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## MODEL OF FORMATION OF FINANCIAL RESOURCES IN CONDITIONS OF DIGITALIZATION

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### МОДЕЛЬ ФОРМУВАННЯ ФІНАНСОВИХ РЕСУРСІВ В УМОВАХ ДІДЖИТАЛІЗАЦІЇ

***In connection with the rapid development of digital technologies in the modern world, there is a need to review and adapt models of the formation of financial resources under the influence of digitalization. Digital technologies transform traditional processes, affecting the ways of production, consumption and distribution of financial resources. In this context, there is a need to develop new models for the formation of financial resources that take into account the impact of digitalization on the financial sector.***

***The article is aimed at studying the influence of digital innovations on the processes of formation of financial resources, their optimization and use in modern conditions. The work analyzes the impact of digitalization on traditional sources of financing, such as banking and capital investment, considers the latest financial instruments, such as cryptocurrencies and blockchain technologies, and develops models for the optimal use of digital resources in the context of digitalization. Modeling and forecasting financial indicators is essential for businesses and investors to make informed decisions in the digital environment. There are several tools and techniques to help with this process.***

***The study confirms that the use of digital tools in the formation of financial resources allows enterprises to increase the efficiency of liquidity management, reduce the costs of financial operations and ensure a higher level of financial stability. Special attention should be paid to the development of digital platforms for managing financial flows, which allows for the automation of accounting and monitoring of financial transactions, as well as improves the forecasting of financial results.***

***Digitization of financial resources is a necessary stage in the evolution of modern business processes. It creates unique opportunities for optimizing financial operations, providing enterprises with competitive advantages on the market. However, successful implementation requires an integrated approach, combining technological innovation, human resources and information security.***

**У зв'язку зі стрімким розвитком цифрових технологій у сучасному світі виникає необхідність перегляду та адаптації моделей формування фінансових ресурсів під впливом діджиталізації. Цифрові технології трансформують традиційні процеси, впливаючи на способи виробництва, споживання та розподілу фінансових ресурсів. У цьому контексті виникає необхідність розробки нових моделей формування фінансових ресурсів, які враховують вплив діджиталізації на фінансовий сектор. Сприяючи цифровізації фінансових процесів, суспільство повинно ретельно вивчати й враховувати можливі соціальні наслідки цих технологій.**

**Стаття спрямована на дослідження впливу цифрових інновацій на процеси формування фінансових ресурсів, їх оптимізацію та використання в сучасних умовах. У роботі аналізується вплив діджиталізації на традиційні джерела фінансування, такі як банківська справа та капітальні інвестиції, розглядаються новітні фінансові інструменти, такі як криптовалюти та технології блокчейн, і розробляються моделі оптимального використання цифрових ресурсів у контексті діджиталізації. Моделювання та прогнозування фінансових показників має важливе значення для того, щоб підприємства та інвестори могли приймати обгрунтовані рішення в цифровому середовищі. Існує кілька інструментів і методів, які допоможуть у цьому процесі.**

**Дослідження підтверджує, що використання цифрових інструментів у формуванні фінансових ресурсів дозволяє підприємствам підвищити ефективність управління ліквідністю, зменшити витрати на фінансові операції та забезпечити вищий рівень фінансової стійкості. Особливу увагу слід звернути на розвиток цифрових платформ для управління фінансовими потоками, що дозволяє автоматизувати облік та моніторинг фінансових операцій, а також покращує прогнозування фінансових результатів.**

**Діджиталізація фінансових ресурсів є необхідним етапом в еволюції сучасних бізнес-процесів. Це створює унікальні можливості для оптимізації фінансових операцій, надання підприємствам конкурентних переваг на ринку. Однак успішне впровадження вимагає інтегрованого підходу, що поєднує технологічні інновації, людські ресурси та інформаційну безпеку.**

*Key words: digitalization, financial resources, modeling, forecasting, financial strategy.*

*Ключові слова: діджиталізація, фінансові ресурси, моделювання, прогнозування, фінансова стратегія.*

## FORMULATION OF THE PROBLEM

In today's world, which is constantly moving forward with the speed of digital reproduction, the financial system does not remain aloof from this technological revolutionary process. Digitization, which is the introduction of digital technologies into all aspects of life, changes the paradigm of the formation of financial resources. Digital technologies transform traditional processes, affecting the ways of production, consumption and distribution of financial resources. In this context, there is a need to develop new models for the formation of financial resources that take into account the impact of digitalization on the financial sector.

## ANALYSIS OF LATEST RESEARCH PUBLICATIONS

The issue of the formation of financial resources is highlighted by domestic authors of economic publications, namely: Velichkin V.O., Tymoshenko M.V., Kotkalova-Litvin I.V., Musienko V.O., Ostroverkha D.V., Dergacheva V.V., Parubets O., Sereda S.A., Glushchenko O.V., Parubets O., Vostenko V.S., Merenkova L.O., Agapova M.Yu. and others [1–8]. At the same time, the question of the formation of financial resources in the conditions of digitalization is relevant and insufficiently researched, and therefore there is a need to further solve it at the level of anti-crisis management of enterprises.

## SETTING OBJECTIVES

The purpose of the article is the formation of financial resources in the conditions of digitalization as the main component of their anti-crisis management.

## PRESENTATION OF THE MAIN MATERIAL

Digitalization of the financial system begins with the use of modern technologies for processing, storing and transmitting financial information. Blockchain, artificial intelligence, data analytics are just a few tools that are rethinking the processes of formation and distribution of financial resources. The innovativeness of these technologies allows the economy to become more transparent, efficient and accessible to all segments of the population.

However, along with the significant benefits of digitization come challenges. In particular, the risk of cybercrime and financial data security breaches is increasing. Ensuring cyber security is becoming a top priority as vulnerabilities in the digital space can lead to serious consequences for financial stability and public trust in financial institutions.

Digitalization also raises questions about the ethical aspects of the use of technology in finance. Automation of decisions based on artificial intelligence can lead to the emergence of new forms of discrimination and inequality. While promoting the digitalization of financial processes, society should carefully study and take into account the

possible social consequences of these technologies.

The success of digitalization of the financial system depends on society's ability to adapt to changes and solve emerging challenges. It is important to develop personnel potential with a high level of cyber security and technological literacy. Education plays a key role in the formation of specialists who will be able to implement and improve digital financial instruments.

With the transition to a digital future, it is important to ensure the inclusion of all segments of the population in new financial technologies. Creating accessible and convenient tools for digital finance, as well as improving financial literacy, are becoming a task of great importance. Harmony in the financial system can only be achieved if government structures, businesses and citizens interact.

Modeling and forecasting financial indicators is essential for businesses and investors to make informed decisions in the digital environment. There are several tools and techniques to help with this process. Here are some of the most common financial modeling and forecasting tools:

- Microsoft Excel is one of the most common tools for financial modeling. It offers various functions, formulas and tools to create complex financial models. You can use Excel to create income statements, balance sheets, and cash flow statements.

- Financial modeling software. There are several specialized software tools for financial modeling, such as Quantrix, AdaptiveInsights, and Planful. These tools offer advanced features and templates for building complex financial models.

- Forecasting software such as IBM Planning-Analytics, Anaplan and OracleHyperion can help with financial forecasting and budgeting. They allow you to analyze scenarios and integrate data.

- Online financial modeling platforms such as Finbox and Intrinio provide templates and data for financial modeling. They can help streamline the process and provide valuable financial metrics and analysis.

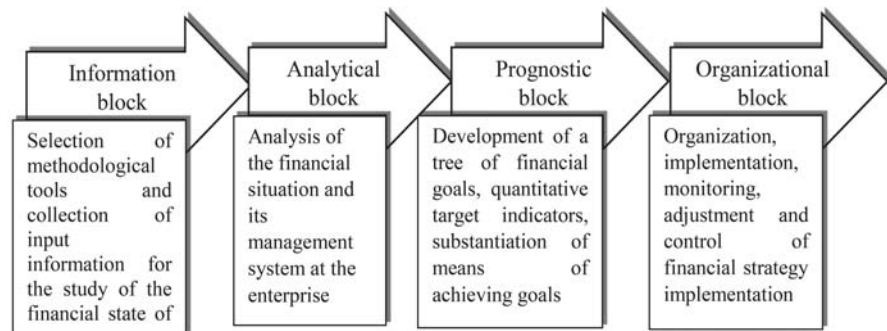
- Statistical software such as R and Python, as well as the Pandas and NumPy libraries, can be used for advanced statistical analysis and time series forecasting. They are particularly useful for quantitative financial modeling.

- Financial modeling templates. These templates are often in Excel format and can be customized for specific industries and purposes.

- Data visualization tools like Tableau and Power BI can be used to create visualizations and dashboards based on financial data, making financial performance easier to interpret and communicate.

- Monte Carlo simulation tools: Tools such as @RISK and CrystalBall are used for risk analysis and probabilistic modeling. They can be valuable for assessing the impact of uncertainty on financial forecasts.

- Economic forecasting tools, like the GlobalInsight economic forecasting model, provide economic



**Fig. 1. Stages of creating a financial strategy in the conditions of digitalization**

data and forecasts that can be integrated into financial models.

- Machine learning and artificial intelligence: Machine learning and artificial intelligence techniques can be used for predictive modeling and forecasting using libraries such as scikit-learn (Python) or tools such as MATLAB.

However, the choice of tool depends on the complexity of the financial model, your specific needs and the level of experience of the specialist. Financial modeling often involves a combination of these tools to create accurate and insightful forecasts of financial performance. In addition, it is important to constantly update financial models with the latest data and assumptions to ensure they are relevant and accurate.

Figure 1 shows the sequential steps of creating a financial strategy in the context of digitalization.

Creating an effective financial strategy for an agricultural enterprise includes several stages related to financial planning and forecasting tools. The main steps of this process are analyzed below. The first step is a detailed analysis of the company's financial condition, using tools such as financial statements, balance sheets and profit and loss statements to assess current financial performance. Establishing specific goals and objectives for the financial strategy, in particular regarding profitability, risks and development of the enterprise. Assessment of resources needed to achieve goals. This can include cash, equipment, labor and other assets.

Development of a detailed financial plan, which determines how resources will be attracted and used to achieve their goals. Tools such as budgeting and forecasting are used to create realistic plans. Determination of possible risks and development of their management strategy. This is important to reduce the negative impact of financial troubles on the agricultural enterprise. Establishing a monitoring and control system to track the implementation of the financial plan and respond to changes in a timely manner. Regular review and adjustment of the financial strategy in accordance with changes in the internal and external environment.

The study confirms that the use of digital tools in the formation of financial resources allows enterprises to increase the efficiency of liquidity management, reduce the costs of financial operations and ensure a higher level of financial stability. Special attention should be paid to the development of digital platforms for managing financial flows, which allows for the automation of accounting and monitoring of financial transactions, as well as improves the forecasting of financial results.

On the other hand, it is important to consider the risks associated with digitalization of financial processes. Cybersecurity is becoming one of the key concerns as the volume of digital information increases and the likelihood of cyberattacks increases. Organizations must actively implement measures to ensure cyber security, improve authentication and monitoring systems to protect financial data.

Digitization of financial resources also requires companies to rethink corporate culture and develop digital literacy among staff. It is important to consider that the successful implementation of digital technologies requires not only the availability of modern software, but also relevant knowledge and skills in the company's team.

## CONCLUSIONS

The model of formation of financial resources in the conditions of digitalization is determined not only by the use of advanced technologies, but also by the readiness of society to solve emerging challenges. This transformation requires us to pay attention to ethical, social and security aspects, ensuring stability and balance in the next generation financial system. One of the key characteristics of modernity is the active development of digitalization, which transforms traditional approaches to the formation and management of finances.

One of the main conclusions of the study is that digitalization opens up new opportunities for the effective formation of financial resources. Digital technologies contribute to the automation of many financial processes, reducing risks and increasing the speed of decision-making. This is especially relevant in the conditions of a rapidly changing business environment, where it is important to promptly respond to changes in the financial market and the internal environment of the enterprise.

Digitization of financial resources is a necessary stage in the evolution of modern business processes. It creates unique opportunities for optimizing financial operations, providing enterprises with competitive advantages on the market. However, successful implementation requires an integrated approach, combining technological innovation, human resources and information security.

### Література

1. Гудзь О.І. Формування фінансової стратегії підприємства. Науковий вісник Міжнародного гуманітарного університету. 2017. № 2. URL: [vestnik-econom.mgu.od.ua/journal/2017/2](https://vestnik-econom.mgu.od.ua/journal/2017/2)

2. Ляшенко В. І., Вишневецький О. С. Цифрова модернізація економіки України як можливість проривного розвитку: монографія. Київ: НАН України, Ін-т ек-ки пром-ті, 2018. 252 с.

3. Масюк Ю.В., Шкода А.В. Особливості формування та використання фінансових ресурсів підприємства. Економіка та суспільство. 2021. Вип. 34. URL: <https://economyandsociety.in.ua/download>

4. Семилітко Д. Діджиталізація в дії: як цифрова трансформація бізнесу впливає на успіх компанії. Аудитор України. 2019. № 5. С. 76—79.

5. Танклевська Н.С. Стратегія реалізації фінансової політики в аграрному секторі економіки. Вісник Хмель-

ницького національного університету. 2011. №3. Т. 1. С. 64—69.

6. Khalatur S., Radzevicius G., Velychko L., Fesenko V., Kriuchko L. (2019). Global deoffshorization and its impact on the national and regional economies of eastern european countries. *Problems and Perspectives in Management*, 17 (3), 293—305.

7. Khalatur S., Vinichenko I., Volovyk D. (2021). Development of modern business processes and outsourcing activities. *Baltic Journal of Economic Studies*, vol. 7 (3), pp.195—202.

8. Khalatur S., Pavlova H., Vasilieva L., Karamushka D., Danilevica A. (2022) Innovation management as basis of digitalization trends and security of financial sector. *Entrepreneurship and Sustainability*, vol. 9 (4), pp. 56—76.

9. Velychko O., Velychko L. Khalatur S., Roubik Hynek (2020). A guarantor in the quality management system of educational programs: a case of Ukrainian universities. *Problems and Perspectives in Management*, vol.18 (4), 153—166.

### References:

1. Hudz, O.I. (2017), "Formation of the financial strategy of the enterprise", *Scientific Bulletin of the International Humanitarian University*, vol. 2, available at : [vestnik-econom.mgu.od.ua/journal/2017/2](https://vestnik-econom.mgu.od.ua/journal/2017/2)

2. Liashenko, V. I. and Vyshnevskiy, O. S. (2018), *Tsyfrova modernizatsiia ekonomiky Ukrainy yak mozhlyvist proryvnoho rozvytku* [Digital modernization of the Ukrainian economy as an opportunity for breakthrough development], NAN Ukrayini, In-t ek-ki prom-ti, Kyiv, Ukraine.

3. Masyuk, Yu.V. and Shkoda, A.V. (2021), "Peculiarities of formation and use of financial resources of the enterprise", *Economy and society*, vol 34, Available at: <https://economyandsociety.in.ua/download>

4. Semilitko, D. (2019), "Digitalization in action: how the digital transformation of business affects the success of the company", *Auditor Ukrayini*, vol. 5, pp. 76—79.

5. Tanklevska, N.S. (2011), "Strategy for implementation of financial policy in the agrarian sector of the economy", *Visnyk Khmelnytskoho natsionalnoho universytetu*, vol. 3, p. 1, pp. 64—69.

6. Khalatur, S., Radzevicius, G., Velychko, L., Fesenko, V. and Kriuchko, L. (2019), "Global deoffshorization and its impact on the national and regional economies of eastern european countries", *Problems and Perspectives in Management*, vol. 17 (3), pp. 293—305.

7. Khalatur, S., Vinichenko, I. and Volovyk, D. (2021), "Development of modern business processes and outsourcing activities", *Baltic Journal of Economic Studies*, vol. 7 (3), pp. 195—202.

8. Khalatur, S., Pavlova, H., Vasilieva, L., Karamushka D. and Danilevica, A. (2022), "Innovation management as basis of digitalization trends and security of financial sector", *Entrepreneurship and Sustainability Issues*, vol. 9(4), pp.56-76.

9. Velychko, O., Velychko, L., Khalatur, S. and Roubik, Hynek (2020), "A guarantor in the quality management system of educational programs: a case of Ukrainian universities", *Problems and Perspectives in Management*, vol.18 (4), pp. 153—166.

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