

**УДК 628.336.6**

**NEW INFORMATION TECHNOLOGIES AND SOME FEATURES OF  
THEIR PRACTICAL IMPLEMENTATION**

*Togzhanova K.O, Kozbakova A.K, Barkhan B.M.  
Almaty Technological University, Almaty, Kazakhstan*

The term technology (from the Greek *techne* - art, craft, skill) refers to a set of rules or actions using certain tools that are common to a particular group of tasks and are aimed at achieving a specific goal. The concept of information technology emerged at the end of the 20th century, when information began to be considered a real production resource, alongside other material assets. In this context, data, information, and knowledge are both the subject and the product of labor, while the tools of labor at the modern stage are computing equipment (hereinafter referred to as CE), communication, and network technologies.

The result of new information technology is one or several ready-made solutions from which the user selects the most appropriate option for performing specific actions. From the above definitions, it follows that new information technologies differ significantly from traditional ones. They involve the use of such computing and software tools that, in real time, not only locate the necessary information in remote databases but also process it in a specific way and present it to the user in a convenient and accessible form. An essential element in this context is the decision support system, which, in addition to traditional means of accessing databases, provides the ability to: extract data from heterogeneous sources, including unstructured information; perform multidimensional data analysis; process statistical materials; model business strategy rules; present analytical results in graphical form; and apply artificial intelligence. All of this imposes rather high demands on computing systems, software, and network equipment. For specific tasks, the required characteristics - such as processor clock speed, memory capacity, network bandwidth, and peripheral device requirements - can be clearly and quantitatively defined.

Thus, information technology is a broader concept that reflects the modern understanding of the processes of transformation and utilization of information in society.

The constituent elements of any information technology are:

- a set of hardware components, computing systems, communication, and organizational equipment;
- software tools (both system-level and application software);
- the regulatory and legal framework governing the operation, organization, and management of the processes of information processing and utilization [1].

An integral element for the effective functioning of IT is a well-established system for organizing and managing the information processing workflow, the key components of which include:

- the use of licensed software (hereinafter referred to as software);
- the installation of software only in those versions that allow full use of the available computing networks and their information resources [2].

At present, despite technological advances in combating existing threats, the human factor remains the weakest link in protection systems. This is explained by the fact that modern methods of defense against unauthorized intrusions are often designed with user errors or inattention in mind, the difficulty of distinguishing “beneficial” software from “malicious” software at the technological level, and the diverse nature of threats. Therefore, modern protection systems have acquired a multi-level, multi-faceted, and integrated character, with decision-making responsibilities resting on the user [3].

Thus, at present, an urgent and extremely important task remains the protection against malicious software, which requires the presence of trained specialists, specialized equipment, and software.

For the effective functioning of IT, all the aforementioned and interrelated issues must be addressed comprehensively, as only in this case can the desired results be achieved.

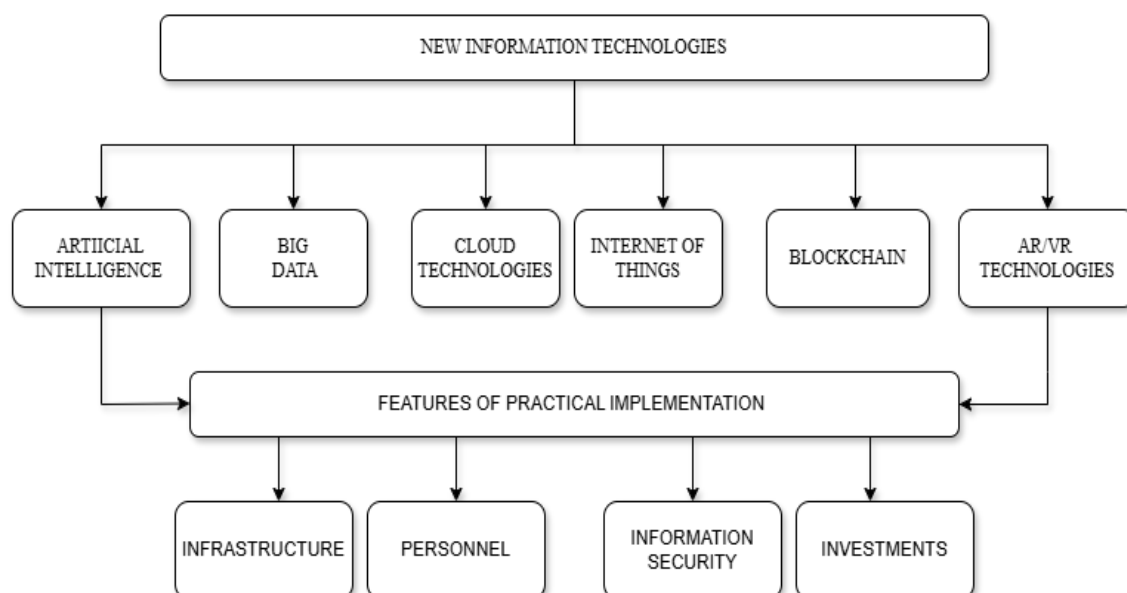


Figure 1- Diagram of practical implementation

**Conclusion.** In conclusion, new information technologies (NIT) play a crucial role in the modernization and efficient functioning of various sectors, including customs, business, and information management systems. The implementation of NIT allows for higher reliability, faster processing, and better utilization of information resources. The key to successful deployment lies in the integration of modern computing systems, software, decision support tools, and regulatory frameworks, while accounting for the human factor as a potential weak link. Furthermore, comprehensive protection against malicious software and effective management of IT resources are essential to ensure data security and operational efficiency. Overall, the practical application of new information technologies requires a balanced combination of technical infrastructure, organizational processes, and qualified personnel to achieve sustainable and optimal results [3].

### References:

- [1] *Federal Customs Code of the Russian Federation*, Federal Law No. 61-FZ, May 28, 2003.
- [2] V. V. Fedorov, *Fundamentals of Information Customs Technologies: Textbook*. Moscow: RIO PTA, 2006.

- [3] A. B. Nekhoroshev, *Computer Crimes: Classification, Investigation, Expertise*, Part 1, V. N. Cherkasov, Ed. Saratov: SUAI Ministry of Internal Affairs of Russia, 2003.