

Ecosystems in the financial environment as a digitalization trend

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Abstract. The rapid spread of digitalization processes has required a revision of approaches to doing business, not only in Russian practice, but throughout the world. Given the current situation, there is an undeniable need to improve old and develop new business models. The financial system is a dynamically changing and vulnerable area. The financial sector has undergone major changes associated with the digital transformation of the technologies used, namely the construction of ecosystems. The theoretical and practical necessity of understanding the role of ecosystems in the financial environment and identifying the features of the use of digital technologies in its formation justifies the relevance, importance, and logic of the study. The purpose of the study is to identify the features of the use of digital technologies in the formation of an ecosystem in the financial environment. Statistical data on digitalization processes confirm the dynamic development of ecosystems in the financial sector and their importance for ensuring the sustainability of socio-economic development. The scientific novelty of the study lies in the need for theoretical and practical understanding of the need to use digital technologies in the formation of an ecosystem in the financial environment as a modern trend in sustainable development.

1 Introduction

In modern conditions of digital transformation, there is a dynamic expansion of Internet coverage, an increase in data transfer speed, a reduction in the cost threshold of Internet traffic and mobile devices, and there is a rapid demand from customers for instant information, goods and services. The spread of the new COVID-19 coronavirus pandemic has stimulated a transformation in consumer preferences towards using remote channels to obtain the necessary products and services. The currently existing technological resources of banks operating in Russia make it possible to build an integral ecosystem capable of meeting the diverse needs of customers.

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The term "ecosystem" has rapidly transformed from biology into business environment. The foundations for applying the term "ecosystem" to business processes are laid in the scientific research of J. F. Moore. The researchers proposed to interpret the ecosystem as "an economic community supported by a basis of interacting organizations and individuals" [1].

The analysis of existing approaches to the interpretation of the ecosystem in relation to the financial sector has shown the lack of a unified scientific approach. A number of authors, such as V.V. Velikorossov, Yu.M. Bryukhanov, S.L. Donskaya, O.E. Kalenov, in the economic context, interpret the ecosystem as "a set of participants interacting with the organization and directly or indirectly participating in the "value chain" (universities, agents selling goods and services, communities), as well as customers" [2, 3].

Currently, some of the many researchers (N. Bykanova, Yu. Solovey, D. Gordia, L. Konshina, O.E. Nikonets, K.A. Popova, A.D. Shchetinnikova) consider the ecosystem as a platform that combines the ability to bring a variety of goods and services to the consumer [4, 5]. In the modern format, an ecosystem is defined as a marketplace. For example, A.K. Kantoroeva interprets: "on this site, integrated products and services are marketed that satisfy a wide range of customer needs of the same profile" [6].

In their scientific research L.A. Ramenskaya [7] interpret the ecosystem as a "self-developing organization", i.e. an organization that applies innovative approaches to management aspects in its practice and accepts the company as a "living organism".

We believe that the construction of a modern ecosystem takes place in the context of the rapid development of digital technologies and is a complex of interrelated and systematically developing elements, a key part of which is the availability of a variety of products and services for customers in a single digital window.

It should be noted that the study of the main approaches to the formation of the bank ecosystem in the modern conditions of digitalization is the subject of constant discussion.

An analytical review of the subject area associated with the concept of "ecosystem" was carried out in the works of domestic authors V.V. Akberdina, E.V. Vasilenko, T.S. Kolmykova, L.A. Ramenskaya, N.I. Bykanova, Yu.A. Solovey and etc.

The scientific works by O.E. Nikonets, K.A. Popova, A.D. Shchetinnikova and others are devoted to remote banking technology as the basic platform of the bank ecosystem.

Despite the serious theoretical elaboration, the issue of developing the commercial bank ecosystem through remote banking technologies is debatable, which confirms the relevance of the study.

2 Materials and Methods

The structure and research design of this article is aimed at realizing the set goal - identifying the features of the use of remote service technologies in the formation of the ecosystem of a modern commercial bank. In accordance with the goal, the objectives of the study are formulated: based on a comprehensive analysis, explore the ecosystem and its need in the financial environment; identify the main trends in remote banking as a technology for organizing the bank ecosystem and determine the prospects for its further development.

The first part reveals theoretical approaches to the use of the term "ecosystem" in the business environment, including banking. Through the use of a monographic and comparative method, an analytical review of the main key approaches to the definition under study has been carried out. A critical analysis of previously published scientific papers makes it possible to form the author's vision and the need for an ecosystem approach in the financial environment.

The second part of the study is empirical in nature. The authors have made an attempt to apply qualitative and quantitative research methods. The use of a combination of various

methods allows the authors to identify the main trends in the development of remote banking services as a technology for organizing the banking ecosystem.

With the help of methods of synthesis and logical evaluation, scientific results are systematized in the work. Consistent application of a combination of various methods makes it possible to solve the research problem. In general, the proposed research design allows achieving the desired result.

3 Results

The rapid development of technology poses new challenges and puts forward serious requirements for servicing bank customers. In this regard, remote banking is the most effective platform for the banking ecosystem. The global situation with the pandemic, the restrictions imposed, and the self-isolation regime have forced the transition of active users to a remote form of payment and settlement.

According to official data, for 2018-2020 the number of remote access accounts opened with credit institutions increased by 47,196.9 thousand units or 1.2 times (Figure 1).

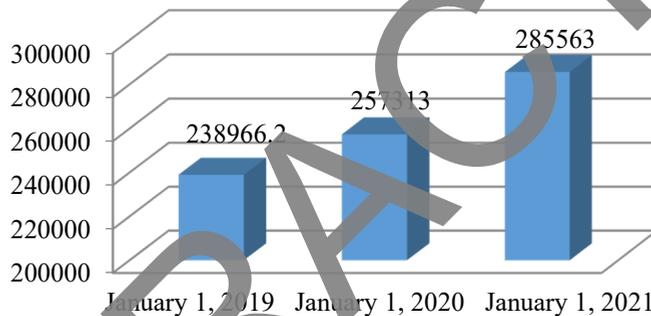


Fig.1. Dynamics of the number of remote access accounts opened with credit institutions for the period 2018-2020 Sources: calculated by the authors based on the Bank of Russia data

Being in a remote mode, citizens had no other options but to solve the problems of interacting with financial and government institutions remotely through remote service systems. In the current conditions, for bank customers, both for individuals and legal entities, accounts with remote access have become the most popular. On average, there are 2 accounts per inhabitant as of January 1, 2021 versus 1.8 accounts as of the corresponding date in 2020.

V.V. Akberdina, E.V. Vasilenko and T.S. Kolmykova, note that the emergence and development of ecosystems is the result of a technological breakthrough, as a result of which it becomes possible to combine an unlimited number of services of various profiles within one platform [8, 9]. The formation of an ecosystem contributes to the scaling of the banking business and opens up new development prospects.

The main key banks in Russia whose ecosystems are successfully functioning are Tinkoff Bank and Sber. Relations within the digital banking ecosystem are built using a variety of approaches. For example, building the Sber ecosystem is based on attracting third-party companies whose services and products are in demand and are in high demand. Tinkoff Bank organizes the building of an ecosystem through the development and implementation of its own digital services and technologies. It should be noted that the ecosystems of these banks are based on remote banking technologies.

Sber is the most dynamic investment in its innovative development and demonstrates an aggressive desire to penetrate deeper into the technology sector. One of the most popular

services is Sber Online, which operates on a remote banking platform. Currently, the service has been replenished with a new smart screen and a group of virtual assistants, making the application more emotional, flexible and modern. Sber, refusing the word "bank" in the name, once again emphasized the commitment to ecosystem: the company should be considered as a high-tech player, and not just a participant in the financial market.

The use of digital technologies and services, in particular, remote banking channels, has led to a rapid quantitative increase in transactions made by bank customers using them [10]. In 2020, the quantitative increase was by 21.1% (up to 54.8 billion orders). The growth in the number of transactions made using digital technologies has also contributed to the increase in the volume of transactions (Figure 2).

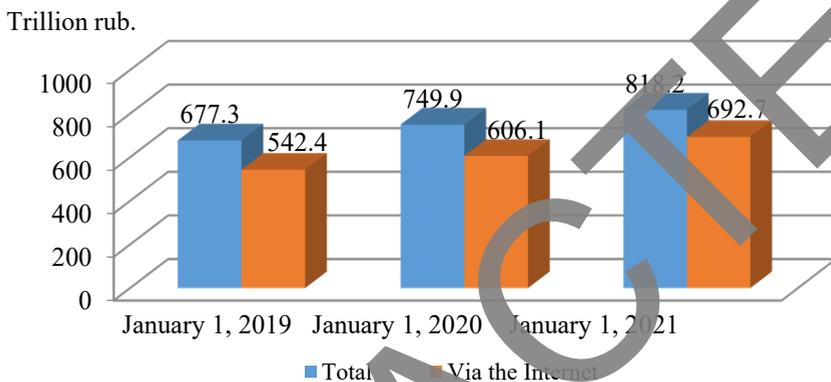


Fig.2. The volume of transactions carried out by bank customers using electronic technologies in 2018-2020

Source: calculated by the authors based on the Bank of Russia data

According to Figure 2, over the period under study, the volume of transactions that were carried out by bank customers through electronic technologies increased by 140.9 trillion rubles or 1.2 times and amounted to 818.2 trillion rubles. The volume of transactions carried out via the Internet increased by 150.3 trillion rubles and amounted to 692.7 trillion rubles in 2020.

Such changes are directly related to the projected growth trend in transactions of individuals. So, for example, the annual growth of these operations amounted to 22% in terms of number and 24.2% in terms of volume. It should be noted that out of 100 operations performed, 99 were carried out using electronic technologies, the value of which is 93%. About 40% of them were performed through the global Internet and mobile communication devices.

Legal entities that are not credit institutions made 2.3 billion transfers using electronic technologies in the amount of 729.1 trillion rubles (an increase of 3.8% and 7.5%, respectively).

Contactless technologies have also received dynamic development in Russia during the pandemic (Figure 3).

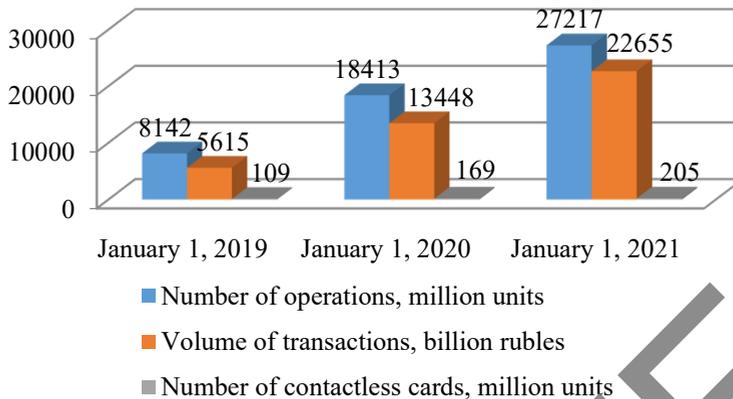


Fig.3. Development of contactless technologies in 2018-2020

Source: calculated by the authors based on the Bank of Russia data.

Number of contactless transactions in Russia in 2018-2020 increased by 19,075 million units or 3.3 times and amounted to 27,217 million units. The volume of contactless transactions for the study period increased by 17,040 billion rubles and amounted to 22,655 billion rubles in 2020. The number of contactless cards has almost doubled. In 2020, about 70% of payment cards supporting the contactless payment function were issued. The past year 2020 has shown a quantitative increase of 21%. According to the calculated data, there are on average 1.4 contactless cards per inhabitant (for comparison, at the beginning of 2020 - 1.2).

In 2020, the number of transactions made using contactless technologies increased by 1.5 times, and their volume increased by 1.7 times (up to 27.2 billion transactions in the amount of 22.7 trillion rubles). The largest part of them, up to 20.5 billion transactions in the amount of 17.1 trillion rubles, was carried out using cards that support contactless technologies. With the help of mobile devices through pay-services, 6.7 billion transactions were carried out, the volume of which increased to 5.6 billion rub. At the same time, it should be noted that more than 2/3 of payments were made using contactless technology. The services that are associated with contactless payment via NFC chips, payments by QR code/barcode and services using the fast payment system were the most in demand by the consumer sector. In 2020, the largest volume of services (about 89%) was provided remotely.

4 Discussion

Remote banking serves as the main platform for the formation and development of the banking ecosystem. Through the introduction of an ecosystem in the banking sector, there is a change in business organization models. In addition to traditional financial services (cash payments, deposits and loans), credit institutions are intensively introducing non-financial services (online stores, real estate transactions, insurance, B2B market, etc.). All participants in the ecosystem are interested in developing and promoting their business, optimizing costs and increasing profits. Therefore, the effectiveness of the ecosystem depends on the technological platform and on building trusting partnerships.

Critical analysis of previously published works on the issues under study allows us to agree with the opinion of L.V. Prigoda, M.V. Alikaeva, Z. Chekerevats, who believe that “an increase in demand for remote services of financial organizations stimulates the creation of

digital platforms that take into account both the processes of global digitalization and the changing needs of consumers in a pandemic” [11].

The results obtained within the framework of this study show that in modern conditions, both the number and volume of transactions performed using remote service technology are rapidly increasing. N.E. Tropynina and A.D. Shchetinnikova have made the same conclusions in their works [12, 13]. In addition, they point to the prospects of remote banking services. In this regard, we consider it necessary to determine some advantages of remote service technology as the main platform for the formation of the bank's ecosystem.

The use of remote service technologies optimizes operating costs. Remote customer service is several times cheaper than office service. All operations carried out by means of remote technologies directly reduce the load on the operational offices; the probability of errors is reduced, which leads to minimization of risks and costs.

Through remote service technologies, the client receives the entire range of operations and services he needs at a high technical level in a matter of minutes. This implies the following advantage of remote service as an element of the formation of the bank's ecosystem - an increase in the speed, quality of service, and accuracy of transactions.

Remote service technologies are used not only to transform operations into high-tech ones, but also to attract customers via the Internet. Remote service acts as the main channel for the formation of a client ecosystem. The attraction for the client lies in the simplification of obtaining services in the mode of a single digital window. There is no need to install several applications to receive services of a different nature, remember a large number of passwords and perform a set of actions to complete transactions. Combining personal accounts and mobile applications within the ecosystem significantly speeds up and makes it convenient for a client to purchase a variety of goods and services remotely. Credit institutions that have a wide customer base and have knowledge about customers are the most competitive in modern conditions [14].

It can be said that remote service technology acts as a basic platform that unites all participants in the ecosystem, makes products and services available, expands the choice and simplifies the process of obtaining services by customers in terms of quality and time. For ecosystem participants, the use of remote service technology means making a profit, promoting their own business to a new level of development.

5 Conclusions

Currently, the COVID-19 coronavirus pandemic has become a global challenge to society. In these difficult conditions business does not stand still, but is looking for effective methods for solving the problems that have arisen, in order to create new tools and models that meet the current situation. The COVID-19 pandemic has had a direct impact on the concept of interaction between all participants in the financial environment and thus has built the trajectory of the digital development of the economic space.

Successful integration into the digital process and the creation of ecosystems open up new horizons for business development. The development of ecosystems helps to attract new customers and increase the loyalty of existing ones, the ability to satisfy a diverse range of their needs, as well as entering new markets for banks, including non-financial markets. When building an ecosystem, the intermediary role of the bank between the supplier and the end consumer of products and services is reduced. In addition, the creation of an ecosystem involves the transition of a bank as a financial and credit institution to a technology company, which directly affects the increase in capitalization.

Within the framework of this study, it is determined that remote banking technologies have become the main platform for building modern ecosystems. In the context of digital transformation, they have proved to be in demand and continue to gain popularity among the

population and new customers, and also contribute to the scaling of the business of the main participants in the ecosystem.

In general, the conducted research contains theoretical and practical significance, which are manifested in the clarification of the terminological apparatus "ecosystem" in relation to the financial environment and the identification of the priority of remote banking services in the formation of the bank's ecosystem. It should be noted that all transformational processes towards digital ecosystems have a promising field for further research and practical activities.

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