

# Banking Ecosystem from Positions of Ensuring Economic Security

Dina V. Zaloznaya <sup>1</sup>[ORCID 0000-0002-2017-8303]

<sup>1</sup> Rostov State Transport University, Rostov-on-Don, Russia  
zaloznaiadv@rambler.ru

## ABSTRACT

This study examines the features of the formation of banking ecosystems from the standpoint of ensuring their economic security. The factors that determine the bank's ability to choose an ecosystem approach and distinguish an ecosystem from a holding vertically integrated structure are identified. The main directions of development of banking ecosystems are considered: B2B – business to business, B2C – business to consumers and O2O – online to offline. The study of empirical data on the construction of ecosystems by Russian banks allows us to identify the advantages and disadvantages of this process, and also it is shown what impact the ecosystem can have on the economic security of the banking sector. The introduction of the ecosystem prevents the risk of non-competitiveness in the development of new markets; the bank has the ability to allocate more funds for the formation and replenishment of reserve funds, as well as the development of new activities, which has a positive effect on the dynamics of ensuring the economic security of all levels of the ecosystem. The problems of the economic security of the banking sector arising in the process of building an ecosystem are based on omissions in personnel policy, the impossibility of total control of the elements of the ecosystem, investment, operational and financial risks, as well as an insufficient level of economic security of the ecosystem partner enterprises. The research results enrich the theoretical basis of work on the economic security of banking ecosystems and can be used by entrepreneurs in the design of ecosystems.

**Keywords:** *ecosystem, banking ecosystem, economic security*

## 1. INTRODUCTION

Currently, the banking sector is facing a slowdown in growth within the industry, however, like any system, it needs constant growth and development, for which the management of banks resorts to looking for the most profitable and successful directions that can ensure a stable increase in profits and carry minimal risks [1, 2]. It is the development and implementation of ecosystems that today is becoming the defining direction of strategic banking orientation, contributes to the timely identification, assessment and, in the future, the choice of the most promising ways of their development [3].

At the same time, as practice shows, in the realities of modern life, the introduction and continuous development of the ecosystem is one of the most promising areas for the development of the banking sector in general and individual banking organizations in particular. Indeed, in the modern

world, not a single service, including a banking service, can exist separately, apart. It is always a complex of interconnected services, often collected from various sectors of the economy [3-5].

Threats to economic security in the banking sector arise when the chosen direction of development does not meet the requirements of the market and does not satisfy its needs [6, 7]. When ecosystems are introduced, the greatest risk of threats to economic security is observed when a certain complex of services is created, which includes both traditional financial services and non-financial services.

In addition, the emergence of significant risks is possible when expanding the product line with introducing services that significantly affect the company's reputation.

Many studies are devoted to the analysis, development and implementation of ecosystems today, these are the works of authors such as

M.Y. Zhang, P. Williamson, J. Leendertse, M. Schrijvers, E. Stam, J. Robertson, L. Pitt, C. Ferreira, H. Abootorabi, J. Wiklund, A.R. Johnson, C.D. Miller, T. Haarhaus, G. Strunk, A. Liening, P.T. Roundy, M. Bradshaw etc. [8-13]. Within the framework of ecosystems, the financial and, including the banking component is studied J.L. Harris, O.M. Bătae, V.D. Dragomir, L. Feleagă, I. Lee, Y.J. Shin etc. [3-5, 14]. At the same time, the issues of ensuring the economic security of the banking sector arising from the introduction of the ecosystem approach have practically not been studied.

## 2. MATERIALS AND METHODS

Considering the introduction of the ecosystem as the most promising direction for the development of the banking sector, one should bear in mind the threats to economic security that this process, which is complex in all respects, entails.

The aim of the study is to study the process of ensuring the economic security of the banking sector in the context of the implementation of the ecosystem approach.

The study is based on the case study method, which allows, based on the study of the empirical experience of building ecosystems by Russian banks, to express theoretical assumptions in accordance with the stated purpose of the study.

In nature, an ecosystem is a biological system consisting of a society of living organisms, their habitat and a system of connections that exchange substances and energy between them. The economy, in turn, projects this concept through the prism of financial relations and building a business model [12].

In the modern world, the ecosystem is the most viable method of strategically guiding the development of enterprises. The main factors that allow banks to go on the path of strategic orientation by building ecosystems are:

- financial stability of the bank and profitability of the main type of economic activity. New services at the initial stages of formation and development require significant financial investments and the ability to cover unforeseen costs at the expense of reserves;
- levels of aggregation of data about their customers and the possibility of their use in other activities;

- the level of development of technologies for collecting and processing information, as well as artificial intelligence. This factor determines the efficiency of data exchange between departments and the degree of customer satisfaction based on the data received.

Not every holding can be considered an ecosystem. A vertically integrated holding may include a bank, a retail company, a mobile operator and other subsidiaries. However, if these companies operate separately, under different brands, with different identifiers and with different contact centers, then we are talking simply about a set of independent services and products [13]. However, when they unite under a common brand, and a consumer can use all services with one identifier and receive support in a single center, then we can talk about an ecosystem.

Thus, ecosystems in business are verticals connected in a safe and seamless environment. Inside it, the user “travels”, sometimes without noticing it. In addition, when using any of the services offered, he is guaranteed the quality and support of the parent brand.

## 3. RESULTS

Each bank on the way to establishing its own ecosystem goes through two main stages: first of all, a “core” is created – a successful and stable core business. At the second stage, they begin to create around it additional, close to banking, services to meet the needs of the client. For example, the sale of insurance, assistance in obtaining a mortgage, leasing services, factoring, online business registration, etc.

Ecosystems of credit institutions are developing in two main directions:

- B2B – business to business – services for corporate clients and legal entities;
- B2C – business to consumers – services for individuals.

Depending on who the client is – a legal entity or an individual, ecosystem banks can offer him various types of services in order to satisfy all his needs. The ecosystem is one of the key areas for the development of modern banking organizations in general, and the focus of managers is focused on its development.

In recent years, Russian companies, including those in the banking sector, have begun actively to introduce into their ecosystems a new business model for the Russian market – O2O. The new O2O e-commerce business model (online to offline, “from the Internet to real life”) is characterized with the interaction of the virtual and real worlds and a combination of online and offline opportunities to attract customers. The O2O model is used in a variety of industries, including real estate, transportation, food delivery, and more. The general pattern of the concept is to promote a business from online to offline: the audience is aggregated online, and the final service is provided offline.

Ecosystems have many benefits in the areas of human resources management, business management, and risk prevention. The most significant are the following:

- access to a wide range of opportunities;
- ability to quickly scale;
- the ability to build a flexible and stable model.

At the stage of building the ecosystem, the bank joins more and more new companies. It is reasonable to assume that the initiating bank is interested in seeing in its ecosystem only companies that have tangible potential and are able to bring good profit to the ecosystem with minimal investment of the parent brand.

Rapid scaling means that the ecosystem, thanks to a structured interface, greatly simplifies the process of adding new participants, and their assets contribute to the rapid development and growth of the entire ecosystem.

Possessing a stable platform and an understandable interface, the ecosystem can quickly; both add and remove components from its composition, depending on what task is at the forefront at the moment. Thus, the ecosystem model turns out to be most effective in conditions of heterogeneity and uncertainty of the needs and tastes of customers, as well as in conditions of constant and unpredictable development of technologies.

The considered advantages of the ecosystem for the banking sector also have a positive effect on the system of economic security of the bank. Strategic orientation towards building an ecosystem allowed the bank to develop new markets and areas of activity, without exposing itself to the risks typical for first-time projects. If the ecosystem is introduced, the bank does not launch its own service

that is not strong in a competitive environment on the market; the bank joins already established players with their own client base and, which is important, reputation. Thus, the construction of the ecosystem protects the bank from the risk of non-competitiveness in the development of new markets, which from the first steps of the formation of the ecosystem provides an appropriate level of economic security.

Of no small importance for strengthening the economic security of the banking sector are the very principles of building an ecosystem, namely, the principles of asset allocation and the creation of a flexible system of interconnected enterprises. By connecting several enterprises under a single brand, there is also a merger of assets, which opens up a new source of resources for each participant in the ecosystem for faster growth and development. From the point of view of economic security of both the bank in the center of the ecosystem and enterprises and services on the periphery, this fact opens up access to sources of guaranteed financing in case of losses that exceed the degree of financial preparedness of the enterprise itself. In turn, the bank also has an additional source of income. The bank has the ability to allocate a larger amount of funds for the formation and replenishment of reserve funds, as well as for the development of new types of activities, which has a positive effect on the dynamics of ensuring the economic security of all levels of the ecosystem.

However, like any management process, the ecosystem has a number of disadvantages. An ecosystem is a system of independent and fully cooperative enterprises. This fact implies limited control of the entire structure on the part of each of its elements. The principle of ecosystem organization does not imply the introduction of a strict hierarchical system and the use of methods of total control. Thus, at the very first stage of building an ecosystem, the first drawback of this management system is revealed – the urgent need to introduce a set of fair and understandable rules, norms and standards that are adjusted as the ecosystem develops.

Another drawback of the ecosystem lies in the mechanism for distributing profits between its elements. Each ecosystem participant who has provided any resources to the ecosystem is entitled to a predetermined percentage of the profit received as a result of his investment. The ecosystem, at the beginning of its formation on the market, actively attracts all kinds of investors, subsequently

rewarding them for the invested funds. However, such a profitable strategy for the ecosystem as a whole turns out to be practically unprofitable for the parent company: it is extremely difficult for the founders to get tangible profits, because the income received is mostly going to partners and investors. As a result, a strict dependence is built – the more open the ecosystem, the more difficult it is for the founder company to make money.

The above list of ecosystem shortcomings is the reason for the emergence of risks associated with ensuring the economic security of the banking sector. The first thing that the bank's economic security service faces at the first stages of building an ecosystem is the impossibility of organizing total control over the activities of the elements of the ecosystem. Hence, internal risks arise, as well as operational and financial risks. The main reason for their occurrence, in particular, may be the insufficient level of ensuring the economic security of the partner enterprise of the ecosystem. In such a case, the risks, as well as the losses associated with them, can spread to other elements of the ecosystem and even to the bank itself, like a virus. A striking example of the spread of risks throughout the ecosystem can be the sad experience of foreign ecosystems: regular leaks of personal data of users of the social network Facebook, for example, entail the rapid growth of distrust of both users and investors in all elements of the ecosystem, such as Instagram and WhatsApp.

Another “weak point” may arise due to the fact that at the initial stages of the ecosystem's formation, a significant part of the profit, if not all of the profit, is spent on paying off debts to investors. The decision to create an ecosystem should, first of all, go through the bank's economic security service. Only a deep analysis is able to confirm or deny not only the possibility of implementing the chosen strategy by the bank, but also the necessity of this strategic move for the enterprise. Otherwise, negative financial results and the volatility of the ecosystem in the market make it fatally vulnerable to competitors.

Despite the seemingly intuitive and transparent at first glance, the ecosystem is an extremely complex mechanism that requires a huge amount of effort, knowledge and skills to ensure the stability of the enterprise in the long term. The main risks of ecosystem implementation will not be difficult to identify even for an ordinary specialist in risk management, but knowing does not mean preventing. Many nuances work both into the hands

of an entrepreneur and can destroy a business that has been built over the years.

#### **4. DISCUSSION**

In the context of ensuring economic security, the ecosystem is a source of a whole range of threats that require prompt adoption of a set of measures aimed both at protecting the fundamental activities of the bank and at improving the interaction of the bank's economic security service with similar services of the ecosystem elements. Only a well-functioning mechanism for protecting all elements of the ecosystem from internal and external threats, along with a high level of security for the main types of banking activities, can provide conditions for the stable development of the ecosystem in a competitive market.

The basis of internal threats to the economic security of the banking sector, arising in the process of building an ecosystem, is made up of omissions in the personnel policy of the elements of the ecosystem, as well as an insufficient level of economic security of partner enterprises of the ecosystem. As mentioned above, the banking sector basically forms its ecosystem, for the most part by joining existing enterprises. However, the affiliated enterprises, due to being on the market for a long time as independent players, at the time of joining the ecosystem already have an established system of internal management. Often, there are many omissions in this system, such as the incompetence of management personnel, an undeveloped system of ensuring economic security that does not meet the needs of the enterprise, and so on. The result of a complex of such gaps in the organization of the enterprise's activities is the risks of confidential information leaks, strategic planning, as well as numerous personnel risks. By joining the bank's ecosystem, such an enterprise extends its own internal risks to the bank itself, threatening its financial stability in the relevant market, and hence economic security.

External threats to the economic security of the bank, created by the ecosystem and its elements, are closely related to the internal threats discussed above. They are imperfections in the internal processes of the enterprise-element of the ecosystem open access to competitors and attackers to the flows of confidential information of both the enterprise itself and the bank information of varying degrees of confidentiality passing through internal systems of an ecosystem element. The ecosystem partner enterprise becomes vulnerable to the influence of

unfair competition in the market for goods and services, as well as to industrial espionage. For example, such an internal threat as the lack of a technical base to maintain the required level of security and safety allows competitors and attackers to successfully use industrial espionage methods. It follows from this that, having taken possession of the confidential information of the enterprise, competitors and attackers can lure away significant personnel, offering them more comfortable working conditions and higher wages, and also get the opportunity to cause both reputational and material damage to the enterprise.

## 5. CONCLUSION

The following measures can serve as possible directions for ensuring economic security in order to create conditions for improving the banking ecosystem:

- creation of a system of communication and interaction of services for the economic security of the elements of the ecosystem in order to coordinate actions and, as a result, create a single complex for ensuring the economic security of the entire ecosystem;
- development of technologies for monitoring processes within the bank, the main purpose of which is to monitor the actions of the bank's sub-departments and the work of specialists at all levels;
- improving mechanisms for collecting, analyzing and systematizing information about competitors, partners, customers, technology development and changes in the regulatory framework;
- mastering and introducing new methods of storing and protecting confidential information and banking documents, as well as improving the mechanism for providing access to such information;
- monitoring the development of technologies for protecting computers, networks and databases from hacking and infecting them with viruses, as well as from unauthorized copying, destruction or modification of their contents, with the aim of further introducing these technologies into the arsenal of the bank's information security department;
- development of technologies for design, maintenance, security and collection of

buildings, structures and bank branches, as well as ATMs and self-service terminals.

Thus, to achieve the maximum resilience of the bank to external and internal threats is possible only through the integrated development of systems for ensuring the economic security of all elements of the ecosystem as a single, well-coordinated mechanism.

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