

INSURTECH: NEW OPPORTUNITIES FOR THE DEVELOPMENT OF THE INSURANCE MARKET

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Introduction. Digital technologies play an important role in the development of relationships in the field of production, in the structure of education and the economy, they determine new prospects for the development of communications, computing power, services and systems in the field of information. Recently, there has been a rapid development of digital technologies and their active implementation in almost all areas of our lives, including the economy. The insurance industry, like many others, is implementing intelligent, automated solutions that improve our quality of life, customer experience, workforce efficiency, and profits. Due to the deterioration of the epidemiological situation in the modern world associated with the spread of coronavirus, as well as the full-scale war in Ukraine, they have shown that these opportunities are necessary to continue working without risking the health and life of both employees and customers. The introduction of various business processes of modern FinTech solutions is gradually continuing. This leads to the improvement of insurance products and increase their usefulness. In order to automate and simplify the ongoing processes, insurers are beginning to actively use innovative technologies. These include chatbots, data processing in the cloud, technologies with elements of artificial intelligence [1].

InsurTech also provided much-needed flexibility to deliver value at every stage of the insurance claims life cycle. However, the prospects that they offer testify to the fundamental changes in the insurance market. If implemented, technological solutions such as field operations management software, can change the quality of service and provide more than 12 times the annual return on investment for real estate insurers and emergency services, as well as third-party administrators [2].

Insurtech (Insurance technologies) involve the use of innovative technologies designed to squeeze the benefits and efficiency out of the current insurance system. Insurtech – it is a combination of the words "insurance" and "technology" [3].

On the one hand, the selection of InsurTech tools has maddened the intensifying institutional transformations of the insurance sector, and on the other hand, the increase in the number of technological risks and problems [4].

Analysis of recent research and publications. The problems of promotion and development of InsurTech are associated with a large number of foreign scientists and practitioners in the fields of insurance and innovation. Separate issues of InsurTech functioning were investigated by M. Carbone [5], G. Perot [6], L. Rixford [7], D. Mohan [8], R. Balasubramanyan, A. Libarikyan, D. McElhany [9] and others. Domestic scientists study insurance technologies in the context of their application in certain segments of the insurance market [10; 11] as a component of the ecosystem of financial technologies [12] and in the context of their role and place in the insurance innovation system [13]. However, despite the high level of existing theoretical developments, the problems of institutional transformations of the insurance market under the influence of digitalization of the economy of Ukraine and the world require further study.

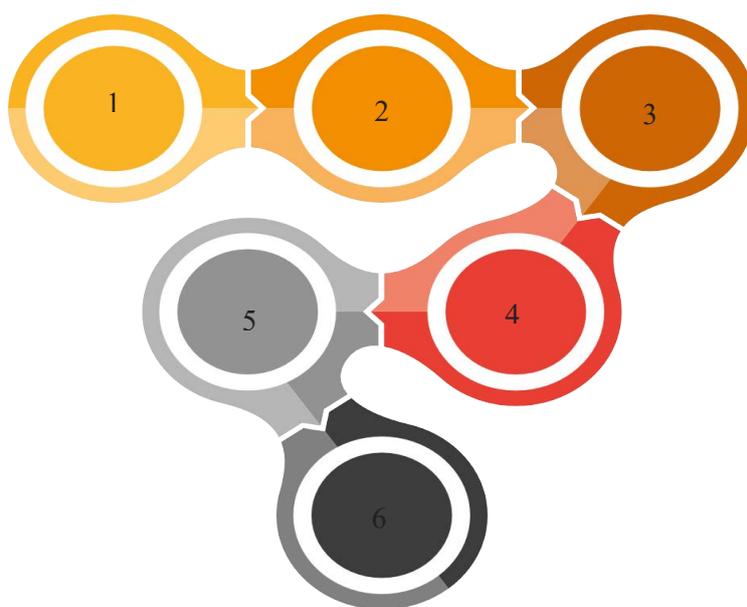
Objectives of the article. To investigate the essence of the processes of digitization of the economic space, the main trends of the digitization of the world insurance market, to determine the development prospects for insurance in Ukraine.

The main material of the study. InsurTech is an important component FinTech [14]. Although its strong development in recent years has led some practitioners and academics to consider InsurTech as an independent sector [15]. FinTech – these are innovative technologies used by financial institutions and state administration bodies, trade organizations to meet the needs of consumers of financial, administrative services and goods in the context of the development of the consumer economy [8].

The term "Insurtech" was originally coined in early 2010, as large technology companies started to vastly expand into new industries and provide different service offerings to their rapidly expanding customer base. InsurTech completely breaks the stereotype of insurance as a purely paper industry. InsurTech (*from English Insurance Technology – insurance technologies*) – it is the implementation of IT innovations in the insurance industry. As a rule, IT innovations include artificial intelligence technologies, developments in the field of cyber security, analysis of large volumes of data, applications for smartphones, etc.

Taking a deeper look into the (re)insurance value chain helps to understand where Insurtechs are focusing their efforts. We have said that Insurtechs aim to generate value by reinventing or supplementing a part of the (re)insurance value chain. We have therefore broadly segmented the value chain into six main areas.

Globally, investments in Insurtech are growing year on year, with over 2,700 transactions recorded since 2016, resulting in a CAGR of 15.7% over the five-year period through 2020. Global InsurTech market from \$8.1 billion in 2021 to \$10.42 billion in 2022, at CAGR of 29.2% to \$29.8 billion by 2026, mid-30%. This development shows the current strong trajectory of Insurtech transactions. According to FMI, in 2032 the insurance technology market will reach \$165.4 billion [16].



<p>1. Product development: Insurtechs create modern and customer-focused products by designing products for emerging segments (e.g. gig economy and freelance workers) or attaching insurance to other product sales</p>	<p>4. Claims: Insurtechs generally use technology to quicken the claims closure rate and improve communication with the claimant</p>
<p>2. Distribution: Insurtechs seek to improve the customer experience at the point of sale by aggregating quotes, providing tailored advice or offering more streamlined contracting</p>	<p>5. Full-stack: Insurtechs are developing solutions that extend across the entire value chain</p>
<p>3. Pricing: Insurtechs often use big data, AI and IoT devices to improve the accuracy of policy pricing</p>	<p>6. Services: Insurtechs can offer additional benefits to a carrier’s insureds, such as risk management services or financial advice</p>

Figure 1. The reinsurance value chain

This increase is due to the increase in insurance coverage following a greater level of hospitalization during the COVID-19 pandemic and the coronavirus outbreaks on the territory of Ukraine. Insurtech-technologies

are used to simplify the process of reviewing claims, as well as to assess risks, draw up contracts and insure policies. In this way, the increase in the number of claims will be required in technology, so that the process can be made efficient and effective for customers and companies, which is expected to be in the predicted CAGR.

Based on the news about the analysis of the market, the absolute growth of the global insurance technology market is predicted to be approximately \$148.8 billion in forecasting periods from 2022 to 2032.

European investors show a strong affinity to invest in companies located in Europe and North America, with 48 % and 31 % respectively. In Europe, targets were mainly based in the UK, France and Germany.



Figure 2. Transactions from 01.01.2016–30.09.2021

Source: development of the authors

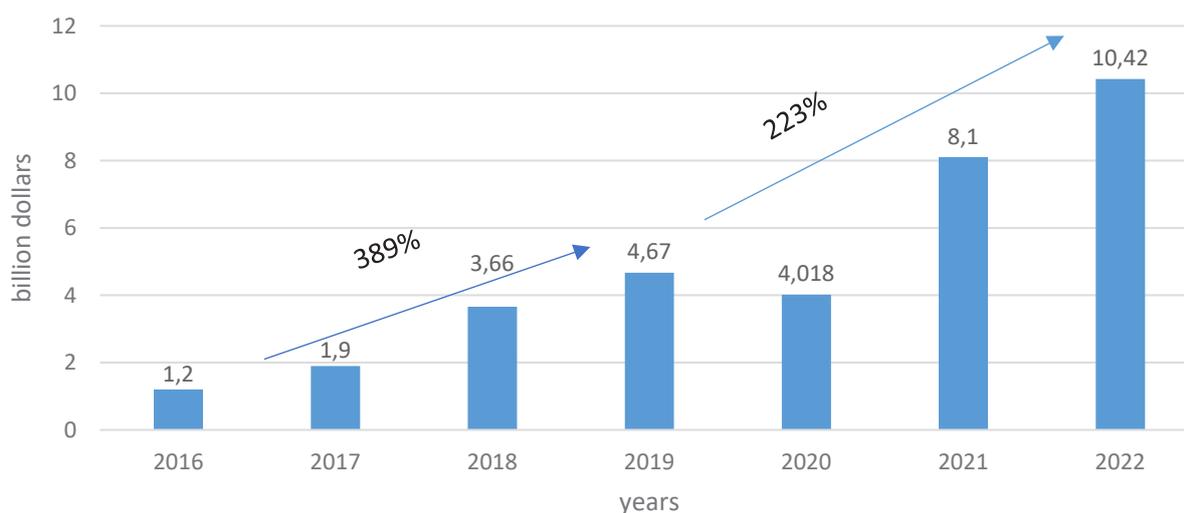


Figure 3. Development of Insurtech deals from European investors in 2016–2022

Source: development of the authors

Looking at individual countries, however, the US leads overall, with 29 % of all reported transactions and 48 % of reported deal value (USD 10.7bn) (Table 1). This is not surprising, given that a number of very successful Insurtech start-ups have originated in and gone on to list in the US, including the likes of Lemonade, Oscar, Doma Holdings, Duck Creek Technologies DCT and others.

The US is followed by the United Kingdom, with 17 % of total transactions constituting USD 3.3bn reported deal value, and thereafter France and Germany, with ca. 7 % of total transactions each with a reported deal value of USD 1.4bn and USD 1.7bn respectively [16].

International experience shows that most targeted Insurtechs operate in the non-life insurance sector, seeking to add value through services in the value chain.

European investors mostly targeted Insurtechs in the non-insurance sector, which accounted for more than 60% of all transactions during the review period targeting P&C or non-life companies.

Taking a closer look at these investments in Insurtechs in the non-insurance sector and what part of the value network they support, we noted that approximately 50% of all transactions were in the service sector. Services is where Insurtechs try to offer additional benefits to the carrier's policyholders, such as risk manage-

Table 1

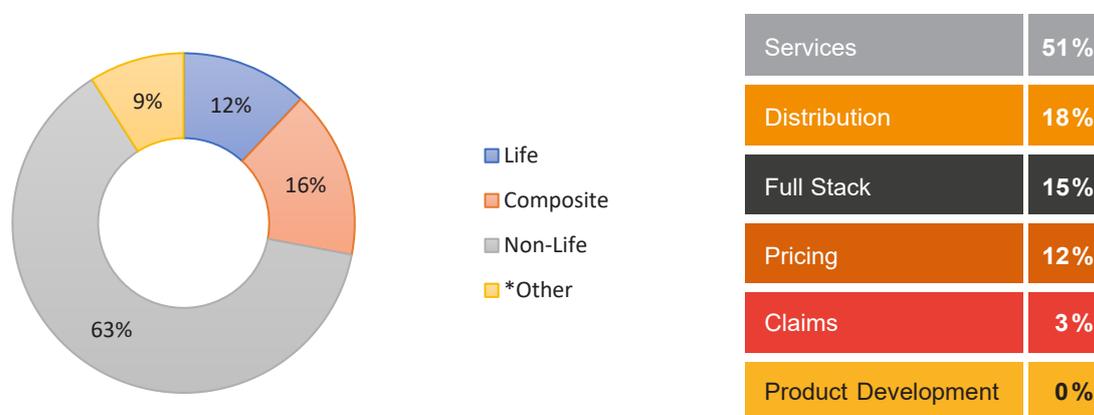
Country split of Insurtech transactions from European investors – 2016–2022

Continent	Country	Top 10 Ranking by total reported deal value	Number of transactions	% of total transactions	Number of transactions with reported deal value	Reported deal value (in USDm)	% of reported deal value to total deal value	Reported average deal value (in USDm)
Europe	United Kingdom	#2	199	17 %	148	3321.1	15 %	22.4
	France	#4	80	7 %	64	1438.7	6 %	22.5
	Germany	#3	78	7 %	48	1681.1	8 %	35.0
	Sweden	#10	37	3 %	31	258.5	1 %	8.3
	Spain		30	3 %	26	163.8	1 %	6.3
	Switzerland		25	2 %	9	35.3	0.2 %	3.9
	Other Europe		108	9 %	76	481.2	2 %	6.3
North America	United States	#1	334	29 %	271	10,708.0	48 %	39.5
	Canada		16	1 %	13	51.4	0.2 %	4.0
	Mexico		8	1 %	5	16.9	0.1 %	3.4
Asia	India	#5	52	5 %	41	1389.3	6 %	33.9
	Singapore	#7	30	3 %	23	642.1	3 %	27.9
	Israel	#9	30	3 %	22	296.3	1 %	13.5
	China	#6	18	2 %	12	817.0	4 %	68.1
	United Arab Emirates		14	1 %	12	69.0	0.3 %	5.8
	Other Asia		31	3 %	22	467.7	2 %	21.3
Rest of the world	South Africa		20	2 %	17	46.5	0.2 %	2.7
	Australia	#8	17	1 %	16	315.7	1 %	19.7
	Kenya		6	1 %	5	12.8	0.1 %	2.6
	Chile		5	0.4%	5	91.5	0.4 %	18.3
	Nigeria		4	0.3%	2	0.5	0.0 %	0.2
	Other Rest of the world		10	1 %	5	2.7	0.0 %	0.5
Total		1152	100 %	873	22,307.0	100 %	25.6	Total

ment services or financial advice. This is followed by investments in areas such as Distribution and Full Stack, with 18% and 15% of total Insurtech operations, respectively.

We see a relatively similar picture in the life segment, where more than half of all transactions are focused on improving the service area of the value chain, driven by the need to expand customer service capabilities [16].

Full Stack Insurtechs achieved the highest average deal value, reflecting their larger end-to-end offering.



*Other includes technology companies that focus on various financial services (incl. insurance-related aspects), among others

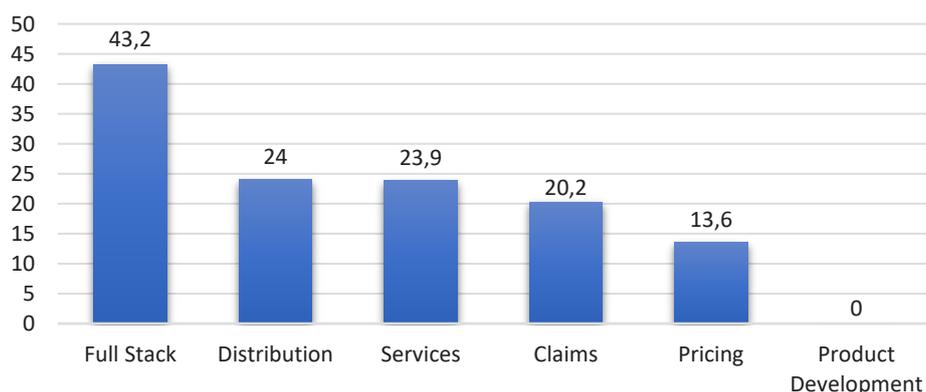
Figure 4. Target Insurtech companies from European investors by subsectors

Additionally, it should be noted that while the majority of transactions were in the non-life insurance sector, the average deal value for recorded transactions was higher for target companies in the insurance segment (\$38.3 million life vs. \$25. USD 5 million not related to life insurance).

The highest average deal value was for full-service Insurtechs (i.e. fully operational digital insurance companies), reflecting the greater end-to-end offerings these companies provide.

As the insurtech concept expands into new service areas, the solutions segment is growing faster than the services segment. The projected CAGR for the solutions segment is nearly 26-30% over the next decade.

Based on various technologies adopted by technology-based life insurance companies, cloud computing has become the most attractive segment in today's market. The expected growth of this segment over the forecast years is almost 25.2%.



Number of transactions with reported deal value					
131	167	446	30	99	0
Total number of transactions					
178	211	584	40	139	0

Figure 5. Average deal value of Insurtech transactions from European investors by value chain in USDm

The US market occupies a dominant position in the global market, having the largest volume of insurance capital in the other tech sector, which is estimated to be approximately \$6 billion in 2022. It is also the top performing country with a CAGR of 25.6% in the regional insurance technology market and will reach \$58.6 billion by the end of the forecast period.

In Ukraine, other technology is not developing at the same pace as in Europe or the USA. However, Ukrainian insurers are also on the threshold of digital transformation. Electronic insurance began to actively develop after changes to the procedure for mandatory civil liability insurance of land vehicle owners came into force in 2018. This legal document provided for the introduction of an electronic form of insurance contracts. Such processes are implemented thanks to the possibility of using a digital signature and remote identification in Ukraine (Appendix Diya, Mobile ID, Bank ID). The adoption of Laws became a tangible impetus for the digitalization of insurance policies "About electronic commerce" and "About electronic trust services". For the implementation of insurance services, insurers mostly use official websites, less often electronic applications [17].

In Ukraine, the following marketplaces are the leaders among services that allow you to compare services and prices, as well as issue insurance policies online: "hotline.finance", the application "Privat24" and "polis.ua". So, for example, in 2019, more than 70,000 insurance services were issued using the "hotline.finance" online service. Every month, the volume of this service grows by an average of 10-15%, and the number of issued policies in 2019 compared to 2018 increased more than 10 times [18]. Such indicators were achieved mainly due to the sale of electronic policies for such services as mandatory and voluntary civil liability insurance of owners of land vehicles, including international "Green Card" insurance, as well as travel insurance.

Another example. An interesting case on the Ukrainian market is the Spokk application, founded in 2018. Its first product is pet insurance. Spokk acts as an insurance intermediary and provides a full range of insurance

services. By subscribing for 68 or 78 UAH, its users can purchase a policy for their loved one in a few clicks, find out the decision about the insurance case almost instantly and get a refund to your payment card.

Ukrainian insurers are gradually starting to introduce cloud technologies that help store and protect insurance company databases, as well as "telematics" technology – a special monitoring system that monitors user behavior and helps to individually calculate the policy, including discounts and special offers.

The pandemic and military actions on the territory of Ukraine became a litmus test for the Ukrainian insurance business. Quarantine clearly showed who is ready to switch to full online service, and who had to adapt in an emergency mode. In 2020, 3.1 million electronic insurance contracts were issued in Ukraine, which is almost twice as much as in the previous year, and exceeds 37% of the total share of the insurance market.

It is also worth noting the Motor (Transport) Insurance Bureau of Ukraine (MTSBU), which is the only association of insurers that provides mandatory civil liability insurance of owners of land vehicles for damage caused to third parties.

The MTSU began to create an innovation hub that will help develop and promote technological startups in the financial industry, in particular, insurance and road safety.

The first steps in the work of the hub are to provide an opportunity for startups to present their developments and technological solutions to the Directorate of the Bureau, to receive consulting assistance regarding "bottlenecks" in the work of the industry, the legislative framework and regulatory requirements in the field of OSCPV and road safety, business processes, the specifics of customer behavior in motor insurance.

As MTSBU is an association of insurers operating in the OSCPV market, the Bureau also sees its role in helping startups find partners among insurance companies that are members of the Bureau, promote the creation of mutually beneficial relations between OSCPV insurers and projects developing solutions for the technological transformation of the financial ecosystem.

MTSBU will provide informational support to startups, popularizing new ideas and technological solutions. For the most interesting and promising ideas, the option of assistance in obtaining financing for the development of the project is provided [18].

Looking at the global growth of Insurtech transactions and the growing excitement around future expectations, there is no doubt that valuation is an important topic. However, similar to Fintechs, the valuation Insurtechs can sometimes be difficult because the characteristics are usually not comparable to traditional, established companies that often much larger. Insurtech are mostly young companies that use their technology to disrupt the conventional (re)insurance industry or to improve some part of the value chain [19].

So, soon, the main trends will be insurance:

- Transformation of all products into the format of electronic policies, quick and frequent launch of new products (including traditional, a large range of personal insurance products and products from the micro insurance category).

- Expanding the use of electronic payment services, activating the use of data "connecting things" in many types of insurance.

- The beginning of the real use of "big data", providing customers with incomparably more extensive opportunities for self-configuration and product modification.

- Extensive use of bots in sales and service (including claims settlement), digitalization in claims settlement.

Using Insurtech allows:

- significantly simplify the business processes of an insurance company, starting from concluding a contract, receiving insurance payments, ending with post-sales service;

- to introduce digital technologies into ordinary insurance products, this helps to win the trust of the audience aged 18 to 35, which is not too inclined to cooperate with insurance companies of the old "model";

- save time and money for both clients and insurance companies.

New technologies are also driving changes in the insurance technology market with the introduction of artificial intelligence (AI), which can be used to detect insurance fraud, assess risk and reduce human error in applications [20; 21].

Insurtech explores solutions such as offering customized policies, social insurance and leveraging new data streams from Internet-enabled IoT devices for dynamic pricing.

Insurtech helps insurers collect and analyze customer data that can be specifically used to target the right customers at an affordable cost. In addition, through machine learning, artificial intelligence and cloud comput-

ing, Insurtech helps the marketplace better predict consumer needs, purchase volumes, and improve insurance decision-making and planning.

Conclusion. Even though the insurance industry lags behind the banking industry in terms of technology, it is in a unique position to experience the full benefits of blockchain. New technology could help many industry players deal with competitive challenges, including weak customer interest in insurance products, limited growth in developed markets and the general trend toward digitalization. There are three categories for insurance: enabling growth, increasing efficiency, and reducing costs by automating key processes. There is growing interest in technologies such as artificial intelligence and machine learning that can be used to manage demand more effectively. There is no doubt that investment in fintech and other tech will grow year on year.

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JEL G22

Vitaliia Skryl, PhD in Economics, Associate Professor, National University "Yuri Kondratyuk Poltava Polytechnic". **Alina Hlushko**, PhD in Economics, Associate Professor, National University "Yuri Kondratyuk Poltava Polytechnic". **InsurTech: new opportunities for the development of the insurance market.**

The article updates the problem of the functioning and development of the insurance market of Ukraine, which needs drastic changes. This is a consequence of the development of the digital economy and the introduction of innovative technologies into all spheres of economic activity through the expansion of e-commerce, e-business, the use of various mobile applications and platforms that are widely Available and provide competitive advantages. It is emphasized that the processes of globalization of financial markets in the world economy have already significantly transformed the relations of insurance companies with agents in the market and prompted the modernization of business models and technological processes. Special attention in the study is given to the analysis of changes in the insurance market of Ukraine, which are taking place against the background of the COVID-19 pandemic and the full-scale military invasion of the Russian Federation. Based on the analysis of the state of Ukrainian insurers, it was concluded that the acquired level of digitalization of the financial space acted as a positive lever for preserving financial stability for Ukrainian insurance companies and allowed them to reshape the vast majority of business processes and communications with clients into a remote format in a short time.

Key words: digitalization, digitalization of the economy, insurance, insurance business, InsurTech, digital innovations.

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У статті актуалізована проблема функціонування та розвитку страхового ринку України, який потребує кардинальних змін. Це є наслідком розвитку цифрової економіки та впровадження інноваційних технологій у всі сфери економічної діяльності через розширення електронної комерції, електронного бізнесу, використання різних мобільних додатків та платформ, які доступні для широкого використання та забезпечують конкурентні переваги. Наголошується, що процеси глобалізації фінансових ринків у світовій економіці вже суттєво трансформували відносини страхових компаній з агентами на ринку та спонукали до модернізації у бізнес-моделях і технологічних процесах. Окрема увага у статті приділена перевагам впровадження цифрових інновацій у страхуванні, їх особливостям і ролі FinTech стартапів у сучасних трансформаціях на фінансовому ринку. В роботі здійснено аналіз динаміки зміни використання Insurtech технологій у різних країнах світу та виявлено позитивний вплив на економічний розвиток різних країн. Окрема увага у дослідженні приділена аналізу змін на страховому ринку України, які відбуваються на тлі пандемії COVID-19 та повномасштабного воєнного вторгнення російської федерації. За результатом аналізу стану страховиків України, зроблено висновок, що набутий рівень діджиталізації фінансового простору виступив позитивним важелем збереження фінансової стабільності для українських страхових компаній і дозволив їм у короткий час переформувати переважаючу більшість бізнес-процесів і комунікацій з клієнтами у дистанційний формат. Такі трансформації дозволили швидко відновити роботу, утримати на належному рівні основні фінансові показники і навіть зберегти прибутковість діяльності. За підсумком дослідження виділено категорії позитивних змін у страховому бізнесі, що вже сталися завдяки діджиталізації і мають продовжуватися надалі. Зроблено загальний висновок про беззаперечну актуальність і важливість подальшого просування цифрових інновацій у страхуванні в цілях вдосконалення комунікацій, каналів продажів та бізнес-процесів. Це у підсумку допоможе галузі подолати кризу і сприятиме подальшому ефективному розвитку.

Ключові слова: діджиталізація, цифровізація економіки, страхування, страховий бізнес, InsurTech, цифрові інновації.