

THE ROLE OF CLOUD TECHNOLOGIES IN MODERN DEVELOPMENT OF BANKING INSTITUTIONS

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Abstract. The process of digitalization of the financial services sector today is due to objective reasons related to the inevitable development of digital technologies and their active implementation by banking institutions. Cloud technologies are an integral part of digital innovations that these institutions use in their activities. These technologies are in active development and adaptation to the specifics of the functioning of different financial intermediaries, in particular commercial banks. The article pays special attention to the study of using cloud technologies in the work of banking institutions, taking into account the specifics of their economic activity and their role in the development of the financial system and the national economy. For this purpose, the key characteristics of using cloud technologies are determined, and the specific features of the economic activity of commercial banks are substantiated, taking into account the possibilities of using artificial intelligence technologies. In addition, the role of cloud computing technologies in the modern development of banking institutions in the informational security system was analyzed. To understand the ambiguity of the consequences of using cloud technologies and the positive and negative consequences of their use in the work of commercial banks, the research was conducted. As a result, it is established that cloud technologies already today are already indispensable components of the development of any commercial bank. Thanks to their application using the potential of digital technologies and, in combination with the construction of effective systems, digital transformation is possible, to ensure high-level competitiveness and dynamic, regulated bank development in the conditions of digitalization of economic relationships and change of established models functioning of the financial market services. The article formulates promising directions for the use and adaptation of cloud technologies by commercial banks, taking into account their opportunities and threats. It is also determined that the gradual growth of demand from these institutions for relevant services will contribute to the emergence of new changes in the cloud services market, taking into account their capabilities to form such demand and the scale of their activities, which also determine the need to build effective information systems for their work.

Keywords: banking institution, banking service, cloud technologies, digitalization, digital technology, financial services market.

JEL Classification: G21, O33, L86

1. INTRODUCTION

Digital technologies today play a key role in the development of the financial services sector. Banking institutions actively use these technologies in their activities. They try to maximize the opportunities and potential of these technologies since they can use them in virtually all areas of their work. As a result, this primarily allows for reducing the risks that accompany their activities. In

addition, banking institutions today are becoming drivers of innovative digital development of national economies, since they make significant efforts and include financial resources to ensure gradual digital transformation. This, in turn, increases the interest of scientists in conducting research directed to the digitalization of the banking system, using various types of information and communication technologies by these institutions in various areas of their activities.

Cloud technologies are a type of modern digital technologies that are already used in their work by a significant number of financial institutions, enterprises of the real sector, trade enterprises and, in fact, all entities that today have the opportunity to use these technologies, that is, financial, human, material resources, and are searching for ways to optimize their own costs. Cloud technologies are already an integral part of the functioning of commercial banks, since they store significant amounts of information, which is the main resource for the work of these institutions. This accordingly requires them to organize proper work with financial information, especially the data related to the personal data of their clients, information about their financial condition, financial history of using banking services, data on financial accounts, history of payments, etc.

Today, issues of using the potential of cloud technologies in the work of commercial banks to optimize their work and use them in the provision of banking services to various categories of clients are becoming relevant, including individuals, business entities, and other consumers of these services. This updates the topic of the article and requires a more detailed study of the possibilities of using cloud technologies by commercial banks, advantages, threats of using these technologies, and features of their adaptation to the work of these financial institutions.

2. LITERATURE REVIEW

In the context of aggravation, the issues related to the need to increase the efficiency of banking institutions, reduce costs, and ensure data security, etc, are studied. Cloud technologies are becoming increasingly important in the transformation of banks and contributing to the formation of new opportunities for optimizing customer service, data management, and the implementation of innovative products.

Abramova et al. (2024); Afqani Kurnia Fajar et al. (2024); Ambekar Archana et al. (2025) analyzed green financing in the context of digitalization and modern fintech tools and solutions within the framework of the sustainable development concept, the practice of risk management under the influence of digitalization is studied, and features of the formation of the 5.0 society using intelligent banking solutions through cloud technologies are outlined.

Within the framework of the research (Ayadi Rym et al., 2025; Bassens et al., 2024; Beqimkulov Emil et al., 2025), the European experience of the digitalization impact on the efficiency of banks' activities was analyzed, banking services in the cloud were investigated, and the role of digitalization of banks on their competitiveness and stability was identified.

Biswas Ankur et al. (2024); Cui Qia et al. (2025); Dubyna et al. (2023) analyzed decentralized cloud banking in the context of increasing security and efficiency using blockchain, assessed the impact of digitalization through expansion of broadband on the bank transparency, and also examined current trends in the digital development of the EU credit services market.

Ferretti Paola et al. (2025); Ghertescu Claudia et al. (2024); Grigoraş-Ichim et al. (2018) revealed digitalization features in banks, investigated whether the digitalization strategy affects the efficiency of banks in Industry 4.0.

Guermazi Imenea et al. (2025); Hasan Shaikh Masrick et al. (2025); He Shuxian et al. (2025) proved a significant role of digitalization in gaining competitive positions of banking institutions in the context of the COVID-19 pandemic, analyzed triple foundations of sustainable financing, namely, considered the role of green financing, CSR, and digitalization in banking, and investigated the impact of bank digitalization on corporate agent costs.

Hrubliak et al. (2024); Jakúbek et al. (2023); Leqapriyadharshini et al. (2024) analyzed Eurozone trends in the development of central banks in the implementation of the European Green Deal, examined features of public administration and legal support for society, and argued the need to integrate artificial intelligence and cloud technologies for the personalized mobile banking experience.

Li Chengminga et al. (2024); Liu Qian et al. (2025); Fu Yuxia et al. (2025) revealed mechanisms and asymmetric impact of banks' fintech innovations on the total factor productivity, analyzed digitalization of supply chains and companies' access to bank loans, as well as the impact of digitalization on uncertainty of the economic policy and the bank stability.

Nguyen Thuy Thu et al. (2025); Popelo et al. (2024); Raqhunathan Balaji et al. (2017) investigated the impact of digitalization on the efficiency of commercial banks, the impact of blockchain technology in managing financial stability of the enterprise, and the e-commerce development, and a significant role of cloud technologies in the transformation of bank business is substantiated.

Soltani Hayet et al. (2024); Swain Srishti et al. (2022); Tulchynska et al. (2024) investigated the role of digitalization in the relationship between financial indicators and social indicators, conducted the empirical study of Tunisian banks in using artificial intelligence, blockchain, cloud computing and data security, and also analyzed the role of artificial intelligence in the system for assessing safe development of economic entities.

Ulrich-Diener Florian et al. (2025); Wang Heng (2024); Wanq Li et al. (2024) analyzed restraining factors of the banking sector digitalization, investigated the role of the digital currency of the central bank in ensuring stability, revealed risks of the bank digitalization and proposed ways to minimize them.

Wu Wenyanq et al. (2025); Xu Chenxi et al. (2024); Yang Cunyi et al. (2025); Yilmaz Cihan et al. (2024) investigated the digitalization of banks and its impact on risk management, determined the digitalization level in commercial banks and creation of the bank liquidity, and investigated the impact of digitalization on financial inclusion and financial performance of deposit banks.

Given that, cloud technologies are an integral part of the modern development of banking institutions, their successful use should become the basis for achieving competitive advantages in a dynamic financial environment and ensure banks' resilience to future challenges. This determines the relevance of the chosen research topic and proves the need to determine the role of cloud technologies in the modern development of banking institutions, which is what this article is devoted to.

3. RESEARCH OBJECTIVE, METHODOLOGY, AND DATA

The purpose of the article is to generalize and justify the theoretical and applied aspects of using cloud technologies in banks in modern conditions.

The object of the research is the process of using cloud technologies to ensure the development of banking institutions.

The subject of the research is theoretical and applied positions using cloud technologies of commercial banks to ensure their own digital transformation and gradual development.

In the article, the totality of general and special methods research is used, from an application which allowed by achieving the goal of the article, and among which it is worth to single out the following ones: content analysis, statistical methods research, comparative analysis, methods generalization, abstraction, analysis, synthesis, etc.

4. RESULTS AND DISCUSSION

We will begin the study by substantiating the essence of cloud technologies and describing features of their use by banking institutions. It should be noted that these technologies are currently actively used by all economic entities in their activities. Accordingly, the market for these services is constantly growing and, according to scientists and analysts, in the future, there will be an increase in demand for

the services of IT companies, adapting cloud technologies to the activities of economic entities. In the fourth quarter of 2024, world service costs for the cloud infrastructure increased by 20% year-on-year, calculated at 86 billion US dollars. For the whole of 2024, the costs also increased by 20%, from 267.7 billion USD in 2023 to 321.3 billion USD in 2024. The key factor in this growth has been the expansion of artificial intelligence models, which has greatly accelerated the implementation of cloud technologies. To the second half of 2024, all leading suppliers of cloud technologies reported a positive return from investments in AI, and AI applications had a notable impact on general indicators of their cloud business. Due to the intensification of the AI market, cloud hyperscalers are planning yet more expansion of cloud technologies and investments in the AI infrastructure in 2025 to keep up with growing demand. Canalys predicts that world service costs for the cloud infrastructure will grow by 19% in 2025 (Omdia, 2025). Accordingly, the demand from banking institutions for these services is also constantly increasing.

Therefore, cloud technologies are a set of software, technological tools, and approaches used to organize the virtual environment that stores information necessary to ensure stable operations, which is primarily accessible to Internet users who are identified as the owners of this information.

The key characteristics of development, application of cloud technologies can be singled out as follows:

- adaptability, available significant opportunities to adapt to the needs of the client, change the structure of the data stored in the cloud, and configuration of resources used by the business entity at any time;
- payment is made for the use of services, in fact for the amount of information storage that the client needs, and this payment is predictable and stable, which greatly simplifies the implementation of financial planning for the development of economic entities;
- ability to provide access to a large number of users to a single array of information and management data, with definition of their role and access to familiarization and use of various types of this information in their work;
- allow you to track the history of requests and work with information of different users who have access to it and use it in their work;
- related to other digital technologies used by economic entities in their work, primarily with technologies for automating operational processes, using the artificial intelligence in these processes, using the Big Data technology Data for processing information arrays that can be stored in the cloud and thus allow for more efficient and faster processing of large amounts of information, since it exists in the single space. This, in turn, allows for obtaining necessary data for making management decisions.
- allow you to avoid creating a complex information storage system on local servers within the specific organization or institution, and to form the appropriate information system to ensure reliable storage, use of data. This, in turn, makes it possible to partially reduce operating costs, especially the costs of services of highly qualified specialists, which are necessary for the organization and the effective functioning of the specified system.
- Risks of maintaining, updating, and improving software are fully borne by the provider, i.e., the provider of cloud technologies, which reduces the need for economic entities to pay attention to the development and adaptation of these technologies to their activities, and allows focus on their own operational activities, etc.

Active development of cloud technologies and constant growth of demand for these services have also led to the interest of large IT corporations in the development of these technologies and the provision of relevant services to various categories of consumers. The development of the market for these technologies in recent years indicates available opportunities for additional income from these services. This market is constantly developing, and today there is a small number of providers on the global scale that offer high-quality, affordable and convenient services for using cloud technologies for various entities, which are characterized by different scales of work, specifics of the economic activity

and features of organizing access to information of various types. The leaders among enterprises that provide services for using cloud technologies or cloud infrastructure services are the following: Amazon Web Services (AWS), Microsoft Azure, and Google Cloud. Fig. 1 shows information about the share of the cloud technology market between these companies.

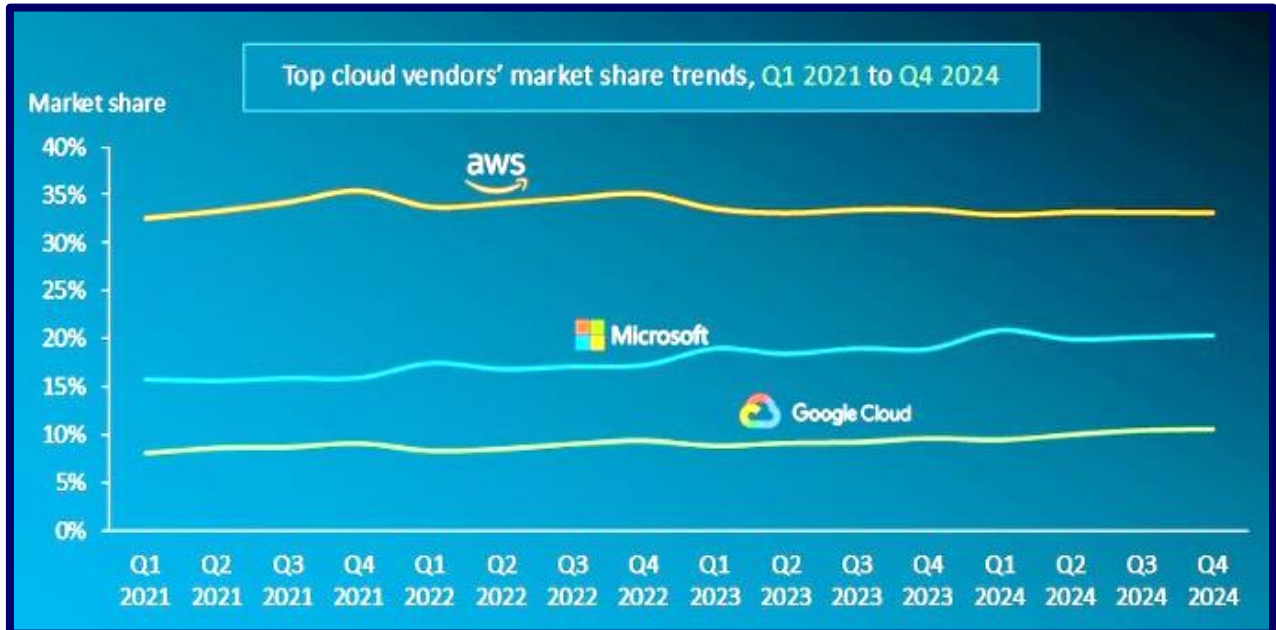


Fig. 1. Share of individual providers on the cloud technology market in 2021-2024

Source: Omdia (2025)

From Fig. 1, we can conclude that the leader among the outlined providers that provide cloud technologies to economic entities is AWS, whose market share at the end of 2021 was approximately 35%. However, in the following periods, that is, during 2022-2024, it decreased slightly. Instead, the share of services of Microsoft and Google corporations gradually increased. In 2024, in the third and fourth quarters, we observe stabilization of the shares of the specified providers in the relevant market. The interest of the outlined companies in the development of cloud technologies is accompanied primarily by technological capabilities of these companies to develop new technologies, availability of financial resources that they can invest in a new area of activity, and experience in developing digital technologies and selling them to economic entities.

High level of interest of banking institutions in using cloud technologies is due, first, to the specific features of their activities, which are presented in Fig. 2.

In modern conditions, using cloud technologies by commercial banks is happening virtually in every aspect of their work. In Fig. 3, the results of a poll of employees of commercial banks regarding the state of using the specified technologies at work in their banking institutions are presented. Thus, we can conclude that today banking institutions primarily use cloud technologies to organize their own information management system, then they actively apply the potential of these technologies in the marketing of their financial services and for the development of various applications to improve the quality of these services, their accessibility, and convenience for customers.

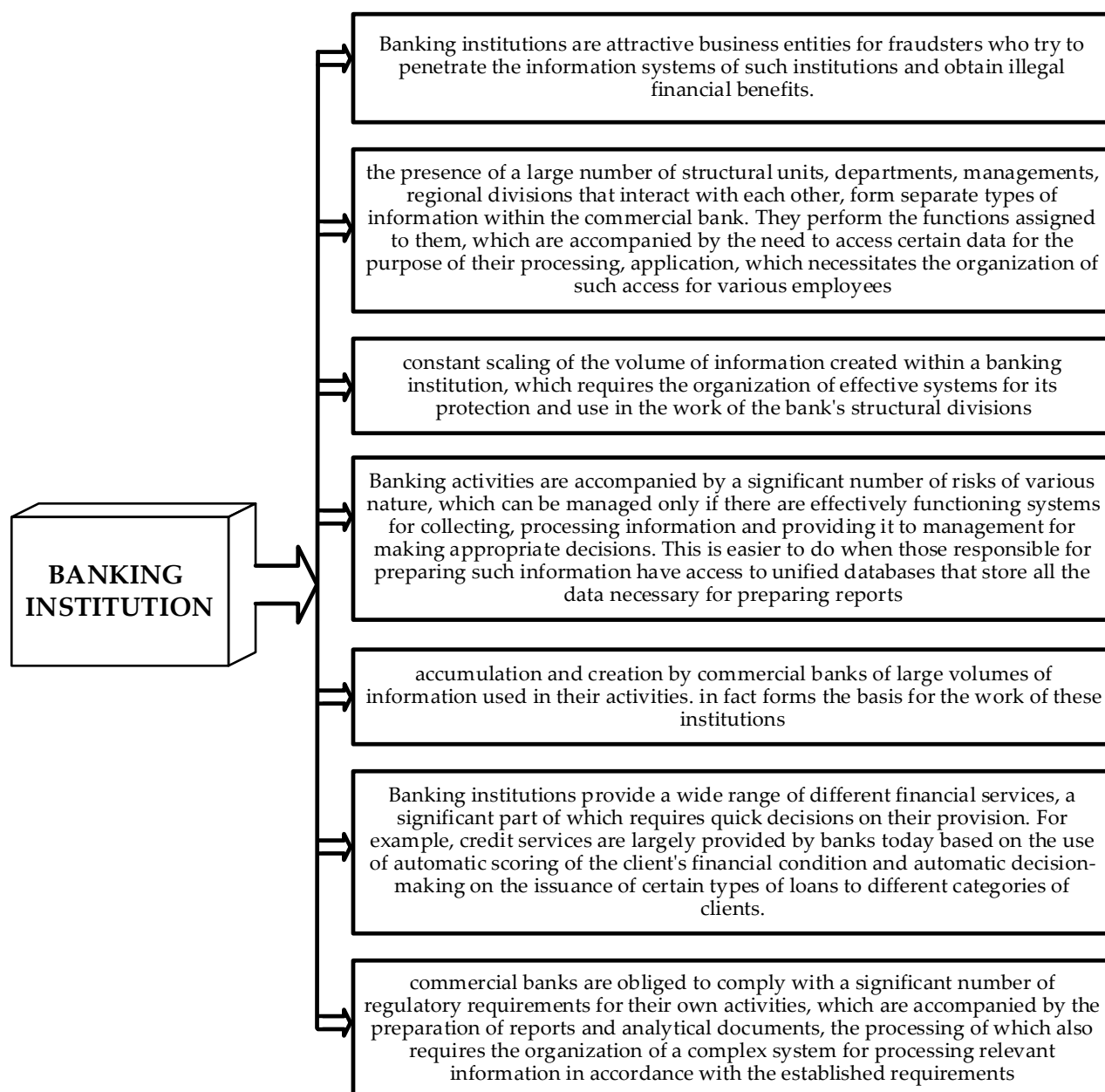


Fig. 2. Specific features of the economic activity of banking institutions in the context of using cloud technologies in their activities

Source: systematized by authors

Among the features of using cloud technologies by banking institutions, it is worth to single out the following ones:

- constantly growing volumes of information, which are the basis for providing relevant services, and therefore, there is a need to store this information and use it effectively in the work of various structural units;
- in accordance with the current legislation, banking institutions' liabilities separate types of information saved exclusively on the territory of the countries where they provide services of their own to their customers;
- there are individual requirements from central banks and other state institutions regarding the use of cloud technologies and ensuring an appropriate level of cybersecurity in these institutions. Requirements for building the cyber protection system for the work of commercial banks are also regulated;
- banking institutions typically use hybrid clouds, combining capabilities of public and private

clouds to organize their own work;

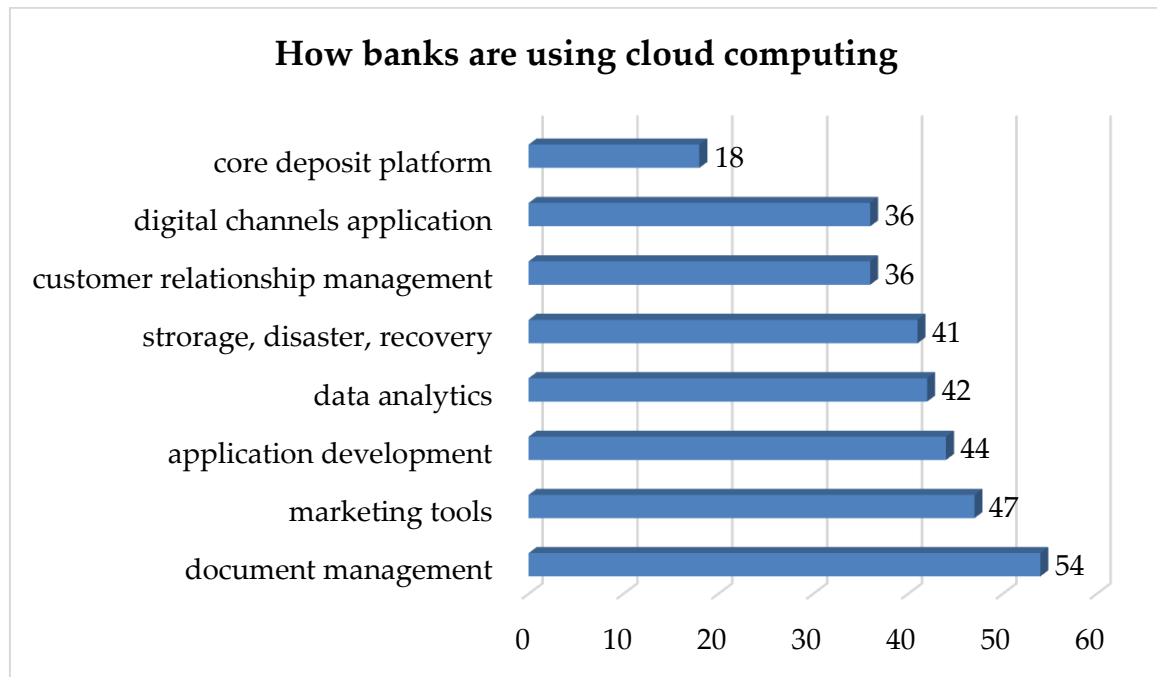


Fig. 3. How banks are using cloud computing

Source: Epam (2025)

- commercial banks can use the services of individual providers, who are certified and have the right to provide relevant services and form application opportunities of private public clouds for the operation of these institutions.

- taking into account the specifics of commercial banks and the possibility of peak loads on information systems during certain hours of their operation, using cloud technologies, negative consequences of these situations can be significantly minimized;

- considering that commercial banks, as is correct, use systems stored in the cloud, in the structure of which various modules and subsystems are distinguished, accordingly, they have the opportunity to organize the functioning of each module, to provide access to their updates, and to the information stored on these modules. This makes it possible to accelerate using information resources, to ensure a more phased process of updating the software used to ensure possible use of cloud technologies;

- banking institutions must also provide an effective system for copying information and diversifying its storage locations, which allows it to be quickly restored in the event of an adverse event.

- in modern conditions, commercial banks operate solely based on quick access to necessary information, and online services are provided on a permanent basis. This requires the appropriate organization of using cloud technologies by these institutions.

- cloud technologies are actively used by banking institutions to develop new software, individual modules for their further use in their work. With the help of information stored in the clouds, new information innovations are tested.

- providers of cloud technologies partially assume risks of physical information protection and ensuring effective functioning of the network infrastructure, which allows commercial banks to focus on ensuring information security of processes, user authentication, and data encryption.

For banking institutions, using cloud technologies, like any technology, has both its advantages and disadvantages. We'd only like to note that in modern conditions of the activity by these institutions, the use of cloud technologies is objectively necessary for them to ensure the proper level of competitiveness of the financial services they provide and to comply with norms of current legislation. That is why banking institutions will use appropriate technologies in the future. However, there are certain threats

and risks that commercial banks must take into account when organizing the use of these technologies in their work.

Among the advantages of using the potential of cloud technologies, the following should be highlighted:

- reducing costs for organizing the effective information management system, which is accompanied by a lack of the need to incur significant material costs for the purchase of servers, necessary network components, and providing your own data servers with the necessary resources for their stable functioning;

- ensuring quick access by bank employees to various types of information, which is securely stored and prevents its misuse by employees, which having a positive impact on the information security level of the bank;

- reduction of operating costs, which is due to the lack of the need to invest own resources in updating and improving computer equipment and, accordingly, incurring expenses for services of highly qualified specialists in the use of cloud technologies;

- a provider provides information to banking institutions about their use of cloud functions and capabilities, which makes it possible to analyze the effectiveness of its use, develop existing opportunities for application of cloud technologies, and optimize their application;

- a commercial bank pays for the actual use of computing resources that it uses in its work, which allows it not to spend money on unused resources that may arise when independently organizing, storing, and using information;

- ensuring very fast connection of various structural divisions, especially those located in different regions, to necessary information resources with provision of appropriate access;

- increasing the cybersecurity level of banking institutions using multi-factor authentication for access to information resources, and possibly introducing additional requirement mechanisms for accessing various types of information stored in the cloud;

- ensuring constant backup of information, which, as a rule, is carried out automatically and allows for preservation of information and its convenient use in the operational activities of banks;

- a provider takes on the partial risks of physical preservation of information and, in case its losses, carries out financial compensation;

- possible continuous development of the bank's information system, development of new modules used to provide certain types of banking services, their rapid improvement, which is especially relevant today, in times of high competition in the banking services market;

- the use of cloud technologies accelerates the identification of prohibited financial transactions and their monitoring, which is important for complying with the norms of current legislation on the legalization of income and preventing their laundering.

- in use strengthens the flexibility of banking institutions in cooperation efforts with other financial companies for the development of new products.

- possible choice of providers enables banks to optimize their own expenses, to provide high-quality services by using cloud technologies, etc.

Fig. 4 shows data on the disadvantages of using cloud technologies by banking institutions in modern conditions.

Thus, despite a significant number of positive consequences of using these technologies for these institutions, there are a number of risks and threats to their use. Among them, it is worth noting, first, the importance of building effective cybersecurity systems for the functioning of commercial banks, which is one of the important elements of ensuring effective use of cloud technologies. Another rather complex threat to the use of cloud technologies is that banks, to a certain extent, when involving a provider to obtain relevant products based on the use of these technologies, become significantly dependent on it, the specifics of its functioning, construction of its customer service systems, provision of consultations, etc. That is why, to receive quality services from other companies in terms of using

services created with the involvement of cloud technologies, the banking institution needs to be quite careful when choosing the company, taking into account that it needs to build long-term partnerships, and the services of this company will be needed constantly.

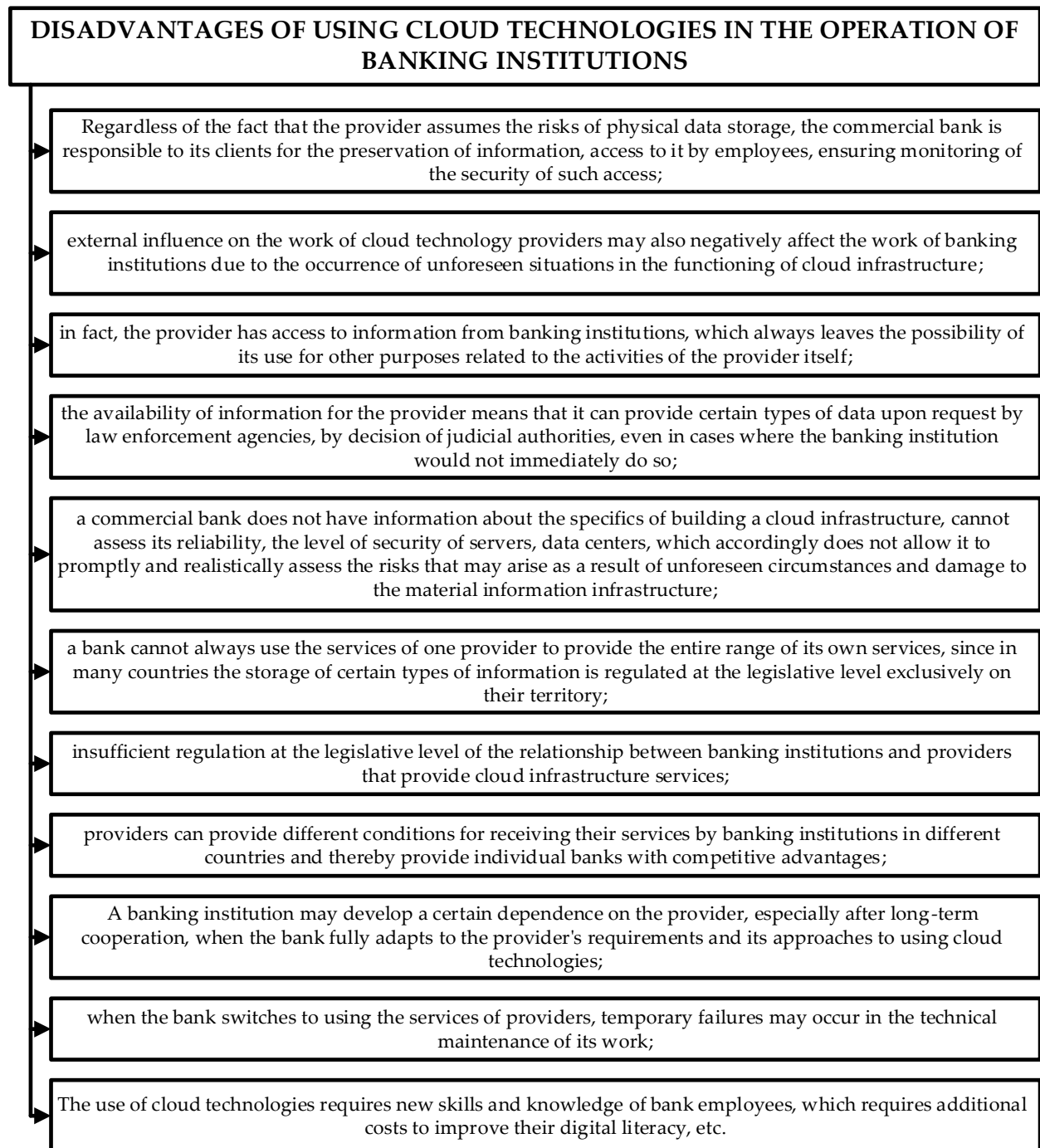


Fig. 4. Disadvantages of using cloud technologies in banking institutions

Source: compiled by the authors

The detailed analysis of the advantages and disadvantages of using cloud technologies in the work of banking institutions shows that the disadvantages in the vast majority of cases are associated with the specifics of the technology itself and are caused by peculiarities of its use, the need to involve third-party organizations, specialists in this field, etc. At the same time, advantages of using the specified article are primarily associated with development of the banking institution, availability of the objective process of its digitalization, which determines the need to use cloud technologies today to support the quality of financial services, speed of decision-making, security of information resources, and the increase in the

competitiveness level in the banking services market. The constant growth of demand for cloud technologies from various economic entities is outlined and confirmed. The global market cloud calculations have increased to 446.51 billion dollars in 2022 and reached 500 billion dollars in 2023. It is expected that by 2028 it will exceed 1 trillion dollars, and by 2030, 1.6 trillion dollars. In the last report, it is predicted that the market will grow from a significant average annual growth rate of equal to 17.43% by 2032 (Edgedelta, 2025).

Thus, taking into account the presented best results of the conducted research on the essence, advantages, and disadvantages of using cloud technologies in the work of banking institutions, it is advisable to determine the main directions of their further use:

- the need to increase investments in improving the skills of banking institution employees, taking into account the further virtualization of their work, which requires the active use of cloud technologies;
- deepening cooperation with relevant providers that provide cloud services to banks, taking into account the importance of ensuring the diversification of such services in order to eliminate dependence on the work of a particular provider;
- the need to increase the number of our own specialists in the IT field who understand the specifics of the functioning of cloud technologies and have the ability to use them more effectively to organize the work of commercial banks;
- the importance of implementing the functionality of cloud technologies into existing information support systems for the work of commercial banks, the transition from the information storage model to the model of deep automatic analytics of financial information stored by banks in the clouds;
- the importance of developing a methodology for assessing risks associated with the use of cloud technologies by banking institutions, developing algorithms to counteract their occurrence in order to avoid information loss or its dissemination;
- the need to conduct constant analytical work on assessing the risks of cloud technology providers, constantly studying the results of their activities, market position, and reputation among clients;
- improving the system for backing up information that a commercial bank accumulates and creates within the framework of its work;
- the need to take into account modern trends in working with banking information in the process of using cloud technologies, namely the Open Banking model, according to which commercial banks provide information about accounts and client data to third-party organizations, etc.

It is also worth noting that the further growth of commercial banks' interest in using cloud technologies will lead to changes in the market of relevant services, namely:

- a gradual increase in the demand of commercial banks for cloud services, which is caused by the further virtualization of banking institutions;
- an increase in the number of providers that will provide cloud services to financial institutions, including banks;
- a deepening of the specialization of cloud service providers in servicing certain categories of consumers, including banking institutions, which have their own specifics of working with customer information;
- an increase in the number of providers may lead to a decrease in the cost of cloud services in the future.
- the possibility of the emergence and increase in the number of national providers, including state institutions, that will provide cloud technologies to banking institutions, etc.

Supporting the research of scientists (Ambekar Archana et al., 2025), it is appropriate to note the rapid technological transformation. Indeed, smart banking is a key component of Society 5.0, which involves the use of artificial intelligence, blockchain, the Internet of Things, and data analytics, which contribute to the revolutionization of financial services, making them more accessible, secure, and personalized.

Sharing the opinion (Bassens et al., 2024), we focus on the growing dependence of existing banks on

public cloud infrastructures, arguing that “cloud interoperability” has become a decisive factor among platform finance.

It is also worth paying attention to the study (Biswas Ankur et al., 2024), which proved the feasibility of eliminating shortcomings in electronic communications through the use of a secure and integrated electronic banking system using blockchain and IPFS for cloud banking.

Of practical importance is the study (Cui Qia et al., 2025), which proves that in the modern banking landscape, the cloud has become a transformative force that has changed the infrastructure and operational paradigms of the banking industry. The authors prove the complementarity between the digitalization of banks and transparency, and also consider the possible consequences for financial instability caused by technology. We share the view that cloud computing in the banking sector contributes to scalability, cost-effectiveness, and accessibility.

5. CONCLUSIONS

Within the article, the study of theoretical and applied aspects of using cloud technologies in banking institutions in modern conditions is conducted. It has been established that cloud technologies today play one of the key roles in the digitalization of commercial banks, in providing gradual and effective digital transformations of their activities. It has been proposed to consider cloud technologies as a type of information and communication technologies, which are a collection of software, technological means, approaches, and which are used for the organization of the virtual environment, access to it, using its opportunities for working with information resources, which are stored in this environment, taking into account previously certain conditions regarding access to these resources. It was found that for the activity banking institutions, there are their own specific features when using cloud technologies. The most important among these features on the activity of banking institutions related to information resources were outlined, and their use was corrected.

Peculiarities of the economic activity of banking institutions, which are carried out with the aim of deepening theoretical provisions of the specifics of using cloud technologies in the work of commercial banks, are substantiated within the article. The detailed analysis of statistical information allowed us to state that today, commercial banks primarily use cloud technologies in information management, that is, for organization, storage, use, and access of employees to certain types of information resources. In addition, the article specifies the advantages and disadvantages of using cloud technologies in banking institutions. It has been found out a significant advantage of these technologies has been found for commercial banks, which can delegate part of their own technical tasks to providers, who provide high-quality services directed to the preservation of information, software for its confidentiality, and effective use. When this advantage is accompanied by a certain disadvantage, tight interaction with providers is pointed out, which provides innovative products developed based on cloud technologies, which, in turn, increases risks of losing stability in the functioning of banking institutions due to deterioration of the operation of these providers of their financial condition, etc.

It has been established that the introduction of cloud technologies into the work of banking institutions is already actively taking place today. This confirms the fact that the benefits of using these technologies for these institutions are an order of magnitude greater than the threats that they can create within the banking system. Today, it is clear that the future of the financial services sector depends on the quality, efficient development, and implementation of new digital solutions in this area. Accordingly, all digital technologies are interconnected, and cloud technologies are one of the most important innovations, as they allow banking institutions to primarily create a system for storing extremely important confidential information about their own clients. Accordingly, the article identifies the main directions of further use of cloud technologies in the work of banking institutions and substantiates that their application requires quite systematic work on the part of top management, since this requires: the formation of new approaches to assessing the risks of using cloud technologies,

developing scenarios for countering them in different variants of occurrence; changes in approaches to improving the skills of banking institution employees, providing them with appropriate competencies in the use of cloud technology services, ensuring the security of their application; changes in the model of using cloud technology capabilities, combining their potential with the capabilities of other digital technologies (AI, BigData), which allows obtaining the best effects from the digitalization of the work of a banking institution. Further research in this area may consist of considering features of using cloud technologies for organizing and providing clients with specific types of banking services. Also, the issues of developing appropriate approaches to developing strategic directions for using existing and potential opportunities of cloud technologies in the future, taking into account current trends in the development of the financial services sector (implementation of the Open Banking model, development of FinTech companies, intensification of competition in certain segments of the financial services market, in which only commercial banks traditionally provided their services, etc.), remain insufficiently studied.

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Шкарлет Сергій, Дубина Максим, Щур Роман, Шишкіна Олена. Роль хмарних технологій у сучасному розвитку банківських установ. *Журнал Прикарпатського університету імені Василя Стефаника*, 12 (2) (2025), 143-157.

Процес цифровізації сфери фінансових послуг сьогодні зумовлений об'єктивними причинами, які пов'язані з невідворотним розвитком цифрових технологій та їхнім активним запровадженням банківськими установами. Хмарні технології є невід'ємною складовою цифрових інновацій, які зазначені установи використовують у своїй діяльності. Ці технології також перебувають у процесі активного розвитку та адаптації до специфіки функціонування різних фінансових посередників, зокрема комерційних банків. У статті приділено особливу увагу дослідженню використання хмарних технологій у роботі банківських установ, враховуючи специфіку їхньої економічної діяльності та роль у розвитку фінансової системи й

національної економіки. Для цього визначено ключові характеристики застосування хмарних технологій і обґрунтовано специфічні риси господарської діяльності комерційних банків з урахуванням можливостей використання технологій штучного інтелекту. Також проаналізовано роль хмарних технологій у сучасному розвитку банківських установ у системі інформаційної безпеки. Для розуміння неоднозначності наслідків використання хмарних технологій проведено дослідження позитивних і негативних наслідків їхнього використання у роботі комерційних банків. У підсумку встановлено, що хмарні технології вже сьогодні є невід'ємною складовою розвитку будь-якого комерційного банку. Завдяки їх застосуванню можна задіяти потенціал інших цифрових технологій і, у поєднанні з побудовою дієвої системи цифрової трансформації, забезпечити високий рівень конкурентоспроможності та динамічний, регульований розвиток банку в умовах цифровізації економічних відносин і зміни усталеної моделі функціонування ринку фінансових послуг. У статті сформульовано перспективні напрямки використання та адаптації хмарних технологій комерційними банками з урахуванням їхніх можливостей та загроз. Також визначено, що поступове зростання попиту зі сторони цих установ на відповідні послуги сприятиме і виникненню нових змін на ринку хмарних послуг, враховуючи їхні можливості щодо формування такого попиту та масштаби діяльності, які обумовлюють і потреби у побудові дієвих інформаційних систем для власної роботи.

Ключові слова: банківська установа, банківська послуга, хмарні технології, цифровізація, цифрова технологія, ринок фінансових послуг.