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THE NECESSITY OF DIGITALIZATION OF THE BANKING SYSTEM - A CHANCE OR A THREAT TO THE DEVELOPMENT OF THE BANKING MARKET?

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Abstract:
The subject of analysis in this paper are the characteristics, development factors and economic effects of the development of digital ways of communication between the bank and the client. The starting point of the paper is the necessity of electronic banking, as a type of market communication, given the positive impact on the speed, efficiency and ultimately the profitability of the bank's operations, which has been shown to have electronic business in all sectors. The corona virus pandemic has additionally contributed to the acceleration of digital transformation in Serbia, and practice has shown that people are ready to switch to digital payment methods, given the increase in the use of the bank's online services, it was forbidden to leave homes. The paper explains the mechanisms of business digitalization through explanations of the advantages and disadvantages of electronic banking, from the bank's point of view and from the client's point of view, and through a recent survey the prospects for the development of banking services if banks specialize in acquiring a certain target group.

Keywords:
digitalization of banks, electronic banking, technological trends, FinTech industry.

1. INTRODUCTION

In the last two decades, the international financial system has undergone significant structural changes. The strong increase in international financial flows around the world, primarily aided by the liberalization and privatization of financial markets, has completely changed the environment and the legality of the market. In the conditions of globalization and the development of computer technology, the borders between the national and the world have disappeared, which has opened unimaginable business opportunities for companies and financial institutions. The most important changes and trends that can be recognized are disintermediation (reduction of the role of financial intermediaries), development of securitization, changes in the regulation of business of financial institutions and financial innovation. Changes in financial systems are observed in financial instruments, in financing technologies and techniques, in the emergence of new financial institutions and in major changes in the regulation of financial institutions (Vesic & Petronijevic, Trends in profitability of banks in Serbia through rational analysis, 2018).

In parallel with the process of increasing competition from non-banking financial institutions and the takeover of a good part of the market, the process of rapid integration of a small number of solid, large banks and other financial institutions is characteristic. Efficiency in the use of automation and other technological innovations means increasing the volume of business while respecting business according to the principles of economies of scale. That is why banks offer their services in more and more markets in an effort to expand the circle of their clients.

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This process of geographical expansion and consolidation of banking and other financial institutions has already affected cross-border integration, taking on the dimensions of globalization of the banking and, more broadly, the financial sector. In that way, international and transnational banks are being created, for whose operations there are no borders, which, of course, has been made possible by the deregulation of the financial sector in recent decades. It should be borne in mind that the liberalization of the financial sector and the entry of various companies in this area, which are increasingly bringing the offer of their products and services to banking, had not only negative but also significant positive sides, primarily for users of these services. Increasing competition and the expansion of the range of services is a consequence of the weakening of state control - deregulation - in the financial sector (Pantelic, 2018). This process began in the United States by removing interest rate maximization and expanding the scope for non-banking institutions to operate. However, it has also led to a significant increase in business risk and increased risk of bankruptcy, which is why the international community has responded by introducing international standards and strengthening the control of central banks and relevant regulatory institutions in order to prevent major financial crises and fractures.

The subject of analysis in this paper are the characteristics, development factors and economic effects of the development of digital ways of communication between the bank and the client. The starting point of the paper is the necessity of the existence of electronic banking, as a type of market communication. The aim of this paper is to point out the positive impact on the speed, efficiency and, ultimately, the profitability of the bank's operations, which has been shown to have e-business in all sectors. The paper is structured in three parts. After introductory considerations, the first part of the paper gives the advantages of using electronic banking for both the bank and the client. The other side of the coin is the shortcomings of electronic banking, which are presented in the second chapter of the paper. Nevertheless, we are of the opinion that investments should be made in digital communication channels and electronic banking should be further developed. This has proven to be a good solution in conditions when changes are taking place in the world, as has happened in 2020, when the world almost stopped due to the corona virus pandemic. Precisely because of this, the third part of the paper is a review and commentary of McKinsey’s research. Finally, conclusions were drawn with a view of the references used.

1. DRIVERS OF DIGITAL CHANGES IN THE BANKING SYSTEM

The organization and functioning of banks is very important for the rational and efficient functioning of the financial system. In our country, there are problems of vagueness of domestic legal regulations, but also the real fact of unfavorable business conditions of banks in the past period, which has a limiting effect on the rationality and efficiency of their operations. It should also be borne in mind that the banks' operations are also affected by the monetary policy measures of the National Bank of Serbia (Marjanovic et al., 2007). Clarity and adequate regulation of the regulation and functioning of other financial institutions is also important for the whole financial mechanism (Andjelic et al., 2017).

We can manage risks through preparations for future events, but unexpected and expected risks cannot be eliminated. We also have the opportunity to reduce the likelihood of surprises by collecting and using timely information (Barjaktarovic, 2013). Therefore, it is necessary for the banks to apply adequate banking marketing and use modern information technologies in the right way (Sanader, 2014).

The reason for the introduction of new technologies in the banking environment is the attempt to develop new products and services of interest to customers within the business of the banking system. The development of technologies has led to structural changes in banks (Ignjatijevic et al, 2018). The advantages that technologies bring to the banking sector are many and are reflected in the reduction of operating costs, improving customer awareness of banking products and services, innovation in business and offering different products and services, increasing supply efficiency and emphasizing the customer as an individual.

Mobile banking provides increased sales and reduced costs. Reducing costs per transaction is one of the goals of every business. This goal exists in order for the bank to make higher profits, but also in order for customers to have lower costs (Jovic et al, 2019). Several studies show that the highest costs per transaction are in the case of rolling banking operations in the traditional way, i.e. in a bank branch. On the other hand, when we talk about internet banking, the costs are much lower: process automation, doing business without employee participation, etc. Mobile banking provides advantages over traditional ways of doing business with the bank through the provision of specific services that ensure customer loyalty and resolve time-critical situations. Changes in technology increase the efficiency of communications and business between the bank and the bank. The introduction of new technological solutions leads to changes in the way of performing communication activities as well as the way of building long-term relationships between clients and the bank.

Electronic banking has advantages over classic because (Berger et al, 2017):

- Reduces transaction costs,
- Provides faster turnover of funds,
- Provides time savings,
- Allows you to perform transactions from anywhere,
- Provides constant insight into the account balance and transactions for each batch of accounts.

Banks and their financial competitors are also going through a process of information revolution, which has a strong impact on enriching the range of products and services provided to customers. Faced with rising operating costs, banks are increasingly resorting to the process of automation and the use of modern electronic systems. The most obvious example of such changes is the mass use of ATMs (automated teller machines - ATMs) and points of sale connected to banking computer systems (POS of point terminals - POS). Setting up the vending machine allows customers 24-hour access to current accounts to withdraw cash or deposited funds, as well as a number of other services. Also, the development of home banking has enabled the provision of various banking services within 24 hours directly from the office or home, globally, from anywhere in the world. The only necessary condition is a good Internet connection (Salem, Baidoun, & Walsh, 2018). Such tendencies have given economists the right to determine that the classic, personal contact of bankers with clients will give way to electronic communication. However, a significant number of clients are still prone to direct contact and personal consultations, especially with sensitive and advisory banking services. The advantages of electronic banking for both the bank and the clients are indisputable and are given in Table 1.

Table 1. Advantages of electronic banking

For the bank	For the client
Greater reputation and image in the market	Lower costs of access and use of services
Faster response to changes in the environment	Availability 24x7x365 and time savings
Greater market penetration without space and time constraints	Transaction speed
Using the Internet to advertise the sale of new financial products	Digital transaction record

Source: (Gurau, 2000)

2. DISADVANTAGES OF DIGITALIZATION OF THE BANKING SYSTEM

Globally, millions of customers nowadays use mobile phones to use banking services. Transaction services are related to the risk that customers and banks take. The risks are very specific because they are related to very rapid changes in technology (Vukosavljevic et al, 2016). Disadvantages such as insecurity, inconvenience, high usage costs (due to the price of internet on a mobile device) are often factors that limit the widespread use of mobile banking. Unavailability and congestion of the system affect the discomfort in using mobile banking. On a technical point of view, we can talk about the use of various applications that are not authenticated, confirmed and protected on the mobile phone, viruses on the network, unprotected Wi-Fi connections, etc.

Given the significant costs of using and maintaining each supply channel, banks choose the channel that provides the best cost-benefit ratio. Although new communication channels take precedence in communication with the client, the branch is necessary. Some of the reasons are: relationship with non-computer literate clients, because of the need of banks to perform tasks requiring personal contacts, bank staff with clients (eg signing contracts, advisory services, etc.). In this regard, internet banking is the cheapest form of banking services, which is available 24 hours a day, without space constraints. The main weakness of this form of banking is the lack of security.

However, in addition to clients and banks, they take on the risks of mobile banking:

- Operational risk represents a possible loss due to lack of system security and risk of misuse by customers.
- Strategic risk occurs when a bank defines unclear business decisions or does not adapt to changes in the environment. In these cases, mobile banking can cause counter-effects on the bank's results.
- Legal risk arises when the law is not respected or the law is circumvented. Frequent cases for that are e.g. money laundering.

- Reputational risk is most common when we talk about the risks that banks face in modern ways of doing business. When the application does not meet customer expectations, if the system is often unavailable, it can lead to negative customer reactions.

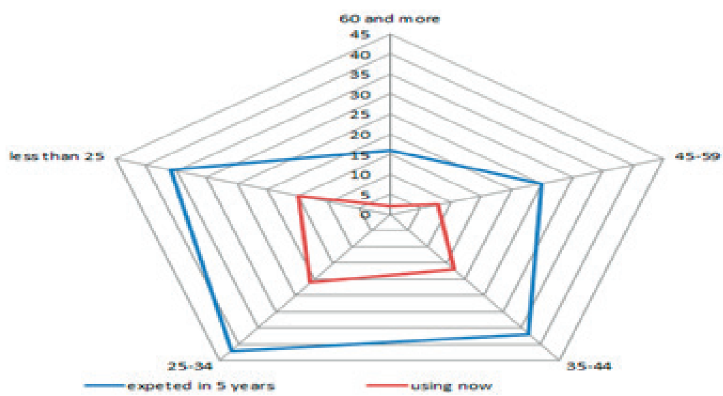
Disadvantages of mobile banking concern the protection of information and verification of customer identity. Disadvantages of the system of protection and abuse on the Internet, the lack of privacy, lead to this (Medic & Zivadinovic, 2017). Banks strive to allocate certain aspects of customer business from branches, as a classic form of communication with customers, to alternative channels. The goal is for mobile banking to benefit as many customers as possible. However, the use of mobile banking depends on the clients, i.e. their age group and readiness to use information technologies (Vesic et al, 2019).

3. PROSPECTS FOR INVESTMENT IN DIGITALIZATION

As modern man becomes more and more accustomed to the availability of a "network" (Internet) on which he can find almost any necessary information, he integrates it into his life more and more quickly; for example, if we want to quickly find out where to buy a book by a certain author or on a specific topic, which pharmacies are open, to find the street, etc ... (Mikaric et al, 2016).

McKinsey research shows who should be the target group for bankers (McKinsey, 2011). The comparison was made by comparing the age category of clients with the use of mobile phones in relation to total banking assets, and the results showed that young clients, representing clients under the age of 25, use modern technologies every day, especially newer versions of mobile devices. Viewed from the aspect of long-term strategy, they represent the bank's future clients and represent recommendations to banks to turn to attracting precisely these clients. Employees with a salary, age groups 26 to 60, who are mainly carriers of mobile banking, are the ideal target group for digital use of online services today. Finally, the third group of respondents was older than 60 years, mostly retirees. This is as a group of clients that banks want to activate to use mobile banking, in order to reduce the operating costs of branches. We are witnessing that senior citizens are the ones who have a harder time mastering information technologies and that their tendency to accept digital innovations is less than in some other population category. Nevertheless, banks expect an increase in the use of mobile devices for banking activities in the coming period (Ilustration 1).

Ilustration 1. Status and projections of groups of clients who use and who will use mobile phones for banking operations

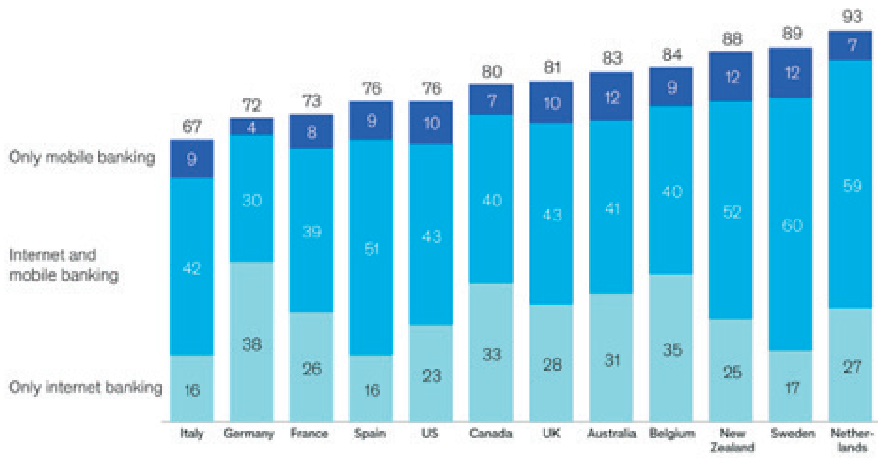


Source: (McKinsey, 2011)

The global corona virus pandemic that the world has recently encountered, has shown that people are ready for accelerated digitalization. This period awakened companies in all spheres to move forward, towards digitalization. A number of banks in Serbia have noticed a jump in online payments during the months when citizens were prevented from going anywhere. Modern business conditions impose the use of new information technologies as a basis for the survival and development of every business entity. The banking sector of Serbia is increasingly exposed to competitive business conditions that are global in nature and impose the need to use digital tools for the sale and promotion of related banking products and services.

As banks strive for digitalization both to improve efficiency and to improve the user experience, they must meet different customer preferences. In some cases, clients embrace new technologies, but there are times when they stick to old ways of doing business out of habit or simply resist resistance to change. According to the latest study of clients in banking conducted by McKinsey in a sample of 45,000 clients in 20 countries, it has been shown that banks are forcing rapid changes in the way they connect and nurture relationships with their clients. The same study concluded that digital communication channels are becoming increasingly important to users, even in countries that have been slower to embrace digital transformation. In Italy, for example, more than two-thirds of customers now use digital channels. Meanwhile, in countries where digitalization has progressed faster, more than 85 percent use them.

Ilustration 2. Percent of consumers that use channel at least once a month



Source: (McKinsey, 2018)

As a result of greater adoption of digital data, the bank's clients are less likely to visit branches in all districts covered by the study. For example, in Germany, the percentage of people visiting a branch once a month dropped from 60% in 2012 to 31% in 2018, while in Sweden it dropped from 27% to only 8%. In general, clients are increasingly using digital channels of communication with the bank, and they visits branches for special advice, solving complex problems or for buying complex products such as mortgages.

4.CONCLUSION

If we look at EU strategies concerning digital banking and technology, they are recognized as a significant factor influencing growth and innovation. Modern trends, due to increased technological development, present challenge for the all-world banking sectors. In this paper, we could see that mobile banking has the potential to become widespread and easily accepted by a large number of new clients. Mass use of modern technologies has increased the accuracy of transactions, but also reduced the time required to process transactions, increase employee productivity, reduce business costs and reduce the time spent by clients in bank branch. Research shows that banks that keep up with the new, digital age are gaining new customers faster and thus achieving higher market growth. In connection with the above, mobile banking provides banks with the opportunity to generate new income. The new way of doing business also means adjusting long-term strategies and turning to new, younger clients. In that way, banks would ensure the continuation of making profits in the future as well. In addition to developing innovative products, banks must provide customers with security in the use of mobile or Internet applications. In that way, they would reduce the risks that online transactions carry, but also increase the trust of clients and thus, finally get rid of reputational risk. Finally, if banks want to compete in the marketplace in the modern age, they must quickly adapt to new changes, along with the development of smartphones and tablets.

5.ACKNOWLEDGMENT

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6. LITERATURE

Andjelic, S., Nikolic, M., & Vesic, T. (2017). Strategic adjustment of the company changes. *Ekonomika Vol. 63, Iss. 2*, 87-96.

Barjaktarovic, L. (2013). *Upravljanje rizikom*. Belgrade: Singidunum University.

Berger, A., Bouwman, C., Kick, T., & Schaeck, K. (2017). Bank risk taking and liquidity creation following regulatory interventions and capital support. *Journal of Financial Intermediation, Forthcoming, 26*(1), 115-141.

Gurau, C. (2000). Online Banking in Transition Economics: the Implementation and Development of Online Banking Szstems in Romania. *The INternational Journal od Bank Marketing,* 285-296.

Hadzic, M. (2009). *Bankarstvo.* Belgrade: Singidunum University.

Ignjatijevic, S., Cogoljevic, M., & Milenkovic, N. I.-2. (2018). Economic assessment of significance of education in the development of a knowledge-based economy. *Industrija Vol.46, Iss. 3*, 185-200.

Jovic, Z., Kunjadic, G., & Singh, D. (2019). FinTech and CBDC - Modern trend in banking. *FINIZ* (str. 28-30). Belgrade: Singidunum University.

Kovacevic, M., & Djurovic, M. o.-3. (2014). Elektronsko bankarstvo. *Pravo – teorija i praksa 1*(3), 29-39.

Marjanovic, N., Prelic, J., & Belokapic Cavkunovic, J. (2007). Uloga Narodne banke Srbije u regulisanju monetarne politike. *Oditor Vol. III, No. 03*, 73-88.

McKinsey. (2011). *What's the future of mobile banking in Europe?* Preuzeto sa https://www.mckinsey.com/industries/financial-services/our-insights/whats-the-future-of-mobile-banking-in-europe

McKinsey. (2018). *Customer preferences spur retail banking channel evolution.* Preuzeto sa https://www.mckinsey.com/industries/financial-services/our-insights/banking-matters/customer-preferences-spur-retail-banking-channel-evolution

Medic, Z., & Zivadinovic, J. (2017). Upravljanje znanjem primenom koncepta savremenih alata poslovne inteligencije. *Trendovi u poslovanju* (str. 9-24). Krusevac: Visoka poslovna škola strukovnih studija "Prof. dr Radomir Bojkovic".

Mikaric, B., Markovic Blagojevic, M., & Trajkovic, D. (2016). Privatnost na internetu – mit ili realnost. *Trendovi u poslovanju Sveska 2, No. 8*, 67-72.

Pantelic, S. (2018). Novac od nikla iz 1925. godini. *Bankarstvo Vol. 47, No. 4*, 134-143.

Raghavendra, N. (2018). A Conceptual Study on Digitalization of Banking-Issues and Challenges in Rural India. *International journal of Management*, IT and Engeneering, 186-191.

Salem, M., Baidoun, S., & Walsh, G. (2018). Factors affecting Palestinian customers' use of online banking service. *International Journal of Bank Marketing Vol. 37, Iss. 2,* 426-451.

Sanader, D. (2014). Mobilno bankarstvo: Novi trend u savremenom bankarskom sektoru. *Bankarstvo 5/2014*, 86-109.

Vesic, T., & Petronijevic, J. (2018). Trends in profitability of banks in Serbia through rational analysis. U D. Cogoljevic, I. Piljan, & A. Salamzadeh (Urednici), *Finance and insurance sector industry* (str. 138-155). Belgrade: Faculty of Business Economy and Entrepreneurship.

Vesic, T., Nikolic, M., & Cogoljevic, M. (2019). Digitalizacija bankarskog sistema - perspektiva ili rizik savremenog poslovanja? *Zbornik radova* (str. 99-107). Krusevac: Visoka poslovna skola strukovnih studija "Prof. dr Radomir Bojkovic".

Vukosavljevic, D., Vukosavljevic, D., & Jelic, G. (2016). The increasing importance of effective risk management in banking - findings from Serbia. In*ternational Review 1*(2), 101-108.