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CURRENT TRENDS IN THE DEVELOPMENT OF UKRAINE'S INSURANCE MARKET IN DIGITADIZATION CONDITIONS

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Annotation. Purpose. *The purpose of the article is to investigate promising areas for improving the efficiency of insurance products and services through the use of digital technologies while also ensuring financial inclusion.* ***Methodology of research.*** *The study employed methods of tabular and graphical results presentation, logical generalization, comparative analysis, and systematic approach (which takes into account the dynamic functional relationship between the state of the whole and the balance of its constituent elements), dynamic analysis, logical, and theoretical generalization.* ***Results.*** *The authors propose their own interpretation of the concept of "digitalization". An assessment of trends in the development of Ukraine's insurance market has been carried out in order to determine insurance companies' readiness to implement technological innovations that increase the efficiency of the insurance industry. The extent to which InsurTech has penetrated the Ukrainian insurance market has been determined. Recommendations have been provided for the incorporation of digital technologies (Smart City, VAS – Studio of Visual Analysis) into the operations of insurance companies in Ukraine.* ***The practical significance of the research results.*** *The adoption of digital technologies in Ukraine's insurance market will boost insurance companies' efficiency and improve the quality of their insurance services.*

Keywords: *Insurance, Innovation, Digital Transformation, Digitization, Digital Technologies, InsurTech, Smart City, Insurance Company.*

Problem solving in general and connection with the most important scientific or practical tasks. Digitalization is increasingly absorbing social production around the world and dynamically disseminating and covering all areas of human activity, forming a global digital economy space. The primary competitive tool in the digital economy market is digitization-based innovation. On the one hand, digitization shapes new economic processes and relationships in society, destroying framed perceptions of traditional business, and enables the receipt of e-business services, including in the insurance market, lowering costs and shortening the time required to conduct operations. On the other hand, the development of IT technologies puts market participants under pressure and necessitates increased flexibility in business planning decision-making, as well as immediate response to the acquisition and implementation of innovative products aimed at building high-performance computing infrastructures.

The possibility of increasing negative consequences, which may be caused by additional risks due to the novelty of processes, becomes especially important in this context. To avoid operational and financial problems, loss of competitiveness, and even bankruptcy, Ukrainian insurance companies must study and constantly monitor opportunities and necessities of innovation implementations in the context of studying and constantly monitoring current trends of the digital economy in the field of insurance of European and other economically developed countries.

Analysis of recent research and publications. Various scholars have conducted extensive research on the digital transformation of business processes in the global economy, including digitization and digitalization. The term "digital transformation" refers to the process of reorganizing the economy, institutions, and society at the system level [45]. Both digitization and digitalization are regarded as parts of digital transformation in this context, allowing for a spectrum of digital transformation activities in which, over time, the options for digital technology use, the associated complexity (i.e. interactions between various aspects such as [digital] technology, institutions, people & organizations, environment, etc.) and their related, either positive or negative, outcomes are considered (see Figure 1).

Digitization in this figure can be viewed as a critical component or step toward digitalization, as the

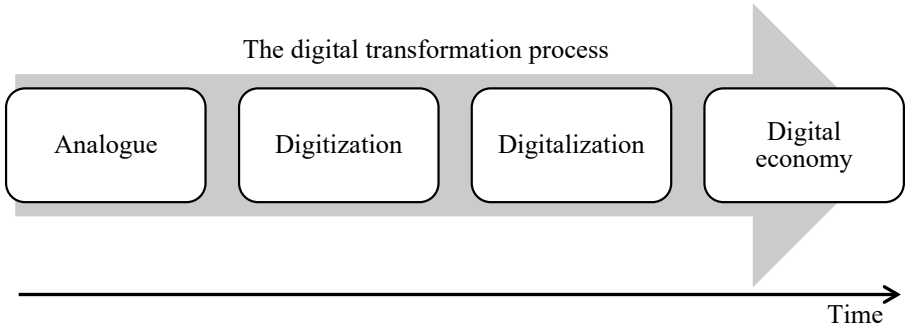

Figure 1. The digital transformation process

Source: prepared by authors based on [31]

use of digital technologies frequently causes social, economic, and institutional changes. Meanwhile, changes in society's social, economic, and institutional structures necessitate the development of digital technologies. This is resulting in a continuous and iterative process [31].

Apart from transforming individuals, digitalization has permeated all aspects of business life cycles, processes and activities, and society. With the fourth industrial revolution, more and more businesses are expected to implement digitalization, with the customer at the center of the change. To keep up with the fast-changing global business scenario, digitalization will provide the speed, flexibility, and ability to pivot quickly [33].

The term "digitalization" refers to the digital transformation of society and the economy as a whole. It describes the transition from an industrial age marked by analog technologies to an age marked by knowledge and creativity marked by digital technologies, and digital business innovation [17].

Digitalization is considered the Fourth Industrial Revolution, which initiates the development of a new technological framework – «Industrie 4.0» («Industry 4.0») – a dynamic multi-vector transformation of leading economic institutions [23; 28]. Industrie 4.0 offers many possibilities, as the digitization of production processes and workflows on the shop floor allows a more agile and flexible production. This statement already shows that Industrie 4.0 is a keyword with broad meaning. It comprises not only technologies but also concepts and use cases, which are outlined by expressions like Smart Manufacturing or Smart Factory [32]. Industry 4.0 is shaping the global digital economy.

Digital economy – an economy based on digital computer technology [3], i.e. means an activity in which the main means (factors) of production are digital (electronic, virtual) data, both numerical and textual [47].

Karcheva et al. notes that the digital economy is an innovative dynamic economy based on the active introduction of innovations and information-and-communication technologies in all types of economic activities and spheres of society, which increases the efficiency and competitiveness of individual companies, economies, and living standards [21]. The Fourth Industrial Revolution and the Third Wave of Globalization are both built on the digital economy. The fundamental values, essence, and main principles of the digital economy are found in the transformation of the global economy in order to expand the free exchange of information between market participants to increase labor productivity and business growth through the development of qualitatively new management models for enterprises based on digitalization [3; 13].

Digitization (i.e. the process of converting analogue data into digital data sets) is the framework for digitalization, which is defined as the exploitation of digital opportunities [1]. According to Gartner's IT Glossary, digitization is the process of changing from analog to digital form, also known as digital enablement. Said another way, digitization takes an analog process and changes it to a digital form without any different-in-kind changes to the process itself [16]. Digitization commonly referred to as internet of things (IOT) is defined as, «intelligent production incorporated with the internet of things, cloud technology and big data, with the ability to collect, share and use information to make better decisions and be more productive through decentralizing technology processes» [41].

Digitization is the saturation of the physical world with electronic-digital devices, tools, systems, and the establishment of electronic-communication exchange between them, which practically creates integrated interaction of virtual and physical, i.e. creates cyberspace [47].

Digitization at the company level is a wide range of technological, cultural, and organizational changes, leading to improvements in internal efficiency and greater responsiveness to external stimuli. Therefore, it is not just a mere provision of tools and technologies, but it translates into a profound change in the way companies do, see, and think, which require new ways of approaching the market and the customer, new organizational and managerial structures in the

production chain or in the offer of a service, and new ways of managing employees [5].

Digital transformation is growing in importance for business models and in the financial and insurance markets [2; 6]. Simultaneously, the current level of development of global innovative products provides the insurance industry with the opportunity to implement a wide range of IT technologies to streamline its operations. Nonetheless, their use in Ukraine is limited, owing primarily to insurers' lack of financial capacity. However, the emergence of new risks, particularly the pandemic caused by the COVID-19 virus, has increased consumer demand for insurance services, including services delivered via the Internet. This has resulted in increased investment in information technology in the insurance industry.

Issues of digital transformation in insurance have been widely studied. In particular, scholars consider implementing such InsurTech:

– blockchain technologies in the insurance industry, including health insurance [20; 43]. According to the authors, with the help of the blockchain, insurance services can have a real advantage in the market due to reduction of time and financial costs for customer service;

– the use of connected automated vehicles (CAV) in auto insurance, enlarging this research focus with an analysis of service-based mobility approaches and the emergence of business ecosystem platforms in the automotive and mobility sectors [37];

– BigData, artificial intelligence, Internet of Things, cloud computing, blockchain, etc. [6];

– "smart insurance" by using the Internet of Things [34];

– cyber claim analysis using Generalized Pareto regression trees with applications to insurance [9];

– cyber insurance, which is becoming relevant due to the growing cyber risks with the introduction of digital technologies [18].

Formation of the purposes of the article (statement of the task). The systemic problems that have developed in Ukraine's insurance market over the years are primarily the result of insurance companies' limited financial capabilities and unwillingness to innovate. However, the emergence of new risks, such as the COVID-19 pandemic, and the growing consumer demand for the most up-to-date insurance services, including those available via the Internet, necessitates that insurance companies engage in an active digital transformation process. Given the foregoing, the purpose of the article is to investigate promising areas for improving the efficiency of insurance products and services through the use of digital technologies while also ensuring financial inclusion.

Presentation of the main research material with the full justification of the scientific results obtained. The formation of a new period of global financial market development, including the transformation of the insurance business into a digital format in order to create new value and quality for safety improvement, efficiency development, and operation comfort, has been determined by the modern innovation paradigm.

The insurance market is undergoing significant changes as a result of recent technological innovations, forming a new way of providing insurance services based on digitalization. In terms of such transformations, we will look at trends in the Ukrainian insurance market.

The number of insurance companies in the Ukrainian financial services market during 2000–2008 has undergone intensive dynamics and increased by 141 units, i.e. from 328 to 469 companies (see Figure 2).

In the crisis year of 2009, 19 insurers went bankrupt. Since 2010, the infrastructure of the insurance market has been gradually narrowing. In the last five years alone, the insurance market in Ukraine has decreased by 100 insurance companies, and in 2020 compared to 2019 – by 23, or 8.7% (Table 1). As of January 1, 2021, the insurance market of Ukraine is made up of 210 insurance companies, which is 118 insurers or 36% less than twenty years ago.

The statutory rules on the suspension of insurance companies that do not carry out insurance activities for more than 6 months or if they decide to issue (revoke) licenses have been a major cause of insurance company liquidation over the last decade.

According to the State Register of Financial Institutions of Ukraine's data, displayed in table 1, at the end of 2020, out of all insurance companies, life insurance services («life») were provided by 20 institutions, and the other insurance services («non-life») – by 190.

In general, despite the reduction of the number of insurers, the insurance market shows positive dynamics of the development of active operations. The absolute change in the assets of insurance companies in 2020 compared to 2016 amounted to UAH 8850 million, and the growth rate came out as 115.8%. The corresponding growth was provided by the life insurance services (growth over 5 years by 45.1%). At the same time, the assets of non-life insurers in 2020 decreased by 8.7%. The share of insurance companies' assets in the total assets of non-bank financial institutions during 2016–2020 decreased from 34,9% in 2016 to 26.0% in 2020, which shows lower competitiveness of insurers in customer services compared to other non-bank financial participants.

Now we will consider a more detailed structure of offered by Ukrainian companiesinsurance services by typeduring 2015–2019 (Table 2).

According to table 2, it can be determined that the structure of insurance premiums in their total amount is relatively stable. The largest share of insurance services in the total amount of insurance payments dur-

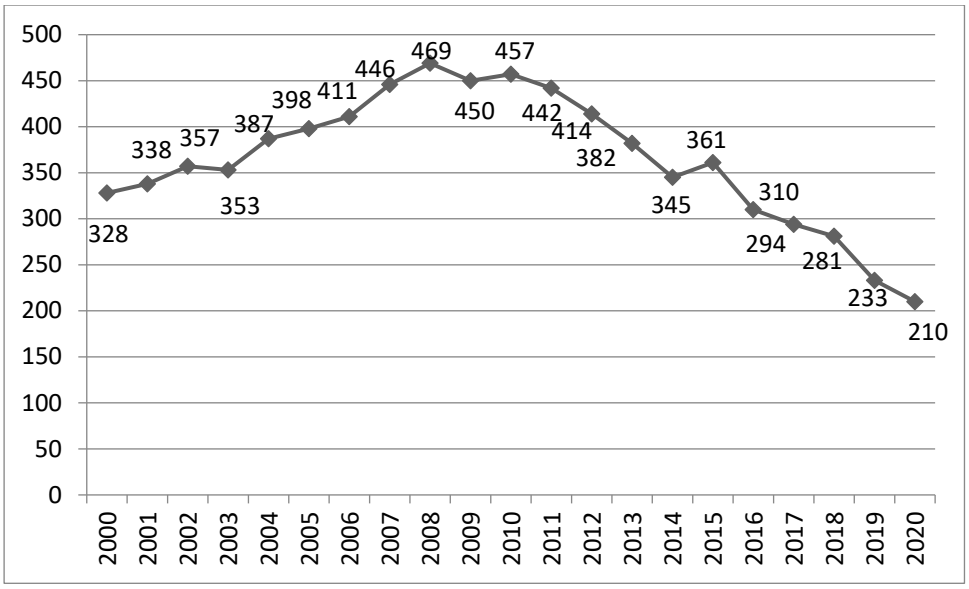

Figure 2. Dynamics of insurance companies in Ukraine during 2000–2020

Source: prepared by authors based on [29; 30]

ing 2015-2019 is occupied by car insurance (32.8% in 2015, 32.7% in 2016, 34.6% in 2017. 26.3% in 2018, 28.5% in 2019) and property insurance services (15.6% in 2015, 16.7% in 2016, 14.6% in 2017, 13.8% in 2018, 12.5% in 2019). A distinguishing feature of the accumulation of payments of these types is a slight reduction in their volume in 2019 compared to 2015. Regarding financial risk insurance, their share in the total amount of insurance payments ranged from 8.8% to 12.6%, health insurance – from 7.1% to 9.4%, life insurance – from 7.9% to 10.4% in different periods.

The level of business activity of insurance companies is characterized by the volume of net insur-

Table 1

Indicators of the number and assets volume of insurance companies in Ukraine in 2016–2020

Indicator	Year					2020 in % as to 2016	2020 compared to 2016 (+/-)
	2016	2017	2018	2019	2020		
Insurance companies, units	310	294	218	233	210	69,4	-100
inter alia: non-life	271	261	251	210	190	72,0	-71
life	39	33	30	23	20	69,4	-100
Assets of non-bank financial institutions, million UAH	160897	173315	197499	235985	249369	155,0	88472
Assets of insurance companies, million UAH	56075	57381	63493	63867	64925	115,8	8850
inter alia: non-life	45129	46159	51400	50458	49037	108,7	3908
life	10947	11222	12093	13409	15888	145,1	4941
Share of insurers' assets in assets of non-bank financial institutions, %	34,9	33,1	32,1	27,1	26,0	74,5	-8,9

Source: prepared by authors based on [29; 30]

Table 2

Structure of insurance services by volumes of insurance premiums in 2015–2019, %

Types of insurance services	2015	2016	2017	2018	2019
Market insurance payments, overall	100,0	100,0	100,0	100,0	100,0
inter alia car insurance	32,8	32,7	34,6	26,3	28,5
health insurance	8,3	8,6	9,4	7,1	8,4
life insurance	9,8	10,4	10,2	7,9	8,7
property insurance	15,6	16,7	14,6	13,0	12,5
financial risks insurance	8,8	9,6	12,6	9,1	9,0

Source: prepared by authors based on [30]

ance premiums for certain types of insurance in the first quarter of 2019–2020, the absolute and relative changes of which are displayed in table 3.

In 2020, there was a decrease in the business activity of insurers in the main types of insurance services. In our opinion, the explanation lies in the pandemic caused by COVID-19. The volume of net insurance premiums for certain types of insurance companies for the first quarter of 2019–2020 decreased for most types of insurance services, namely insurance of property (by 18.8%), medical care (by 11.6%), fire and hazard (by 24.6%), financial risks (by 18.8%), liability to third parties (by 22.2%), cargo and luggage (by 21.7%), aviation (by 14.5%) and credit (by 23.4%)) etc. At the same time, net insurance premiums on health insurance for illness (by 37.5%), continuoushealth insurance (by 19.6%), life insurance (by 22.7%) and car insurance (by 7.4%) increased.

The increase in health insurance premiums in the event of illness and health insurance is linked to the implementation of healthcare reform in Ukraine and the introduction of new health insurance programs to compensate for the costs incurred as a result of the COVID-19 outbreak (for example, providing policies for healthcare workers up to 3 months, corporate insurance for company employees in case of COVID-19, etc.).

Taking current trends in the insurance market for the main types of insurance in Ukraine, we can outline the prospects for its development in terms of digitalization processes and the need for insurance business digitization.

The development of innovative approaches in all sectors of the economy, as well as the gradual transition from traditional to digital business, are global trends in the insurance industry today. As a result, in today's environment, innovative insurance technologies (InsurTech) are rapidly spreading.

Insurtech is the application of innovative solutions to maximize the efficiency of new technologies in the insurance industry [24]. McKinsey experts conducted research to identify the most popular technological solutions that are currently being used in InsurTech projects. The results showed that top solutions include microinsurance (3%), blockchain (4%), P2P (4%), robotic advisor (10%), insurance for the IoT sphere (12%), telematics (13%), insurance based on use of big data (13%),machine learning (20%) and artificial intelligence [4].

Primary Insurtech in the global insurance market are: digital insurance, P2P (peer-to-peer), BlockChain in insurance, on-demand insurance, robo-advising, big data and machine learning, Usage-Based Insurance (UBI) (Addition, Table A).

The insurance market of Ukraine is also developing in the direction of implementing innovative digital insurance products, however, still at a slow pace. Only a small number of insurers use the above-mentioned technologies. Many insurance companies have outdated business models and even no websites of their own. At the beginning of 2020, among 232 insurance companies, only 80% have their own websites [38]. And only 9% of insurance companies have created online offices for their policyholders, where the customer can see a list of valid insurance contracts, paid insurance premiums, and follow period before the next payment (Figure 3).

The analysis of the structure of the main groups of insurance services by the volume of insurance premiums in Ukraine for 2015–2019 and for the 1st quarter of 2020 showed that the most common type of

Table 3

The volume of net insurance premiums for certain types of insurancein the I quarter of 2019–2020, million UAH

Types of insurance	I quarter		Rate of increase for theIquarter of 2020 compared to the Iquarter of 2019	
	2019	2020	million UAH	%
Life insurance	1021,4	1253,2	231,8	22,7
Car insurance	3087,80	3317,40	229,6	7,4
Health insurance (continuous)	1286,3	1538,1	251,8	19,6
Health insurancefor illness	132,1	181,7	49,6	37,5
Accident insurance	351,0	353,0	2,0	0,6
Medical care insurance	361,0	319,1	-41,9	-11,6
Property insurance	980,0	795,4	-184,6	-18,8
Fire and hazard insurance	642,7	484,8	-157,9	-24,6
Financial risks insurance	639,8	474,0	-165,8	-25,9
Third party liability insurance	364,0	283,2	-80,8	-22,2
Cargo and luggage insurance	323,7	253,4	-70,3	-21,7
Aviation insurance	136,9	117,0	-19,9	-14,5
Credit insurance	80,0	61,3	-18,7	-23,4
Other types of insurance	266,2	236,4	-29,8	-11,2
Total	9672,9	9668,0	-4,9	-0,1

Source: prepared by authors based on [29; 30]

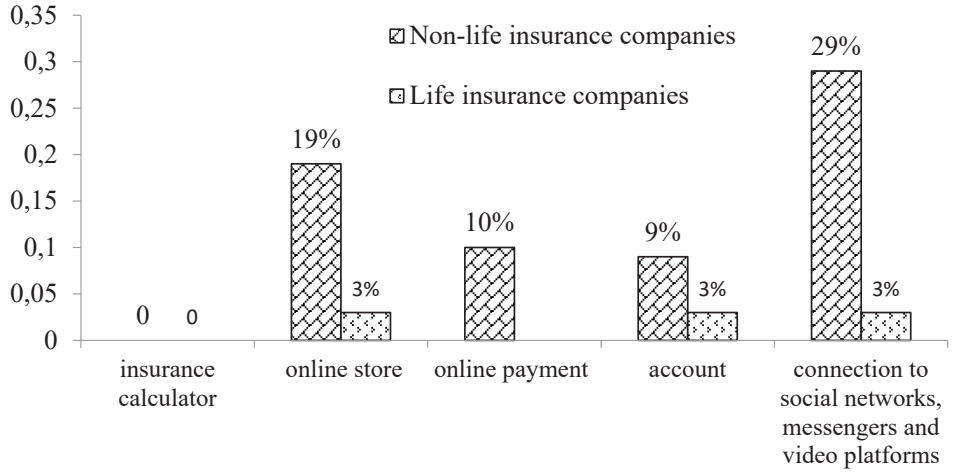

Figure 3. The structure of insurance companies in Ukraine based on the use of digital technology elements at the turn of 2020, %

Source: prepared by authors based on [38]

insurance services (on average more than 30% of the total premiums) is car insurance (CCLIVO, CASCO, Green Card) (Tables 2, 3). This is primarily due to the fact that the CCLIVO has a compulsory form of insurance and in the absence of a policy, is punishable by fines. Therefore, the "digitization" of CCLIVO, or the introduction of digital insurance in this area, has become most common among both insurers and policyholders.

As of October 31, 2019, 1.03 million contracts of CCLIVO electronic policies were sold. The leaders in sales were: PJSC «Insurance Company «VUSO», PJSC Insurance Company «PZU Ukraine», PJSC «Ukrainian Fire Insurance Company», PJSC «Prince Vienna Insurance Group», PJSC «Insurance Company «Unika» [27].

The use of artificial intelligence (Insurance Bot) in simple operations was firstly introduced in Ukraine on March 30, 2018, by the insurance company «VUSO». The unique features of the Insurance Bot by Evergreen include but not limited to the capability to order a policy; communication with the client through the messenger; the capability to automatically answer the client's questions at any time; a quick search for the nearest branch/office; the capability to order a regular call back from the call center operator; text recognition from photos of user documents (in future versions); quick notifications about road accidents due to the transition to the service of registration of the MTIBU European protocol; quick notifications about the accident via the MTIBU API; the capability to easily upload photos, location and information about the participants of the accident (in future versions).

Products that can be sold via the bot:

1) products with the automatic calculation: CCLIVO, Green card, travel insurance;

2) products without calculation, only data collection: CASCO, life, health, real estate insurance.

Insurance Bot is built using the Kwizbot platform as an editor of chatbot scripts and interfaces. Connection to messengers is implemented through the API, which guarantees flexibility of integration with other systems and the capability to connect customer components [8].

There are companies and services in the Ukrainian insurance market that seek to make access to insurance services easier, cheaper and more transparent through the processes of digitalization, in particular [7]:

1. Insurance Broker Insart – an insurance broker that provides cybersecurity services. The company is a provider of international innovative insurance products focused on business protection.

2. Sureberry – a platform that allows launching the process of selling insurance on any website in a few days.

3. Online service Zastrahovanoi telegram-bot @ bezturbot, where tourists can be insured online before going abroad.

4. Alfa Protection – a system of protection and prevention of fraud during online payment with activation of the «Stop the operation, it's a scam» command in case of using another person's card. The service works with business, artificial intelligence performs risk analysis.

Insurance companies in Ukraine are gradually introducing cloud technologies, which helps to protect their databases. Cloud technology services are provided by IT companies mainly on a paid basis. For instance, PJSC «Insurance Company «UNIKA» operates in the cloud environment of De Novo [22].

By 2023, UBI and insurance telematics are expected to have more than 140 million subscribers worldwide and revenue of up to $ 700 billion through the monetization of data on cars. To reduce the risks, drivers may be sent malfunction warnings and maintenance reminders. This data can also be sold to

stakeholders such as manufacturers, parts suppliers, and local towing services [42]. Weather and GPS data can be integrated to warn drivers of dangerous road conditions. Young drivers can receive immediate feedback on their driving behavior to help them learn safer driving habits. Vehicle data can be sent to the manufacturers for warranty, quality of parts, and safety issues. The claims process can be accelerated by the functions of sensors and cameras on the vehicle to detect the driver's fault. In the Ukrainian insurance market, telematics services are already provided by such insurance companies as PJSC INGO Ukraine Joint-Stock Insurance Company – «Smart CASCO», JSC ARX Insurance Company («AXA Insurance») – «Smart CASCO».

To realize the benefits of digitized insurance services, insurers must implement digital infrastructure and collaborate with key business partners in this field. At the same time, the COVID-19 pandemic has increased the pressure on insurers to provide new innovative proposals and ways to profit through digital transformation.

With such potential, the insurance industry's digitization process has included not only insurance companies, but also car manufacturers, telematics experts, and data analysts. Verisk, for example, has introduced the Verisk Data Exchange TM, a telematics platform for analyzing driver data. It provides a ready-to-use predictive analytics scoring model. Manufacturers such as Ford and Honda have joined the data exchange with Verisk in order to offer UBI products to customers as part of their "suite of services". Volvo is collaborating with Geotab, a commercial vehicle telematics specialist, to introduce a new cloud solution for fleet management and driver management [42].

The experience of global investment in InsureTech is prominent for Ukraine (Figure 4). Despite the economic uncertainty caused by COVID-19, in 2020, InsurTech companies have raised the highest level of funding in history – $6.2 billion, which is 3.16% more than in 2019. Total invested capital increased by 38.4% (by CAGR indicator) from $ 1.7 billion in 2016 to more than $6.2 billion at the end of 2020. At the same time, the number of contracts in 2020 increased to 323, which is 18.8% more than in 2019.

It is worth noting that the increase in investment in InsureTech was caused by an increased demand for on-demand insurance contracts, which were offered by insurance platforms in pandemic situations and, thanks to digital access, helped to buy insurance services within self-isolation conditions, without the need to leave home. We believe that this type of digital insurance innovation is appropriate for use in Ukraine's insurance market.

The high level of application of digital technologies in all fields of the economy implies increased risks of cybercrime. Given the above, one of the principles of the Concept of Development of the Digital Economy and Society of Ukraine [47] is that digitization should be accompanied by an increase in trust and security. Information security, cybersecurity, protection of personal data, privacy and rights of users of digital technologies, strengthening and protection of trust in cyberspace are, in particular, prerequisites for simultaneous digital development and appropriate prevention, elimination, and management of associated risks.

This is the right approach as in 2015–2020 the number of registered cyberattacks in the world increased by 42.4% [40]. Even in the United States, where an effective system for protecting organizations from cyberattacks has already been established, damages are sufficient. For instance, in 2019, the average amount of losses from cybercriminals in the United States amounted to $8.1 million, which is 39% more than in 2015 (Figure 5). We can also trace the growth of insurance premiums for cyber insurance services in the world, which indicates the relevance and pros-

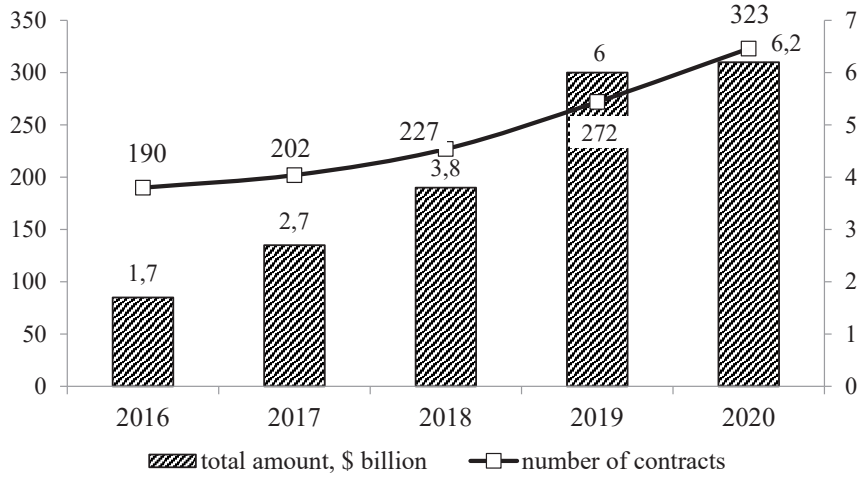

Figure 4. Indicators of global investment in InsureTech in 2016–2020

Source: [10]

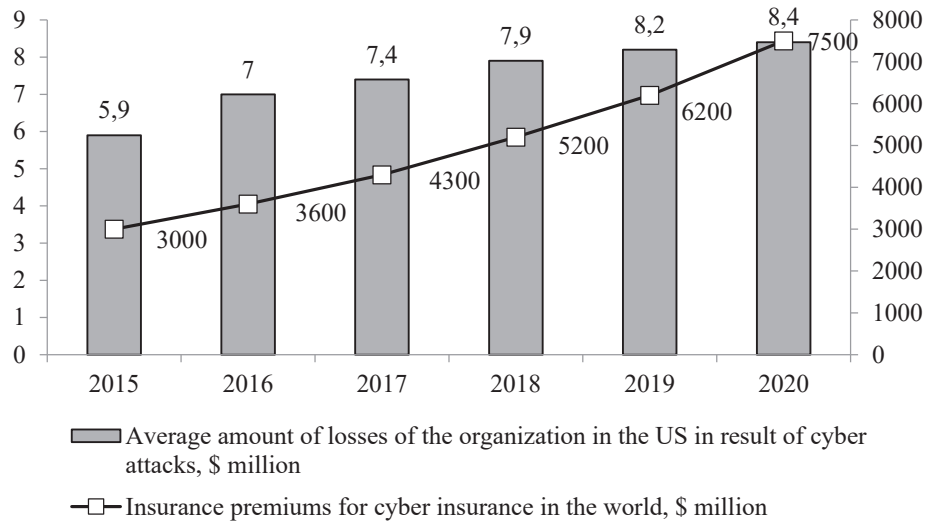

Figure 5. Dynamics of global insurance premiums and the average amount of losses of the organization in the US in result of cyber attacks in 2015–2020

Source: [10; 11]

pects of this segment of the insurance business (cyber insurance) due to the increase of global digitalization of economic and social processes.

Therefore, the pandemic and the subsequent transition to remote work have opened up new threats from cybercriminals for all participants in economic and financial relations. As a result, cybersecurity is gaining global relevance, and investors are increasing their share of the sector as they seek to find ways of protection from possible new cyber threats. The global CyberTech industry has grown significantly in 2016–2020. The total amount of funding (by CAGR indicator) has increased by almost 9 times from $666.1 million to almost $6.2 billion (including for 2019–2020 – by 32%) (Figure 6).

Thus, today's challenges narrate new rules for the introduction of InsureTech in the insurance market of Ukraine for companies seeking to maintain their competitiveness and financial stability.

Recommendations for implementation of InsureTech in the operations of insurance companies in Ukraine:

The first recommendation. To spread the services of the insurance market within the entire territory of Ukraine, it is advised to introduce innovative technologies in the field of the insurance business. The experience of the local community of Poltava in the direction of the development of the Concept of the informational ecosystem is prominent and up-to-date. POLTAVA SMART CITY, which is an informational ecosystem that unites the community, business, and local government to transform Poltava into a digital and progressive city, has been officially launched as an application of the e-Poltava software package in September 2020. The implementation of POLTAVA SMART CITY technology also intends the creation of the ecosystem management platform. This ecosystem applies modern technologies, approaches, and solu-

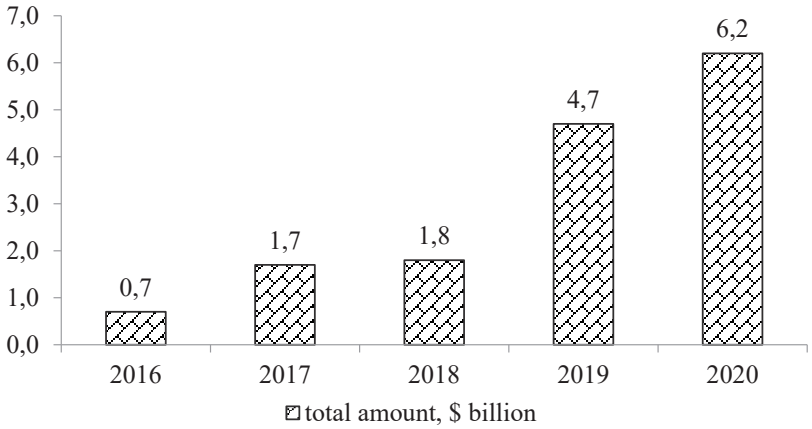

Figure 6. Indicators of global investment in the CyberTech industry in 2016–2020

Source: [11]

tions to build a digital municipal government system, develop a smart urban infrastructure, use modern data management systems and implement online services. It is aimed at improving the quality and comfort of life, meeting citizens' needs, improving communications, security, effective integration and rational use of resources, the transformation of Poltava into a digital and progressive city [36].

Adding the field of insurance to the framework of this Concept would be essential for the transformation of Poltava. The description of the possible direction is provided in table 4.

It is also advised to integrate certain types of insurance services within the «Concept of informational ecosystem POLTAVA SMART CITY» in order to promote them within the population, in particular:

1) in the field of «Medicine» – the project direction of «Health Insurance», which is designed to provide information on all available health insurance services; telecommunication consultations on various packages; formation of a rank of companies on the efficiency and quality of health insurance services; registration of the online health insurance policies, including on-demand ones;

2) in the field of «Tourism» – functionality of the mobile travel service would be improved by adding an option of «Travel Insurance» which will provide quick access to online travel insurance services, both indi-

Table 4

Description of the «Insurance» field as a transformation direction in the city of Poltava within the «Concept of informational ecosystem POLTAVA SMART CITY»

Item name	Item description
Insurance field. Update	Insurance is a powerful component of the financial system and of the financial services market the importance of which grows as competition and market relations develop. Significant investment resources and the policy of social and economic protection of the city population are formed through the insurance market. In the process of insurance operations, there is an accumulation of funds to compensate for losses caused by adverse events for the health, life, and material well-being of the population. Therefore, the insurance sector needs some economic and administrative support from the authorities in the long run.
Purpose	ensuring a smooth economic effect by compensating for unforeseen losses and improving the quality and accessibility of insurance services by digitizing them
Project directions in the field of «Insurance»:	
Mobile insurance service	– quick access to insurance services online; information about the insurance companies in the location area (with links to sites); ranking of insurance companies by key performance indicators
Policyholder account	– designed for effective interaction of insurers and policyholders, online access to services, information on existing insurance contracts with a calculator, and capability to notify the customer about the end of the contract, bonuses, new services, etc.
Poll	– obtaining the opinion of the policyholder in order to grade/rank insurance companies on the quality of service by the client
Telematics	– assistance in equipping of motor transport with IoT-sensors and GPS trackers for both citizens and business entities of the city
Cybersecurity	– spread of information among business entities about possible cyber threats and cyber attacks in digital data systems and the Internet environment; providing services to compensate for losses due to cyber-attacks; preventing cases of fraud via the Internet services
Environmental insurance	– improving environmental safety for damage caused to citizens and legal entities as a result of accidental pollution of the environment; stimulating "green" investments by attracting insurance companies to finance environmental projects; following the strategy aimed at solving the global climate problem and creating a sustainable development society (the global investment trend, joined by well-known insurance groups, is the orientation of companies on environmental, social and corporate governance (ESG), in particular, exit from coal mining projects (for example, North American company Liberty Mutual Insurance, Lloyd's, UNIQA Insurance Group, Allianz)
Expected results:	– development of the city's insurance business; – improving the safety of citizens; – creating comfortable conditions – to access information on insurance protection and quality services for citizens; – reducing time costs; – providing remote consultation; – reducing the number of road accidents; – increasing protection in the Internet space; – improving the environmental safety of the city; – contributing to the investment climate; – promoting reasonable savings of citizens.

Source: authors' own

vidual packages and independent choice of services, online consultations and information about insurance companies engaged in this type of insurance.

The second recommendation. In the insurance market of Ukraine, we suggest the use of a technologically innovative product based on big data. VAS (Visual Analysis Studio), developed by IBA Group, is a tool that helps insurance companies to automate the work with applications for insurance payments, as well as to combat various fraud schemes. IBA Group tested VAS as a pilot project in a Belarusian insurance company, where it was approved for use. The car insurance sector was chosen for testing. This method of automatic customer due diligence in Belarus was introduced in the country for the first time. The use of VAS has allowed to speed up by dozens of times the investigation of suspicious cases and find typical schemes of deception of insurers [15]. Hence, with the help of the «Visual Analysis Studio» one can check suspicious insurance cases, as well as find non-obvious connections, which is quite difficult to detect in manual analysis.

Besides the investigation of insurance fraud, VAS can help an insurance company to detect cyber threats. The SIEM-system records the incident, for example, an attempt to crack a password, scan the network, DDoS-attack. Integrated with IBM QRadar, VAS displays such information in the form of a single visual scheme of the attack: a customer is able to see the IP addresses, calculate the physical locations from which the attack is conducted [46].

Discussion. Digitization must ensure that every citizen has equal access to digital technology services, information, and knowledge; it should be aimed at creating benefits in various spheres of life; it must be carried out through the mechanism of economic growth by increasing the efficiency, productivity, and competitiveness; it should focus on international, European and regional cooperation in order to integrate Ukraine into the EU, entering the European and world markets; it should be accompanied by an increase in the level of trust and security; it should serve as an object of comprehensive administration of governance [47].

Digitization, in our opinion, is a process of digital transformation from the analog form of any system, field, phenomenon, object, etc., that takes a digital form without replacing the essence of the process itself, and allows for the creation of new business models with the possibility of unhindered data exchange and equal and free access in order to improve the efficiency of all spheres of life. In this context, it is critical to recognize that digitalization is accompanied by changes in evolutionary natural development. Digital technologies are not meant to disrupt the market or change it beyond recognition, but rather to make life easier by saving time, effort, and financial resources of both companies and customers. The definition is generalized and presented based on the results of a theoretical review of this category in various information sources [1; 5; 16; 31; 41; 47].

The analysis of the main trends and prospects of insurance companies in the Ukrainian financial market allows us to draw conclusions about the need for radical changes in the digital economy to introduce innovative technologies in all insurance processes in order to maintain company competitiveness. The Ukrainian insurance market has the potential to implement innovations because it is characterized by positive patterns and the presence of a significant number of financially stable entities that provide quality services and invest in improving efficiency through digitalization. Similar findings from other scholars' research support such conclusions [12; 35; 38].

The article substantiates the expediency of introducing digital insurance technologies both in a particular region and in Ukraine in general. It is proposed to use the direction of «Insurance» in the technology of SMART CITY, including pure use of the on-demand insurance and technology based on big data (in particular, a tool for finding connections, VAS) [14; 15; 19; 26]. We believe that only the widespread use of digital services will enable insurance companies to maintain their position and provide competitive advantages in the insurance market, meanwhile for policyholders, it is the opportunity to obtain quality, but cheaper and easier to use services.

Conclusions from the mentioned problems and prospects of further research in the given direction. Domestic insurers and reinsurers should develop initiatives that will allow them to be more flexible, provide more services to customers, and eliminate unnecessary insurance management costs, beginning with the formation of a services portfolio and continuing with organizational models and marketing and sales programs. Such processes, according to global economic development concepts, must be digital by default. More adaptable operations and dependable digital capabilities can assist insurers in eliminating losses at critical points while meeting customer expectations for speed and personalization. These characteristics are also essential for increasing productivity and developing new business models, both of which are critical to long-term success. In general, we believe that the introduction and spread of digitization has a significant impact on insurance company activities and contributes to global digital transformation strategies.

REFERENCES

1. Brennen, J. S. & Kreiss, D. (2016), «Digitalization», in Jensen, K. B., Rothenbuhler, E. W., Pooley, J. D. and Craig, R. T. (Eds), The International Encyclopedia of Communication Theory and Philosophy, Wiley-Blackwell, Chichester, pp. 556–566.

2. Choon, Y. T., Schulte P., & Chuen D. LEE K. (2017) Chapter 11-InsurTech and FinTech: Banking and Insurance Enablement. *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1: Cryptocurrency, FinTech, InsurTech, and Regulation* Edited by: David Lee Kuo Chuen and Robert Deng Elsevier Inc. DOI: https://doi.org/10.1016/B978-0-12-810441-5.00011-7

3. Demchyshak, N., Hlutkovskyy, M. (2020) Development of digital economy in Ukraine: conceptual bases, priorities and role of innovations. *Innovative economy*, 5–6 [84], 43–48. DOI: https://doi.org/10.37332/2309-1533.2020.5-6.6

4. DigitalMCkinsey: Digital disruption in insurance: Cutting through the noise (2017). Available at: https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/time%20for%20insurance%20companies%20to%20face%20digital%20reality/digital-disruption-in-insurance.ashx

5. Doxee. Digital transformation of business processes: 4 benefits, (2020) June 4. Available at: https://www.doxee.com/blog/technology/digital-transformation-of-business-processes-4-benefits/

6. Eckert, C., & Osterrieder, K. (2020) How digitalization affects insurance companies: overview and use cases of digital technologies. *Zeitschrift für die gesamte Versicherungswissenschaft.* DOI: https://doi.org/10.1007/s12297- 020-00475-9

7. Economic truth. Insurance business with a taste of IT: what can be insured online (2019). Available at: https://www.epravda.com.ua/projects/fintech/2019/04/23/647105/

8. Evergreen Insurance Bot (2020). Available at: https://evergreens.com.ua/ua/box-products/insurance-bot.html

9. Farkas S., Lopez O., & Maud Th. (2021) Cyber claim analysis using Generalized Pareto regression trees with applications to insurance. *Insurance: Mathematics and Economics,* vol. 98, May, 92–105. DOI: https://doi.org/10.1016/j.insmatheco.2021.02.009

10. FinTech Global. Global InsurTech funding set a new record in 2020 led by large deals in the United States. (2021, a) February 3. Available at: https://member.fintech.global/2021/02/03/global-insurtech-funding-set-a-new-record-in-2020-led-by-large-deals-in-the-united-states

11. FinTech Global. Global CyberTech funding set a new record last year amid escalating cyber threats brought by the pandemic (2021, b) March 24. Available at: https://member.fintech.global/2021/02/03/global-insurtech-funding-set-a-new-record-in-2020-led-by-large-deals-in-the-united-states

12. Gubar, O. (2018) The influence of digital economy on the Ukrainian insurance services market: current state and prospects for development. *Financial services*, 1. Available at: https://er.chdtu.edu.ua/handle/ChSTU/220

13. Gudz, O. (2018) Digital economy: changing values and guidelines enterprise management. *Economics. Management. Business*, 2(24), 4–12. Available at: http://journals.dut.edu.ua/index.php/emb/article/view/1878

14. Hromadske Int (2019) Smart city. We tell you what a «smart city» is and how dangerous it is. Available at: https://hromadske.ua/posts/liho-z-rozumu-rozpovidayemo-sho-take-smart-city-ta-chim-vono-nebezpechne

15. IBA Group: The development of the IBA Group automates the insurance business and protects insurance companies from unscrupulous customers (2021). Available at: https://ua.ibagroupit.com/news/vas-strahovi-kompanii-24-02-21/

16. Information Technology, Gartner Glossary. Digitization. Available at: https://www.gartner.com/en/information-technology/glossary/digitization#:~:text=Digitization%20is%20the%20process%20of,changes%20to%20the%20process%20itself (accessed May 1, 2021).

17. Innolytics. What is digitalization? (2020) https://innolytics-innovation.com/what-is-digitalization/

18. Kaigorodova, G., Mustafina, A., Pyrkova, G., Vyukov, M., & Davletshina, L. (2020) Cyber Risks for Insurance Company. *Advances in Intelligent Systems and Computing,* 908, 669–677.DOI: https://doi.org/10.1007/978-3-030-11367-4_64

19. Kancevičienė, N. (2019) Insurance, Smart Information Systems and Ethics: A Case Study. *The ORBIT Journal*, vol. 2, issue 2, 1–27. DOI: https://doi.org/10.29297/orbit.v2i2.106

20. Kar Arpan Kumar, & Navin L. (2021) Diffusion of blockchain in insurance industry: An analysis through the review of academic and trade literature. *Telematics and Informatics,* vol. 58, May. DOI: https://doi.org/10.1016/j.tele.2020.101532

21. Karcheva, G., Ogorodnya, D., & Openko, V. (2017) Digital economy and its impact on the development of national and international economy. *Financial space,* 3(27), 13–21. Available at: https://fp.cibs.ubs.edu.ua/index.php/fp/article/view/523/521

22. KO: IT for business: DeNovo helped UNICA insurance company to transfer IT processes to the cloud (2013). Available at: https://ko.com.ua/de_novo_pomogla_sk_unika_perevesti_it-processy_v_oblaka_81289

23. Kolot, A., & Herasymenko O. (2020) Digital transformation and new business models as determinants of formation of the economy of nontypical employment. *Social and labour relations: theory and practice*, 10(1), 33–54. DOI: http://dx.doi.org/10.21511/slrtp.10(1).2020.06

24. Kraus, N., Holoborod'ko, O., & Kraus, K. (2018) Digital economy: trends and prospects of avant-garde development. *Efficient economy*, 1. Available at: http://www.economy.nayka.com.ua/?op=1&z=6047

25. MIND: «Smart protection»: how to save on car insurance (2019). Available at: https://mind.ua/publications/20192669-rozumnij-zahist-yak-zaoshchaditi-na-strahuvanni-avtomobilya

26. Mishchenko, S., Naumenkova, S., Mishchenko, V., & Dorofeiev, D. (2021) Innovation risk management in financial institutions. *Investment Management and Financial Innovations*, 18(1), 190–202. DOI: http://dx.doi.org/10.21511/imfi.18(1).2021.16

27. Motor (transport) insurance bureau of Ukraine. More than 1 million electronic CCLIVO contracts have been concluded in Ukraine (2019). Available at: http://www.mtsbu.ua/ua/presscenter/news/155259/

28. Müller, F., Jaeger, D., & Hanewinkel, M. (2019) Digitization in wood supply – A review on how Industry 4.0 will change the forest value chain. *Computers and Electronics in Agriculture*, 162, 206–218. DOI: https://doi.org/10.1016/j.compag.2019.04.002

29. National Bank of Ukraine: Official Internet – Representation. Available at: https://bank.gov.ua/

30. National Commission for State Regulation of Financial Services Markets: Official Internet – Representation. Available at: https://www.nfp.gov.ua/

31. Nochta, T., Badstuber, N., & Noura, W. (2019) On the Governance of City Digital Twins-Insights from the Cambridge Case Study. DOI: https://doi.org/10.17863/CAM.41083

32. Osterrieder, P., Budde, L., & Friedli, T. (2020) The smart factory as a key construct of industry 4.0: a systematic literature review *International Journal of Production Economics*, Elsevier, vol. 221(C). Available at: https://www.mcmaster.ca/sept/learninghub/AMI4/pdfs/Smart-Factory-and-industry4-literature-review.pdf

33. Parida, V. (2018) Digitalization. *Addressingsocietal challenges,* 23–38. Available at: https://www.diva-portal.org/smash/get/diva2:1191622/FULLTEXT02.pdf

34. Pettersson, D., Lilliesköld, J., Händel, P., & Agerman, J. (2019) Usage-Based Auto Insurance on the Swedish Market: A Case Study. 2019 Portland International Conference on Management of Engineering and Technology (PICMET). Portland, OR, USA. DOI: https://doi.org/10.23919/PICMET.2019.8893870

35. Pikus, R., Prykaziuk, N. & Balytska, M. (2018) Financial sustainability management of the insurance company: case of Ukraine. *Investment Management and Financial Innovations*, 15(4), 219–228. DOI: http://dx.doi.org/10.21511/imfi.15(4).2018.18

36. Poltava Smart City (2020). Available at: https://smartcity.pl.ua/

37. Pütz F., Murphy, F., Mullins, M., & O'Malley L. (2019) Connected automated vehicles and insurance: Analysing future market-structure from a business ecosystem perspective. *Technology in Society*, vol. 59, November. DOI: https://doi.org/10.1016/j.techso.2019.101182

38. Shubenko, I. (2020) Trends in digitalization in the Ukrainian insurance market. *Business Inform*, 2, 273–279. DOI: https://doi.org/10.32983/2222-4459-2020-2-273-279

39. Statista: Average cost per data breach in the United States 2006–2020 (2021, a). Available at: https://www.statista.com/statistics/273575/average-organizational-cost-incurred-by-a-data-breach/

40. Statista: Estimated value of cyber insurance premiums written worldwide from 2014 to 2020 (2021, b). Available at: https://www.statista.com/statistics/533314/estimated-cyber-insurance-premiums/

41. Stroup, J. (2017) Industry 4.0 A Brief History – YouTube. https://www.youtube.com/watch?v=JCswJIdVoXk (accessed April 20, 2021).

42. TelematicsWire: Cyber Security, Digital Twin and Trusted Mobility – By SecureThings (2020). Available at: https://www.telematicswire.net/cyber-security-digital-twin-and-trusted-mobility-by-securethings/

43. Thenmozhi, M., Dhanalakshmi, R., Geetha, S., & Valli, R. (2021) Implementing blockchain technologies for health insurance claim processing in hospitals. *Materialstoday: PROCEEDINGS,* March. DOI: https://doi.org/10.1016/j.matpr.2021.02.776

44. Tretiak, D. & Paruba, Y. (2019) Innovative technologies in car insurance. *Investments: practice and experience*, 1, 30–36. Available at: http://www.investplan.com.ua/?op=1&z=6458&i=4

45. Unruh, G. & Kiron, D. (2017) Digital transformation on purpose. *MIT Sloan Management Review*, November 6. Available at: https://sloanreview.mit.edu/article/digital-transformation-on-purpose/ (accessed May 7, 2021).

46. VAS: Usage scenarios (2021). Available at: https://vasanalytics.com/use-case/

47. Verkhovna Rada of Ukraine (2018) On approval of the Concept of development of the digital economy and society of Ukraine for 2018-2020 and approval of the action plan for its implementation. Available at: https://zakon.rada.gov.ua/laws/show/67-2018-%D1%80#Text

Addition

Table A. **The main modern insurance technologies (InsurTech) in the global insurance market in terms of digitalization**

InsurTech	Characteristics and examples
1. Digital insurance	is the remote sale of insurance products via the Internet or a contact center without the participation of insurance agents (Gubar, 2018). Digital strategy in insurance is not only online sales, but the transformation of the whole business in the direction of working with an electronic policy. Digital insurance allows to standardize insurance operations, reduce costs and improve quality and speed of customer service, including through the use of cloud platforms. It also enables effective interaction with the client in a constant mode, minimizing fraud and increasing insurance security (Demchyshak & Hlutkovy, 2020)
2. P2P (peer-to-peer)	insurance and microinsurance: from user to user. The best-known example of peer-to-peer insurance is the Israeli-American Lemonade, which aims to change its customers' perceptions of insurance as a long-term and bureaucratic process by providing property insurance services through a mobile application. Hence, in case of an insured event, the Lemonade customer uses the camera of his cell phone to take pictures of the damage or record a video. P2P is based on the classic scheme of mutual insurance, with the only difference – part of the paid insurance premium returns to the client at the end of the insurance contract

(Continuation of Table A)

InsurTech	Characteristics and examples
3. BlockChain in insurance	Blockchain is a continuous sequential chain of blocks of information about transactions, agreements, and contracts within the system. All the information in the blockchain is accumulated to form a database that is constantly updated. Nothing can be removed or replaced from this database. This innovative product has been introduced to protect customer data and develop more transparent and affordable insurance solutions. The first Blockchain consortium was established in 2017 under the name Blockchain Insurance Industry Initiative (abbreviated B3i). The most popular examples in the European insurance market are Aegon (Netherlands), Allianz and MunichRe (Germany), SwissRe, and Zurich (Switzerland). The new pilot blockchain insurance project, revealed in March 2021, is a joint project between insurance and reinsurance broker AON, which has partnered with Nayms, a cryptocurrency insurance company, and Bermuda-based insurance company Realm. Within this cooperation, AON plans to implement through Nayms the first pilot project with Teller Finance (Teller is an open-source protocol that interacts with consumers' data to calculate default risk and offers unsecured cryptocurrency loans), a decentralized lending protocol (DeFi) to emphasize the ability to scale insurance coverage by comparing assets and liabilities when insuring the risks associated with cryptocurrency. Realm Insurance is going to be the underwriter of the contract. As digital assets are growing rapidly to $ 1 trillion, the need for adequate insurance coverage is also increasing and is essential for the sustainability of this innovative market
4. On-demand insurance	is an insurance product that aims to activate insurance coverage at the request of the insured if necessary (during travel, car travel, participation in sports competitions, etc.) using a smartphone application. The most famous insurance products so far are Cuvva, Kasko (UK), and Trov, Slice (USA). On-demand insurance allows buying policies online without interacting with a broker or company representative. A customer can purchase policies using their smartphone. Generally, there are no long-term contracts, large forms to fill out, or phone conversations with a representative of the insurance company. This makes the insurance coverage simple and easy to use. Insurance payments are conducted in an additional order, and claims are satisfied through the mobile chat interface. Trov, which uses an on-demand insurance model, offers a coverage program for tenants, small businesses, mobility services, and personal belongings. The cover can be started or turned off by the wave of the hand. The application also provides a chatbot to automate the claim process. Trov currently offers products in 5 countries, including 8 jurisdictions in the United States. Slice Labs, Inc. is a technology company with the first on-demand cloud platform to create digital insurance products using Artificial Intelligence (AI). Slice Labs, Inc. allows insurers to introduce new services to customers, providing individual insurance products on demand. For example, users (tenants) can choose the dates on which they will be covered for the use of their homes or premises for rent, which does not require new investments in infrastructure. Slice aims to protect tenants from loss of income, vandalism, theft, insect infestation, etc. Slice also works with AXA XL on custom cyber insurance for small and medium-sized businesses. In healthcare, Bind Benefits offers an on-demand model that allows consumers to develop an individual health insurance product that meets their current needs or life circumstances.
5. Robo-advising, big data and machine learning	are the most obvious ways to improve insurance services. Big data will help financial market players, including insurance, better understand the risks by using data from sources in disparate repositories and by expanding credit bureaus through machine learning technology analysis. Big Tech platforms provide access to money market funds and basic insurance products. Applying principles of machine learning, the reinsured seeks hidden drivers of losses and responds to them with measures to prevent losses or adjust tariffs. This means faster assessment and processing of insurance claims, higher insurance and reinsurance tariffs as a result of increased accuracy of risk assessment, and therefore, prevention of losses and damages of the industry. For example, in the field of car insurance, Munich Re helps assignors manage their insurance portfolios with its automated tool, The Box, which uses machine learning to predict expected losses. Similarly, Munich Re's AQUALYTIX data analysis initiative combines data from the insurer's portfolio with external sources to analyze the damage to the water network. By using machine learning, experts can also identify risk factors for individual buildings and accordingly predict losses for the coming year. CPIC Life noted that in 2019, it helped 2.96 million customers apply for reimbursement and paid 16.4 billion yuan. As for individual businesses, almost 83.4% of policyholders preferred smartphone applications of insurers to receive a policy, which, thanks to artificial intelligence technology, took about 4 seconds. In 2020, PingAn P&C Insurance launched a one-click claim service for car owners, which allowed customers to upload pictures of car damage online and saved about a third of the time compared to the traditional insurance claim application process.

(End of Table A)

InsurTech	Characteristics and examples
6. Usage-Based Insurance (UBI)	is smart insurance based on telematics technology. Telematics in insurance is a process of clarifying insurance policy tariffs for an individual policyholder, based on information obtained from various sensors and technical devices that can be installed on or near the insured object. This is a special monitoring system, the main task of which is to monitor the behavior of the policyholder (Tretyak & Poruba, 2019). Today, telematics is used to assess the degree of insurance risk in car insurance, life and health insurance, building insurance. If a consumer wants to reduce the cost of the insurance premium for the CASCO service, the insurance company installs a free telematics device in order to study the style of behavior of the driver for a certain period. This device transmits the received information to the cloud storage, where it is analyzed and then displayed in the mobile app. The most popular project in this area is Metromile (USA). In Europe, the leader in the use of telematics is Italy, where since 2012. telematics devices are legally installed in all new cars. Their data is accepted in the courts of Great Britain and Italy (ecall system). These technologies are constantly improving, and today it is not necessary to install a telematics device – enough to download an application on your smartphone. According to domestic insurance companies, the insurance tariff with the usage of a telematics device can be reduced by 60% (MIND, 2019).

Source: authors' own

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***Анотація**. Системні проблеми на страховому ринку України, сформовані десятиліттями, викликані слабкими фінансовими можливостями страхових компаній та їх неготовністю до впровадження інновацій. Цифрова трансформація набирає обертів і поширюється на всі сфери економіки, включаючи бізнес-модель страхового ринку. З одного боку, це надає широкий спектр можливостей для розвитку, проте, з іншого боку, створює нові виклики для бізнесу. Поява нових ризиків, зокрема пандемія, викликана вірусом COVID-19, призвели до зростання потреб споживачів у страхових послугах, в тому числі через мережу Інтернет. Враховуючи вищевикладене, **метою статті** є підвищення ефективності страхового ринку України на основі впровадження цифрових технологій. **Методика дослідження.** Під час дослідження використані методи табличного та графічного представлення результатів дослідження, логічне узагальнення, порівняльний аналіз та системний підхід (який враховує динамічну функціональну залежність між станом цілого та балансом його складових елементів), динамічний аналіз, логічне, теоретичне (концептуальне) узагальнення. **Результати.** Досліджуючи поняття «діджиталізація», «цифрова економіка» та «цифровізація» авторами запропоновано власне трактування цифровізації. Оцінюються тенденції розвитку страхового ринку України з метою виявлення готовності страхових компаній до впровадження InsurTech. Систематизовано та проаналізовано приклади основних інноваційних страхових технологій та продуктів світового страхового ринку (наприклад, телематика, штучний інтелект, хмарні обчислення). Визначено ступінь проникнення InsurTech на страховий ринок України. Надано рекомендації щодо впровадження цифрових технологій (Smart City, VAS – Студія візуального аналізу) у діяльність страхових компаній України. **Практична значущість результатів дослідження.** Впровадження цифрових технологій на страхового ринку дозволить підвищити його ефективність за рахунок удосконалення діяльності страхових компаній України, покращення якості надання ними страхових послуг та забезпечення розвитку фінансової інклюзії.*

***Ключові слова:** страхування, інновація, цифрова трансформація, діджиталізація, цифрові технології, InsurTech, Smart City, страхова компанія.*