

**THE ROLE OF MODERN INFORMATION TECHNOLOGIES IN THE ACTIVITIES
OF ENTERPRISES IN THE CONTEXT OF THE DIGITAL ECONOMY**

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Abstract

The article examines the history of the use of information technologies in the activities of enterprises. It is proved that information technologies at enterprises play a major role not only in increasing competitiveness, but also in maintaining an effective and sufficient level of security, connectivity, communication and service. All the resources of the technology industry are aimed at automating the traditional processes of enterprises.

Keywords

automation; business processes; information technologies; software; digital economy.

**RAQAMLI IQTISODIYOT SHAROITIDA KORXONALAR FAOLIYATIDA
ZAMONAVIY AXBOROT TEXNOLOGIYALARINING ROLI**

Annotatsiya

Maqolada korxonalar faoliyatida axborot texnologiyalaridan foydalanish tarixi ko'rib chiqilgan. Korxonalarda axborot texnologiyalari nafaqat raqobatbardoshlikni oshirishda, balki xavfsizlikning samarali va yetarli darajasini, ulanish, aloqa va xizmat ko'rsatish imkoniyatlarini saqlab qolishda ham asosiy rol o'ynashi isbotlangan. Texnologik industriyaning barcha resurslari korxonalar faoliyatining an'anaviy jarayonlarini avtomatlashtirishga yo'naltirilgan.

Tayanch so'zlar

avtomatlashtirish; biznes jarayonlari; axborot texnologiyalari; dasturiy ta'minot; raqamli iqtisodiyot.

**РОЛЬ СОВРЕМЕННЫХ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В
ДЕЯТЕЛЬНОСТИ ПРЕДПРИЯТИЙ В УСЛОВИЯХ ЦИФРОВОЙ ЭКОНОМИКИ**

Аннотация

В статье рассмотрена история использования информационных технологий в деятельности предприятий. Доказано, что информационные технологии на предприятиях играют главную роль не только в повышении конкурентоспособности, но и в поддержании эффективного и достаточного уровня безопасности, возможностей подключения, связи и обслуживания. Все ресурсы технологической индустрии направлены на автоматизацию традиционных процессов деятельности предприятий.

Ключевы слова

автоматизация; бизнес-процессы; информационные технологии; программное обеспечение; цифровая экономика.

In the modern world, information technologies are developing at an exponential pace, and every year new methods of automating the production of various goods are emerging. Information technologies play a crucial role in the activities of enterprises, contributing to increased competitiveness, ensuring an effective level of security, and improving and optimizing

production processes. According to some economists, “the integration of knowledge, the development of networks within a company, and the identification, collection, and processing of information about and for customers in order to capitalize it constitute the foundation of today’s wealth creation process.”

The purpose of this study is to determine the role of information technologies in the activities of enterprises. In the course of the research, scientific works by Russian and foreign scholars in this field were examined. The authors employed general scientific as well as special research methods during the study. A systematic approach was used to identify the role of information technologies in enterprise activities.

In recent years, the concept of “information technologies” has expanded to encompass numerous technologies and scientific fields. Information technologies perform three main functions:

Management — a set of policies, processes, and rules that ensure alignment with enterprise goals and operational efficiency;

Operations — a key component of the activities of enterprise IT departments, including technical support, security testing, and network maintenance;

Infrastructure and equipment — covering all physical components that form part of the information technology infrastructure.

From this perspective, IT departments are responsible for configuring equipment, servers, telephone systems, as well as individual devices such as laptops and routers, and maintaining them in continuous working condition. Information technologies are technologies used for understanding, developing, testing, researching, assembling, supporting, and operating software. They are also used for reading, storing, transmitting, and managing information. The importance of information technologies in the workplace can be observed even in simple operations, such as sending an email to an employee or organizing video conferences using cloud-based software.

To understand the significance of information technologies for modern business, it is necessary to identify their fundamental role in the successful operation of enterprises. The essence of this fundamental role at both the enterprise and societal levels is revealed through identifying the advantages of their application:

Automation of business processes.

This aspect leads to increased production efficiency and reduced costs. For example, automating accounting and human resource management significantly reduces the time spent on routine tasks and minimizes the likelihood of errors. One of the most illustrative examples of using information technologies to improve efficiency is Enterprise Resource Planning (ERP) systems. ERP systems enable companies to manage production processes, track inventories, and control product quality. As a result, management processes are simplified, and enterprises can produce goods more quickly and efficiently. Thus, the implementation of information technologies enhances business process efficiency, reduces manual labor costs, and increases production volumes and profits.

Collection and analysis of large volumes of data.

Through information technologies, enterprises gain access to various sources of information about customers, competitors, and the market. Based on this data, more informed decisions can be made and effective strategies can be developed. Tools such as Google Analytics and Adobe Analytics allow the analysis of user interactions with websites, tracking of conversions, and evaluation of marketing campaign effectiveness.

Improving customer relationships.

The Internet and social media provide enterprises with new ways to communicate with customers, as well as new opportunities for promoting products and services. For instance, companies can distribute information about products via email and social media and provide customers with personalized content. Moreover, information technologies are used to create online stores and electronic payment systems, significantly simplifying the purchasing process for customers. Customer Relationship Management (CRM) systems enable enterprises to better understand customer needs and improve interactions with them. These systems automate sales and marketing processes, increasing the efficiency of departments.

Chatbots can be cited as an example of improving customer interaction. They are used to automatically respond to customer inquiries in online chats on websites or social networks. Chatbots allow quick and effective responses to customer questions, order processing, and improved service quality. Social media analytics tools help determine which posts are more effective and how users interact with content.

The emergence of e-commerce has become an important component of business. This type of commerce demonstrated high effectiveness during the COVID-19 pandemic and periods of trade restrictions. E-commerce enables enterprises to expand their audience and increase sales volumes. Online stores, electronic payment systems, and online advertising have become integral parts of modern business. The use of e-commerce also helps reduce costs associated with renting and maintaining physical retail spaces.

Data security and risk reduction.

Information technology systems prevent unauthorized access to data and reduce the risk of confidential information leakage, hacking, or theft. Automated quality control systems reduce the risks of production defects and non-compliance with consumer requirements. Enterprises use antivirus software, firewalls, and user authentication systems to protect data and reduce the likelihood of cyberattacks. Additionally, information technologies enable the creation of data backups, ensuring rapid recovery in case of data loss. Regular software updates are an essential cybersecurity measure, including updating operating systems, browsers, and applications to the latest versions. Updates eliminate vulnerabilities and fix errors that could be exploited by cybercriminals. Enhancing security is an integral part of information technology usage in enterprise activities. To improve security, enterprises must apply multiple methods and technologies, train employees, and conduct regular security audits.

Improving the decision-making process.

Business analytics and reporting systems process large volumes of data and assist enterprises in making more informed decisions. Information technology systems designed for project management also improve planning and control processes.

Increasing employee productivity.

Email, chat, and video communication systems allow employees to communicate without leaving their workplace. Task and project management software organizes workflows and increases labor productivity.

Data accessibility.

IT systems improve employees' access to information. Cloud storage systems enable data to be stored on remote servers and accessed from anywhere with an Internet connection. This increases workflow flexibility and reduces dependence on specific locations and times. Backup creation capabilities protect data against cyberattacks and system failures. In the event of a

system malfunction, cloud technologies allow rapid data recovery from backups, reducing the risk of data loss, business interruptions, and financial losses.

Improving interdepartmental collaboration.

Project management systems enable different departments to work together on a single project, exchange information, and coordinate actions.

Increased speed of information processing.

Information technologies enable rapid processing and analysis of large volumes of data. For example, enterprise resource management software automatically collects and processes data on sales volumes, inventories, costs, and other indicators. This allows enterprises to respond quickly to market changes and make prompt decisions.

Employee mobility.

The use of modern information technology solutions enables employees to work remotely using laptops, tablets, or smartphones. This increases workflow flexibility and allows employees to work more efficiently without being tied to a specific place or time.

Reduction of paper-related costs.

Electronic document management enables rapid document exchange among employees and reduces costs associated with printing, storage, and document delivery.

Increased competitiveness.

Modern technologies allow enterprises to adapt quickly to market changes, analyze consumer behavior, develop new products and services, and improve service quality.

Innovation development.

Information technologies serve as the foundation for creating new products and services and implementing innovations in enterprises. For example, the use of artificial intelligence, blockchain, the Internet of Things, and other advanced technologies leads to the creation of new products, increased business process efficiency, reduced costs, and enhanced competitiveness.

Thus, process automation reduces the time and costs associated with routine operations, increases efficiency and quality, minimizes human error, and provides more accurate and timely information for decision-making.

The main methods of automating management processes include:

Business Process Management (BPM) — managing business processes to optimize operations, increase efficiency, and monitor task execution, resulting in improved operational performance, reduced costs, and higher customer satisfaction

Customer Relationship Management (CRM) — a set of strategies, methods, and technologies aimed at managing relationships between enterprises and their customers. The primary goal of CRM systems is to improve service quality and customer satisfaction, leading to increased sales volumes and strengthened customer loyalty. CRM systems cover marketing automation, sales, order processing, data analysis, and customer service.

Automation of inventory and warehouse management.

Specialized software such as Inventory Management Systems and Warehouse Management Systems are used to automate inventory and warehouse management. These systems automatically monitor inventory levels, minimizing losses caused by shortages or excess stock. They optimize order processing and control delivery processes, ensuring timely and adequate

supply of products and materials. Using barcodes and other labeling methods, they monitor product quality and integrity and provide real-time information on production and warehouse processes, improving planning and decision-making based on up-to-date data.

Document Management Systems (DMS).

These systems ensure centralized document storage, search, and management, automate workflows, protect documents, and control access. As a result, paper-related costs are reduced and document handling efficiency is increased.

The widespread implementation of information technologies necessitates a reconsideration of education systems and professional training. In particular, there is a growing demand for highly qualified specialists in programming, data analysis, cybersecurity, and related fields within information technology and communications. In the industrial sector, there is a need for specialists capable of servicing and programming industrial robots and working with automated production monitoring and control systems. For effective use of technologies in business, employees must understand and support the transition to digital business models. Enterprises must widely implement digital culture, which should develop in parallel with civilization processes and ensure the most efficient collaboration between humans and machines.

Today, many enterprises operate within their own ecosystems and often use proprietary (closed) technologies, which complicates the integration of their products and services with other systems. This can lead to market fragmentation and limited competition, which is not beneficial for either consumers or suppliers. Developing common standards and operating rules helps improve inter-enterprise cooperation and reduce integration and adaptation costs.

Thus, over the past decade, information technologies have become the main driver of digital transformation and a crucial condition for the operation of any enterprise. Constant changes in market conditions, the emergence of new competitors, changes in laws and regulations, and scientific and technological progress compel entrepreneurs to automate not only financial management but also daily tasks and operational processes. Today, the market offers numerous software products designed to simplify various business sectors, ranging from basic to highly advanced solutions. The primary goal of these software products is to create user-friendly solutions that can be easily integrated into enterprise operations.

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