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Almaty, 050040, Republic of Kazakhstan\*e-mail: [cg.anar.ik@gmail.com](mailto:cg.anar.ik@gmail.com)**DEVELOPMENT OF THE COMPANY'S INTERNAL CONTROL SYSTEM IN THE  
DIGITAL ECONOMY****Abstract**

The problems of developing the internal control system of companies are becoming more acute in a rapidly improving digital economy. This article examines the issues and prospects of the business internal control system in the digital economy. A SWOT analysis was compiled through which the advantages and disadvantages of automation of the internal control system were discussed, noting possible benefits such as improved efficiency, reduced errors and risks, and accelerated decision-making processes. At the same time, they point to other problems, such as ensuring information security, and data protection, and training employees to use new technologies.

The main purpose of the article is a comprehensive review of the relevance of the development and problems of internal control of the company in the digital economy on the world stage. The article discusses important topics such as the analysis of current trends in the digital economy at the global level and their impact on the requirements for internal control systems, such as compliance with international standards, local laws, and the conduct of state control. The article also discusses existing automation products, considering the positive aspects and problems of implementation, as well as popular programs according to the level of popularity of software implementation for internal control and financial reporting. In conclusion, the study emphasizes that in the digital economy, internal control systems must be constantly updated and developed, and companies, in turn, must actively use modern information technologies to increase efficiency and competitiveness.

**Key words:** internal control system, digitalization, IT, audit, financial statement, state control, software.

**Introduction**

The digital economy of today is evolving at a rapid pace. Internal control and other professional domains like accounting and auditing must be developed because of this lever. A company's ability to avoid fraud and produce financial statements that comply with legal requirements is largely dependent on its internal control system, which is a crucial component of how an economic entity does business. Both large and small enterprises have to abide by local and international laws as well as the demands of stakeholders, including the public, supply chains, shareholders, and employees. Pressure from both internal and external users forced the Internal Control Service to move to digital technologies to enhance its operations. The research's applicability is dictated by the company's internal control development stage now, which is focused on automating and digitalizing the financial statement formation process. This is supported, for instance, by the audit companies' conclusions that digitalization is a crucial part of the overall transformation strategy that encompasses the internal control system as well as the business.

The main purpose of the article is to study the impact of digitalization on the internal control system at the current stage of economic development in different countries of the world.

Innovations in the field of internal control are becoming increasingly important due to widespread globalization, the digitalization of information flows, the massive transition of business to online mode, and the need to create new competitive advantages. Digitalization creates new opportunities for the organization of internal control but also imposes new requirements on it [1].

The research hypothesis states that the use of the right technologies in combination with legal requirements and internal company procedures allows companies to develop rapidly in the digital

economy, reducing control time and meeting new and changing customer needs. It also encourages innovation and growth in the future.

To achieve this goal, the following tasks are disclosed:

- conducting a SWOT analysis of the internal control and audit domain's adoption of digital systems;
- identification of legislative acts that guide firms at the present stage;
- the allocation of software that contributes to the modernization of the internal control and audit of the company.

The subject of the study is software products, as well as other factors influencing the development of automation of internal control of companies around the world.

The scientific novelty of this work examines theoretical questions about the advantages and disadvantages of the digitalization of internal control systems. In addition, the study examines practical recommendations for creating digital platforms using digital technologies.

### **Materials and methods of research**

The primary benefits, requirements, challenges, and digital technologies associated with digitizing internal audit and control are covered in this article. To study the impact of digital technologies on the internal control system of financial statements, a statistical analysis of the data obtained was used to determine the level of value of digitalization in different countries of the world. Through a comparative analysis, universal software is recommended, which affects the effectiveness of the company's internal control and analysis of financial reporting indicators.

Using the method of literary data review, important aspects of the digitalization of the internal control system were presented, as well as an analysis of high-quality software products to assess their effectiveness and impact on the quality of financial statements.

The paper describes the legislative acts regulating the procedures for protecting information during the audit and internal control of the company. We also highlighted the main results of the statistical data of audit companies, emphasizing the relevance of detecting fraud and misstatement of financial statements.

The key tool was a SWOT analysis to identify the strengths, prospects, and weaknesses of the development of the internal control system in the digital economy. The results of the study are shown schematically in the form of graphs and tables.

### **Results and its discussion**

According to ACCA experts, the driving forces behind the digital transformation of the auditing industry and internal control systems are global technologies, mass communications, media content, and cutting-edge professional programs. These factors are developing together with the need to attract new financing models and substantiate the results of controlling [2].

Additionally, Figure 1 presents an analysis of the current situation of the introduction of a digital internal control system based on the collected statistical data from reports of international companies [3], [4], [5], [6], proving the relevance of automation of the internal control system.

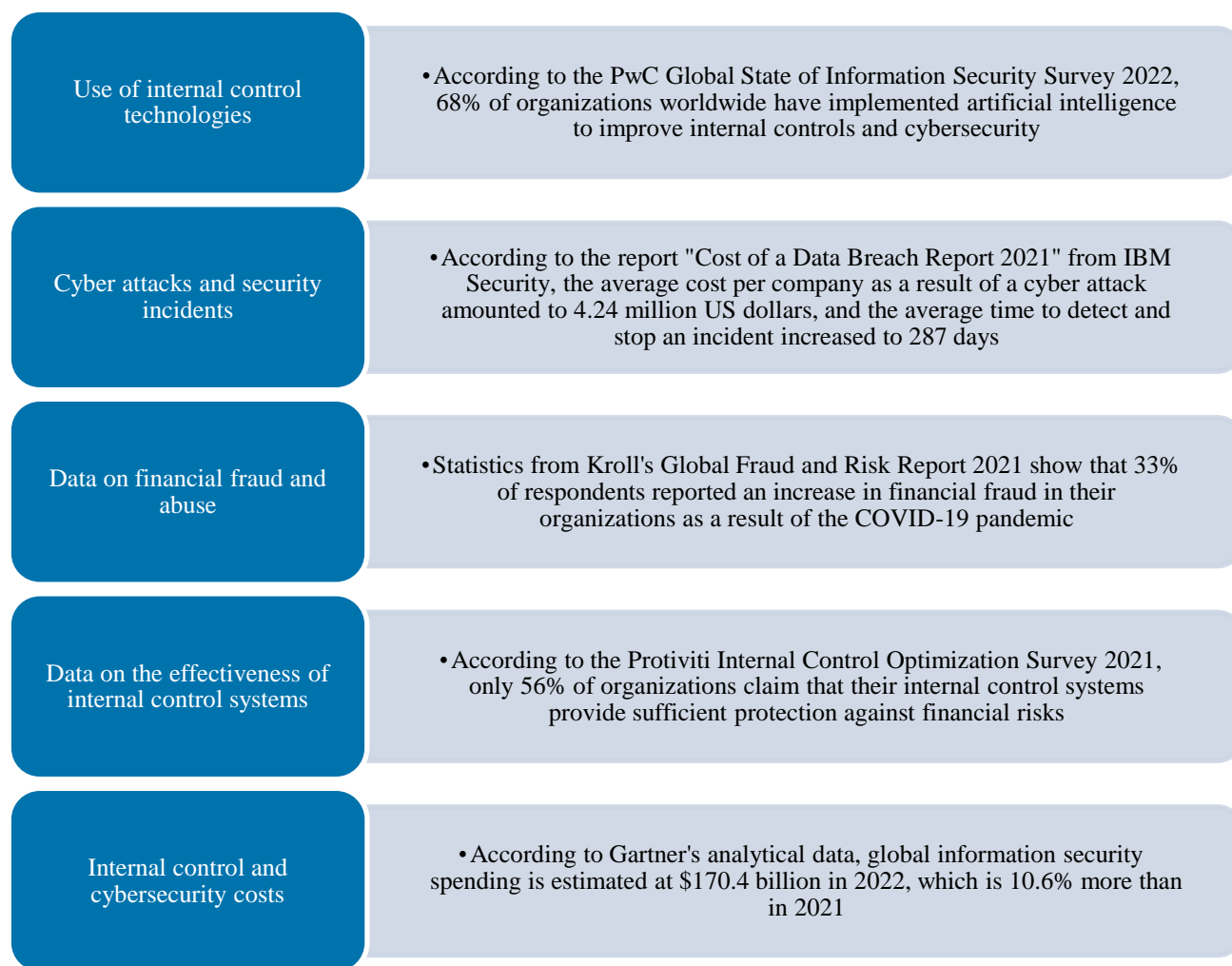


Figure 1 – Facts of minimizing fraud in companies in the digital economy

Note: compiled by the authors

These statistics provide an overview of the current state of internal control and cybersecurity. Based on the collected data, the number of frauds increased during the global pandemic. The reason was that not all countries are ready for full automation of internal control of companies. As we all know, the importance and significance of the organization of internal control in the company was demonstrated in the commercial sector during the Covid-19 pandemic [7]. During this period, many business processes changed dramatically, revealing the shortcomings and complexities of outdated business models, and calling into question the viability of established management and accounting schemes.

However, there is a growing trend of interest in expanding the possibility of introducing artificial intelligence in the work of company supervisors. Real entrepreneurs feel the need to introduce new digital solutions, modernize internal control systems, and improve the quality of reporting [8].

In summary, the following factors may be necessary before automating the company's internal control and audit system:

- the employees' willingness to work remotely or in a hybrid format;
- the ability to recognize bottlenecks, tasks that need more attention, and areas where automation can have the biggest impact on the organization;

- taking into account the requirements of regulators and financial reporting standards when developing and implementing an internal control and audit system;
- understanding the readiness for change at the present stage.

The creation of methodological support for internal control systems in the age of digital internal control systems period, in the context of vast information and communication networks and electronic document management, can be broken down into the following tasks, for example:

- 1) developing control procedures for processing massive amounts of data, including tools and methods for automatic processing of structured and unstructured information;
- 2) creating a risk map of the business processes of the company at the stage of entering information into automated information systems;
- 3) development of analytical techniques for digital economy and tool-based production information management;
- 4) automated information system management and evaluation of the degree of informatization and proficiency of staff members carrying out these responsibilities [9].

Due to the many benefits of digitizing the internal control system, commercial organizations require state aid in planning and executing the process. This support may take the form of information support, staff skill development, or other services.

Among the requirements that arise during the digitalization of the ICS are also new requirements for the professionalism of internal auditors. The role of specialists is changing and gaining new opportunities. Global volumes of information are effectively used by specialists; IT solutions are aimed at ensuring high-quality audits, understanding business specifics, and identifying risk factors [9].

The presented table lists the primary challenges associated with integrating digital technology in the areas of internal control and audit for businesses. In front of each problem, we offer solutions to each of them.

Table 1 – Problems and solutions of automation of internal control system

Problem	Solution
Lack of relevant norms and legal regulations for the implementation and organization of the ICS digitalization	Digitalization requires the adoption of legislative acts in every country
Lack of highly qualified specialists	Retraining of personnel, the opening of new scientific training centers, new materials, labor, and funds
High costs for the introduction of digital technologies	An alternative is cloud storage, which increases productivity, reduces costs, and provides ease of management and use
Threats to information security	Taking information security measures such as data encryption, multi-factor authentication, access control, and regular backups to ensure data integrity and confidentiality [10].
Note: compiled by the authors	

Based on the proposed solutions, it can be noted that the problems of automation of the internal control system can be solved through alternative solutions at the moment. It can be summarized that these shortcomings are related to the unpreparedness of society for changes in the transition to the digital economy.

To optimize the internal control of the company and solve the first problem, at the present stage many countries resort to such laws, which can be compiled in Table 2:

Table 2 – Global regulatory legal acts regulating automated programs of companies

№	Name of the law	Country of implementation	Interpretation
1	Sarbanes-Oxley Act (SOX)	USA	Adopted in response to corporate financial fraud in the early 2000s. The law requires public companies to establish internal control and reporting procedures
2	EU General Data Protection Regulation, GDPR	EC	Regulates the protection of personal data of EU citizens. Although GDPR is primarily concerned with data protection, many companies use its provisions to improve internal controls and ensure information security
3	Canadian Personal Information Protection and Electronic Documents Act, PIPEDA	Canada	This law defines the rules for the collection, use, and disclosure of personal information by companies in Canada
4	Basel II	EC	Proposes unified international standards for banking activities aimed at reducing risks
5	Cybersecurity Law	China	The act regulating the issues of cybersecurity in the country and software
6	The Law of the Republic of Kazakhstan "On Accounting and Financial Reporting" and the Law "On Personal Data and their Protection"	Kazakhstan	These laws are applicable only to the territory of the Republic of Kazakhstan. The first regulates the rules of accounting and reporting, the second is guided by the rules and procedures for protecting the data of users of products and employees of companies, which in turn preserve the confidentiality of doing business
Note: complied be the authors based on sources [11], [12], [13], [14], [15], [16], [17]			

Based on this list, specific laws and regulations may vary depending on the country and the field of activity of companies. For most large international companies, the requirements of the SOX law are already relevant, and for banks, the requirements of Basel II.

In other words, other countries may adopt the Laws of other countries, which may apply to their orders and for the benefit of society. For example, as in the United States, Japan has faced a series of financial scandals that have undermined investor confidence in its markets. Japan has adopted its own J-SOX law, developed based on the American version [18]. The provisions of Basel II are already being applied in several countries, such as the EU, the USA, Japan, India, and others [15].

Blockchain, artificial intelligence (AI), and other information technologies (IT) are examples of automation processes. These technologies can help in monitoring business processes and reducing risks [19].

However, even though these laws formally pay attention only to IT, 80% of issues related to other departments are related to automation using IT. This is because IT supports most of the company's core business processes [20]. Many businesses prefer to connect to the blockchain. The introduction of blockchain technology allows us to link the blockchain with the company's internal control system. This ensures the reliability and transparency of the data used by the internal control system.

The use of blockchain allows data to be stored in a decentralized network, which reduces the likelihood that data will be falsified or lost. This makes the information used in the company's internal control system more reliable. Thus, blockchain and other IT can help improve the company's internal control system, ensuring reliability, transparency, and automation of control processes [21].

Based on all the above, in this study, we have collected tools and factors for the development of internal control in the digital economy through SWOT analysis in Table 3.

Table 3 – SWOT analysis of the development of internal control in the digital economy

Strengths	Weaknesses
<p>Efficiency: Automation improves internal control and audit processes by increasing the speed of task completion and reducing the likelihood of errors.</p> <p>Standardization: The use of automated systems allows companies to standardize control and audit processes, which helps to comply with regulatory requirements and improve the quality of reporting.</p> <p>Analytics and reporting: Automated systems provide extensive opportunities for data analysis and report generation, which facilitates the process of making management decisions based on financial information.</p>	<p>Costs: Purchasing licensing, configuring, and training staff are major expensive outlays involved in the deployment and maintenance of automated systems.</p> <p>Technology dependence: The operation of the entire internal control and audit system may be at risk in the case of automated system malfunctions or information security flaws.</p> <p>Implementation complexity: Setting up and implementing certain automated systems can be challenging, requiring time and work from the business and its employees.</p>
Opportunities	Threats
<p>Technological innovation: The constant development of information technology provides new opportunities to improve internal control and audit systems, for example, the use of artificial intelligence and analytical tools.</p> <p>Productivity improvement: Automation improves the productivity of internal control and audit processes, freeing up employees' resources and time for other tasks.</p> <p>Global expansion: Scaling automation systems allow for improved synchronization and consistency of processes in different countries and departments.</p> <p>State control: Strengthening the conduct of state audit and control will allow companies to strengthen control and thereby minimize the likelihood of errors in financial statements.</p>	<p>Competition: The rapid development of the market for automation of internal control and audit leads to increased competition between suppliers of software products and solutions.</p> <p>Cybersecurity: The increasing number of cyber attacks and threats to data security pose a risk to automated systems, which can lead to information leaks or data integrity violations.</p> <p>Compliance: Strict regulatory requirements and standards in the field of financial reporting can create additional difficulties in the implementation of automated systems that require compliance with these standards.</p>
Note: compiled by authors	

The presented analysis will allow companies to consider the development trend of the internal control and audit system in the transition to the digital economy from different angles. However, we would like to focus on the prevalence of a positive trend in the development of internal control of companies through the automation of processes, primarily for the company's employees themselves. The use of software products with access control systems, analytical tools, and automated processes helps companies identify and prevent potential cases of fraud in the preparation of financial statements. Many scientific studies confirm that such systems reduce the risk of financial crimes [22].

In the context of different countries of the world, we have compiled a list of software products that are used by companies to compile financial statements and conduct internal control (Table 4).

Table 4 – Software products by country of the world

Country	Software
USA	Microsoft Dynamics 365, Oracle ERP Cloud, Salesforce CRM
Germany	SAP S/4HANA, DATEV, Microsoft Dynamics NAV
Japan	Oracle E-Business Suite, Microsoft Dynamics AX
UK	Sage 50cloud, QuickBooks, Netsuite ERP
China	Kingdee ERP, UFIDA, Yonyou ERP
France	Cegid, EBP, Sage Business Cloud
India	Tally ERP 9, Zoho Books, Marg ERP
Russia	1C: Предприятие, SAP Business One, Microsoft Dynamics AX
Kazakhstan	1C: Предприятие, SAP Business One, Microsoft Dynamics AX

Note: compiled by the authors based on source [23]

It can be noted that many countries have switched to an ERP system with the ability to work in a remote database. The software list shows that each region integrates its local programs, as in China and India. The other mentioned countries have similar opinions on the programs, but they rather modernize them to meet local requirements, for example, Sage in the UK and France, and Oracle in the USA and Japan. The CIS countries were particularly distinguished in their similar solutions, as well as in the use of both local and international automated programs.

Additionally, according to a study by the company of the competing Microsoft Dynamics 365 program, the proportion of the use of automated systems on a global scale is as follows in Figure 2.

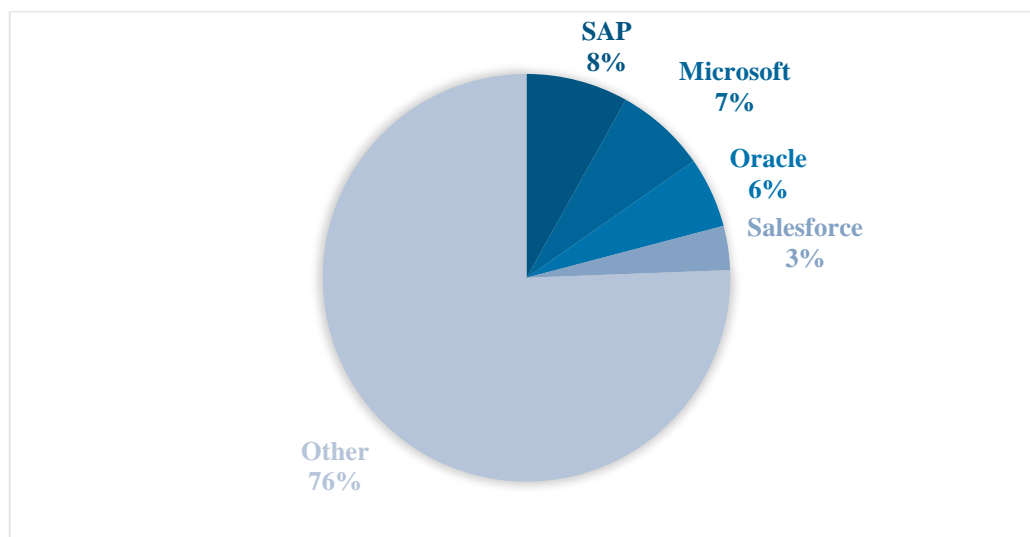


Figure 2 – The use of accounting software products to control the company on a global scale

Note: compiled by the authors based on source [24]

Based on the data from the table and figure, it can be noted that the leading positions in the software for maintaining the internal control system are global programs such as SAP S/4HANA, Oracle ERP Cloud, and Microsoft Dynamics 365.

Software products such as SAP S/4, Oracle ERP Cloud, Microsoft Dynamics 365, and others are often used by companies to automate and manage business processes, including internal control of financial statements. In more detail, it can be seen the impact of the program on the company's internal control system, the positive and negative sides of using the software, as well as the popularity of using the program in different countries of the world.

Table 5 – Advantages and disadvantages of the software and their impact on the internal control system

Program name	Positive side	Negative side	Communication with the internal control and audit of the company	Clients
SAP S/4HANA	A comprehensive solution covering a wide range of functionality in the field of finance and risk management	High cost of implementation and support. - The complexity of customization and	SAP provides automation of financial processes, standardization of operations, and improved control over financial transactions. It also	Volkswagen Group (Germany), Toyota Motor Corporation (Japan), Nestlé

		customization for the specific needs of the company	provides analytical tools to monitor financial data and support the audit process	(Switzerland), Tengizchevroil (Kazakhstan), Pfizer (USA) etc
Oracle ERP Cloud	Flexibility and scalability, allowing to adapt the system to the unique requirements of the company. - Integration with other Oracle cloud services	The complexity of compatibility and integration with existing company systems. - Possible data security issues when working in the cloud	Oracle ERP Cloud provides tools for automating financial processes, risk management, and financial performance monitoring. Integration with other Oracle cloud services facilitates access to data and ensures its integrity	Siemens AG (Germany), Sony Corporation (Japan), Gazpromneft (Russia), Air Astana (Kazakhstan) etc
Microsoft Dynamics 365	Integration with other Microsoft products such as Office 365, which provides a unified work environment for employees. - Flexible configuration options for the specific needs of the company	Limited functionality compared to some competitors. - The need to implement additional modules to fully cover all company processes	Microsoft Dynamics 365 allows companies to automate financial management processes by providing an integrated environment for managing financial transactions and monitoring key indicators. Integration with Office 365 makes it easier to share data and collaborate	Ford Motor Company (USA), Renin (Canada), Xiaomi (China), Aberdeen City Council (Scotland), TMF Group (Netherlands, Kazakhstan)
Note: compiled by the authors [24], [25], [26]				

Based on the revealed data in the table, many well-known large companies with branches around the world have switched to a digital system for conducting accounting control and financial reporting. The software enjoys great influence among clients in Europe, America, and Asia, but the third program is still less popular among the CIS countries. However, international companies are trying to implement automation in their other branches, including in the CIS countries, as in TMF Group.

That is, in general, these software products help companies improve the efficiency and reliability of internal control of financial statements, ensuring compliance with standards and regulations, and reducing the risks of errors and fraud. However, the main problem for many programs is the difficulty of adapting to the current conditions of the business entity, as well as the additional costs of introducing innovations. The optimal solution in terms of the impact on auditing and internal control is the SAP program since it covers all the main areas for monitoring the company and minimizes interaction with external software products, unlike Oracle and Microsoft. However, from a management point of view, this software exceeds the cost of other alternative solutions. So, we can conclude that so far there is no universal program that could be beneficial to either the company's manager or the accounting and audit department. In general, statistics show that the three mentioned programs can be adapted to all countries of the world.

From a scientific point of view, the mentioned software, such as SAP S/4HANA, Oracle ERP Cloud, and Microsoft Dynamics 365, can significantly improve the company's internal control system (ICS) as follows:

**Standardization of processes:** Accounting, reporting, and internal control are standard functions of these financial management software solutions. This allows enterprises to use uniform control methods in various departments and areas of their activities.

**Automation of control processes:** Software products allow to automation of numerous elements of internal control, such as compliance control, anomaly detection, and data integrity verification. This reduces the amount of manual work, which reduces the likelihood of errors.

**Access and Authorization management:** These programs make it easy to manage access to financial data and system functions. They allow companies to create a role-based access model that defines who can access certain data and functions according to the roles and responsibilities of employees.

**Analytics and Monitoring:** The programs offer tools for analyzing financial data and monitoring important performance indicators. This allows us to quickly detect problems and risks.

**Standards and regulations compliance:** When creating software products, regulatory requirements, and international financial reporting standards are taken into account. They offer the tools needed to adhere to legal requirements and financial reporting guidelines.

Thus, these software products play an important role in improving the company's internal control system, ensuring efficiency, reliability, and compliance with business standards, subject to compliance with local and international accounting and auditing standards.

### **Conclusion**

The following opportunities for the integration of information technology into financial reporting, internal control, and audit processes can be identified by the study: lowering the costs associated with hiring more employees and other expenses; shortening workdays; streamlining staff tasks; enhancing information security; raising the standard of customer service; and elevating the significance and worth of internal control.

In other words, the use of IT technology contributes to a major reduction in the need for human resources and employee time. The cost of managing, processing, storing, and analyzing data is decreased by using cloud technologies. It also helps to improve audit and internal control, lower risk factors, particularly human risk, and preserve market competitiveness. A lot of businesses spend a lot of money developing traditional internal control systems. The digital internal control system, on the other hand, is a technological advancement that disregards human behavior.

This feature will enable users of financial statements to get forecast data and indicators with precise computations, as well as assess the efficacy of the business's operations at any time and from a distance. Thus, complete financial security is offered by the computerized internal control system.

Internal control of financial statements remains one of the main elements of risk management and ensuring the reliability of financial statements in modern companies. With the development of the digital economy and the increase in the volume of data, it is becoming increasingly important to ensure the effectiveness of this system. As shown in the study, software products play an important role in this process, providing companies with the means to automate, standardize, and improve internal control processes.

Research shows that companies using software products to manage internal control of financial statements have more reliable and effective control systems. Products such as SAP, Oracle ERP Cloud, and Microsoft Dynamics 365 provide comprehensive solutions for automating financial management processes, providing standardization, automation, and analytics.

Thus, it can be said that modernization offers advantages in the field of internal control for both internal and external users of accounting company data, even despite the current challenges that some countries encounter when integrating IT technologies into their internal control systems, such as regulations, employee training, and additional initial costs.

Software products are crucial in a modern financial reporting internal control system, as they provide companies with the tools and resources, they need to successfully manage financial risks and ensure the reliability of reporting. That is, the introduction of these software products allows companies to improve the quality of their financial statements, reduce the risks of fraud and errors, and improve the efficiency of their operations. In addition, their use helps companies comply with regulatory requirements and reporting standards, which is especially important in conditions of strict regulatory requirements.

Research in this area can contribute to even greater use of software products and better internal controls in the digital economy.

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## РАЗВИТИЕ СИСТЕМЫ ВНУТРЕННЕГО КОНТРОЛЯ КОМПАНИИ В УСЛОВИЯХ ЦИФРОВОЙ ЭКОНОМИКИ

### Аннотация

Проблемы развития системы внутреннего контроля компаний становятся все более острыми в условиях быстро развивающейся цифровой экономики. Настоящая статья рассматривает проблемы и перспективы системы внутреннего контроля бизнеса в цифровой экономике. Был составлен SWOT анализ, посредством которого были обсуждены преимущества и недостатки автоматизации системы внутреннего контроля, отмечая возможные преимущества, такие как улучшение эффективности, снижение ошибок и рисков и ускорение процессов принятия решений. Одновременно они указывают на другие проблемы, такие как обеспечение информационной безопасности, защита данных и обучение сотрудников использованию новых технологий.

Целью статьи является всестороннее рассмотрение актуальности развития и проблем проведения внутреннего контроля компании в условиях цифровой экономики на мировой арене. В статье обсуждаются важные темы, такие как анализ современных тенденций в цифровой экономике на мировом уровне и их влияния на требования к системам внутреннего контроля, как соответствие международным стандартам, местным законам и проведение государственного контроля. Статья также обсуждает существующие продукты автоматизации, рассматривая положительные стороны и проблемы внедрения, а также среди них расставлены популярные программы по уровню популярности внедрения программного обеспечения для проведения внутреннего контроля и составления финансовой отчетности. В заключении исследование подчеркивает, что в цифровой экономике системы внутреннего контроля должны постоянно обновляться и развиваться, а компании в свою очередь, должны активно использовать современные информационные технологии для повышения эффективности и конкурентоспособности.

**Ключевые слова:** система внутреннего контроля, цифровизация, ИТ, аудит, финансовая отчетность, государственный контроль, программное обеспечение.

## ЦИФРЛЫҚ ЭКОНОМИКА ЖАҒДАЙЫНДА КОМПАНИЯНЫҢ ІШКІ БАҚЫЛАУ ЖҮЙЕСІН ДАМУ

### Аңдатпа

Компаниялардың ішкі бақылау жүйесін дамыту проблемалары қарқынды дамып келе жатқан Цифрлық экономика жағдайында өткір бола түсуде. Бұл мақала цифрлық экономикадағы бизнесті ішкі бақылау жүйесінің мәселелері мен перспективаларын қарастырады. SWOT талдауы жасалды, ол арқылы ішкі бақылау жүйесін автоматтандырудың артықшылықтары мен кемшіліктері талқыланды, тиімділікті жақсарту, қателер мен тәуекелдерді азайту және шешім қабылдау процестерін жеделдету сияқты ықтимал артықшылықтарды атап өтті. Сонымен қатар, олар ақпараттық қауіпсіздікті қамтамасыз ету, деректерді қорғау және қызметкерлерді жаңа технологияларды қолдануға үйрету сияқты басқа мәселелерді көрсетеді.

Мақаланың мақсаты әлемдік аренада цифрлық экономика жағдайында компанияның ішкі бақылауын жүргізудің өзектілігі мен проблемаларын жан-жақты қарау болып табылады. Мақалада әлемдік деңгейдегі цифрлық экономикадағы заманауи тенденцияларды талдау және олардың халықаралық стандарттарға, жергілікті заңдарға сәйкестік және мемлекеттік бақылауды жүргізу сияқты ішкі бақылау жүйелеріне қойылатын талаптарға әсері сияқты маңызды тақырыптар талқыланады. Мақала сонымен қатар қолданыстағы автоматтандыру

өнімдерін талқылайды, енгізудің оң жақтары мен мәселелерін қарастырады, сонымен қатар олардың арасында ішкі бақылау мен қаржылық есептілікті жасауға арналған бағдарламалық жасақтаманы енгізудің танымалдылық деңгейі бойынша танымал бағдарламалар бар. Қорытындылай келе, зерттеу цифрлық экономикада ішкі бақылау жүйелері үнемі жаңарып, дамып отыруы керек, ал компаниялар өз кезегінде тиімділік пен бәсекеге қабілеттілікті арттыру үшін заманауи ақпараттық технологияларды белсенді қолдануы керек.

**Негізгі сөздер:** ішкі бақылау жүйесі, цифрландыру, IT, аудит, Қаржылық Есептілік, Мемлекеттік бақылау, бағдарламалық қамтамасыз ету.

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