Digitalization as a Driver of the Banking Sector

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Abstract This article is dedicated to the review of the main changes occurring in the banking sector after digitalization. The analysis of principal introductions of modern technologies in banking allowed us to conclude that banks should thoroughly work out a strategy of further development in view of changing trends and digitalization in all areas of their activities. We showed that digitalization acts as a driver for the development of the bank as a financial supermarket, which not only provides traditional banking services but also establishes its own ecosystem and can enlarge its client base. As a result, the competitiveness and stability of the banking system are growing. It is pointed that digitalization also has negative implications, especially nowadays, such as higher bank's expenses for the introduction of technologies, staff training, data protection, the release of labor, which may negatively affect employment in the country.

Keywords Digitalization · Digital economy · Globalization of the economy · Digital technologies

JEL Classification O10 · O20 · O30

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1 Introduction

In recent years the volume of economic digitalization is increasingly growing. This is especially exhibited in the financial and, foremost, the banking sector. This fact is proved by that up to 75% of all banking operations in Europe and the USA are effected via the Internet, smartphone, or ATM [1]. Russia is not far behind the leading countries, but the further development of the economy requires from banks a more serious approach, as far as practice shows that new technologies and digitalization in particular act as an additional impetus. Banks practicing digitalization have managed to cement their positions, attract customers, and secure market stability [2, 3].

2 Methodology

The study has relied on idealization and formalization, historical and logical, experimental methods of research, observation, simulation, abstraction, comparison.

It is worth noting that digitalization has been of the highest attention in recent years. However, there are some questions not only related to the definition of digitalization but also its impact on the development of both the banking sector and the economy. Speaking about the term of digitalization, we should mark that some authors regard it only as Internetization of society as a whole, others suppose that digitalization is the introduction of the latest technologies in the companies [4], and sometimes it is propounded to interpret digitalization in both narrow and broad terms [5]. In view of covering this topic, we will fall back on the definition of digitalization as the introduction of the latest Internet technologies in the banking sector. The second side of this issue is the impact on the banking sector and implications of the introduction both for the banking system and economy as a whole. In the first point, the authors are unanimous in their estimated, noting that the banking system will dramatically change (under this influence, we see the first positive changes) [6], but on the other hand, they indicate less time for banking operations, cost reduction, the emergence of a new type of the bank (digital bank) as pros, and fraud, higher security costs, the release of employees as cons [7].

3 Findings

Presently, Internetization covers most of bank customers. As of the beginning of 2020, the number of Internet users in the world exceeded 4.5 billion people, which is almost 60% of the world's population.

Russia with 109.5 million Internet users is the eighth by their number among the largest countries of the world. The number of mobile users is even higher (5.11

billion people), which is 67% of the world's population, while smartphones account for two-thirds of mobile phones (5.5 billion).

The Internet is the most widely used in developed countries (81%), while its share in developing countries is 40%, and in ones with a transitional economy is 15%. However, despite that our country belongs to the transitional type, the percent of Internet coverage is pretty high [8].

All this leads to the need and opportunity of using this phenomenon for expansion of the services that could be provided to customers on-line with the help of modern digital technologies. This especially concerns payments and settlements. According to statistics, in recent years, cashless payments in Russia have drastically increased not due to the unconventional way of money transfer from one account to another, but through the active issue of cards. Ease of payment has become an undeniable advantage of credit cards, which number hit over 14 billion by the end of 2019. The global coverage of smartphones (especially in large cities) has led to the emergence of an additional option such as smartphone payment, which has even more facilitated payment. The electronic payments among customers found to be more popular than Internet banking (31%) and SMS payments (37%) [9].

To the greatest extent, digital technologies of the banking sector are exhibited in interbank electronic settlements and payments. For example, a widely-known SWIFT system, which unites 9,000 credit organizations from 200 countries of the world effects more than 2.5 billion payments annually. Through the federal automated money transfer system Fedwire developed for real-time gross settlements, 99% of all payments by US credit institutions are made. TARGET-2 system widespread in the EU carries out payments between credit organizations of the EU countries [1].

As the economy develops, it becomes harder for banks to gain high profits within conventional operations (deposits, granting loans). Interest on deposits due to deflation in developed countries tends to zero, which constricts cash inflow to banks. The securities market here is an obvious alternative to the employment of funds, but the investment risk is multiple. Bearing in mind that the bank activities depend heavily on attracted funds, as this allows them to effect asset-related operations, it is digitalization that can help banks in raising funds and correlate time costs with monetary incomes. In this event, banks start developing on-line platforms for maintaining customer accounts and opening deposits, setting mobile banks, digital banking, or e-banking. Using electronic banking, commercial banks provide their clients with services on issuing statements of transactions, making intra-bank settlements and account transfers, as well as interbank transfers in settlement transactions. Moreover, they furnish information to customers on the types and provision terms of banking services, such as deposits, loans, shares of investment funds, etc., accept and handle applications for opening a deposit, granting a loan, issuing bank cards, convert currency, etc. In past years, this type of bank's activity has become more widespread, as evidenced by indicators of digitalization state in the country. An example of the ubiquitous distribution of such a service is China with 97.5% of mobile bank users. Eighty-six out of the 100 largest banks in the United States provide Internet services.

In the EU, half of the population practice intensive use of mobile banking for settlements and other banking services, but this is an average figure, since in some

countries, for example, Norway, this indicator reaches 90% [10]. Russia is still inferior to the leading countries by the use of electronic banking services. According to a survey conducted by McKinsey in 2016, only 65% of Russian bank customers use mobile and Internet banking. With that, it is worth noting that under the above survey, mobile banking in Russia performs almost twice as many functions as in European countries. Due to their later establishment, Russian banks are developing their applications in the digital era, which allowed them to hit the rating of digital banking by 2018. The proportion of respondents in Russia and European countries who have used Internet banking and/or mobile banking at least once in the last three months is shown in Fig. 1 [11].

The development of this type of bank leads also to the digitalization of operation such as loan granting. Banks are proactively designing electronic platforms for granting loans, in other words, on-line exchanges that allow you to choose the best loan terms and apply for a loan without leaving home. Other bank operations also fall under digitalization, which allows them to be competitive and highly demanded by customers and helps to effectively perform their functions and operations.

The blockchain technology also dramatically changes banking activity. It will be particularly useful in the operations of document flow management and transactions. Despite the shift to e-document management, a specific feature of the bank's activity is a large pile of paper documents, which requires a serious attitude to their accounting and selection. It is there the blockchain will help the bank reduce costs. Besides, nowadays banks have to streamline effected transactions, which can be facilitated by blockchain as an effective innovation that provides these opportunities and proposing unique business offers [12].

Thus, digitalization makes banks change the current business model. Banks reach the customer thanks to the development of digital technologies, digital products, using distance payments, etc. In their traditional sense banks have lost their importance. Now there is no longer a need for numerous departments and staff. They can be replaced by so-called digital banks. O. Tinkoff agrees with this thought and believes that in the future most customers will pass to digital banking services that will reduce the role of conventional branches. Large banks will gradually supersede small

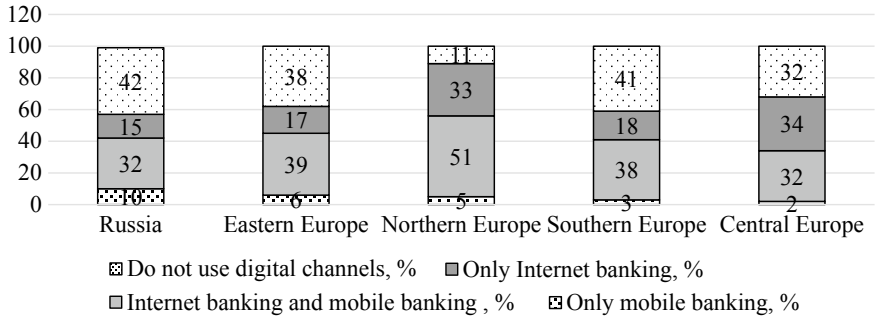

Fig. 1 The penetration of digital channels

and medium-sized banks, as the latter will not be able to invest sufficiently in the introduction of new technologies [11].

To date, there are only a few banks of this type in the domestic banking system. The most famous among them is Tinkoff Bank, which is the only online bank in Russia that services more than 7 million customers through applications and contact centers. Nevertheless, almost all large banks try to follow this path and provide distance banking services within mobile and Internet banking. The most advanced in this respect is Sberbank, which is actively putting into life modern technologies, in particular, remote servicing Sberbank-online, where you can make almost all operations (effecting payments, applying for or closing a deposit, scrutinizing lending opportunities, etc.). Sberbank Business Online application for Windows 10 provides convenient access to all services and banking products.

As we already highlighted, in modern terms the bank's competitiveness is assessed primarily by its technological capabilities, innovative products, and convenience for various groups of customers. In this regard, banks should revise their strategies and takes a decision on further long-term development with an account of the intensive introduction of Internet technologies. It is expected that large banks will deliver a full-scale digital transformation of their business and establish their own ecosystem. An example can be the ecosystem of Sberbank, which contains a whole range of additional products and services that are not fully common to banks but allowing for the expansion of the customer base. Small banks should also find their niche in this area. It is clear that the main trouble for these banks will be related to financing since digitalization is a cost-intensive measure at the initial stages that save costs only after a certain period. Therefore, the banks need to find partners or set the relevant banking alliances to put joint efforts in the development and implementation of certain innovative technologies and products. For banks with insufficient competencies, the target solution may be the provision of basic services under a foreign brand (Fig. 2) [13].

Along with that, irrespective of the size of the bank and its business model, one should apply the latest information technologies which will expand the range of banking operations and enhance bank competitiveness. Foremost, it's the employment of virtual assistants and chatbots, which should communicate with customers on all banking service issues, give recommendations and offers on individual services with regard to the recent data and changes. It is commonly supposed that in the coming years, robots will be able to replace the personal financial advisors of the bank assuming the functions of customer advising on typical issues [14]. In the opinion of Sberbank chief executive, 99% of credit decisions on individuals were made automatically in 2018.

Another application should be biometrics in the banking sector. Biometrics to a certain extent protects personal data of bank customers, as well as their accounts from fraudsters. As an example, we can mention again the largest banks, including Sberbank introducing biometrics now only for particular customers.

However, it should be emphasized that digitalization has not only positive effects acting as drivers of banks and the banking sector in general.

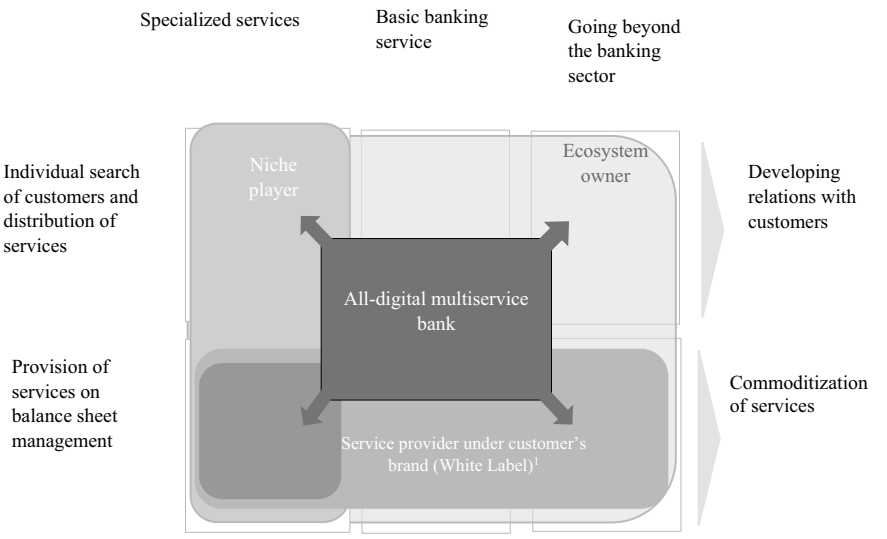

Fig. 2 Digital bank model

Like in any process, there are challenges and drawbacks. Digitalization gives rise to a hacker attack or fraud seeking to get access to customer's accounts and funds. Therefore, today's challenge for banks is to ensure the safety and security of customer's funds [15]. It takes huge costs that banks cannot always imagine, as well as appropriate technologies. To this end, the banks most often apply blockchain and biometrics mentioned earlier, as well as machine learning in operations, credit risks, and cross-sales analytics [7]. Another issue of digitalization is staff training. Learning and selection of staff will require additional costs, which is not always feasible for small and medium-sized banks. The number of skilled people is not yet enough. Moreover, the development and implementation of technologies are time- and cost-intensive too. On this premise, we should make a conclusion about the advantages of large banks over small ones by higher competitiveness and adaptation to new conditions.

4 Conclusion

Thus, digitalization as a driving factor of banking activities has a multidirectional impact. Firstly, it creates a new type of service that allows reaching the customer. Secondly, services become accessible both in terms of time and lower costs for customers buying these services. They should not be expensive and affordable for all groups of customers. Thirdly, the costs of the banks getting reduced due to cutting

offices and respectively staff and replacing traditional jobs with robots. It is worth suggesting that the digital leap that will occur in the coming years will enable banks to offer their customers not only common mobile applications and websites but also new products and services.

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