IMPROVEMENT OF THE USE OF MODERN INNOVATIVE TECHNOLOGIES AND DATA ANALYTICS FOR ACCOUNTING PRACTICES IN FINANCIAL SECTOR

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Annotation

Modern technological innovations and the use of data analytics are significantly changing accounting. Therefore, the issue of adapting to new technologies and tools remains crucial for organizations to maintain their competitiveness in this digital age. This article examines the issue of improving the use of data analytics and new technologies in conducting accounting operations and preparing financial statements in the financial system, the problems that enterprises and organizations may encounter in adapting to new technologies, and the benefits of digitization for accounting practice. By understanding these issues, businesses can prepare themselves for the future and ensure that modern technologies are relevant to accounting practices. This scientific article will also be enriched with recent research and arguments on various accounting standards and their practical application, along with a critical analysis. The necessary advice will also be given in order to delve deeper into the topic and develop the field. By following these suggestions, each business and organization can improve their creative accounting and financial reporting activities and maintain their competitiveness in the rapidly changing landscape of the digital economy.

Keywords:

❖ *Accounting, technology, finance, data analytics, cloud computing, blockchain, AI, automation.*

Introduction.

Currently, various technological innovations of modern society play an important role in the activities of every person. Technological innovations have brought about significant changes, making us increasingly dependent on technology, even for simple tasks. (L. Dawes) The use of large-scale analysis and infrastructure not only in finance or accounting, but also in almost all areas significantly helps in solving problems related to collecting, analyzing and systematizing data. (S. K. Ray, M. M. Alani and A. Ahmad, 2022)

The ability to perform creative accounting and adapt to a changing landscape is essential when presenting financial statements to domestic and international business entities in specialized sectors of the Republic of Uzbekistan. Today, too many businesses are still using outdated accounting systems, which can lead to errors and significant inefficiency. The increasing need for companies to protect their financial data from cyber threats is also becoming a pressing issue, which supports investment in this area. An accounting system based on new innovative technologies can serve well to simplify operations and increase efficiency.

The emergence of new technologies is creating several opportunities for financial reporting, especially in specialized industries. This means less work and reduction of

numbers for accountants, higher level of analysis and decision-making.

In the business world, not only for specialized industries, but also for all local and international business organizations, new technologies in the field of accounting include cloud computing, blockchain, AI and automation. Briefly, cloud computing technology allows accountants to work from anywhere with an internet connection while preparing financial statements.

Through this technology, accountants can automatically access the collected data in real time. Accountants can work remotely safely and efficiently through cloud computing. Block chain technology can improve audit documentation, record keeping, accountability and liability with its ability to maintain a reliable record of secured transactions. Through AI and automation, tasks that were previously performed by humans in accounting can be performed.

Data analytics is used by accountants to do things like identify patterns in customer spending, identify market behavior, anticipate trends, and predict regulatory responses. Working with data analytics tools can be a great help.

These tools are also very useful for understanding languages like Python and “R”, as well as for creating custom algorithms and data models that can be used on larger data sets.

Methodology.

In the age of the digital economy, the development of accounting in the financial sector through the use of innovative technologies and data analysis is becoming increasingly important. Many studies have examined the benefits, challenges, and strategies for implementing digitalization for accounting practices, and which methods are most useful for which accounting practice issues.

Literature review.

One of the most popular digital technologies today is cloud computing. Cloud computing is an internet-based storage model where data is stored on distributed servers and made accessible to clients. The peculiarity of using this technology is that the organization does not need to purchase expensive equipment, hire specialists for its maintenance or install special programs. To use cloud services, you just need to access the internet. The simplest example of cloud technologies is virtual storage, i.e. Google drive, Yandex drive, One drive and Dropbox. A.P. Krulikovsky, T. S. Taratukhina state that organizations providing online accounting or Internet accounting services provide services using cloud technologies. Cloud technologies allow users to access services from any device (laptop, tablet, mobile). Users can choose the necessary functions, such as connection speed, memory size, computing power, and rental duration, and pay for the selected package.

Blockchain is a sequential chain of blocks containing information structured according to predefined rules. The connection between blocks is ensured not only by numbering, but also by the presence in each block of its own sum and the sum of the previous block. To change the information in a block, you need to edit all subsequent blocks. Often, copies of block chains are stored independently on different computers. This is a single database without centralized control, distributed between many computers. Blockchain is often called a “distributed database”.

Russian economists Emelyanov N. V. and Yermilova Yu. claimed that technologies such as blockchain are a prerequisite for progress in the accounting method, as well as in the accounting system. Enterprises can record and store transaction records in a single ledger, presented as a distributed and interconnected accounting information system. The possibility of falsification and destruction of information becomes almost impossible due to the

distributed system and cryptographic protection. Such a system is called “three-way writing”. While implementing blockchain technology in the accounting system, the organization does not need to conduct an inventory with counterparties, since the formation and write-off of receivables and payables are assessed simultaneously when concluding a transaction. The role of the accountant is to correctly classify the acquired or transferred assets and record the corresponding income or expenses, accounting in real time, tax evasion is impossible, since all operations are digitized.

AI is transforming the accounting profession by automating various processes, improving efficiency, reducing errors, and freeing up accountants to focus on higher-level tasks. AI can process vast amounts of data quickly, reducing the time needed for manual tasks and its algorithms reduce human errors by ensuring consistent and precise data entry and calculations. Automation reduces the need for manual labor and helps businesses save on operational costs.AI tools provide real-time financial insights, helping businesses make more informed decisions.AI solutions can scale easily to accommodate the growth of a business, handling increasing amounts of data without significant increases in labor costs.

Working with industry-specific data analysis tools can be a great help in companies to make the right decisions. These tools are also very useful for understanding languages like Python and “R”, as well as for creating special algorithms and data models that can be used on larger data sets. Examples of tools for data analytics include the following:

- Tableau-Accountants is a very powerful and convenient tool for working with big data in medium-sized business campaigns. One of its main features is the ability to visualize data.
- Power BI - combines business intelligence with data visualization. The best thing about this tool is that it is connected to Quickbooks, Google Analytics, Excel, etc., so accountants can go to the summary account where they can get a lot of data from PowerBI.
- IDEA is a program designed to provide special production for data analysis. Because in this program, data is delivered efficiently and very quickly in a user-friendly format.

A study by PwC (2017) examined the challenges businesses face in adapting to new technologies in accounting. The study found that many businesses are struggling to keep up with the pace of technological change and that there is an increasing need for training and education to help businesses adapt. In terms of the challenges businesses face in the context of digitalization, a study by the European Commission (2019) identified several barriers to the adoption of digital technologies in accounting, including lack of awareness and understanding of new technologies, and a lack of skills and competencies.

Another study by the Association of Chartered Certified Accountants (ACCA) (2019) examined the impact of digitalization on the skills required by accountants. The study found that accountants need to develop new skills such as data analytics and cybersecurity to remain relevant in the digital age. The study also highlighted the importance of continuous learning and development to keep up with the pace of technological change.

Overall, the literature suggests that the digitalization of the economy is significantly transforming accounting. While there are challenges in adapting to new technologies, there are many opportunities for businesses to improve their accounting practices and remain competitive in the digital age. By investing in new technologies, developing new skills, and working with accounting professionals with experience in the digital economy, businesses can ensure that their accounting practices are effective and relevant in the changing landscape of the digital economy.

Analysis and discussion of results.

The use of innovative technologies and data analysis for creative accounting in the financial sector will significantly improve accounting practices. To maintain competitiveness, businesses must adapt to these new technologies. This article reviewed foreign and national literature on the measures, problems and opportunities of improving accounting in the digital age, and adequately covered several key topics.

As technology continues to evolve, accountants need to develop new skills, such as data analytics and cybersecurity, to remain relevant and effective. This requires a commitment to continuous learning and development, as well as collaboration with other stakeholders such as IT professionals and data scientists. Another key theme that has emerged in the literature is the importance of cybersecurity measures to protect financial data in the digital age. As businesses increasingly rely on digital technologies in their accounting practices, they need to ensure that their systems are secure and protected from cyber threats. This requires a proactive approach to cybersecurity, including regular risk assessments, employee training, and the implementation of robust security measures.

In addition, the digitalization of the economy has led to the emergence of new accounting software and tools that help businesses streamline accounting processes and improve financial reporting. These tools can automate routine tasks such as data entry and reconciliation and provide real-time insights into financial performance, enabling businesses to make more informed decisions. However, adopting new accounting software and tools also presents challenges, such as the need to train staff and integrate new systems with existing ones. Businesses need to carefully evaluate the benefits and costs of new technologies and ensure they have the resources and expertise to implement them effectively.

Businesses can take several steps to improve their accounting practices in the digital age. First, they can invest in new technologies and software that are compatible with the digital economy. This may require training employees on how to use the new systems and software. Second, businesses can implement cybersecurity measures to protect their financial data from cyber threats. This includes using firewalls, encryption, and multi-factor authentication. Finally, businesses can work with accounting professionals who have experience in the digital economy to ensure that their accounting practices are relevant and effective. The digitization of the economy has brought significant changes to the accounting industry. While there are challenges associated with adapting to new technologies, there are also many benefits to digitizing accounting practices. By taking steps to improve accounting in the digital age, businesses can ensure that their accounting practices remain relevant and effective in the changing landscape of the digital economy.

Conclusion.

The integration of modern technological innovations, such as cloud computing, blockchain, artificial intelligence (AI), automation, and data analytics, is fundamentally transforming the accounting practices within the financial sector. These technologies offer businesses the opportunity to streamline their accounting operations, improve the accuracy of financial reporting, and increase efficiency while reducing operational costs. As highlighted in this article, the importance of adapting to these innovations is essential for maintaining competitiveness in the rapidly evolving digital economy.

Despite the clear benefits, many businesses face challenges in embracing these technological advancements. The key obstacles include a lack of awareness and understanding of new technologies, insufficient digital skills

among employees, and the financial burden associated with transitioning to new systems. Furthermore, ensuring the security of financial data against increasing cyber threats is another critical concern that businesses must address proactively.

Nevertheless, the opportunities that come with adopting these technologies are vast. AI can automate routine accounting tasks, freeing up time for professionals to focus on strategic decision-making. Cloud computing enables real-time access to financial data from anywhere, and blockchain provides a secure, transparent way to manage transactions and reduce fraud risks. Data analytics enhances the ability to predict financial trends and make data-driven decisions, thus improving the overall quality of financial reporting.

There are some suggestions in order to improve accounting by using modern technologies and data analytics in financial sector:

1. As the digital transformation of accounting continues, accountants must be equipped with new skills, particularly in data analytics, AI, cybersecurity, and the use of digital accounting tools. Organizations should invest in continuous learning programs and collaborate with educational institutions to ensure their employees stay updated with the latest technological developments.

2. Adopt Scalable and Secure Technologies: Businesses should adopt scalable technologies that can grow with their operations. Cloud-based systems, blockchain solutions, and AI-powered tools should be integrated with existing accounting systems to automate routine tasks while ensuring robust security measures are in place to protect sensitive financial data.

3. Foster Collaboration Between IT and Finance Teams: Effective integration of modern technologies requires close collaboration between IT departments, accountants, and financial experts. It is essential for organizations to bridge the gap between finance professionals and technical teams to ensure that technological solutions are aligned with accounting needs and best practices.

4. As businesses transition to digital accounting systems, the risk of cyber threats increases. To safeguard financial data, businesses should prioritize cybersecurity measures such as encryption, multi-factor authentication, and regular risk assessments. Furthermore, employees should receive training on recognizing and mitigating cyber threats.

5. Accountants should leverage data analytics tools to gain deeper insights into financial performance, identify trends, and make informed decisions. By embracing tools like Tableau, Power BI, and IDEA, businesses can gain valuable insights that drive more effective financial strategies.

6. While implementing new technologies is essential, businesses should take a gradual approach, integrating them incrementally to avoid disruption. Thorough testing, employee training, and a phased implementation plan will ensure smoother transitions to digital systems and minimize potential operational risks.

7. Consulting with accounting and technology experts who are well-versed in the latest innovations in the digital economy can help businesses navigate the challenges of adopting new technologies. These experts can provide valuable guidance on how to best utilize these technologies in accounting practices.

By following these suggestions, businesses can not only improve their accounting practices but also ensure their competitiveness in an increasingly digital world. The future of accounting lies in the effective use of technology, and organizations that invest in these advancements will be better positioned to thrive in the evolving financial landscape.

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