

## THE EMERGENCE OF CYBER RISKS, THEIR ESSENCE AND ECONOMIC CONSEQUENCES

**KHOLBAEV A. YU.**

Tashkent Institute of Finance, Tashkent, Uzbekistan

[azamat.xolbayev@mail.ru](mailto:azamat.xolbayev@mail.ru)

---

### *Abstract*

The article describes the essence of information risk insurance, the current stages and specifics of information risk insurance. Insurance risks include insurance risks and uninsured benefits. Cyber-attacks are classified as damages that can be inflicted by committing cybercrimes. Information risk insurance programs are analyzed.

**Keywords:** Risk, Protection, Cyber Crime, Cyber Insurance, Information Risks, Information Security, Cyber Attack, Insurance, Insurance Of Information Risks.

---

### INTRODUCTION



A new era has begun for the world community. This period is explained by the penetration of information and communication technologies into all spheres and networks. The daily activities of people have become closely related to information and communication technologies. Most countries in the world have begun to introduce a digital economy system, and these changes, ultimately, serve the well-being of mankind. At the same time, the rapid penetration of information and communication technologies into our daily lives poses new risks that threaten cyber security. These risks are called cyber risks in world practice, and their negative consequences are capable of causing harm on a global scale. It is not for nothing that UN Secretary General Antonio Guterrish commented on this situation: "the digital economy can generate new risks, including negative consequences associated with threats to cyber security, alleviation of illegal economic activity, violation of privacy immunity..." . For this reason, the provision of cyber security is becoming one of the pressing problems of the world community, and the widespread introduction and development of cyber risk insurance in solving these problems is considered as a promising direction.

In world practice, a number of methods and tools of the risk management system are being scientifically investigated, aimed at ensuring cyber security, in particular, preventing cyber risks and reducing their negative consequences. These studies focus on the technical means of cyber security, i.e. cryptographic protection and encryption of data, funds reservation, risk allocation (diversification), normalization (certification, licensing). However, cyber risk insurance issues have not been sufficiently disclosed, which is why there is a need to conduct scientific research in this direction.

Ildam steps towards further development of the information and communication system and introduction of the digital economy in Uzbekistan, in turn, dictate the

development of a mechanism for managing cyber security. The new Uzbekistan development strategy for 2022-2026 defines" the development of the stock market as an alternative resource in expanding and quality of their contribution to the account of insurance, leasing and other financial services of new types, attracting capital and placing free resources of enterprises, financial institutions and interests". For this reason, the development of the cyber risk insurance system in the provision of cyber security, in particular the need for an appropriate scientific and methodological approach in this regard, as well as the development of regulatory documents and the improvement of existing ones, determines the relevance of the topic of selected scientific research.

President of the Republic of Uzbekistan dated January 28, 2022 PF-60 decrees "on the development strategy of the New Uzbekistan for 2022-2026", PF-5953 of March 2, 2020 "on the implementation of the strategy of action on the five priority areas of development of the Republic of Uzbekistan in 2017-2021 "on the year of development of Science, Education and digital economy", PQ-4412 of August 2, 2019"on measures to reform the insurance market of the Republic of Uzbekistan and ensure its rapid development, as well as in the implementation of the tasks set out in other regulatory legal acts related to this area, the work of this dissertation serves at the Muay Thai level.

The sharp progress of digital technologies in the world is the impetus for the widespread introduction of the digital economy. The changes that are taking place create high efficiency and convenience for both the state and the subjects of the economy. For this reason, world countries are making consistent efforts towards the transition to a digital economy.

In recent years, the implementation of the concept and programs of transition to an informed society in most developed countries, in particular in the United States, Great Britain, Germany, France, Japan, Italy, Canada, Finland and Denmark, has been a priority. The only goal of this movement is to be among the pioneers in the world community. For this reason, the principle of transition to a "digital economy" is also observed in the world community. The basis of this principle is the fact that on the basis of convergence of informatization, telecommunications and computer technologies, the most modern and effective means of transmitting information and delivering it to the consumer are coming to the world.

Currently, the difference between developing countries from developed ones is primarily determined by the scarcity of knowledge and new technologies, while the scarcity of capital remains secondary. After all, world practice shows that the development of information and Communication Technologies is a key factor in creating a wide range of opportunities for increasing the competitiveness of the country, collecting and generalizing information in a large stream, and organizing management at a strategic level.

For example, the state of Singapore and similar countries called Asia's "Little Dragons" or "Asian tigers", such as South Korea, Taiwan, Malaysia, have a sharp development of the economy in recent years and the recognition of these countries as one of Asia's fastest-growing countries, above all, is directly related to the development of information and communication technologies.

To assess how much the importance and impact of digitization is increasing, it is enough to see the share of the world market capitalization of several large technological companies and digital platforms of the last decade. In particular, as noted in the data of the UN conference on trade and development, this figure was 16% in 2009, while by the end of 2018 it was 56%.

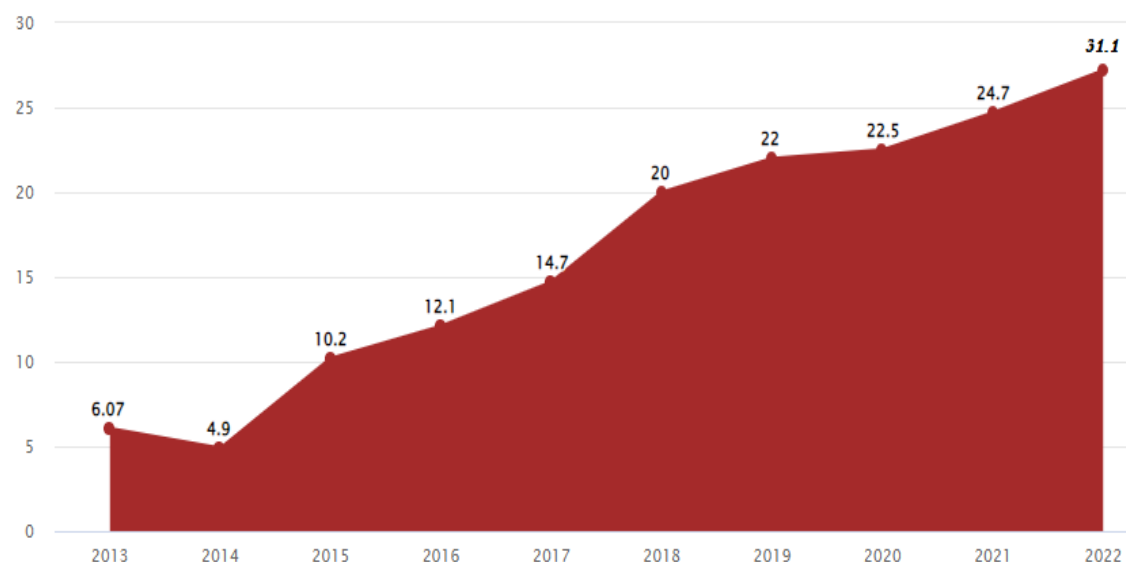
According to the data, more than 9% of the global GDP in 2020 corresponds to the contribution of ICT. It can be seen from this that modern information technology and software products, as one of the profitable sectors, are becoming one of the most important sectors in the development of the state economy.

According to experts from the World Bank, today all world countries are experiencing a "digital revolution". They put forward a number of conclusions in this regard:

1. The wide development of the Internet, cellular and information and Communication Technologies serves as an important factor in the formation of the digital economy.
2. The digital economy is rapidly developing in many countries of the world.
3. The digital economy leads to a radical positive change in the image of the world.

In fact, 20 years ago, only 4.1 percent of the world's population had access to the Internet. As of 2019, the number of users of the global network is 4.5 billion. exceeded the threshold. This means 58.8 percent of the world population .

In Uzbekistan, as of December 31, 2022, 31 million. more than a person is using the Internet. This figure is 29.5 million. includes mobile internet users (see Figure 1).



**Figure 1. Total number of internet users in Uzbekistan**

From the image data, we can see that the number of Internet users in Uzbekistan has increased by 5.1 times for 10 years.

From the statistics presented, it can be concluded that humanity is stepping into a new age of its development. Of course, as in most areas of human activity informed society is formed, new risks are emerging corresponding to its directions in accordance

with the acceleration of the transition process to the digital economy and the sharp development of information and communication technologies, and these risks are generating a large amount of economic losses.

Over the past 20 years, the concepts of "information risks" or "cyber risks" have become more frequent in scientific literature and other sources. However, there is still no clear and complete interpretation accepted by the majority of researchers and practitioners on these terms. The need to understand this term and concepts as an important economic category has arisen. To do this, first of all, we consider it advisable to analyze the concept of "risk".

Risk is also a philosophical, Ham historical, Ham economic category.

Risk is formed from the earliest age of human development, the appearance in a person of a feeling of fear of the possible danger. That is, the risk is from very old categories. Previously, risk control was limited. A person was not able to determine the reasons for the occurrence of a risk, was not able to anticipate and defend threatening risks.

Without knowing the risks, without learning to deal with them wisely, we cannot go the right way in life. Each of us realizes the risk around us in our own way. Whereas, the doctrine of risk should be deeply understood by every specialist.

The word "Risk" is derived from the French "risqué" or Italian "risico". This statement antagonizes the probability of events that have negative consequences as a result of certain decisions or actions.

All risks in general are random, and this randomness is explained by their random nature and the absence of prior information about these phenomena. Information abstraction is the only basis for a person for the randomness of a phenomenon. In general, risk is associated with information abstraction and probability, which can lead to negative consequences.

Any risk is associated with at least one of the four factors for which the source and cause are calculated. They include:

1. Information factor. Unlike other factors, the information factor is necessarily involved in each risky event. Because the occurrence of any risk is associated with a state of lack of information.
2. The human factor. Risk events can be caused by actions that a person performs in a conscious way or without realizing it. Even a specialist with sufficient education can make a wrong decision or perform unacceptable actions, which creates the possibility of causing the risk to occur.
3. Technical factors. The main part of risky phenomena is associated with technical systems, technological processes, which are considered the product of human activity. Man-made accidents, environmental disasters and a number of other extremely destructive phenomena are the consequences of the influence of technical factors.
4. Nature. Natural phenomena, fauna and flora are not perfectly studied by man even today. Man is helpless in the face of natural phenomena. It is not possible to predict a significant part of them correctly and in time to the khanuz.

All aspects of human development have consisted in preventing, fighting the risks that are likely to happen here. This movement has gained special importance especially

in recent centuries. The level of risks that could negatively affect the life of a Zero person, especially his economic activity, has increased. This is why, by the 90s of the last century, the need arose to create methodological foundations for the development of economic decisions, taking into account uncertainty and risk factors. On this basis, a completely new science of riskology was formed.

Riskology is a science that studies the scientific foundations of material or economic damage to the areas of human activity of various random phenomena.

The task of this science is to create an improved mechanism for modeling, forecasting and managing risks at the core of deep analysis on a scientific basis.

In recent years, with the development of the science of riskology, two different views on risks have been formed. That is, to put it simply, risk it began to be understood as a process that gives a negative or positive result. The reason for such a tariff to risk, depending on the outcome of the occurrence of risks, they are divided into two large groups, pure and artificial (speculative) risks.

Net risks indicate the probability of obtaining negative or unchanged (zero) results. The following can be attributed to such risks: part of natural, political, transport and commercial risks (property, production and trade).

The occurrence of artificial risks represents the probability of obtaining both negative and positive results. Such risks include financial risks that are part of commercial risk.

Risk is an integral and mandatory element of the economic process, and this is an objective law. Therefore, depending on the degree of risk, it is possible to influence through the appropriate mechanism. Such an effect is carried out using risk-management methods and individual financial strategies.

The concept of "cyber risk" does not yet have its full definition in the literature. There are different opinions on this matter. Some in this regard understand mainly the protection of information from various influences, while others associate information risk with computer security. Another associates this issue with a specialist who is the head link of the information system and understands the risks that arise as a result of his error.

In our opinion, "cyber risk" is understood as the risk of loss and/or additional costs in the result of illegal actions of third parties in relation to computer and information systems or networks, communication systems, information resources carried out through ICT.

**Cyber risks can be divided into two large groups.**

1. Theft of information by employees or competitors;
2. Loss of information as a result of a technical failure in information transmission channels.

The above cyber risk groups broadly take into their composition the following:

- effects of viruses;
- the influence of computer attacks, that is, of hackers and similar unsuspecting individuals who carry out actions with a certain interest from the external environment;
- damage caused by improper actions of employees of the enterprise;
- damage caused by theft of enterprise secrets and confidential information;

- damage caused by errors that may be allowed in the installation, creation and operation of information technical tools and systems;
- the damage caused by the failure of various information programs, etc.

## REFERENCES

- [1]. Abdukhalilovna M.N. DIRECTIONS FOR THE DEVELOPMENT OF GENERAL INSURANCE IN UZBEKISTAN //Gospodarka i Innowacje. – 2023. – T. 34. – C. 229-236.
- [2]. Kholboev A. INSURANCE INFORMATION RISKS (CYBER INSURANCE). International Finance and Accounting. 2021; 2021 (2):12.
- [3]. Makhkambayevich B.T., Tursunbayevna Y.N. About Some Questions Optimization Of Business Process In Insurance Activity Related To Global Trends // Solid State Technology 63 (4), 5048-5058
- [4]. Matiyazova S.R. THE PROCES OF FORMATION OF INNOVATIVE ENVIRONMENT IN COMPETITIVE CONDITIONS IN THE INSURANCE MARKET // Oriental Journal of Economics, Finance and Management. – 2022 – T. 2. – №. 1. – C. 7-11.
- [5]. Matiyazova S.R. Activities and insurance brokers in Uzbekistan development features //American Journal of Economics and Business Management. – 2020. – T. 3. – №. 2. – C. 9-16.
- [6]. Mavkulova N.A. Strategic development of the insurance market in Uzbekistan //American Journal of Economics and Business Management. – 2020 – T. 3. – №. 2. – C. 1-8.
- [7]. Yuldashev, O. T. (2023). Development of the Insurance Market in the Conditions of Digitalization. INTERNATIONAL JOURNAL OF BUSINESS DIPLOMACY AND ECONOMY, 2(5), 224-229.
- [8]. Rajabbayovna M.S. DIGITALIZATION OF ACTIVITIES OF INSURANCE INTERMEDIARIES IN THE PROVISION OF INSURANCE SERVICES //JOURNAL OF ECONOMY, TOURISM AND SERVICE. – 2023. – T. 2. – №. 5. – C. 8-12.
- [9]. Shennaev K.M. Regulation of investment activities of insurers //Asian Journal of Multidimensional Research. – 2020. – T. 9. – №. 11. – C. 55-59.
- [10]. Shennaev K.M. The main directions of protection of insurance consumers in the current situation //SAARJ Journal on Banking & Insurance Research – 2020. – T. 9. – №. 6. – C. 32-37.
- [11]. Shennaev K.M., Matiyazova S.R. The Impact of the Covid-19 Pandemic on the Insurance Market //International Journal of Psychosocial Rehabilitation. – 2020. – T. 24. – №. 4. – C. 6502-6509.
- [12]. Sanobar M. Insurance agents development prospects case of insurance market of Uzbekistan //ACADEMICIA: An International Multidisciplinary Research Journal – 2019. – T. 9. – №. 4. – C. 156-162.
- [13]. Toshmurzaevich, Y. O. (2020). Developing the Underwriting Process in Life Insurance. European Journal of Business and Management Research, 5(6). <https://doi.org/10.24018/ejbmr.2020.5.6.657>
- [14]. Toshmurzaevich Y.O. Prospects for development of investment life insurance in Uzbekistan //ACADEMICIA: An International Multidisciplinary Research Journal. – 2021. – T. 11. – №. 10. – C. 97-101.

- [15]. Tursunbayeva Y.N. Improvement of methodological bases of business processes in insurance activity // SAARJ Journal on Banking & Insurance Research 8 (2), 4-8.
- [16]. A.Y.Xolbaev 2021. INSURANCE AS A PROMISING MECHANISM OF INFORMATION PROTECTION. Archive of Conferences. (Dec. 2021), 39-40.
- [17]. Yakubova N. TRADITIONS AND PROSPECTS OF DEVELOPMENT OF THE WORLD INSURANCE MARKET // International Finance and Accounting 2018 (4), 36.
- [18]. Yakubova N.T. THE ROLE OF INSURANCE BUSINESS IN INSURANCE ACTIVITY // Journal of Management Value & Ethics, 111.
- [19]. Yakubova N.T. Efficiency in Business Processes in Insurance Activities // INTERNATIONAL JOURNAL OF BUSINESS DIPLOMACY AND ECONOMY. – 2023. – T. – № 5. – C. 44-48.
- [20]. Yakubova N.T. Improvement of Business Processes in Insurance Activity in the Conditions of Innovative Development of the Economy // EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY. – 2023. – T. – № 5. – C. 88-91.
- [21]. Yakubova N.T. BIZNES JARAYONLARINI TAKOMILLASHTIRISH SUG'URTA TASHKILOTI FAOLIYATI UZLUKSIZLIGINI TA'MINLASH OMILI // IJTIMOIIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI. – 2022. – T. 2. – №. 12. – C. 151-155.
- [22]. Yakubova N.T. SUG'URTA TASHKILOTLARIDA QO'LLANILAYOTGAN BIZNES JARAYONLARINING TARKIBI VA USULLARI //IQTISODIYOT VA ZAMONAVIIY TEXNOLOGIYA. – 2022. – T. –№2. – C. 11-18.
- [23]. Yakubova N.T. O'ZBEKISTON SUG'URTA TASHKILOTLARI FAOLIYATIDA BIZNES JARAYONLARI SAMARADORLIGINI OSHIRISH YO'LLARI //BOSHQARUV VA ETIKA QOIDALARI ONLAYN ILMIY JURNALI. – 2022. – T. – № 12. – C. 109-113.
- [24]. Yuldashev, O. (2018). IMPORTANT FEATURES OF EVALUATING EFFICIENCY OF TAX PREFERENCES. International Finance and Accounting, 2018(4), 40.
- [25]. Yuldashev, O., & Mirsultonov, M. (2019). Insurance of financial risks: problems and solutions. International Finance and Accounting, 2019(2), 29.
- [26]. Yuldashev, O. T. (2020). Development prospects of investment insurance product "Unit-Linked". International Finance and Accounting, 5, 1.
- [27]. Yuldashev, O. T. (2023). Ways of Development of Accumulative Life Insurance in Uzbekistan. Central Asian Journal of Innovations on Tourism Management and Finance, 4(1), 99-107. <https://doi.org/10.17605/OSF.IO/WPGBA>
- [28]. Yuldashev O., Mambetkulova M. WAYS TO ORGANIZE AND DEVELOP ISLAMIC INSURANCE SERVICES IN THE NATIONAL INSURANCE MARKET //Central Asian Journal of Innovations on Tourism Management and Finance. – 2023. – T. 4. – №. 5. – C. 143-147.
- [29]. Zakirkhodjaeva Sh. A. "Deepening of pension reforms and improvement of investment activities of transition economies."Asian Journal of Multidimensional Research (AJMR) 8.4 (2019): 249-254.
- [30]. Zakirkhodjaeva S. DIGITAL LIFE INSURANCE MARKET: TASKS, CHALLENGES AND PROSPECTS //JOURNAL OF ECONOMY, TOURISM AND SERVICE. – 2023. – T. 2. – №. 5. – C. 73-80.

- [31]. Zakirxodjaeva, S. A. (2023). Methods of Using Artificial Intelligence Insurance Companies and its Promising Directions. International Journal on Economics, Finance and Sustainable Development, 5(6), 9-15. Retrieved from <https://journals.researchparks.org/index.php/IJEFSD/article/view/4463>
- [32]. Закирходжаева Ш.А. The role and Analyses of Medical Insurance Services in the Development of the National Insurance Market. Case of Uzbekistan // European Journal of Business and Management. 2019. №16. – Б. 4.
- [33]. Закирходжаева Ш.А. Impact of the pandemic on the global insurance market // International Journal of Advanced Science and Technology. 2020. №7. – Б. 7.
- [34]. Закирходжаева Ш.А. Влияние пандемии на мировой страховой рынок // Международный научный журнал Научный Лидер. 2021. – Б.14.
- [35]. Закирходжаева Ш.А. Перспективы развития рынка страховых услуг в Республике Узбекистан // Central Asian Journal of Innovations on Tourism Management and Finance Vol 2 No 5 (2021).
- [36]. Закирходжаева Ш.А. The Pandemics impact on the global insurance industry // International Journal on Economics Finance and Sustainable Development. 2021. – Б.7.
- [37]. Закирходжаева Ш.А. Направления совершенствования инвестиционной деятельности страховых компаний // Наука и образования. № 22. – Б.5.
- [38]. Закирходжаева Ш.А. РАЗВИТИЯ СТРАХОВОГО РЫНКА ПУТЕМ ВНЕДРЕНИЯ В ОТРАСЛЬ ТЕХНОЛОГИИ ИНШУРТЕХ //Central Asian Journal of Innovations on Tourism Management and Finance. – 2023. – Т. 4. – №. 5. – С. 122-129.
- [39]. Матиязова С.Р. Особенности организации исламского страхования // Научный лидер. – 2021. – № 8. – С. 10.
- [40]. Маврулова Н.А. Ўзбекистонда қайта суғурта бозорини шакллантириш ва ривожлантириш йўналишлари //Экономика и финансы (Узбекистан). – 2022. – №. 1 (133). – С. 27-32.
- [41]. Носирова Г. Пути оптимизации инвестиционного портфеля страховых компаний Республики Узбекистан //International Journal of Formal Education. – 2023. – Т. 2. – №. 3. – С. 100-104.
- [42]. Юлдашев, О. (2020). Особенности развития страхования жизни. Экономика и Образование, 1(5), 208–211. извлечено от [https://inlibrary.uz/index.php/economy\\_education/article/view/5428](https://inlibrary.uz/index.php/economy_education/article/view/5428)
- [43]. Юлдашев О. Т. Страхование жизни и стоимость человеческой жизни // Экономика и предпринимательство. – 2021. – №. 8 (133). – С. 1056.
- [44]. Юлдашев, О., & Мамбеткулова, М. (2023). ИСЛОМИЙ СУГУРТА (ТАКАФУЛ) ВА УНИНГ ЎЗИГА ХОС ХУСУСИЯТЛАРИ. Ижтимоий-гуманитар фанларнинг долзарб муаммолари / Актуальные проблемы социально-гуманитарных наук / Actual Problems of Humanities and Social Sciences., 3(S/4), 103–109. <https://doi.org/10.47390/SP1342V3SI4Y2023N13>
- [45]. Hamraeva F. THE ROLE OF COMPULSORY INSURANCE IN THE MODERN INSURANCE SYSTEM // International Finance and Accounting. 2020. (1), 8.
- [46]. Hamrayeva F. THE IMPORTANCE OF MARKETING IN MUSEUM MANAGEMENT // European International Journal of Pedagogics. – 2023. – Т. 3. – № 05. – С.48-50.



- [47]. Хамраева Ф.Ш. ПРЕИМУЩЕСТВА ЦИФРОВИЗАЦИИ ОБЯЗАТЕЛЬНЫХ СТРАХОВЫХ УСЛУГ // Journal of Intellectual Property and Human Rights. – 2023. – Т. 2. – № 5. – С. 17-22.
- [48]. Hamraeva F.S. The role of mandatory insurance in the modern insurance system // International Journal of Psychosocial Rehabilitation. – 2020. – Т. 24. – № 6. – С. 348-353.
- [49]. Hamraeva F.S. RESEARCH PARK. – 2022.
- [50]. Hamraeva F. PROBLEMS OF COMPULSORY INSURANCE DEVELOPMENT // International Finance and Accounting. – 2020. – Т. 2020. – №6. – С. 9.
- [51]. Mamatov B., Hamraeva F. REFORMING AND IMPROVING PENSION SYSTEM //International Finance and Accounting. – 2018. – Т. 2018. – № 5. – С. 6.
- [52]. Юлдашева Н.В., Шодибековна Х.Ф. Анализ этапов бюджетной политики государства по активизации деятельности местных бюджетов Республики Узбекистан //Экономика и финансы (Узбекистан). – 2018. – № 5. –С. 33-41.
- [53]. T.,Y.N. (2022). Theoretical Interpretation of Business Processes in Insurance Activity: Generality and Specificity. International Journal on Economics, Finance and Sustainable Development, 4(6), 1-9.