

UNIQUE FEATURES OF THE DIGITAL FINANCIAL ECOSYSTEM'S GROWTH

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Abstract

The digital financial ecosystem has brought about revolutionary changes in the way financial transactions are carried out. However, its growth is not without unique features that require attention. Robust security measures are necessary to protect users' financial information and prevent fraud. Interoperability is crucial for different systems to work together seamlessly. Regulation is necessary to ensure that digital financial ecosystems operate within legal frameworks and protect consumers' rights. Financial literacy is also critical to enable users to understand how to use digital financial services effectively. Addressing these peculiarities is essential for the continued growth and success of digital financial ecosystems.

Key words; digital financial, Financial infrastructure, digital banks, Alibaba, BigData.

The emergence of digital financial ecosystems has revolutionized the way people transact and manage their finances. With the rapid advancement of technology, digital financial ecosystems have become more sophisticated and complex, offering a wide range of financial services to users. However, the development of digital financial ecosystems is not without its peculiarities. These peculiarities include the need for robust security measures, the importance of interoperability, the role of regulation and the need for financial literacy. This paper will explore these peculiarities in detail and provide insights into how they impact the development of digital financial ecosystems.

Issue Statement

Financial infrastructure technological revolution originates and supports corresponding developments in other areas of the economy and social life. The

advancement of digital technology results in a shift in the behavior of financial services consumers. They go from an offline setting with cash payments to an online one with non-cash settlements and remote engagement. In Russia, this tendency may be seen in the context of payment card transactions.

Over the previous decade, the proportion of "card transactions" connected to payment for goods and services has nearly quadrupled, reaching 91% of all card transactions. At the time, the number of card transactions had expanded more than tenfold, owing mostly to their usage for payment of goods and services.

The gradual abandonment of cash is driven by the expansion of payment infrastructure, increased financial knowledge among the public, and the widespread use of digitalization in all domains of activity. According to National Agency for Financial Studies report, more than half of Russians (56%) use internet banking. By 2020, the proportion of mobile banking users will have risen to 51% (from 26% in 2018). According to analysts, digital technologies have a rather high degree of penetration in the Russian financial industry.

Consumer trust is one of the factors of structural changes in the financial industry. Traditional banking services are becoming less popular among the younger generation, who prefer to use technology enterprises' services and products. According to the study, users of platform goods such as Apple, Amazon, and Alibaba will accept to get financial services from these businesses (if they give them) in the hope of receiving a comparable level of service. In many ways, it may be explained by growing the population's digital financial literacy, developing online interaction skills, boosting the use and usefulness of smartphones, and creating e-commerce.

Questions for Research

The following questions will be addressed by this research:

1. How is the banking sector changing as a result of digitalization?
2. What are the components of the digital financial ecosystem?

3.What are the essential elements for establishing and growing a digital financial ecosystem?

4.What kinds of digital financial ecosystems are there?

5.What are the potential development paths for Russia's national digital financial ecosystem?

The Goal of the Research

The study's importance is dictated by the fact that digital financing and financial accessibility targeted at poverty reduction and economic growth are becoming top priority of the governmental, business, and scientific attention. In this regard, the authors set the objective of researching the characteristics of building and developing ecosystems as a form of interaction in a digital environment and improving financial accessibility. We studied the factors of digitalization, took into account the factors of financial service digitalization, discovered benefits of digital mode of interaction in the financial market, researched the models of creating digital banks, identified elements of digital financial ecosystem and principles of its development, characterized various types of digital financial ecosystems, and predicted scenarios of development of Russian national financial ecosystem.

Research Methods

The research methodology is dictated by the complexity and diversity of the difficulties encountered, which necessitates the use of various approaches and instruments. The current study was carried out by integrating research forms, methods, and logical operations, such as analyses and synthesis, abstraction and concretization, comparison, generalization and systematization, descriptive statistics and statistical analysis methods, data analysis and interpretation in graphs and figures.

Results

As market demand for online services grows, digital financial innovations such as digital financial products, digital channels, and business models are introduced. As a result, digitalization of financial relations can be observed: increasing use of digital financial innovations alongside the consumption of financial services and management of financial resources.

New financial technologies can improve accessibility, efficacy, and safety of services, increase intuitiveness of services, and reduce transaction costs. Platform solutions for digital transactions may be used by users of various income levels without regard to time or geography.

Digital financial services significantly lower transaction costs, improve the effectiveness of risk-based pricing and risk management, reduce information asymmetry, broaden the range of financial products, and increase transparency of financial organizations' and consumers' activity. Furthermore, the use of technical advancements in inclusive finance creates competition among financial institutions, which promotes quality improvement and lowers the cost of financial goods and services.

Creating new models for expanding financial services (external agent networks, banks without a branch network), new opportunities for consumer access, and personal online control are some of the directions for developing the financial sector, which is still in a constant state of innovation search and adaptation. Financial technology have generated new opportunities for financial businesses as well as financial service users in terms of speed, flexibility, accessibility, and variety.

Financial innovations have a substantial influence on long-term development and may be used as an economic integration tool. Mobile payments have an essential role in expanding financial accessibility and are important tools for raising the standard of living, especially among the most impoverished people. At the same time, research shows that creating financial innovations is heavily reliant on economic development and financial sector prospects.

Banks are actively implementing technical service innovations and developing online and mobile banking in order to maintain their market positions. However, upgrading an old-fashioned bank's IT infrastructure and satisfying all of the regulatory authority's standards impose large expenditures, which are reflected in the cost of services. In practice, starting start-ups of fintech companies or digital banks (neobanks) is the quickest and least expensive undertaking.

1. Creating a supplementary digital brand for the traditional bank. Such a concept was employed by Singapore bank OCBC in establishing FRANK, by Spanish CaixaBank in establishing LKXZ, and by the financial entity "Otkrytie" in establishing Rokatbank and Tochka Bank.

2. Using a digital channel to resell traditional banking goods on a platform outside of the bank. Simple (USA), Moven (USA), and Talkbank (Russia) are examples of similar models.

3. Establishment of a social digital financial organization as a subsidiary of a traditional bank. This variation was chosen for the creation of Hello Bank (a subsidiary of French BNP Paribas) and Touchbank (a subsidiary of the financial conglomerate OTP conglomerate).

4. Establishing an initially independent digital bank employing purely digital channels of service, like Fidor Bank (Germany), Tangerine (Canada), Tinkoff Bank (Russia), and Modulbank (Russia) have done.

5. The establishment of a neobank by a well-known fintech firm in order to increase profits through the use of payment services and financial platforms with a large client base.

This technique may be seen in the activities of enterprises involved in e-commerce (Amazon, Alibaba), mobile communication (Megafon), and software provision (Apple).

It should be mentioned that the extent to which financial technologies are integrated determines the growth of any digital ecosystem. It can be explained by the fact that the current economy is heavily "financialized" [8], with a high level of commercialization of social ties and BigData. Financial technologies are an essential component of current ecosystems; hence, the ecosystem based on the combination of digitalization and financing should be regarded as a digital financial system.

A digital financial ecosystem is a collection of interconnected pieces that organize the functional and institutional financial interrelationships of economic issues. Some economic objects can commence its formation: state structures (governmental authorities, central banks, institutions), business structures (fintech companies, banks, corporations), non-commercial organizations, communities, and social groupings. The financial ecosystem is critical in capital allocation, achieving an agreement between depositors and investors, which is especially crucial in the event of restricted funding sources. However, it should be highlighted that financial services and apps are frequently taken for granted by customers, do not appear to be a competitive advantage, and do not stimulate the influx of new participants into the ecosystem.

The world's experience reveals that it is difficult to generate sustained rates of economic growth without creating circumstances for financial development at the nanoeconomic level. Digital financial ecosystems promote the realization of the population's resource potential in an economy comprised of human capital, entrepreneurial activity, and personal investments. A digital financial system is built on a set of principles.

The "one-stop-one-shop principle" defines the ecosystem as a unique integrated complex in which all necessary elements for the entire functioning of economic themes are concentrated in a single location. This concept enables the fulfillment of several individual requests by utilizing a single online resource

(multifunctional digital platform). The services and apps can be provided by the creator of the digital platform as well as by other partner companies. As a result of mutually beneficial collaboration, the ecosystem accumulates financial (in the first turn payment) services, Internet-trade services, public services, social interaction, research and information, and so on.

The notion of mutually beneficial collaboration («win-win» principle) states that all ecosystem members benefit from their interactions. Aside from the immediate economic consequence (profit increase and cost reduction), the owner has the chance to obtain extra information about participants, allowing him to develop the ecosystem's business model as well as goods and services. Users of the ecosystem benefit from increased financial, information, and social accessibility, faster transaction processing, more effective decision making, and cheaper transaction costs. Third-party application and service providers gain a larger customer base and a larger market for exchanging products and services.

The notion of openness stems from the ecosystem principles outlined above and indicates the possibility of integration with other services, digital goods, and data bases. In actuality, a digital environment might be closed with restricted capabilities and participation. The more open the ecosystem, the greater potential for development, especially on a worldwide scale.

The flexibility of the ecosystem concept defines options for satisfying individual requirements. Personalization of services and addressing the demands of each player are key to the digital financial ecosystem. Every actor is unique, and the ecosystem is continually adapting to specific demands. Furthermore, modern society and the institutional environment are always changing, therefore the growth of the ecosystem is dependent on its capacity to quickly adapt to changing values, technologies, and institutes.

The principles of distant identification are dictated by the characteristics of digital technologies that enable remote access to resources and interaction.

Various techniques of identification are available. At the moment, the most common are unique codes and access passwords, however in the future, the following techniques will be popular: Biometric data, telemetry, and facial recognition technologies with artificial intelligence are being actively used.

The trust principle in a digital environment is the foundation for building and growing a digital financial ecosystem. It is trust based on an individual approach and an effective security system that generates competitive advantages and chances for the development of a digital ecosystem. Economists have long emphasized trust as an important aspect in decision making. Individual trust in other financial players supports the expansion of new financial instruments, boosting the speed and functionality of financial transactions through active use of new financial technology. In the age of digital technology, new costs are formed as a result of trust, and the latter may be regarded as a specific currency.

The tendency of people to make as little efforts as possible to achieve their goals determines the simplicity principle. The ease of use of a digital platform makes it possible for customers to do research, make comparisons, and evaluate various supply options in the financial market. They thus discover themselves in a more advantageous situation based on empirical information. Risks are decreased and more effective management is achieved by streamlining financial relationships and providing intelligible financial services. The structure of the digital financial ecosystem is intricate and constantly changing.

There are several digital financial ecosystems in the modern world. The emergence of firms like Sber, Yandex, Apple, Amazon, Alibaba, and others was made possible by the ecosystem as a business model. According to the number of users, Alibaba is in the lead in the global market ecosystem. Alipay, a payment service developed by Alibaba in 2003 for use in industrial e-commerce, now has more than 1 billion users worldwide and is actively expanding internationally. According to Kapron, Z., this business, which has altered the nature of retail consumption in China, is capable of competing in

the worldwide market for digital payments. The unique characteristic of the ecosystem's growth inside the Alibaba Group is the influx of users brought on by the globalization of e-commerce platforms.

The foundation of this ecosystem is Alipay, a well-known mobile payment service that offers options for paying for products, money transfers, and group payments, including QR-code payments. The Alibaba Group's development plans, on the one hand, are centered on enhancing its functionality by offering a wide range of financial services, mobile systems for coordinating medical assistance, charity projects where donors can track how their money is being used, and other applications.

The ecosystem of Alibaba, on the other hand, is growing as a result of technological advancements like the system of detecting images with the aid of artificial intelligence that enables to evaluate the damage of the car, the cost of car repairmen, and provide details about the closest auto service centers and the cost of their services with the help of photo sent to the insurance agent.

Because of the variety of its main industries, which include telecommunications, financial services, FoodTech, e-commerce, telemedicine, education, transportation, cloud services, media and entertainment, real estate, IT-services, analytics, and others. The Russian ecosystem Sber deserves special attention, although at the time it lacks a cohesive digital platform (the "one-stop-shop approach" doesn't work). Even if many customers are unaware that DocDoc, Delivery, Okko, Citymobil, and Domclick are components of the same ecosystem, Sberb should continue to move in this way.

The national digital financial ecosystem is the collection of all active digital financial ecosystems in the nation. The continued growth of this sector in Russia will be influenced by both the active development of public organizations' (government agencies') ecologies and the rising competitiveness of private ecologies. The "Portal of State Services" and the Bank of Russia's rapid payment system are two good examples of public ecosystems. The Bank

of Russia revealed its plan to create national money in digital form—the digital ruble—in order to increase payment transactions. It demonstrates the public sector's growing involvement in the digital sphere.

Russian private digital financial ecosystems fall into two categories: general and specialized. The creation of universal ecosystems aims to provide consumers a wide range of services for addressing current and future demands in a single application. One may think of Yandex and Tinkoff as such ecosystems. A specific range of functionalities required for a certain consumer group or industry are developed by niche ecosystems. For instance, AlfaBank develops an environment for small- and medium-sized business representatives, Rosbank has focused its efforts on the viewpoint of its opinion niche - purchasing residential real estate, and Rosselkhozbank presented the ecosystem for farmers. Private ecosystems are developed to draw in customers, generate more revenue, and erect obstacles for potential new members.

In reality, all ecologies interact, advertise, and provide services through external channels. The creation of a model for the interplay of public and private ecosystems will serve as the foundation for the development of the national digital financial ecosystem for Russia.

The first option is that both public and private ecosystems operate on their own, with increased functionality and varying degrees of interpenetration. Ecosystems will rule the field of public service at that time. The benefits of this option for state administration include preserving the integrity of the public sector's data system and offering safety, control, and management of BigData. State platforms, however, will lag behind private ecosystems in this scenario in terms of functionality and technical advancement. Additionally, several ecosystems will do similar tasks.

If state structure ecosystems start to function as the biggest private ecosystems' applications, the second version may be feasible. In this variation, private ecosystems will take over providing public services. The customer will be able

to access public services whenever they want, whenever they are, without leaving the private environment. The loss of a single route for receiving information and services, as well as rising information security issues, are the key drawbacks of this option.

The world's experience demonstrates that an ecosystem will flourish and continue to expand if it is focused on the values and interests of its users. As demonstrated by Kenya's experience, the digital financial ecosystem has no potential for development if it prioritizes quick profit accumulation at the expense of the interests of consumers. It also doesn't facilitate financial accessibility, which has a negative impact on the development of the economy and society.

The benefits and prospects of the digital environment are only growing in the COVID-19 crisis. Functional and technological details make it easier to mitigate the bad effects of the social and economic difficulties brought on by the epidemic because they provide people the chance to utilize various services to address urgent issues and make purchases while maintaining social distance. In this regard, the following strategic goals for the growth of the Russian national financial ecosystem under the circumstances of a new reality are: intensifying the interchange of healthcare information; ensuring adequate liquidity for market operation and demand maintenance; inclusive financing; utilizing digital channels to pay for goods and services to minimize face-to-face interactions; supporting those without access to digital technologies when necessary; allocating financial resources to the improvement of digital infrastructure to ensure the reliable and consistent operation of digital channels of communication.

Conclusion

In summary, the digital financial ecosystem has revolutionized the way financial transactions are conducted. However, this growth has brought about unique features that require attention and action. To ensure the continued

success of digital financial ecosystems, it is essential to implement robust security measures, promote interoperability, establish proper regulation, and improve financial literacy. By addressing these peculiarities, we can guarantee the protection of users' financial information, seamless functioning of systems, adherence to legal frameworks, and efficient use of digital financial services. Ultimately, the growth of digital financial ecosystems presents a significant opportunity to promote financial inclusion and drive economic growth, but it requires careful consideration and action.

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