

Digitalization trend in business

Oksana Pirogova^{1,*}, *Nadezhda Savelyeva*², and *Tatiana Timkina*²

¹Peter the Great St. Petersburg Polytechnic University, 195251, 29 Polytechnicheskaya str., St. Petersburg, Russia

²FSBEI HE «Vyatka State University», Department of Economics / Institute of Economics and Finance, Kirov, Russia

Abstract. The aftermath of the pandemic in 2020 shocked the country's economy, but at the same time, the desire to keep the business allowed, in record time, to completely rebuild the usual patterns of behavior in the implementation of business processes across all sectors of the economy. The inability to go to work, solve everyday issues, carry out a commodity-money exchange, allowed the remote service model to burst so rapidly. The construction of a mechanism for the formation of work on the basis of electronic platforms, software products, Internet sources made it possible to form a single development trend - digitalization. This process is inextricably linked with the Internet, the digitization of the actions of all market participants. In this article, using the banking sector as an example, the main problems of modern digital services are considered, based on which the main directions of innovation are put forward, as well as promising areas of investment are substantiated.

1 Introduction

The processes of globalization and internetization are restructuring the usual principles of doing business. IT-technologies permeate all spheres of society, and the banking system is no exception. The introduction of quarantine restrictions, social distance and work restrictions have formed new principles of activity. Many companies have switched to electronic remote customer service altogether. The rapid restructuring of established business models has put companies in a shocking operating environment. The processes of rebuilding the economy to a remote format are just beginning. The formation of an integral remote service system is the goal for the near future of all sectors of the country's economy.

The modern world economy, influenced by globalization, a viral economic cycle, post-pandemic changes in the deintegration of world economic systems, is characterized by a tendency to increase imbalances and does not fit into the theoretical models of the classical and traditional institutional economic school [1]. The digital economy consists of digital markets that facilitate the trade of goods and services through e-commerce. The expansion of the digital sector has been a key driver of economic growth in recent years, and the transition to the digital world has had an impact on society that goes far beyond just the digital context [2].

* Corresponding author: kafedra17@rambler.ru

2 Materials and Methods

All business processes are subject to significant changes. Existing business models are restructuring the work of all global structures over the past year, due to the consequences of Covid19, a completely new form of banking services is being formed. The growing demand for remote services creates conditions for a “remote” economy. The processes of globalization are accompanied by the introduction of digital technologies based on the Internet. According to a study conducted by the Association for Electronic Communications, the Higher School of Economics and Microsoft in Russia, more than half (54%) of companies form a remote mode of work, while before the pandemic, only 1% worked in this area. According to the survey, it was revealed that 81% of respondents are confident that this trend will completely rebuild business models. The internal interaction of companies is also undergoing changes, as 21% of respondents will transfer meetings online [3]

Based on the survey data, it is logical to assume that due to the relevance of remote services, the role of commercial banks is increasing significantly. In this case, the bank acts as a conductor, a kind of bridge between the company and the consumer. If the service is remote, then financial transactions should be carried out remotely. Transactions both within the country and between states should have a familiar form of service, form the simplicity and availability of transfers. All existing platforms for the implementation of remote services are formed based on the Internet [4]. The problem of the heterogeneity of the standard of living between residents of cities and remote areas is of great importance, because by introducing this trend into circulation, the problem of accessibility arises (Fig. 1).

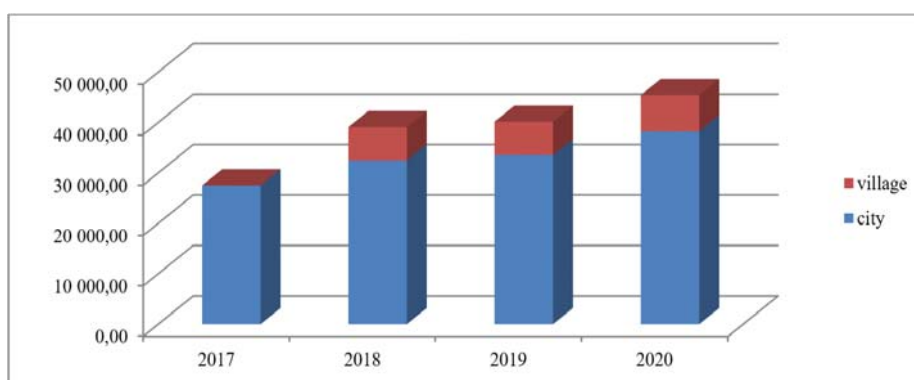


Fig. 1. Comparison of online and offline training.

Fig. 1 Use of the Internet by the population aged 15-74 to order goods and / or services, by type of settlement and gender, in the Russian Federation, thousand people

The data of the state statistics service confirm the previously justified problem, but at the same time, the proportion of the population who can carry out commodity-money transactions remotely is growing, which indicates a tendency for the penetration of Internet technologies into remote regions. After all, if we talk about competition in the banking sector, and in this case, about the opportunity to be a "bridge" in the work of legal entities, thus, we are talking about competition in the banking services market by attracting small and medium-sized businesses (SME) clients. Expansion of the client base due to increased availability provides a flow of clients, both for companies and for the bank itself [5].

Competition in the banking services market is also undergoing changes, with the condition of high concentration in modern conditions we are not talking about finding new customers but retaining existing ones (Table 1).

Table 1. Herfindahl-Hirschman Market Concentration Index in Russia (HHI).

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
HHI	2638.25	2928.54	2782.82	2590.2	2405.19	2299.26	2171.34	2137.21	2106.33	2150.13
Type I - highly concentrated markets HHI > 2000										

High concentration in the market pushes to create additional competitive advantages for the client. This increases the list of services that allow the client to carry out an increasing list of operations remotely. Now you can apply for a loan or close it, issue certificates and statements, manage funds on accounts, transfer money to a third-party bank without a commission, based on the newly created system of fast payments (SFP) and much more, you can remotely [6]. To carry out such operations, large investments are required in the formation or acquisition of ready-made software, which in any case requires large funds. To remain competitive in our time means to be on the wave of existing changes, and to be a leader means to form a trend for development. In this competitive race for the relevance of the services provided, bankruptcy cases are not uncommon (Fig. 2).

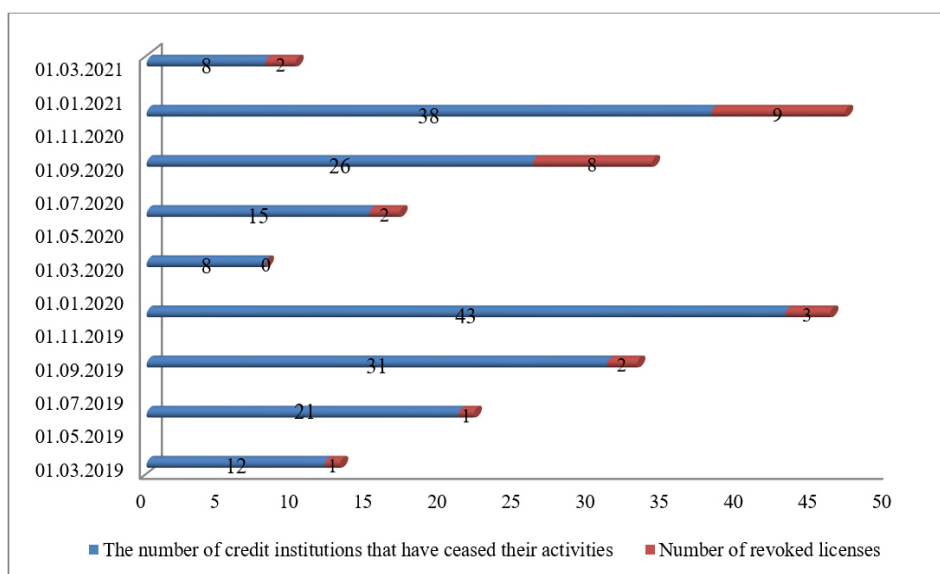


Fig. 2. The number of credit institutions that have ceased independent activities [11].

In this case, regional banks are susceptible to the trend of liquidation, which do not have financial capabilities to form a modern system, which are susceptible to and are afraid of the risk of debt growth, since they do not have sufficient assets. Thus, a priori, they cannot compete with the simplified system of federal giants that are present in the region. Based on data on the risk of bankruptcy, the number of liquidated companies, the banking sector health index is formed. Based on the research data, “Ekspert RA” determined “... On the horizon of the next four quarters, up to 32 credit institutions, or 8.9% of the index calculation base, are in the zone of increased risk of business interruption. This is the mathematical expectation of leaving the market based on the historical frequency of the relevant events [7].

3 Results and Discussion

Research statistics confirm the change in the work of the entire commercial sector, including banking organizations. The growth of remote services, the trend towards intentionization allow you to abandon the usual business, and go to work online, expanding the boundaries of sales and availability. The work of banks is based on retaining customers, increasing competitiveness, by expanding the list of services, so the ecosystem is a modern form of banking. The essence of this concept is defined in the scientific work of Ron Adner "... the ecosystem includes the functions of aligning a multilateral set of partners, which are used to materialize the focal value proposition" [8,9,10]. In turn, T. Goodwin justifies the relevance of modern business models based on the Internet "... since the industrial revolution, complex supply chains have developed in the world, from designers to manufacturers, from distributors to importers, wholesalers and retailers, this is what allowed billions of products to be made, shipped, purchased and enjoyed in every corner of the world. Recently, the power of the Internet, especially the mobile phone, has unleashed a movement that is rapidly destroying these layers and moving energy to new places ..."[11,12]. The main regulator of the banking sector is preparing for the introduction of a digital currency, which is a full-fledged analogue of non-cash money, while allowing to remove territorial barriers to transactions for business, reduce conversion costs, increase the number of cross-border payments and reduce risks in the supply of goods. In a scientific paper on digital currency (CBDC) Tommaso Mancini forms the concept, namely "... CBDC is a new form of money issued by the central bank in digital form and intended for use as legal tender" [13,14].

Maintaining the competitiveness of a company in any field of activity requires large financial investments. Banks are aimed at development:

- cybersecurity, due to the growth of databases, elimination of data leakage risks;
- development of new payment instruments;
- the use of artificial intelligence in terms of biometrics;
- improving customer experience, expanding the list of services provided or grouping into a narrower segment, this choice is based on financial capabilities and market needs in a particular territory.

Let's take a closer look at the fact that cybercrime is the most common phenomenon in the financial services market than in a number of other industries, since they have the most visible products and services. The reasons for this cyber risk are the development of new technologies, the expansion of geographic location, database leaks, the unconsciousness of the customers themselves when accessing the information of fraudsters, etc. (Table 2).

Table 2. Dynamics of the number and volume of transactions without the client's consent.

	Volume of transactions, RUB million	Number of operations, thousand units
2019 year	6425.8	577
2020 year	9777.3	773
Growth rate,%	152%	134%

Note: Compiled by the authors based on [15].

The data in Table 2 substantiate the concern of the Central Bank, "... the spread of "smart technologies" in entrepreneurship needs tightening of government regulation ..." [4] and commercial banks about the risks of an increase in cybercrimes. Over the year, the volume of transactions increased by 52%, with the number of transactions by 34%. Thus, it can be concluded that the average amount of fraudulent activities has increased. The data problem explains the financing and development of effective customer data protection soon.

The development of new payment instruments is aimed at the formation of effective means of circulation based on electronic money; the way to implement this type of commodity-money exchange is bank plastic and electronic cards, the latter of which operate on the basis of a mobile application for Internet banking. The last innovation on the part of the Bank of Russia was the introduction of the Fast Payment System. The growth of bank cards with the possibility of contactless payment has grown by a third; according to 2020, the number of such cards amounted to 179.3 million, thus, for every Russian there are 1.2 cards with contactless payments. Taking into account the growth of contactless cards, the volume of payments is growing, so the growth amounted to 1.8 times for 2020, 22.6 billion transactions. Commodity-money services are carried out through contactless payment 62.3% of the total (Fig. 3).

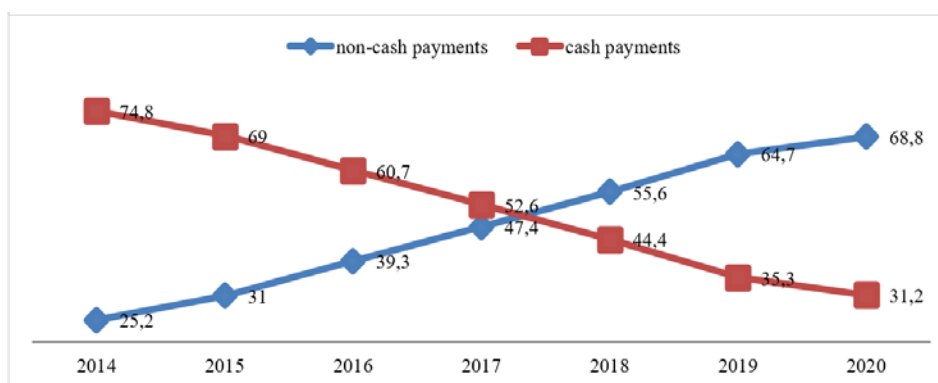


Fig. 3. The share of non-cash payments in the total turnover of retail trade, public catering and the volume of paid services (%) [16].

The data in the figure indicate that the turning point in favor of cashless payments began in mid-2017, the relevance of cashless payments shifts the level, so by 2020, 68.8% of payments are made without using cash.

Banks are expanding their network of ATMs and offices to improve customer focus, although smart technologies allow the development of electronic banking services, which are in high demand [16]. The decrease in the share of cash withdrawals in 2020 amounted to 10.1%, which made it possible to increase the share of non-cash transactions in the structure of their use (in total amount - up to 93.8%, in total volume - up to 70.9%). Contactless payment is used 15 times more often than cash withdrawals.

The introduction into general use of the SBP allows us to meet the demand of the population for interbank transfers without commission, as soon as possible. In this case, we are talking about the retention of existing customers, the inability to choose, to be limited to the services of one bank. According to the Bank of Russia, at the beginning of 2020, the number of transactions through the SBP increased 16 times, and the volume, in turn, increased 13 times. Ensuring the optimal speed and promotion of banking services all the way: from the banking institution to the end user (client), i.e. the speed at which the most favorable rates of sale and money turnover would be combined, as well as the minimum costs of storing financial resources on the one hand, and with the ability to fully and timely meet the demand from the other hand.

The demand for electronic money gives rise to the massive use and application of cryptocurrency for exchange, the growth of companies issuing their own currency is increasing, this leads to the problem of control and methods of assessing such phenomena. A response to this kind of change was the prospect of introducing a centralized digital currency - the digital ruble. The concept of digital currency is considered by the Institute of Banking Policy, so the reporting document defines that

«CBDC is a digital payment instrument denominated in the national unit of account, which is a direct obligation of the central bank». Digital currency will solve a number of problems:

- the ability to track the legality of suspicious transactions of individuals;
- concealment of income, targeted use of budget money for public procurement of goods and services;
- the risk of counterfeiting is minimized;
- allows to reduce the risks of DvP and PvP deals.

Biometric identification is gaining momentum. Back in 2003, scientists Rodrigo de Luis-Garc, Carlos Alberola-L'opez, Otman Aghzoutb, Juan Ruiz-Alzola determined the prospects of this direction "... biometric identification systems (BISs), that is, identification based on biometric features, will provide in the near future, secure access to physical and virtual resources and spaces, because, unlike traditional identification, they are based on who we are (our personality traits). Almost any physiological trait can be used for identification; however, the most generalized biometric technologies include automatic recognition of n-fingerprints, faces, iris, retina, hand geometry, voice and signature ". Consider the current situation in the biometric technology market (Fig. 4).

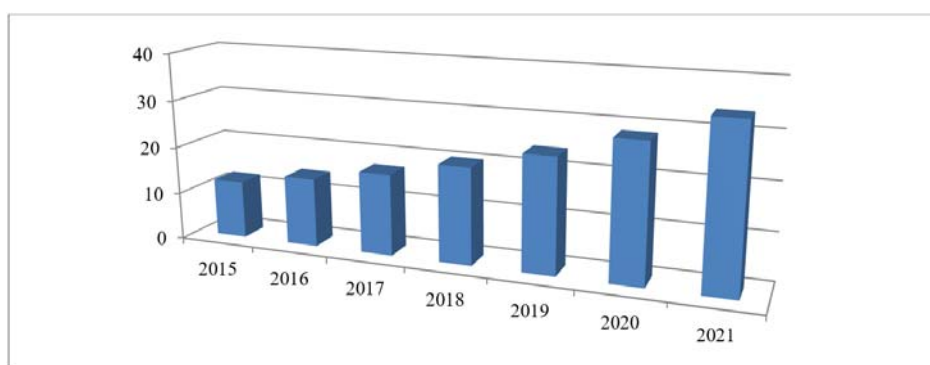


Fig. 4. The volume of the world market of biometric systems 2015–2021, billion US dollars [13].

The speed of operations is a priority for a commercial bank in terms of remote service. When physically present at the bank's office, it was necessary to show a passport to identify a person, but what now? How to understand that this is a customer and not a fraudster? To solve this problem, biometric data are used: voice, electronic signature, face, fingerprint, etc. The use of unique customer data allows you to accurately identify the person. The creation of a software product based on consumer recognition in different areas is in great demand, this trend will only grow and penetrate the already familiar areas of activity.

Improving customer experience is based on the relevance of the products offered in a certain area, especially for regional organizations that are not able to “spray” into global structures and related industries, such as those organized on the basis of leading ecosystem companies. In this case, we are talking about expanding the list of services, meeting the most important and primary needs based on one digital platform. In Russia, the expansion of the services offered is represented by MTS, the leader in the banking industry Sberbank, PJSC VTB has united the real estate market as a driver: rent, mortgage lending, which includes the search for lawyers for the transaction, paperwork, search for contractors for repairs, etc.

4 Conclusion

Changing the usual business models, considering global trends towards digitalization based on Internet technologies, are shaping new prospects for the development of all industries. The article discusses the main directions of development of the leading industry - the banking services market. In general, all changes and development prospects can be considered in the context of any industry, since the basis is remote service. The growth in the number of remote transactions, the use of electronic means of payment form the demand for goods from related industries.

The spread of the Internet to more remote territories contributes to the growth of clients, both for the companies themselves and for organizations acting as a provider of financial transactions - banks. Currently, there is no goal in the development directions to attract and search for new customers, there is a desire to retain existing ones. The achievement of these conditions is based on the growth of competitive advantages in comparison with other market players in the context of a certain territory. Formation of the competitive basis of the bank requires financial investments, especially in terms of software products. The growth in the number of liquidated banks indicates the problem of non-competitiveness. Electronic payments provide a number of undeniable advantages, but at the same time they also have risks of an increase in cybercrimes, their number in 2020 increased by 52% compared to 2019. The protection of customers' personal data is an urgent area for investment and a direction for the innovative development of the industry.

The consolidation of banks within the framework of interbank interaction transactions is achieved based on a digital platform - a fast payment system created by the Central Banks of the Russian Federation. This innovation is justified by the demand for electronic money, the absence of a commission for transfers between participating banks, which gives advantages both for the client - lower costs and transfer speed, and for the bank, due to the growth of industry participants.

The list of the consequences of digital changes affects the business as a whole, the criteria and trends remain, both the bank and the company need to ensure electronic accessibility to their products, be able to remotely pay based on electronic money or in the future digital currency, with the growth of the volume of data to ensure their protection etc. Thus, the digitalization trend sets new "benchmarks" for efficient work, competitiveness and profit growth.

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