результати аналізу засвідчили про збільшення обсягу приділеної уваги вітчизняними та закордонними науковцями питанням впровадження цифрових технологій у страхову галузь. У статті досліджено актуальні питання цифровізації страхового ринку, окреслено сучасні напрями страхової діяльності з використанням інновацій у бізнес-процесах страховиків. Було проведено оцінку проникнення цифровізації у вітчизняний страховий ринок, проаналізовано наявність цифрових елементів у ТОП-10 страхових компаній України, що дало змогу зробити висновок про початок впровадження інновацій з метою полегшення взаємодії страховиків з клієнтами та оптимізації своїх процесів. Наступним кроком було оцінено тенденції розвитку такої складової фінансових технологій як InsurTech. Проведений SWOT-аналіз дав змогу визначити сильні та слабкі сторони впровадження InsurTech у страхуванні, а також виокремити можливості та загрози, які супроводжують цей процес. У роботі було проаналізовано стан та динаміку інвестицій у сферу страхових технологій протягом 2019–2023 років, на основі якого можна стверджувати, що обсяг вкладених інвестицій в світі в сферу InsurTech має позитивну тенденцію до зростання з кожним роком. Також було розглянуто частку інвестицій у розрізі окремих країн, серед яких найбільше фінансування здійснювали США. Розглянуто інноваційні розробки InsurTech та їх переваги в страховій діяльності. У підсумку були запропоновані основні цифрові тренди для страхового ринку України.

Ключові слова: цифровізація, цифрові технології, FinTech, InsurTech, інновації, страховий ринок, страхові послуги.

CURRENT TRENDS IN INSURANCE MARKET DIGITALIZATION

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The insurance market is currently transforming due to the widespread introduction of digital technologies. Digitalization is a global trend in the modern insurance market, involving the use of the latest technologies to develop innovative insurance products, minimize insurance risks, meet customer needs, and increase the efficiency of insurance activities. This study aims to examine the impact of global digital transformation on the insurance sector and analyze the extent to which digital technologies are utilized in insurance activities. The analysis reveals that both domestic and foreign scholars are increasingly focusing on the integration of digital technologies into the insurance industry. The article explores the current trends in the digitalization of the insurance market and outlines how insurers are utilizing innovative business processes to improve their operations. The penetration of digitalization into the domestic insurance market was assessed, and the presence of digital elements in the top 10 insurance companies of Ukraine was analyzed. The conclusion was drawn that the introduction of innovations has begun to facilitate the interaction of insurers with customers and optimize their processes. The next step was to assess the trends in the development of InsurTech, a component of financial technology. The paper presents a SWOT analysis of InsurTech implementation in the insurance industry, identifying its strengths, weaknesses, opportunities, and threats. It also analyzes the state and dynamics of investments in insurance technology from 2019 to 2023, showing a positive upward trend in global investments every year. The article analyzes the distribution of investments among individual countries, with the United States providing the largest funding. It also examines the innovative developments of InsurTech and their advantages in insurance activities. The main digital trends for the insurance market of Ukraine are suggested in the conclusions of the work.

Keywords: digitalization, digital technologies, FinTech, InsurTech, innovations, insurance market, insurance services.

Cite as: Zhuravka, O., Medvid, A. & Zhuravka, A. (2023). Current trends in insurance market digitalization. *Visnyk of Sumy State University. Economy Series*, 2, 24–31. <https://doi.org/10.21272/1817-9215.2023.2-03>

INTRODUCTION

In recent years, there has been a rapid development of digital technologies and their implementation in all spheres of life. The insurance industry is also accepting these transformations, gradually using innovations to improve insurance products, minimize risks, reduce service costs, and ensure high-quality customer satisfaction. Insurers are utilizing innovative technologies, such as chatbots, electronic platforms, artificial intelligence, and data analytics, to streamline processes.

These technological advancements are driving significant changes in the insurance market, leading to a new way of providing insurance services based on digitalization. Therefore, it is increasingly important for insurance companies to incorporate modern state-of-the-art technologies into their activities. This will enhance their competitiveness and strengthen their positions in the international market.

ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS

The introduction of digital technologies in insurance activities has led to transformation processes that have caught the attention of both domestic and foreign authors. The insurance industry's digital transformation has also been the subject of increasing interest worldwide. The study's results demonstrate a clear growth in scientific activity in this area from 2013-2023 (Fig. 1).

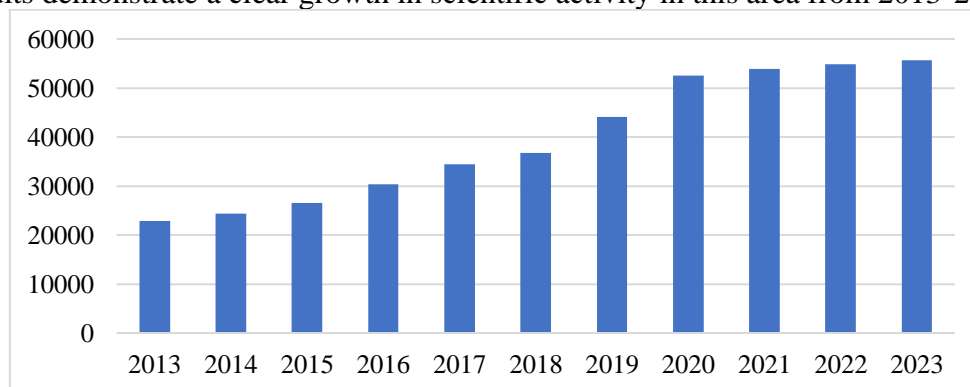


Fig. 1. The dynamics of scientific publications on the study of the utilization of digital technologies in insurance worldwide

Source: compiled by the authors based on data from Google Scholar

To aggregate the scientific literature on this issue, we considered several works by domestic and foreign scholars. Particularly, the study conducted by L. Popova [1] paid attention to the nature of digital technologies and their role in the activities of insurance companies. The author argued that insurers should view technology development as a form of business transformation to meet customer requirements and increase competitiveness. In their analysis, Bazylevych, Prykazniuk, and Lobova [2] examined the risks associated with digitalization and explored the potential benefits of implementing innovations that enhance customer engagement and improve insurers' risk management. The research conducted by N. Mandra and O. Loktionova [3] identified the need to use innovative and intelligent tools in the business processes of insurers, including automation, chatbots, cloud computing, and technologies with elements of artificial intelligence. Other scholars, such as L. Chvertko, T. Kornienko, O. Vinnytska [4], Y. Zavoloka, A. Efremenko, and Y. Malashenko [5], have also contributed significantly to this topic. Among foreign authors, G. Perrott's research [6] is noteworthy for examining the role of InsurTech in the insurance sector and analyzing the potential risks associated with the introduction of innovative technologies in insurance activities.

Although there is a growing interest in the digitalization of the insurance industry, further research is needed due to the global trend of digital transformation. This trend is forcing a review of traditional approaches and methods to insurance through the use of innovations in business processes. Furthermore, the field of InsurTech, specifically the collaboration between insurance companies and InsurTech startups, necessitates thorough examination.

RESULTS OF THE RESEARCH

The insurance industry's development and improvement require digitalization, which entails transforming the entire business, from online sales to issuing electronic policies, digital signatures, and remote identification. Digital technologies enable insurers to optimize costs and increase the speed of customer service.

Figure 2 illustrates the key digital technologies used in insurance.

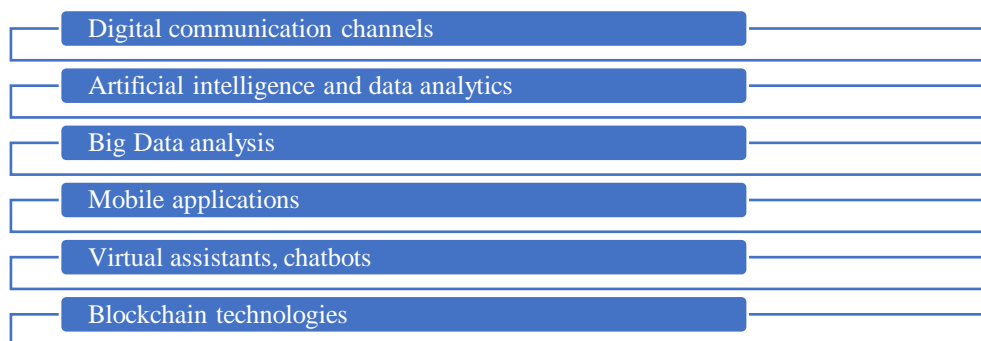


Fig. 2. Digital technologies used in insurance

Source: compiled by the authors based on [1]

Digital communication channels and mobile applications offer convenient ways for customers and insurers to interact. These include online insurance policy issuance, loss status notifications, and other services. The use of artificial intelligence and data analytics enables insurance companies to automate processes, reducing costs and providing more accurate customer information. This, in turn, helps conduct detailed risk assessments and predict payments. Big Data analysis aims to develop personalized insurance products, cyber risk insurance, claims processing, and fraud detection [2, p. 16]. Mobile applications are used to help customers monitor their policies, receive notifications about the status of their insurance coverage, and make quick payments for services. Technologies such as virtual assistants and chatbots are employed to ensure high-quality customer service. Insurance companies can securely process data and perform operations on policies using blockchain technology. The use of digital innovations is essential for insurers' business processes [3, p. 203].

The initial use of digital technologies in insurance was the development of official websites for insurance companies. These websites provide potential customers with information about the company and the insurance services offered. Today, all insurance companies have official websites, and some offer insurance calculators for quick online contract calculations.

Registration of online accounts on insurance companies' websites is becoming increasingly popular. This allows customers to easily review their existing insurance contracts, track paid premiums, make online payments, and report insurance claims.

Some domestic insurance companies have developed their own mobile applications that enable customers to quickly and conveniently draw up contracts, make payments, view the terms of an insurance policy, and more. Several insurance companies have mobile applications, including PJSC «Insurance Company «UNIQA», PJSC «IC Universalna», PJSC «European Insurance Alliance», PJSC «UPSK», IC «Providna», PJSC «IC «Persha», and others.

Based on the obtained data, it can be concluded that insurance companies have started to implement digitalization tools in their operations to enhance customer interaction and streamline business processes. However, it is important to note that not all insurance companies currently utilize all of the available tools. Out of the 10 insurers surveyed, only one, VUSO Insurance Company, has implemented all of the offered elements. 80% of the analyzed companies use an online calculator and an online store, while 70% use an online account and mobile applications. Only 40% of the listed companies have a chatbot, and the remaining 60% offer their customers communication through hotlines or chats with company consultants.

Table 1 presents the results of the analysis of digital technology usage in the top 10 insurance companies in Ukraine.

Table 1. Analysis of digital elements in the top 10 Ukrainian insurance companies

| Name of the company | Official website | Online calculator | Mobile application | Chat-bot | Online cabinet | Online store |
|---------------------|------------------|-------------------|--------------------|----------|----------------|--------------|
| ARX | + | + | MyARX | + | - | + |
| TAS IG | + | + | My TAS | - | + | + |
| UNIQA | + | + | myUNIQA | - | + | + |
| USG | + | + | USGHealth | - | + | + |
| VUSO | + | + | VUSOInsuarance | + | + | + |
| INGO | + | + | - | + | + | + |
| Arsenal Insurance | + | - | Arsenal IC | - | - | - |
| KNYAZHA | + | + | - | - | - | + |
| UNIVERSALNA | + | - | UNIVERSAL NAOnline | - | + | - |
| PZU УКРАЇНА | + | + | - | + | + | + |

Source: compiled by the authors based on [7-16]

This analysis suggests that insurance companies are adapting to new technologies. It is worth noting that most companies understand the need to implement digital solutions in their operations and will actively use digital innovations in the future.

InsurTech, the introduction of IT innovations in the insurance industry, is gaining significant development [17]. In addition to traditional insurers, high-tech companies are also entering the market, offering innovative solutions to the insurance industry. Currently, there are 974 InsurTech startups worldwide. In Ukraine, 5.3% of the 80 fintech providers operate in the InsurTech sphere [6]. The use of digital technologies has several advantages, as illustrated in Figure 3.

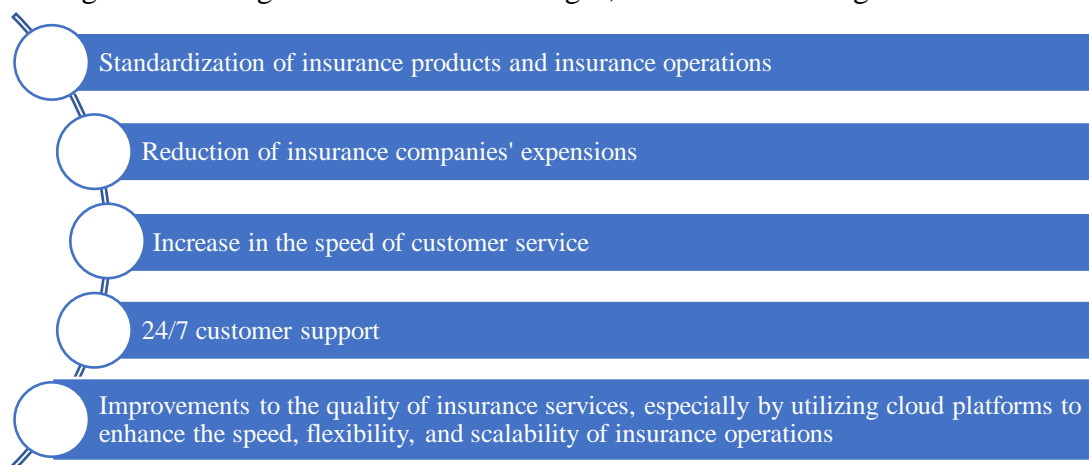


Fig. 3. Benefits of the InsurTech development in the insurance market.

Source: compiled based on reference [17]

During 2019-2023, there was a trend of increasing investment in insurance technologies worldwide, as shown in Figure 4 [19]. Total investment increased 2.5 times over five years, from USD 4.67 billion in 2019 to USD 11.7 billion in 2023. The only exception was in 2020, when investment slightly decreased, likely due to the onset of the COVID-19 pandemic. In 2023, total investments amounted to USD 11.7 billion, including USD 1.1 billion in InsurTech investments in the third quarter of that year. This increase was driven by a 25.5% rise in property insurance sector financing compared to the second quarter of 2023. It is important to note that the average deal size decreased by 16.4%, equivalent to USD 10.3 million. Investments in life and health insurance fintech decreased by 4.5% [20].

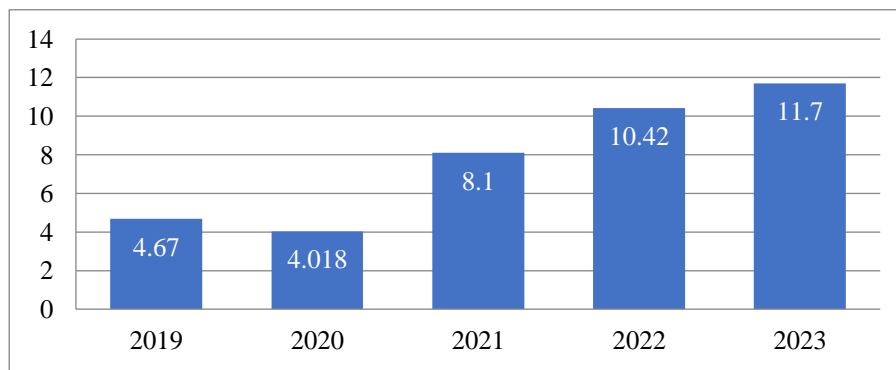


Fig. 4. The volume of investments in the global InsurTech sector from 2019 to 2023, USD billion. Source: compiled by the authors based on [19]

The brokerage company Gallagher Re's report reveals that American investments occupy the largest share (47.8%) in financing the global InsurTech sector, amounting to USD 1911.35 million in 2022-2023. In contrast, South Korea's financing only accounts for 0.2%, which amounts to USD 8.01 million (Fig. 5) [21].

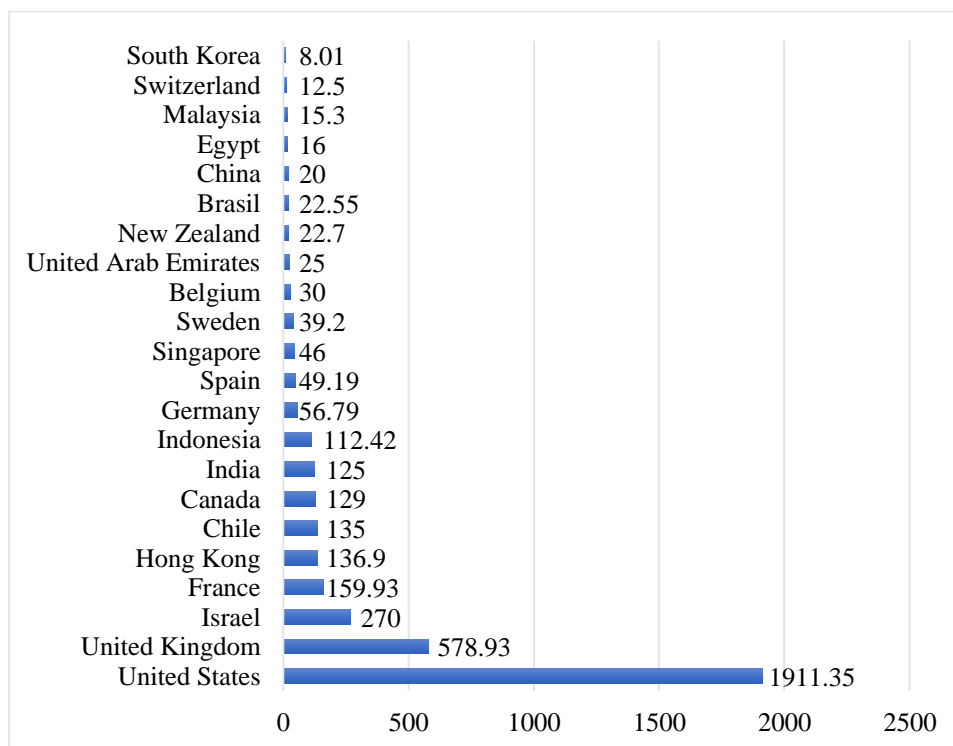


Fig. 5. The leading countries financing the InsurTech sector in 2022-2023, USD million. Source: compiled by the authors based on [21]

Notably, the insurance technology market is expected to continue growing in the future. According to the Beinsure report, it is projected to increase by 35.6% from 2022 to 2032, resulting in an average annual growth rate of up to \$118 billion [22].

In Ukraine, however, InsurTech is not developing as actively as in developed countries. Currently, the Ukrainian insurance market is focused on maximizing the transfer of all insurance processes online, with little attention paid to InsurTech projects. In contrast, developed countries are implementing InsurTech developments, including the following [17]:

1. Zesty AI is a project that utilizes artificial intelligence in property insurance to model the probability of insured events. Insurers and reinsurers collaborate with Zesty to insure risks more accurately and provide their customers with more favorable insurance conditions.

2. Attestiv is a startup that specializes in anti-fraud measures. Its primary function is to confirm the authenticity of photos and videos, which helps to reduce risks in the investigation of insurance events.

3. Metromile is a project that offers car insurance options based on the distance a car has traveled and the amount of fuel consumed. The project has developed software to measure these factors and calculate insurance payments accordingly.

4. Zipari is a health insurance startup that utilizes technology to collect and analyze customer data for insurance calculations.

5. Flock is an application for drone safety that provides a qualitative assessment of drone flight risk in real-time.

InsurTech has both advantages and disadvantages. A SWOT analysis (Figure 6) was conducted to evaluate its strengths and weaknesses, as well as to identify opportunities and threats to its implementation.

| Strengths | Weaknesses |
|---|---|
| 1) introduction of new products and channels for distribution; 2) acceleration of strategic payment approval process; 3) provision of cost-effective insurance services and simplified access to them; 4) personalized pricing for customers. | 1) insufficient protection of personal data; 2) ethical concerns; 3) issues related to protecting the rights of clients of insurance services. |
| Opportunities | Threats |
| 1) enhancing customer satisfaction; 2) executing socially significant projects; 3) increasing opportunities to offer economically efficient products for emerging markets; 4) promoting competition in the insurance market; 5) expanding the range of insurance products oriented to the needs of online consumers; 6) preventing fraudulent actions. | 1) confidentiality violation of insurance services consumers; 2) discrimination of certain consumer categories; 3) reduction of insurance companies' staff and market share; 4) insufficient knowledge among financial technology operators regarding the functioning of the insurance market; 5) increase in the financial volatility of the insurance market. |

Figure 6. SWOT-analysis of InsurTech

Source: compiled by the authors based on [23, 24, 25]

Despite the advantages of digital technologies, insurers may face several problems, including:

- inoperable systems, which means the inability to adapt to future operating models;
- the risk of cyberattacks and leakage of confidential customer information, which may lead to a loss of trust in insurance companies and negatively affect their reputation;
- reduction in the number of jobs in the insurance sector due to the automation of many processes that can be performed without human intervention;
- inaccessibility of insurance services for people who do not have proper digital literacy or access to the Internet.

Companies that have experienced the benefits of using digital technologies are likely to actively implement them in their operations, leading to significant momentum for InsurTech in the future. Promising areas of InsurTech development may include:

1. The expansion of insurance service distribution channels and the use of new tools in insurance operations, including the development of technological companies that use the Internet of Things, smart sensors, and automation to streamline business processes [22].

2. The increased demand for insurance and the emergence of new insurance products tailored to customers' needs. Nowadays, many developed countries are incorporating cyber risk insurance and insurance for gadgets and drones into their practices.

3. Increasing cooperation between traditional insurance companies and InsurTech companies by creating platforms, mobile applications, auto insurance products, and supporting electronic documentation.

4. The introduction of robotization in the insurance sector will allow insurers to significantly save on consulting services [20].

CONCLUSIONS

The analysis of the impact of digital technologies on the insurance sector has led to the following conclusions:

Digitalization of the insurance sector is a necessary step for its development and improvement. The use of innovative digital technologies by insurance companies will allow them to provide efficient and convenient customer service, facilitate their operations, and reduce service costs.

The insurance industry is experiencing a rise in the implementation of IT innovations, known as InsurTech, with the development of financial technologies. Developed countries' insurance companies are currently utilizing analytics, artificial intelligence, telematics, the Internet of Things, robots, and blockchain in their operations. In Ukraine, domestic insurance companies are currently adapting to the challenges of digitalization, but InsurTech is not developing as actively. Common digitalization tools include websites, online calculators, mobile applications, chatbots, and online stores.

The total investment volume in the InsurTech sector has grown 2.5 times over the past five years, from USD 4.67 billion in 2019 to USD 11.7 billion in 2023. In 2022-2023, the United States provided the largest share of financing, accounting for 47.8% of the total volume of investor countries.

The insurance sector's adoption of digital technologies has several benefits, including the creation of new insurance products and distribution channels, faster insurance claims processing, and the provision of cheaper insurance services to customers with simplified access to them. However, while there are benefits to digitalization, insurers also face potential problems and threats, such as the risk of cyberattacks and the leakage of confidential customer information, a reduction in the number of jobs in the insurance sector, and inaccessibility of insurance services for those without proper digital literacy.

Consequently, the Ukrainian insurance market should consider adopting foreign experience in the use of digital technologies. The insurance sector in Ukraine should focus on several key trends, including the utilization of artificial intelligence and machine learning for customer segmentation, the implementation of blockchain technologies for secure data management and fraud prevention, the optimization of business processes through mobile applications and platforms, and the fostering of collaboration between insurance companies and InsurTech startups. Therefore, future research in this area should concentrate on analyzing the opportunities and most effective ways to apply digital technologies, particularly in the insurance sector of Ukraine.

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