Enterprise Security in the Period of Digitalization

Deshy Musostova\textsuperscript{1,}\textsuperscript{*}, Valentina B. Dzobelova\textsuperscript{2}, and Varvara Markaryan\textsuperscript{3}

\textsuperscript{1}Kadyrov Chechen State University, Sheripova Street, 32, 364024, Grozny, Russia
\textsuperscript{2}North-Ossetian State University named after K.L. Khetagurov, Vatutina str., 44-46, 362025, Vladikavkaz, Russia
\textsuperscript{3}Financial University under the Government of the Russia, Leningradsky Ave., 49, 125167, Moscow, Russia

Abstract. One of the key trends of our time is intensive digitalization, which consists in the use of digital technologies and tools to improve business processes and increase the efficiency of enterprises. Digitalization increases the flexibility and adaptability of business, helps to reduce costs and increase product quality, reduces the time for processing information, improves communication with stakeholders. At the same time, the introduction of digital technologies requires the adoption of special measures to prevent losses and leaks of significant commercial information. This article discusses the essence and measures to ensure the security of business in the context of digitalization.

1 Introduction

One of the most significant trends in the modern world is the widespread introduction of digital technologies based on the representation of signals by discrete bands of analog levels, and not in the form of a continuous spectrum. Digital technologies are used in all sectors of the economy and the social sphere, ensuring the transition of all key business processes to the digital environment. The most significant trends in the development of digital technologies are systematized in Fig. 1.
Materials and Methods

Digitalization of business is one of the most important trends in the modern economy. It is a process of applying digital technologies to improve business processes, increase efficiency and increase the competitiveness of enterprises. Digitalization of business can be carried out in the following main areas:

1) Automation of business processes - allows you to reduce labor costs and speed up processes within the enterprise. For example, the introduction of an electronic document management system allows you to speed up the processing of documents and reduce the time spent on their processing.

2) Online sales and marketing is another important area of business digitalization. They allow businesses to sell their products and services online and use various online marketing tools to attract new customers. For example, the use of social media and search engines allows businesses to find new customers and improve their image.

3) The use of big data is another important area of business digitalization. It enables businesses to collect, store, and analyze large amounts of business information to make better decisions. And the use of analytical tools and machine learning allows enterprises to analyze customer data and improve their products and services.

4) The Internet of Things allows enterprises to improve the management and control of production processes, improve product quality and optimize production costs. For example, the introduction of a smart home system allows you to control lighting, climate and other systems in residential and commercial premises, which increases convenience and safety for users.

5) Cloud technologies allow enterprises to use computing resources and data storage in the cloud, which increases the flexibility and scalability of business processes. For example, the use of cloud technologies allows enterprises to quickly scale their infrastructure when necessary.

For the successful implementation of digital technologies in business, it is necessary to take into account the specifics of your industry and business processes. For example, it may be important for a retailer to implement online sales, and for a manufacturing company to automate production processes. It is also important to provide training for employees and constant updating of computer equipment.
Thus, digitalization in business processes allows enterprises to increase efficiency and competitiveness. However, the introduction of digital technologies can also be associated with some risks, such as data leaks, hacker attacks and others. Therefore, enterprises must take security measures when implementing digital technologies. The most important categories of enterprises in the context of digitalization are presented in Fig. 2.

![Fig. 2. Risks of business digitalization](image)

The economic risks of digitalization are the potential negative consequences associated with the introduction and use of digital technologies in the business processes and operations of the enterprise. Among the economic risks is, first of all, the difficulty in determining the priorities of digital transformation. Business processes can vary greatly in different departments of the enterprise, while some of them may be more significant than others. The company's management needs to carry out consistent digitalization, taking into account the priority strategic tasks and available financial resources.

The economic risks of digitalization are also associated with the complexity of prices and economic effects from the introduction of information technology. Firstly, it is difficult for the company's management to predict all the direct and indirect costs of implementing digital technologies, including the cost of equipment, software development and configuration, staff training, etc. Secondly, there is the problem of determining the magnitude of the economic benefits that can be obtained from the introduction of digital technologies, including improving the level of customer service, increasing productivity, reducing production and maintenance costs, and better risk management. There is also a risk of unexpected costs or problems in the course of digitalization that may affect the assessment of economic effects. There are also social effects that cannot be predicted in the process of planning the effects of digitalization.

3 Results and Discussion

The risks of digitalization in an enterprise can also be associated with the lack of a well-thought-out business case confirming the feasibility of investments. Also, risks can be associated with the untimeliness of investment - both too quick decision-making and excessive caution. Among the economic risks of the enterprise during the period of digitalization are also the overspending of own and borrowed funds, the discrepancy in the timing of the implementation of pilot projects, as well as the long payback period of investments in digital technologies [1].

Along with the economic risks of digitalization, technical risks that have a significant impact on the security of the enterprise are also of great importance. The first technical risk may be the compatibility of existing systems and new technologies. Some digital solutions may not be compatible with the systems already in use in the enterprise, which can lead to data loss, damage or improper functioning. This problem necessitates a thorough analysis of the existing infrastructure, planning the integration of new digital technologies with existing systems and software in the enterprise and assessing the possible risks of digitalization.
The second technical risk is data security. When using digital technologies, the enterprise faces the threat of cyber attacks and theft of confidential data. It is necessary to use modern methods of data protection, such as encryption, authorization and monitoring systems, to secure the digital resources of the enterprise. The third risk is a technical failure. Unforeseen system failures can lead to data loss, business interruption, and serious financial losses. It is important to conduct testing and quality control to avoid technical failures and ensure the continuous operation of the system.

Some digital technologies may not be scalable enough for use in large enterprises. This can result in a loss of efficiency and performance when working with large amounts of data. Another technical risk is dependence on technology. If an enterprise is completely digitally dependent, then if there are communication problems or system failures, it can face serious problems. Therefore, it is important to develop contingency plans and alternative methods of work to ensure the smooth operation of the enterprise in all conditions.

The introduction of new information technologies may require the participation of specialists with certain skills and knowledge that may not be available in the enterprise. This may lead to additional costs for training existing personnel, outsourcing the task or hiring new specialists.

Organizational risks are associated with changes in the processes of work of an economic entity, which are necessary for the introduction of digital technologies. One of these risks is related to the absence of a digitalization strategy. If an enterprise does not have a clear strategy for implementing digital technologies, this can lead to unnecessary costs, inefficient use of resources and delays in the process of project implementation.

The introduction of new technologies may require time and resources to train employees and restructure work processes. At this time, the productivity of the enterprise is reduced, which negatively affects the final financial indicators. Digitalization can also raise concerns for workers who don't want to change the way they work, have low levels of digital literacy, or are unsure of their skills. This can lead to a decrease in productivity and the inefficiency of the digitalization project.

The introduction of digital technologies may entail the transfer of data from existing to new information systems. During this period, migration errors are possible, which can lead to data loss or violation of its integrity. Some digital technologies may require additional formalized procedures and processes, which can lead to an increase in bureaucracy in the enterprise. If the enterprise is unable to adapt to the digital. In the economy, it may lose its competitiveness and go out of business.

In general, organizational risks are a serious factor that must be taken into account when implementing digital technologies in the enterprise. These risks can affect the financial performance of the enterprise, its reputation and competitiveness, so they must be taken into account when planning and implementing digitalization projects.

To ensure the security of the enterprise during the period of digitalization, various measures of optimization and technologies can be used. The most important of them is the protection of information. To prevent cyber attacks and data leakage, companies must ensure reliable protection of their information resources and data, including using the following methods:

1) Develop an information security strategy that takes a comprehensive approach to risk management and data protection in the enterprise. This strategy should define roles and responsibilities in the field of information security, as well as develop standards, plans and procedures to prevent data breaches and other violations.

2) Conducting an auditory and information security. This technology allows you to identify vulnerabilities in information security systems, as well as identify problem areas and weaknesses in the processes of information security management in the enterprise.
3) Use of modern information protection technologies. The enterprise should use modern methods of data encryption, anti-virus programs, firewalls, intrusion detection systems and other means of information protection. They help prevent cyber attacks and ensure the security of digital systems in the enterprise.

In general, the protection of information in the enterprise is a complex and dynamic process that requires constant monitoring and updating. With regard to the right measures and principles of information protection allows the company to minimize the risks of data leakage and other problems related to information security.

With the digitalization of the enterprise, employee training plays a critical role in improving the safety and success of the business. Some of the main measures that can be taken to train employees include the following:

1) Conducting training seminars and trainings. Training seminars and trainings can help employees master new digital tools and technologies. It is also possible to conduct training online using interactive platforms.

2) Create training resources and guides. Creating learning resources, including video tutorials, how-to, and guides, can help employees become more familiar with new tools and technologies.

3) Assign mentors. Appointing experienced employees as mentors helps new employees get up to speed quickly, master new digital tools and technologies, and avoid mistakes when using digital resources.

In this way, with employees who are able to use new digital technologies and tools, they can increase productivity and efficiency in the enterprise. Therefore, simultaneously with the digital transformation of the business, the company's management should invest in training its employees so that they are ready to work in the digital economy.

In the event of a threat or security breach, it is necessary to have a ready-made contingency plan. A contingency plan is a document that is developed by the company during the preparation for the introduction of new digital technologies and predetermines the strategies and methods that should be used in case of unforeseen situations in the process of introducing digital technologies. This plan should include actions to eliminate the consequences of the violation of the information system, communication with external organizations, the involvement of specialists and other measures.

The first step in developing a contingency plan is to assess the risks associated with the introduction of new digital technologies. This assessment should include possible problems that may arise during implementation, such as hardware failure, software problems, data security breaches, and others. After assessing the risks, you should develop an action plan that will be used in case of unforeseen situations. This plan should include the steps that must be taken to minimize the impact of the problem on the company's business processes.

An important component of the contingency plan is data backup. The company should have regular backups of all its data that can be used in case of their loss or damage. Data backups should be stored in a safe and secure place. Finally, the contingency plan should be a periodically updated document. After the introduction of new digital technologies, the company should regularly check its contingency plan for compliance with current conditions and problems that may arise in the future.

4 Conclusions

In general, the planning plan for the implementation of digital technologies is an important tool to ensure the smooth operation of the business in any conditions. Proper development and regular updating of the contingency plan will help the company avoid many problems and maintain operability in critical situations.
In the process of introducing digital technologies in the enterprise, one of the key tasks is to ensure the security of information. To do this, you need to use data protection, monitoring and analysis systems. Data protection systems protect information from unauthorized access, external threats and internal leaks. Such systems may include software and hardware security, data encryption, user authentication, and access control mechanisms.

Data monitoring systems allow you to track user activity, detect anomalous behavior, and identify potential security threats. Such systems can use machine learning and artificial intelligence algorithms to automatically detect security threats. Data analysis systems allow a company to derive valuable insights from its data, which can help improve business processes and make more informed decisions. Such systems can use machine learning and artificial intelligence algorithms to analyze large amounts of data and identify trends.

In general, the use of data protection, monitoring and analysis systems is an important component of the introduction of digital technologies in the enterprise. Such systems help to ensure the security of information and obtain meaningful analytical information for further improvement. However, it must be borne in mind that the use of such systems requires appropriate expertise and constant monitoring by the company.

So, the carelessness of the security of the enterprise in the period of digitalization is one of the most important aspects of the successful implementation of digital technologies. To ensure the security of information, it is necessary to use systems for the protection, monitoring and analysis of data, as well as an important factor is the training of employees and the development of a contingency plan.

It should be noted that information security requires constant monitoring and updating of systems, and economic entities must constantly improve their security systems and monitor new threats and trends in the field of cybersecurity. In general, ensuring the security of the enterprise during the period of digitalization is a complex and complex task that requires the participation of all participants in the process of implementing digital technologies: technical specialists, managers, employees and users. In the context of compliance with security requirements, the introduction of digital technologies can bring tangible economic benefits, increase competitiveness and improve the efficiency of the enterprise.

References

7. T. M. Dzhurilo, Methodological aspects of sustainable development of agricultural enterprises in a crisis, Modern scientific research and innovation.
8. V. P. Gryaznova, The concept and global problems of the modern world economy, Problems of the modern economy (Novosibirsk), 22-25 (2016).

