

ISRG Journal of Economics, Business & Management (ISRGJEBM)



ISRG PUBLISHERS

Abbreviated Key Title: Isrg J Econ Bus Manag

ISSN: 2584-0916 (Online)

Journal homepage: <https://isrgpublishers.com/isrgjebm/>

Volume – III Issue -V (September-October) 2025

Frequency: Bimonthly



Digital transformations and Big Data in the context of management accounting

Rosen I. Kolev

Veliko Tarnovo University St. Cyril and St. Methodius – Veliko Tarnovo, Bulgaria,
PhD is an Assistant Professor at the Department of Finance and Accounting, Faculty of Economics

| **Received:** 26.09.2025 | **Accepted:** 01.10.2025 | **Published:** 02.10.2025

***Corresponding author:** Rosen I. Kolev

Veliko Tarnovo University St. Cyril and St. Methodius – Veliko Tarnovo, Bulgaria,
PhD is an Assistant Professor at the Department of Finance and Accounting, Faculty of Economics

Abstract

Economic, technological and other processes create conditions for changing the environment for social development. Some of these processes are negative, while others are positive, but economic entities need to organize their activities in such a way that they survive and develop. One of these processes is digitalization, which is being implemented in almost every economic activity. The challenge is to use it effectively enough so as not to burden employees with unrealizable tasks. In the management of enterprises, management accounting also has a significant and important place, for this reason it is necessary to monitor the impact of digitalization processes. The possibilities for integrating such systems are many and of different nature, but those that are scientifically justified and used are Big data, Blockchain, etc.

Keywords: Big Data, Management accounting, Digital transformation, alternative options, Big Data Analytics

Introduction

This paper examines the essence, significance, application possibilities and at the same time the positive and negative sides of Big Data (BD) in management accounting. Each system has characteristics that need to be taken into account when integrating and operating. The effectiveness of its application in the work of economic entities is among the main components in building a successful management program. In recent years, digitalization has been at the heart of the change in economic processes and attempts

to optimize them, in order to automate and reduce costs. The need to change management accounting practices in the era of big data is increasingly recognized, and there are calls for empirical research on the impact of big data on management accounting in order to better understand the effect of digitalization on the financial function (Gartner, B. & Hiebl, M.R. , 2018). For this reason, a number of studies have been observed in recent years in different regions of the world. The opinion proves that the changing economic environment

requires a rapid change in the concept and tools of management accounting. In this way, it will remain the system for creating reliable and fast information flows for making management decisions.

The essence and importance of Big Data

The basis of the existence of this system is: "The very concept of big data refers to large volumes of unstructured data that are difficult to process with conventional technologies" (Power, 2014). The difficulties in processing large information flows are the basis for the creation of such systems. Again, needs, in particular economic ones, are an impetus for the development of data processing systems. More about the essence: "Big data (BD) is a term that describes the volume of data: both structured and unstructured. It refers to extremely large data that can be analyzed computationally to reveal patterns, trends and associations, especially in relation to human behavior and interests." (Simonds, 2016) Users of information of various nature in economic entities impose more and more requirements on management accountants, and especially related to the amount of information. The constant increase in information flows requires the use of systems that manage to first cover all available and necessary information, and then process it for a specific purpose. From the presented opinions, it is possible to establish that Big Data (BD) is also applied to unstructured data, which helps in its selection and correct processing in the subsequent extraction of analyses. Technological solutions are inevitably included in the activities of enterprises, but not all of them are suitable for integration and effective management.

To complement "other characteristics refer to comprehensiveness, the ability to capture and record the entire system, as Big Data (BD) includes (or does not) all available data from sources, extensibility, indicating the ability to quickly add and easily change new fields in each element of the collected data, and scalability, which the BD storage system can expand rapidly" (Kitchin, Rob, and Gavin McArdle, 2016). The use of fast processing systems and thus integrating into the management system is significant in the applicability of the technology. The construction of new technological solutions is necessary to "combine the development process of the current era, strengthen the use of big data, and scientifically and reasonably play its role, so as to ensure that the quality and efficiency of management can be effectively and efficiently improved" (Di Yin & Hui Zhang, 2025). The continuous improvement of complex processes in the entire economic unit affects all components, and the provision of information flows for management teams is fundamental and significant for management accounting. For "decisions made on the basis of data are always better decisions. This is the gateway to survival and competence in the future. Managing this big data is also associated with many problems and challenges. Organizations need to understand the technology and attract qualified resources to deal with it. Therefore, it is necessary to provide the right skills and implement a good framework for managing big data analysis." (Ramkumar, A., Kulkarni, P., Obaid, A., et al., 2023) The researchers who presented the previous opinion emphasize the importance of creating data that is as much as possible and covering all necessary processes. All decisions that are based on significant and demonstrable data are a way not only to overcome a number of economic problems, but also an opportunity to create competitive advantages for enterprises. It is necessary to note that in these data and information flows are often directed towards future decisions, which helps to make not only short-term, but also medium-term and long-term decisions. In the current global economic uncertainty, the implementation of far-

sighted management policies for a longer period is significant. An additional component of the current system is the understanding of technology as a condition for its integration and application in the activity. Thus, once again it is important to mention the formation of competencies for accountants and management accountants (Pavlova, M. Petrova. R., 2024). The dynamically changing environment encompasses all components of a business activity. The construction of strategically successful undertakings for economic entities requires an emphasis on the human factor and its influence on organizational structures. Invariably, in recent years there have been a number of factors that try to limit this factor, but this does not always lead to effective and high-quality economic solutions.

In scientific studies related to such topics, in order to build a comprehensive picture, it is necessary to consider the root cause of all digital transformations. According to Buhler et al.: "In principle, the accounting profession is undergoing a large-scale redesign through the prism of Industry 4.0, widely known as the Fourth Industrial Revolution or Industry 4.0, which considers the concepts of intelligence in automation and integrates them into the everyday lives of accountants." (Bühler, M. M., Jelinek, T., & Nübel, K., 2022). All industrial revolutions cause changes in the structure of economic processes around the world. Industry 4.0 changes not only economic aspects, but also the overall organization of economic entities. It is these changes that cause daily changes and at the same time challenges for all those working in the accounting profession. In continuation of all that has been said, "this causes a change in the very role of the accountant, which is moving away from its traditional requirements. Such disruptions are constantly affecting the accounting profession and the landscape of professional skills, requiring continuous monitoring and updating of the accounting profile." (Roy, 2022). Thus, the challenges facing the development of the competencies of accountants and management accountants are increasing. Working with digital systems such as Big Data or integrated similar systems in the activities of enterprises is becoming a component that is part of the organization of economic processes themselves. The accounting profession changes whenever there are factors that change the economic perspective on a national, European or global scale. The connection of all these changes with digital systems is the possibility of easing a number of constantly occurring activities summarized in a huge database.

On the importance of Big Data, "as big data tools and philosophies proliferate, they will change long-held ideas about the value of experience, the nature of expertise, and the practice of management. Smart leaders across industries will see the use of big data for what it is: a management revolution. But as with any major change in business, the challenges of becoming a big data organization can be enormous and require practical – or in some cases impractical – leadership. However, it is a transition that leaders must engage with today." (McAfee, A., Brynjolfsson, E., 2012) Major business journals have been discussing the importance of big data and its impact on business processes for more than a decade. One of these positions was developed with an eye on the management revolution that this digital transformation is causing in business entities. Focusing only on the accountant and his or her competencies does not present the overall picture and the change that is being caused. Management is part of development and the management team initiates all changes, which builds the thesis that if they do not understand the process and how it is implemented, it will not happen. Transformation is an undertaking of total change, which is presented as a transition, but which is started now in order to be effective in

the future. Management accounting is oriented towards future processes and phenomena, which again highlights an argument in favor of integrating such systems.

In "the development of data science is influenced by a variety of algorithms that are used for different purposes. The life cycle of big data management consists of the following concepts: research, data collection, documentation, integration, preparation, analysis, publication, sharing, storage and reuse. Business sectors collect and analyze data on consumer behavior in order to target the audience and offer products." (Pamarthi, 2024) . In clarifying the meaning of big data, it is also the presentation of an algorithm for action when using the system. In integrating all these 10 steps presented by the author, in this scientific work, it is possible to look through the prism of management accounting. In this way, we turn to data processing on the occasion of obtaining primary and secondary information for the management of an economic entity. It is difficult to separate a specific step and explain its importance relative to others, but the reuse of data also helps in comparative characterization. In this way, it is possible to present the effects of the implemented management policies.

The application areas for the Big Data system can be visualized as follows:

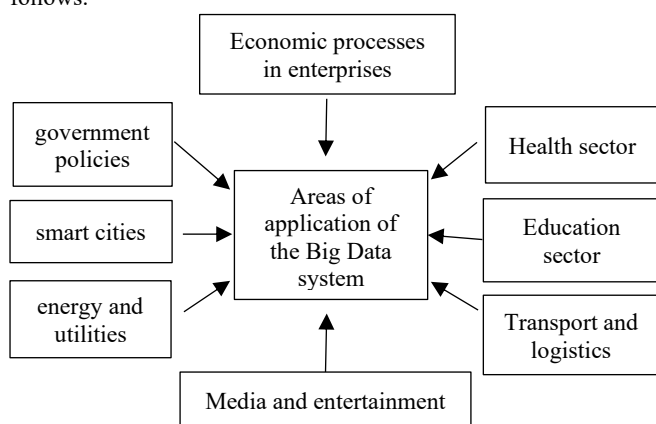


Figure No. 1 Areas of application of Big Data (Pamarthi, 2024)

The figure thus presented represents all the areas of application in which the use of the system is applicable. The wide range of possibilities in its application is also observed. The scientific work is dedicated to only one area, which requires the concentration only on the impact on economic processes, and in a second point specifically on management accounting, thus not underestimating its application in other areas. Since this application is already in a stage of serious growth, its importance continues to rise and is one of the most important applications of big data. By tracking the economic processes that occur in an enterprise, businesses in different sectors of the economy can use big data to identify them based on a research context. Many different ideas can lead to the idea of big data. Maximizing profit by selling goods and services in different competitive markets, while meeting the needs of stakeholders and consumers, is the main goal of any industry. When it comes to e-commerce, manufacturing, and other industries, big data analytics is crucial for a number of reasons, such as decision-making, market segmentation, infrastructure, and transparency. Many different types of big data, such as company operations, audio, video, and transaction records, have a direct impact in complementing those 10 steps in using the system.

At the end of the first point, it is important to present the manifestation of Big Data Analytic (BDA). Any development of

such a series of systems is important to characterize with the clear goal of complementing the essence on the one hand, but also to identify the path of development. Any system that undergoes evolution needs to be monitored to what extent it maintains the characteristics necessary for economic agents, how the change affects the organization of the internal company structure, whether additional training of personnel is required, etc. All these issues are of essential importance from another point of view, because it is mandatory to assess the profitability of using the developed systems. It is possible to combine different characteristics from different systems to achieve effective solutions. In management accounting, this is called the cost of information, as it is always a leading factor in determining the applicability of certain digital systems in the activity. When organizing a BDA, it is first necessary to understand what data processing entails: "data analysis is the process of examining, cleaning, transforming, and modeling data to discover useful information, draw conclusions, and support decision-making. Given the vast amounts of data generated, organizations rely on advanced analytical techniques to make sense of it. Statistical methods, machine learning algorithms, and artificial intelligence are often used to process big data, allowing companies to identify trends, predict outcomes, and improve their operations." (Zhang, 2025) . Essential to the development of the system is the cleaning of information, leaving only the reliable and the last for management teams. One of the directions for improving the system is the focus on decision-making, thus integrating it into business processes. For the essence of "Big data analytics is necessary for proactive data management and analysis. The user has the ability to evaluate and extract analyses that are useful for developing new discoveries and for streamlining the selection process in the organization. Thanks to the scalable infrastructure of the cloud, elastic resource allocation and the "pay-as-you-go" model for managing data applications and storing big data." (Jony, 2016) . This manifestation of the system is a development regarding better selection of information for subsequent analysis or specific decision-making. Proper collection of information and quality construction of an information flow is an essential moment in the preparation of business strategies. Even for BDA "is a critically important process for identifying information that could be beneficial to enterprises, including "hidden patterns, unidentified correlations, market trends and consumer preferences". In order to increase operational efficiency and achieve competitive advantages, this analytical process requires the implementation of tools and technologies." (Jones, 2016) . The use requires knowledge of a specific technology, the processes of which shape the effective use of the system. In both opinions it is observed that collecting such data through Big data provides effective solutions by building competitive advantages. Undoubtedly, how big the economy is, the number of competitors and the specifics of the markets, this is a possible way to build strategies. Timely information in all economic processes sifted through specific techniques carries essential characteristics of management accounting. For the processing and use of specific data, BDA applies the following analyses:

- "Prescriptive analysis: this type of analysis is of great importance, but is rarely used. It is more suitable for answering specific questions, for finding solutions to a given situation. Prescriptive analysis is related to both predictive and descriptive analysis.
- Predictive analysis is the prediction of the future based on past analysis. It consists of certain types of methods that use past and current data to predict future results and are usually based on statistical techniques.

- Diagnostic analysis is used when it is necessary to look for reasons for the occurrence of some event. - Descriptive analysis is used to reveal patterns and relationships.” (S. Goundar, A. Bhardwaj, S. Singh, M. Singh, and G. H L, 2021)

These analyses clearly show that the attempt to form analytical data goes through different approaches and analyses, with different goals. With the information presented in this way, it is also possible to summarize what information is available and how it would affect economic processes in enterprises and beyond. A wide range of possible information flows is observed, which is another positive side of the use of such digital systems as solutions for economic entities. It is necessary to note that there are also a number of tools for achieving these analyses, as they are characterized by the fact that they are programmed data processing systems and through their specific characteristics the previously set goals are achieved.

As a summary of the first subparagraph, it is significant to note that "in the era of big data, enterprises can carry out comprehensive monitoring and analysis of various resources, connections and activities in the supply chain by combining data from different units (Wamba, S. F., Dubey, R., Gunasekaran, A., & Akter, S., 2020). This unification creates big data and the possibility of analyzing them. Monitoring is a very specific process that control, as a scientific discipline, considers in the context of continuous monitoring of a number of processes in which preliminary, current and subsequent control is required. In this way, the continuous creation of an information flow is realized, which provides the possibility of connection with management accounting. All systems for digital information creation and processing are possible solutions in analyzing information. Significant for scientific research is the presentation of those that have an ideological connection with economic processes, because in this way symbiosis is achieved in the work process.

Impact of Big Data on Management Accounting

In the previous pages, an attempt has been made to describe the essence, meaning and manifestation of the Big Data system. At the same time, its latest manifestation as Big Data Analytics is described, due to the improvements and the possibility of additional analyses. In a number of places, an attempt has been made to link the characteristics of Big Data and management accounting as a guideline for the present sub-item. Global digitalization does not bypass any economic process, and the faster systems for work are built, the faster the benefits are obtained from this. The system presented in this way has been proven to be usable in economic processes and phenomena, but it is possible to build additional characteristics in the process of working with management accounting. The integration of the system can be considered in general terms as "one of these determining conditions for the transformation of the accounting system of the enterprise in the conditions of existence is the Big Data technology, which allows for the performance of specific data processing, as a result of which the improvement of the methodological and organizational aspects of reporting is ensured" (Lehenchuk, S.F. and Denysiuk, O.M., 2022). It is impossible to use the system only for management accounting and remain limited by the other databases of the enterprise. A large part of the information flow is related to current reporting and periodic reporting. Therefore, a connection and symbiotic work of the two systems is necessary to achieve the stated goal of improving the systems.

When considering the importance for management accounting, there is "big data provides a complete or partial solution to the problem that researchers of the leaders in the field of accounting are trying to solve at the time of its occurrence, in particular, they allow to strengthen the system for reporting values in the process of making management decisions. Big data tools allow to collect large sets of data from various sources, to summarize, clean, structure and transform them into an unusual form, to distribute them in the virtual space, to analyze and visualize them in accordance with the consumption of information." (Lehenchuk, S., Zavalii, T., Denysyuk, O.M., 2023) The applicability for management accounting is mainly for making information-based management decisions. The ability to solve whole, but also partial cases is among the great benefits of system integration. In this way, analyticity of the processed information and specialization in specific areas and specific tasks are obtained. This is a possible application, thus achieving high efficiency for management accountants. By allowing the transformation of information into an unusual form, the additional value that the creation of information for the management team should have is achieved. As additional information about the applicability of the system, it can be said that "By analyzing data from various sources, including historical data, market trends and other external factors, companies can make more accurate forecasts of their future costs. This allows them to plan more effectively and make adjustments to their operations if necessary. Overall, the impact of big data on cost management in accounting is significant." (Theodorakopoulos, L., Thanasas, G., & Halkiopoulos, C., 2024) Cost management, and effective cost management, is among the main points in using the entire set of management accounting tools. Accurate and rapid correction of data for various aspects of business operations creates a number of opportunities for management accounting such as: reliable information, timeliness of information flows, reflection of errors and creation of a large circle of persons interested in this data. Regarding the latter possibility, an internal circle of persons is considered, since one of the main characteristics of management accounting is the creation of information for internal consumption.

There is a significant increase in the demand for such applications of Big Data in every activity of management accounting. "This increase is motivated by the desire to understand how the integration of technological innovations into the routine of management can improve strategic decision-making and business sustainability. In addition, these discussions are provoked by the demand for real-time information, changes in regulatory and accounting standards, the need for efficiency and cost control, as well as the growing interest in issues of sustainability and social responsibility." (Barreto, A., Gomes, P., Quesado, P., & O'Sullivan, S., 2025) Another possibility for the application of the system in management accounting is the so-called "real-time data". When creating a number of databases that are linked, their correction, whether due to external and internal factors, can be monitored in real time and the subsequent impact on economic agents can be observed. This way, the moment for additional data summarization and loss of time and costs is skipped until the information reaches the management team or whoever needs it. Thus, any improvement in the internal environment and management work is an added value for both enterprises and the search for new systems for working together with management accounting.

The main characteristics of the "big data" system – known as the 5Vs (volume, velocity, variety, veracity and value) – show that data is generated not only in large volumes, but also with high speed and

diversity, which requires validity and information value that can be directly applied in decision-making processes (Narulita, D., Baderi, R., Hidayati, Ch., 2025). All these five features achieve the real use of the system in the business environment. For management accounting, the entire applicability of the system in making managerial decisions is significant. When creating large data sets that are rapidly updated and reach the internal information systems of economic entities, this inevitably creates new added value.

It is significant and important for scientific research to be conducted in this area, therefore, to see how the current information system affects management accounting and its functioning. One of the latest studies in this direction was conducted in the Republic of South Africa, stating: "we found that the development of big data in the practice of management accounting should lead to better decision-making due to:

- Improved ability to analyze data and identify trends and characteristics of cost behavior, which leads to improved management planning and forecasting,
- Faster availability of analyzed data, allowing for faster response to identified trends and customer behavior, and
- Employees who spend more time interpreting analyzed data than performing calculations, which leads to accurate presentation.

(Masuke, R., Middelberg, S.L., Buys, P.W., Gulko, N., 2025) The data presented in this way can also be distinguished as positive aspects of the use of Big Data and Big Data Analytics together with management accounting in the activities of economic entities. This study summarizes much of the information presented in the scientific paper, as the positive aspects that are highlighted are also covered in much of this text. The second positive aspect is also part of the integration of strategic management accounting into the activities of enterprises, because monitoring customer behavior is within its scope.

Last but not least, before presenting the disadvantages of Big Data, it is appropriate to present another field of application. As part of the organization of internal control, management accounting and "Big data also contribute significantly to internal control. By using machine learning algorithms, accounting systems can detect unusual or suspicious transactions that may indicate errors or potential fraud. This strengthens the internal control system and improves transparency in reporting " (Narulita, D., Baderi, R., Hidayati, Ch., 2025). In this way, security in the organization of economic processes in enterprises is also increased. It is also proven that digitalization processes are another stage that brings efficiency to management.

After presenting the positive aspects, it is appropriate to summarize the negative phenomena in the use of Big Data. The following can be mentioned as difficulties in integrating and weaknesses of the big data system:

1. Quality and reliability - One of the main challenges facing big data is the quality and reliability of the data. Big data is often extracted from various systems, both internal and external to the organization. This data can be unstructured, incomplete or contain errors. This makes it difficult to ensure the quality and reliability of the data. In addition, since big data is often extracted from external systems, there is a risk that the data is not accurate or up-to-date. (Balios, 2021) ;

2. Data security - Another major challenge facing big data is the confidentiality and security of data. As the amount of data collected increases, there is a risk of data breaches and cyberattacks. (Handoko, B. L., & Rosita, A. , 2022);
3. Skills and expertise - Big data requires a unique set of skills and expertise. Organizations must have staff with the necessary skills to manage and analyze large amounts of data. This includes skills such as data analytics, data visualization, and machine learning. Additionally, organizations need to ensure that their staff has the necessary training to work with big data. (Ibrahim, A. E. A., Elamer, A. A., & Ezat, A. N. , 2021) ;
4. Interoperability with other systems - A challenge with big data is integration with existing systems. Many organizations have legacy systems that were not designed to handle large amounts of data. This can make it difficult to integrate big data with existing systems. Organizations need to ensure that their existing systems are capable of handling big data. (Hezam, Y. A. A., Anthonysamy, L., & Suppiah, S. D. K. , 2023)

Of the presented weaknesses of the system, it is necessary to clarify that they are also present for a large part of the other information systems that are to be integrated into the activities of enterprises. In the quality and reliability of information, it is also important how the person works with the system and how truthfully and honestly, he fills in the information. The last weakness of the system has not been considered in the scientific work so far and it is important to test the systems and the way they work with each other before integrating Big Data. If this is not done, it is possible to block the work of all systems and only lead to negative phenomena for economic entities. The use of such systems is associated with a large expenditure of resources and the training of part of the staff, which limits the circle of enterprises that can use such systems.

Conclusion

Despite the possible shortcomings of the system when working with management accounting, it is possible to summarize the following: "The importance of effective data analysis to stimulate future innovation and decision-making cannot be overstated. As data continues to grow in both volume and complexity, the ability to analyze and extract meaningful insights will be crucial for organizations to maintain a competitive advantage. Data analysis enables businesses to make informed decisions, optimize operations, and innovate in ways that were not possible in the past." (Zhang, Journal of Computer, Signal, and System Research, Vol. 2 No. 1 , 2025) The constantly changing global phenomena provide a number of opportunities for the integration of systems of different applicability. This also creates opportunities for a number of management errors. At the same time, however, digital transformation is among the fundamental changes in all economic systems we know, and for this reason, its integration should be sought, not denied.

References

1. Balios, D. (2021). The Impact of Big Data on Accounting and Auditing. *International Journal of Corporate Finance and Accounting*, 8(1), 1-14.
2. Barreto, A., Gomes, P., Quesado, P., & O'Sullivan, S. (2025). Advancements in Management Accounting and Digital Technologies: A Systematic Literature Review. *Accounting, Finance & Governance Review*, 34.

3. Bühler, M. M., Jelinek, T., & Nübel, K. . (2022). Training and Preparing Tomorrow's Workforce for the Fourth Industrial Revolution. *Education Sciences*, 12(11), 782.
4. Di Yin & Hui Zhang. (2025). Big data analytics in supply chain management and its impact on business performance. *Applied Mathematics and Nonlinear Sciences*, 10(1), 1-24.
5. Gartner, B. & Hiebl, M.R. . (2018). The Routledge Companion to Accounting Information Systems. In Quinn, M. & Strauß, E. (Eds.), 161-172.
6. Handoko, B. L., & Rosita, A. . (2022). The Effect of Skepticism, Big Data Analytics to Financial Fraud Detection Moderated by Forensic Accounting. *ACM International Conference Proceeding Series*, (стр. 59-66).
7. Hezam, Y. A. A., Anthonysamy, L., & Suppiah, S. D. K. (2023). Big Data Analytics and Auditing: A Review and Synthesis of Literature. *Emerging Science Journal*, 7(2), 629-642.
8. Ibrahim, A. E. A., Elamer, A. A., & Ezat, A. N. . (2021). The convergence of big data and accounting: innovative research opportunities. *Technological Forecasting and Social Change*, 173.
9. Jones, H. P. (2016). "Big Data Analytics Tools: a Bibliometric Literature Review,". Available: <http://thescholarship.ecu.edu/handle/10342/5615>, 8.
10. Jony, A. I. (2016). "Applications of Real-Time Big Data Analytics,". *Int. J. Comput. Appl.*, vol. 144, no. 5, 975-985.
11. Kitchen, Rob, and Gavin McArdle. (2016). What makes Big Data, Big Data? Exploring the ontological characteristics of 26 datasets. *Big Data and Society*, 1–10.
12. Lehenchuk, S., Zavali, T., Denysyuk, O.M. (2023). Big Data in strategic management accounting. *Problem of Theory and Methodology of Accounting Control and Analysis*, 14-20.
13. Lehenchuk, S.F. and Denysiuk, O.M. (2022). «Perspektyvy ta problemy rozvytku obliku v umovakh vykorystannia Big Data». *Problemy teorii ta metodolohii bukhgalterskoho obliku, kontroliu i analizu*, Issue 3 (53), 14-20.
14. Masuke, R., Middelberg, S.L., Buys, P.W., Gulko, N. (2025). Big data analytics and its influence on management accounting: evidence from Southern Africa. *Studia UBB Negotia*, vol. 70, issue 1, 7-26.
15. McAfee, A., Brynjolfsson, E. (2012). Big Data: The Management Revolution, Decision Making and Problem Solving. *Harvard Business Review*.
16. Narulita, D., Baderi, R., Hidayati, Ch. (2025). The Use of Big Data and Business Intelligence in Management Accounting Decision Making. *Journal of Advances in Accounting, Economics, and Management*, Volume 2, Number 4, 1-18.
17. Pamarthi, K. (2024). SECURITY AND PRIVACY TECHNIQUE IN BIG DATA: A REVIEW. *North American Journal of Engineering and Research*, Volume 5, Issue 1, 2.
18. Pavlova, M. Petrova. R. (2024). *THE EFFECTS OF DIGITAL TRANSFORMATION ON THE ACCOUNTING PROFESSION – ACCOUNTING ROLES AND SKILLS*. Veliko Turnovo: University Publishing House "St. Cyril and Methodius".;
19. Power, D. (2014). Using 'Big Data' for analytics and decision support. *Journal of Decision Systems* 23(2), 222-228.
20. Ramkumar, A., Kulkarni, P., Obaid, A., at all. (2023). Big data analytics and its application in E-commerce. *Conference: UKI Toraja International Conference of Education and Science (UKITOICES)*, (стр. 9).
21. Roy, S. (2022). Graduate readiness for a professional career in accounting—an investigation of employers' perspectives in Fiji. *Pacific Accounting Review*, 35(2), p.314-335.
22. S. Goundar, A. Bhardwaj, S. Singh, M. Singh, and G. H L. (2021). "Big Data and Big Data Analytics: A Review of Tools and its Application,". 1-19.
23. Simonds, E. (2016). What next for big data application. *Data Science*.
24. Theodorakopoulos, L., Thanasas, G., & Halkiopoulos, C. (2024). Implications of Big Data in Accounting: Challenges and Opportunities. *Emerging Science Journal*, 8(3), 1201-1214.
25. Wamba, S. F., Dubey, R., Gunasekaran, A., & Akter, S. . (2020). The performance effects of big data analytics and supply chain ambidexterity: The moderating effect of environmental dynamism. *International Journal of Production Economics*, 56-89.
26. Zhang, J. (2025). From Data to Decisions Exploring the Role of Data Analysis in Big Data. *Journal of Computer, Signal, and System Research*, Vol. 2 No. 1, 2.
27. Zhang, J. (2025). Journal of Computer, Signal, and System Research, Vol. 2 No. 1 . *From Data to Decisions Exploring the Role of Data Analysis in Big Data*, 8.