

**ЭКОНОМИКА И НАУКА В СОВРЕМЕННОМ МИРЕ.  
РАЗВИТИЕ НОВЫХ ВОЗМОЖНОСТЕЙ**  
**RESEARCH ON THE USE OF INFORMATION SECURITY IN PRODUCTION**

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**Annotation.** Research on the application of information security in production is crucial for protecting data, safeguarding assets, and ensuring business continuity. At the core of information security lies the activity of protecting information by ensuring its confidentiality, availability, and integrity, as well as avoiding any compromise in critical situations. Such situations include natural, technological, and social disasters, computer failures, physical theft, and others.

**Аннотаци.** Исследования по применению информационной безопасности в производстве имеют важное значение для защиты данных, обеспечения безопасности активов и непрерывности бизнеса. В основе информационной безопасности лежит деятельность по защите информации, обеспечивая её конфиденциальность, доступность и целостность, а также исключение любых компромиссов в критических ситуациях. К таким ситуациям относятся природные, техногенные и социальные катастрофы, сбои компьютеров, физическое похищение и другие.

**Key words:** cyber attack, NIST SP 800-53, ISO/IEC 27001.

**Ключевые слова:** кибератака, NIST SP 800-53, ISO/IEC 27001.

The workflows of most organizations worldwide are still based on paper documents. Although they require appropriate information security measures, the number of initiatives to implement digital technologies in businesses is steadily increasing. This, in turn, demands the involvement of specialists in information technology (IT) security to protect information. These specialists ensure the implementation of information security technologies (often one specific type). In this context, digital devices refer not only to personal household computers but to devices of varying complexity and purpose, ranging from primitive and isolated ones like electronic calculators and household appliances to highly sophisticated ones like supercomputers connected via industrial control systems and computer networks.

Due to the critical importance and value of information for their business operations, large enterprises and organizations typically employ information security specialists to ensure the safety of their data. Their main task is to protect all technologies from malicious cyberattacks aimed at stealing confidential information or taking control of the organization's internal systems. Information security refers to a set of measures aimed at ensuring the safety of an organization's information, systems, and infrastructure. Its primary objectives are as follows:

- ❖ Integrity (ensuring the accuracy and completeness of information).
- ❖ Availability (ensuring access to information and systems).

The main threats to information security include:

- ❖ **Cyberattacks** (e.g., phishing, ransomware, DDoS attacks).
- ❖ **Internal threats** (unauthorized actions by employees).
- ❖ **System failures and natural disasters.**
- ❖ International and national standards for information security.
  - ❖ The following international standards are widely used in ensuring information security:

- **ISO/IEC 27001:** This is an international standard for establishing an information security management system. ISO/IEC 27001 provides a systematic approach to creating, implementing, and maintaining an Information Security Management System (ISMS).
- **NIST SP 800-53:** A security and privacy control framework developed by the U.S. National Institute of Standards and Technology.
- **NIST Cybersecurity Framework:** The National Institute of Standards and Technology (NIST) provides a widely accepted framework to improve the cybersecurity posture of organizations. It includes strategies for risk management, control mechanisms, and guidelines for secure operations.

Investments and expenses in information security are also of significant importance. Allocating sufficient funds for security is crucial for the long-term stability of an organization. Information security as an employment sector has significantly developed and grown in recent years. It has created numerous professional specializations such as network and infrastructure security, software and database protection, information system auditing, business continuity planning, electronic record identification, and computer forensics. Information security specialists enjoy high employment stability and strong demand. Global processes of information globalization not only require the integration of information and communication technologies into the economies and other sectors of countries but also necessitate ensuring the security of information systems. Uzbekistan was one of the first countries in Central Asia to join the international security system for information and communication technologies. The State Committee for Communications, Information Technology, and Telecommunication Technologies implements the following measures to ensure information security: developing and improving state policies on ensuring information security in data transmission, telecommunications networks, broadcasting, and information systems; assisting state authorities in developing and implementing information security policies for their information systems and resources; providing statistical data on monitoring results of ensuring information security for state information systems and resources to the State Committee for Communications, Information Technology, and Telecommunication Technologies of the Republic of Uzbekistan in accordance with established procedures; cooperating with telecommunications network operators and providers; organizing joint efforts to prevent violations of laws in the field of computer and information technologies in government agencies and coordinating their activities. The national internet users are being timely informed about emerging threats to information security within the national segment of the internet. Additionally, consultation services are provided regarding information protection, including analyzing lawbreakers, identifying them, and analyzing methods and tools used in unauthorized or disruptive activities in the information space. Cooperation with law enforcement agencies is established to carry out these activities.

## Conclusion

In order to prevent information security incidents in the national segment of the internet, it is possible to develop international cooperation in the field of information security. Communication will take place regarding the importance and methods of ensuring information security during the process of storing large amounts of data in organizations. Large volumes of data are not only crucial for organizations but also pose significant potential harm if compromised. Investments and effective measures in the field of information security are of great importance for organizations, as they play a key role in implementing digital technologies and ensuring data protection. The field of information security has shown significant growth and development in employment, which, in turn, demands skilled specialists and professional expertise. Ensuring the security of global information systems,

including informing national internet users about security threats and detecting violations, requires cooperation with law enforcement agencies. Uzbekistan continues to join international systems for ensuring the security of information and communication technologies, while developing and implementing relevant policies in this area. Additionally, coordinated efforts and collaboration with network operators are being established to ensure information security.

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