# CUSTOMIZATION OF FINANCIAL SERVICES: DIGITALIZATION, TRANSFORMATION, TRUST, EMPHASIZING THE ROLE OF EDUCATION IN PROCESSES

PERSONALIZAÇÃO DE SERVIÇOS FINANCEIROS: DIGITALIZAÇÃO, TRANSFORMAÇÃO, CONFIANÇA, DESTACANDO O PAPEL DA EDUCAÇÃO NOS PROCESSOS

Yurii Yevtushenko ORCID 0000-0002-1029-0625

Chernihiv Polytechnic National University Chernihiv, Ukraine uevtusenko87@gmail.com

Serhii Lesun ORCID 0009-0003-0096-3077

Chernihiv Polytechnic National University Chernihiv, Ukraine slesun2483@gmail.com

Andrii Kravchenko ORCID 0000-0002-1001-660X

Chernihiv Polytechnic National University Chernihiv, Ukraine kravchenko9746@gmail.com

Mykhailo Bilyi ORCID 0000-0003-1847-0978

Vasyl Stefanyk Precarpathian National University Ivano-Frankivsk, Ukraine mykhailo.bilyi@pnu.edu.ua

Yuriv Fedoriv ORCID 0009-0000-6636-3144

Chernihiv Polytechnic National University Chernihiv, Ukraine fedoriv@stu.cn.ua

Oleksii Akinchyts ORCID 0009-0003-1588-4021

Chernihiv Polytechnic National University Chernihiv, Ukraine aaa1883@gmail.com

Abstract. The article examines the influence of digital technologies on the functioning of the financial services market emphasizing the role of education in processes. Among the main research methods, the following are used in the article: observation, content analysis, comparison, induction, deduction, abstraction, statistical methods for visualizing analytical information. As a result, considerable attention was paid to revealing the essence of customization and the peculiarities of its implementation in the field of financial services. The prerequisites for the customization of financial services were also identified. Analysis of the state of implementation of modern digital technologies by financial institutions made it possible to specify the advantages of using such technologies for consumers of financial services and financial institutions. The article analyzes in detail the role of information and communication innovations in the formation of trust in the field of financial services between banking and nonbanking financial institutions and their clients, and considers the mechanism of such trust formation. Attention is also paid to the description of future prerequisites for further customization of financial services, the growth of trust between financial intermediaries and consumers of such services in the conditions of the formation of the digital economy.

Keywords: Financial Services, Digital Technologies, Educational Processes, Financial Institution, Digital Economy

Resumo. O artigo examina a influência das tecnologias digitais no funcionamento do mercado dos serviços financeiros enfatizando o papel da educação nos processos. De entre os principais métodos de investigação, o artigo utiliza: observação, análise de conteúdo, comparação, indução, dedução, abstração, métodos estatísticos para visualização de informação analítica. Como resultado, foi dada muita atenção à divulgação da essência da customização e das peculiaridades da sua implementação na área dos serviços financeiros. Foram ainda identificados os pré-requisitos para a customização dos serviços financeiros. A análise do estado de implementação das modernas tecnologias digitais pelas instituições financeiras permitiu especificar as vantagens da utilização de tais tecnologias para os consumidores de serviços financeiros e para as instituições financeiras. O artigo analisa detalhadamente o papel das inovações de informação e comunicação na formação de confiança no domínio dos serviços financeiros entre instituições financeiras bancárias e não bancárias e os seus clientes, e considera o mecanismo dessa formação de confiança. É também dada atenção à descrição dos pré-requisitos futuros para uma



Br. J. Ed., Tech. Soc., v.18, n.se3, p.239-249, 2025 DOI http://dx.doi.org/10.14571/brajets.v18.nse3.239-249 ISSN 2316-9907

maior personalização dos serviços financeiros, ao crescimento da confiança entre os intermediários financeiros e os consumidores destes serviços nas condições de formação da economia digital.

Palavras-chave: Serviços Financeiros, Tecnologias Digitais, Processos Educacionais, Instituição Financeira, Economia Digital

## 1. INTRODUCTION

The modern development of the financial services market is taking place in the conditions of the formation of the digital economy. On the one hand, digital technologies are already actively used by all financial institutions to provide their services to economic entities. On the other hand, by implementing digital technologies in their activities, these institutions also create conditions for the digitalization of the national economy, the involvement of an increasing number of business entities in the digital economic space.

Today, it is extremely difficult to imagine the field of financial services without the use of digital technologies, since such technologies are used not only in the process of providing financial services to economic entities, but are also used in the own activities of banking and non-banking financial institutions. Modern information and communication technologies have already led to significant transformational processes in the functioning of the entire sphere of financial services. The impact of these technologies will only increase, which will cause further changes in the environment in which this sphere functions and develops.

Also, digital technologies are actively used by banks and other financial institutions in their own activities, in individual business processes, the implementation of which allows providing high-quality financial services to consumers. The gradual implementation of these technologies has led to the improvement of service to economic entities, simplification of the process of obtaining financial services, and the level of their availability. As a result, this contributed to a change in the paradigm of providing financial services by banking and non-banking financial institutions, which consists in increasing the level of personalization of such services, introducing the principle of customization in the field of financial services. In today's conditions, the trend in focusing the attention of financial institutions on providing services to specific potential customers, groups of consumers, which are characterized by common characteristics, is becoming more and more noticeable. At the same time, the individual features of the use of financial services by individual clients and their model of financial behavior are taken into account. In the future, this process will only deepen and over time will become a common approach to providing financial services to clients. At the same time, the use of digital technologies will be even more active. Accordingly, this situation determines the importance of conducting additional research in the field of functioning of the financial services sector, its transformation as a result of the influence of digital technologies, and the customization of such services.

#### 2. LITERATURE REVIEW

 $(\mathbf{\hat{t}})$ 

Various aspects of the personalization of financial services are devoted to scientific research by authors from all over the world. Scientific publications (Bogers T. et al., 2022; Gautam Rahul Singh et al., 2024; Marhasova V. et al., 2024; Tarasenko O. et al., 2022) reveal the challenges of modern research on the impact of digitization processes on the financial sector, understand and discuss the challenges of open research, analyze the feasibility of creating an interactive platform for information exchange. Scientists also consider the features of digitalization of public financial services and investigate their impact on the goals of sustainable development of the country. As a result of the study, the authors proved a significant impact on the mentioned processes. Articles (Jiang D. et al., 2023; Lähteenmäki Ilkka et al., 2022; Popelo O., et al., 2022; Dubyna M. et al., 2021) establish that the distribution



of finances has a positive effect on the value of corporate debt due to the digitization of the enterprise. According to the authors, the relationship between shared financial services and reducing the cost of corporate debt is strengthened by social responsibility. The authors analyzed the impact of digitalization on creating value for customers.

Scientific papers (Dan Zhou et al., 2021; Dubyna M. et al., 2021; Zhavoronok A. et al., 2022; Grosu V. et al., 2021; Koval V. et al., 2022) examines the interaction of digitalization with entrepreneurial orientation, firm assets, and organizational legitimacy and analyzes the impact on the productivity of leading companies in the financial services industry. The authors identified the factors of unforeseen situations that affect the effectiveness of digitalization of leading companies in the field of financial services. The article examines the influence of modern digitization processes on the change in credit behavior of the population. The authors identified and systematized the basic features that are characteristic of the classic model of obtaining credit services by clients of financial institutions, as well as the modern model of lending, which is formed due to the influence of digital technologies.

Noting the importance of the conducted research, it is advisable to emphasize the aspects of digitalization, transformation and trust in the process of customization of financial services, which determines the relevance of this article.

## **3. METHODOLOGY**

Within the scope of the article, a range of well-known methods of scientific research was used. In particular, the methods of induction and deduction were used to justify the essence of customization and determine the features of its use in the field of financial services. The methods of comparison and abstraction were also applied to specify the advantages of using digital technologies by financial institutions in their work and by their clients when receiving the services of these institutions. The application of methods of content analysis, systematization, and forecasting made it possible to determine the directions of the influence of digital technologies on the formation of the level of trust between banking and non-banking financial institutions and their clients. The use of the graphic visualization method will allow to present statistical data on certain aspects of the impact of digital technologies on the functioning of the financial services sector, as well as to build a scheme of the impact of digital technologies on the level of trust between the main consumers and producers of financial services.

# 4. RESULTS

 $(\mathbf{\hat{H}})$ 

Let's begin the study by considering the essence of customization as an important component of the modern development of the entire service sector. Next, we will consider the specific features of the application of this approach by financial institutions in carrying out their activities.

Customization can be considered from several angles

1) customization – a process of interaction between two entities, in which one party uses individual data of economic entities to form and provide them with appropriate services;

2) customization is an approach that consists in the use of individual personal data of an economic entity, the results of the analysis of its previous model of consumer behavior to apply them in the business model of another economic entity in order to develop personalized goods and services;

3) customization -a category that is used in many sciences, which study the processes of interaction between various subjects, especially in the provision of various services, their adaptation to the personal needs of clients.

In our opinion, customization can be considered as the process of using the individual data of a separate economic entity with the aim of creating for him by another economic entity a suitable offer of goods or services in the future.

Customization of financial services is the process of creating individual financial products for specific clients or their groups in the future based on the analysis of their financial behavior model, other available personalized information.

Within the scope of customization of financial services by banking and non-banking financial companies, not only the results of the analysis of the client's use of financial services in the past may also be taken into account, but attention may also be paid to the main financial goals of clients, their financial capabilities.

In current conditions, financial institutions began to actively use the customization of financial services in their work, which is caused primarily by the following reasons (Fig. 1).

# **REASONS FOR CUSTOMIZATION**

a high level of competition in the field of financial services between financial institutions, which forces them to look for new ways to improve the quality of providing financial services, new ways of increasing their own income;

a change in approaches to the provision of financial services, which is associated with the active use of digital technologies in the activities of financial institutions; it is these technologies that make it possible to better process individual information about clients of financial institutions and, based on it, to offer more personalized financial products;

the ability to carry out a more qualitative assessment of credit risks based on a detailed study of the credit history of clients, the model of their financial behavior, which is important for ensuring the stable and efficient operation of financial institutions;

the ability to more flexibly comply with regulatory norms regarding the activities of banking
and other non-banking financial institutions, especially those that limit the provision of financial services to specific clients, certain groups of consumers of such services;

change in customer approaches to the consumption of financial services, growth in their demand
for digital financial products, desire to receive financial products that would take into account their individual needs, peculiarities of their model of financial behavior.

Figure 1. Reasons for customization Source: compiled by the authors

Undoubtedly, one of the most important reasons for the introduction of customization in the field of financial services is the active development of digital technologies and their use in their own activities by financial institutions. At the same time, statistical data show that every year the number of consumers of digital financial services is increasing, and the influence of these technologies on the process of interaction between a financial institution and its clients is only increasing. In Fig. 2 presents data on the number of active consumers of online banking services in different regions of the world.

 $(\mathbf{\hat{t}})$ 





Thus, we can conclude that the most dynamic processes of digital transformation of financial institutions are taking place in North America, Europe and Asia, which is quite understandable, taking into account the overall economic potential of these regions for development.

At the same time, the active penetration of digital technologies into the field of financial services is confirmed by, for example, changes in customer access to their accounts. For example, Americans are increasingly using smartphones for financial transactions, and fewer and fewer are visiting physical branches. The corresponding statistical data are presented in Fig. 3.

 $(\mathbf{i})$ 



Figure 3. How Americans Are Changing the Way They Access Their Bank Accounts Source: https://www.forbes.com/advisor/banking/banking-trends-and-statistics/

So, from the data in Fig. 3 we observe that the demand for the services of branches of banking institutions, the use of ATMs for obtaining financial services has significantly decreased over the past eight years. Accordingly, such a situation requires the transformation of financial institutions and changes in their business development models. And this cannot be done in modern conditions without the use of digital technologies. A significant increase in demand for the use of mobile phones in carrying out financial transactions is important for the implementation of the model of customization of financial services.

Today, digital technologies have deeply penetrated the sphere of financial services, first of all, with a significant number of advantages that they create both for the clients of these institutions and for banking and non-banking financial intermediaries (Fig. 4).

For clients of financial institutions, the following can be attributed to the positive features that form digital technologies in the field of financial services:

- availability of financial information about own accounts and transactions;

- the speed of receiving financial services and carrying out financial transactions;

- the speed of receiving consulting assistance from a financial institution;

- 24-hour possibility of using financial services without visiting physical branches of financial institutions;

- the possibility of preliminary familiarization with the terms of obtaining financial services, making the necessary calculations for a clear understanding of future payments and opportunities for obtaining financial services;

- the possibility of quickly receiving information about changes in service from financial institutions;

- an opportunity to increase the level of information security of personal data of clients through the constant improvement of encryption and authentication technologies;

- the possibility of reducing the costs of providing financial services due to a more loyal approach of financial institutions to their clients when conducting financial transactions online;

- reduction of bureaucratic procedures related to opening, closing accounts, obtaining loans. For financial institutions, the rational use of digital technologies in their activities allows obtaining the following advantages (Fig. 4).



Figure 4. Advantages of using digital technologies Source: compiled by the authors

Possessing significant potential to transform the field of financial services, digital technologies will continue to penetrate this field, changing it in accordance with both the potential of such technologies and the needs of financial institutions and their clients.

As evidenced by the experience of the active use of digital technologies by banks and other financial institutions, digitalization, transforming the sphere of financial services, in addition to a significant number of advantages for all subjects of the specified sphere, also allows for a gradual increase in the level of trust between financial institutions and their clients (Fig. 5).

 $(\mathbf{\hat{t}})$ 



Figure 5. Diagram of the influence of digitalization on the level of trust in the field of financial services. Source: compiled by the authors

It is related to the following:

 $(\mathbf{\hat{t}})$ 

- digital technologies make it possible to increase the level of transparency of the functioning of financial institutions;

- the convenience of providing financial services, transferring funds between economic entities, creates a positive attitude towards their work among clients of financial institutions;

- digital technologies bring closer the interaction between financial institutions and their customers through the creation and active use of personalized customer accounts, their ability to constantly monitor their own accounts, transactions, using only a smartphone;

- financial institutions quickly make decisions on the provision of financial services, which directly forms a certain level of trust of clients in such institutions and increases their interest in receiving relevant services in the future;

- modern information innovations also contribute to a significant improvement in the level of information security of customer data, which also positively affects the trusting attitude of consumers of financial services to financial institutions, etc.

Thus, taking into account the outlined, it is worth noting that in the future the processes of customization of financial services will only deepen, and digital technologies will contribute to the growth of trust in financial institutions, which is possible due to the following reasons:

- the significant potential of digital technologies, which is constantly increasing due to the invention of new approaches and methods for their use, adaptation to various spheres of human life, including the sphere of financial services;

- the constant growth of competition in the field of financial services, which requires banking and non-banking financial institutions to find ways to generate their own income, to improve the quality of providing financial services, which can primarily be done with the use of digital technologies;

- the use of digital technologies today is already an established trend for the functioning of financial institutions, which is necessary for them to maintain competitive positions in the field of financial services;

- the constant growth of regulatory requirements for financial institutions, which requires the introduction of digital technologies for better analysis of economic activity, the automation of a significant number of operations for the preparation of reporting documentation, the implementation of management accounting;

- active involvement of regulators in the formation of a favorable digital space for the development of financial institutions, encouraging them to use modern information and communication technologies in their own activities;

- changing the established model of consumer behavior of clients of financial institutions, namely: clients want to receive fast, high-quality financial services, using all the advantages of digital technologies.

Today, it is extremely difficult to imagine the field of financial services without the active use of digital technologies. With a stable macroeconomic policy and a favorable external environment, these technologies create conditions for the creation of trusting relationships between these institutions and their clients. At the same time, the trust of both clients in financial institutions and these institutions in their existing or potential clients is growing. One of the reasons for the growth of such trust is customization, that is, the formation of personalized relationships between clients and financial institutions, and the active use of digital technologies, the implementation of which allowed to significantly reduce the risks of financial institutions from the dishonest behavior of their clients.

It was the identification of potential risks through the use of digital technologies that contributed to the increase in the stable functioning of banking and non-banking financial institutions and ultimately made it possible to reduce the level of abuse by existing and potential customers. At the same time, based on the use of modern methods of collecting and processing information about their customers, financial institutions have received new ways of selling products designed for a specific target audience.

 $(\mathbf{\hat{H}})$ 

## 5. CONCLUSIONS

The article examines the impact of digital technologies on the transformation of the financial services sector, including the work of financial institutions, the model of financial behavior of their clients. It was established that digital technologies primarily led to fundamental changes in the functioning of the specified sphere and, accordingly, deepening the process of customization of financial services. In this regard, the article analyzes the essence of customization in detail and found that the customization of financial services is the process of creating individual financial products for specific clients or their groups in the future based on the analysis of their financial behavior model and other available personalized information.

The article also substantiates the prerequisites for the emergence of customization of financial services and establishes that it is the active use of digital technologies that allows providing financial institutions with effective and efficient tools, the use of which really makes it possible to change the established model of providing financial services, improving the process of personalized interaction of banking and non-banking financial institutions with their potential and existing customers.

A detailed study of the digital transformation of the field of financial services was carried out through the identification and systematization of positive features that arose as a result of the active use of information and communication technologies in the process of providing financial services. Such features were determined both for clients of financial institutions and for their own activities.

Using the results of the research, which were obtained during the analysis of the consequences of the digital transformation of the financial services sector, it was established that such a transformation and, in general, the active use of digital technologies by financial institutions contribute to the gradual growth of customer trust in such institutions. It was also found out that the level of trust of both banking and non-banking financial institutions towards their clients is increasing. This is done by deepening the relationship between the mentioned economic subjects and significantly increasing the level of transparency of their economic activity, due to the increase in the openness of information, faster processing of it, and the increase of available information both about consumers of financial services and about financial institutions themselves. All this became possible as a result of the active development of digital technologies by financial institutions in their own activities.

#### REFERENCES

Bogers, Toine, Musto, Cataldo, Wang, David, Felfernig, Alexander, Bruun, Simone, Borg, Semeraro, Giovanni, Zheng, Yong. (2022). FinRec: The 3rd International Workshop on Personalization & Recommender Systems in Financial Services. *RecSys '22: Proceedings of the 16th ACM Conference on Recommender Systems* (pp. 688-690). https://doi.org/10.1145/3523227.3547420.

Dan, Zhou, Mika, Kautonen, Weiqi, Dai, Hui, Zhang. (2021). Exploring how digitalization influences incumbents in financial services: The role of entrepreneurial orientation, firm assets, and organizational legitimacy. Technological Forecasting and Social Change, 173, 121120. https://doi.org/10.1016/j.techfore.2021.121120.

Dubyna, M., Popelo, O., Kholiavko, N. (2021). World Experience In The Introduction Of Modern Innovation And Information Technologies In The Functioning Of Financial Institutions. *Baltic Journal of Economic Studies*, 7(2), 188-199. https://doi.org/10.30525/2256-0742/2021-7-2-188-199.

Dubyna, M., Zhavoronok, A., Kudlaieva, N., Lopashchuk, I. (2021). Transformation of Household Credit Behavior in the Conditions of Digitalization of the Financial Services Market. *Journal of Optimization in Industrial Engineering*, *14*(1), 97-102. DOI:10.22094/JOIE.2020.677835.

Gautam, Rahul Singh, Siddiqui, Mobashshir, Panda, Nishant, Rastogi, Shailesh, Gannamaraju, Ravi

Teja. (2024). Digitalization of Government Financial Services and its Impact on Sustainable Development Goals in India. 2024 International Conference on Automation and Computation (AUTOCOM) (pp. 558-562). DOI: 10.1109/AUTOCOM60220.2024.10486078

Grosu, V., Kholiavko, N., Zhavoronok, A., Zlati, M.L., Cosmulese, C.G. (2021). Conceptualization of model of financial management in romanian agriculture. *Economic Annals-XXI*, 191(7-8(1)), 54-66. https://doi.org/10.21003/ea.V191-05.

Jiang, D., Ni, Z., Chen, Y., Chen, X., Na, C. (2023). Influence of Financial Shared Services on the Corporate Debt Cost under Digitalization. *Sustainability*, *15*, 428. https://doi.org/10.3390/su15010428.

Koval, V., Laktionova, O., Atstaja, D., Grasis, J., Lomachynska, I., Shchur, R. (2022). Green Financial Instruments of Cleaner Production Technologies. *Sustainability*, *14*(17), 1-17. https://doi.org/10.3390/su141710536.

Lähteenmäki, Ilkka, Nätti, Satu, Saraniemi, Saila. (2022). Digitalization-enabled evolution of customer value creation: An executive view in financial services. *Journal of Business Research*, *146*, 504-517. https://doi.org/10.1016/j.jbusres.2022.04.002.

Marhasova, V., Rudenko, O., Popelo, O., Kosach, I., Sakun, O., Klymenko, T. (2024). Mechanisms of State Management of the Development of Digital Technologies in the National Security System. *Journal of the University of Zulia*, *15*(42), 389-406. https://doi.org/10.46925//rdluz.42.22.

Popelo, O., Dubyna, M., Kholiavko, N., Panchenko O., Tarasenko, A. (2022). Features of the Transformation of the Regional Models of the Households' Financial Behavior. *Management Theory and Studies for Rural Business and Infrastructure Development*, 44(1), 117-124. https://doi.org/10.15544/mts.2022.12.

Tarasenko, O., Dubyna, M., Popelo, O. (2022). The Essence of the Deposit Behavior of Households and Features of its Formation in the Conditions of Turbulent Development of the Financial Services Market. *Baltic Journal of Economic Studies*, 8(1), 134-147. https://doi.org/10.30525/2256-0742/2022-8-1-134-147.

Zhavoronok, A., Chub, A., Yakushko, I., Kotelevets, D., Lozychenko, O., Kupchyshyna, O. (2022). Regulatory Policy: Bibliometric Analysis Using the VOSviewer Program. *International Journal of Computer Science and Network Security*, 22(1), 39-48. https://doi.org/10.22937/IJCSNS.2022.22.1.7.

 $(\mathbf{i})$