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International Scientific Conference**DIGITALIZATION OF FINANCIAL SERVICES: ADVANTAGES  
AND THREATS**Galina Tsvetova (a)\*  
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Administration, 33 Muraviev-Amursky St., Khabarovsk, Russia, mgalin1008@mail.ru**Abstract**

The goal of this research is to establish a comprehensive understanding of the advantages and threats associated with digital financial services for the consumer, service provider, and regulator. We review the theoretical concepts of Russian and foreign researchers that reflect various approaches to the definition of digital financial services; determine the indicators characterizing financial service digitalization; analyze the factors behind the development of digital financial services; and identify the advantages and threats associated with digital financial services. The key advantages of financial service digitalization for consumers include the faster and more comfortable rendering of the service as compared to conventional servicing. The growth of competition in financial services and their wider availability are also among the advantages of financial sector digitalization, not only for the consumer but for the regulator as well. The advantages for the providers of digital financial services are associated with a decrease in operating costs without risking the client base reduction. The main threats of financial service digitalization include the negative experience due to financial losses; the decline of trust towards the financial system; the exclusion of certain vulnerable social groups from the clientèle. We conclude that the emergence of these threats is due to the low level of digital and financial awareness of service consumers that leads to underestimating risks and taking financial decisions that can deteriorate clients' situation. This calls for a systemic action by the state, financial market players, and educational institutions to increase the financial awareness of people.

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## 1. Introduction

Digital technologies are an economic and social development driver. They attract investment, create new added value, as well as new highly productive and technology-intensive workplaces. They condition a deep transformation of market relations because they impact production, distribution, exchange, and consumption of goods. The scales and rates of digitalization are so great that experts speak of a new technological revolution that is comparable to the industrial revolution (Miroļjubova et al., 2020).

Financial service digitalization helps make financial products more available to a larger number of people. This availability is achieved through such instruments as online banking, digital wallets, and blockchain technology. The development of information technology expanded the range of opportunities for big data analysis. Nowadays, data is a resource used by all sectors of the economy to analyze and assess various processes and their results. The financial sector is one of those where this phenomenon is especially prominent (Unzueta et al., 2021).

## 2. Problem Statement

A large proportion of research works dedicated to digitalization deal with three areas: finance, marketing, and innovation management. In our work, we study digital financial services because the existing works on digitalization lack a comprehensive review of the advantages and threats associated with using digitalized financial services for the consumer, service provider, and regulator. The study of finance service digitalization includes the following:

- the review of theoretical concepts reflecting various approaches to the definition of digital financial services;
- the determination of indicators that characterize financial service digitalization;
- the identification of factors behind the development of digital financial services;
- the review of advantages and threats associated with digital financial services for consumers, service providers, and the regulator.

## 3. Research Questions

The transition of conventional financial services to the digital form stipulates the optimization of activities through the use of innovative digital technologies. According to Popova et al. (2021), the development of digital innovations in credit cooperation (load-and-savings services from credit unions) ensures the high technological intensity of banking operations.

Cheriyana and Tamilarasi (2021) claim that digitalization influenced the development of all economic sectors, primarily due to blockchain technology.

The popularity of digital financial services is explained by their high inclusiveness and the increased consumer requirements for speed, quality, and customization of financial services. The emergence of trends for further digitalization of the financial market and retail is propagated by the spread of mobile networks.

According to the results of a survey carried out by the National Agency for Financial Research (NAFI) in 2019, over 80% of Russian financial service consumers mentioned that digital channels increase

the speed and comfort of service provision and 57% believe that the digital tools for personal finance management can increase the financial awareness of a person (Bolee poloviny rossijan..., 2020).

According to the surveys carried out by the Bank of Russia in 2017–2019, the proportion of adults using remote access to their bank accounts to execute transfers increased from 32 to 55% (Cyfrovoy rubl., 2020).

According to 88% of financial company representatives and 57% of credit company customers, the use of digital tools of personal finance management helps administer funds better (Finansovye organizacii..., 2020).

Special applications for personal finance tracking improve the financial capacities of consumers because they help set up specific goals. Thus, the use of such technologies helps make rationalized decisions based on finance planning (Bunnell et al., 2021).

#### **4. Purpose of the Study**

The goal of this work is to establish a comprehensive understanding of the advantages and threats associated with digital financial services for the consumer, service provider, and regulator.

#### **5. Research Methods**

The research was carried out using the systemic approach on generalizing and classification of theoretical concepts concerning the development of digital financial services as set out in works by Russian and foreign researchers: Hausberg et al. (2019), Unzueta et al. (2021), Haddad and Hornuf (2019), Chernov (2020), Miroljubova et al. (2020).

The analysis of statistics was carried out on the materials from the Bank of Russia and the NAFI research center.

#### **6. Findings**

To assess the digitalization of the financial service sector, we can use two groups of indicators.

The first group characterizes the offer of digital financial services provided by financial institutions and tech companies. It includes the digital financial services provided by:

- credit companies (online banking, mobile apps, contactless payments);
- insurance companies (e.g., the Agentologia internet platform for distance sales of insurance products of Rosgosstrakh Insurance Company PJSC and others).

Government authority services, such as the taxpayer back office at the Federal Tax Authority of Russia, also create the offer of digital services. The Bank of Russia is currently assessing the opportunities and prospects associated with the emission of digitalized Russian national currency, i.e. the digital ruble (Osnovnye napravlenija razvitija..., 2017).

The second group of indicators characterized the demand for digital financial services, i.e. their use by consumers (clients). The demand is assessed through the sales performance indicators (payments for products or services) from online wallets and mobile apps. The demand for digital financial services can be measured indirectly through the profits and/or turnover of companies selling smartphones and computers

or providing internet connection or mobile network services. The NAFI research highlights that 56% of Russians use digital management channels for their personal finance (mobile or online banks). The share of mobile bank app users increased from 26% in 2018 to 51% in July 2020. (Bolee poloviny rossijan..., 2020).

The factors that promote the development of digital financial services include a positive business environment, the simplicity of business set-up, the protection of minority investors, and the influx of direct foreign investment. Venture capital funding and the availability of credit resources for fintech startups have a positive impact on the acceleration of digitalization rates (Haddad & Hornuf, 2019), as well as financial awareness.

The advantages of digital financial services for consumers include the following:

- the faster execution of required transactions irrespective of the financial service experience as compared to the conventional service provision methods;
- the provision of financial services reflecting the needs of consumers and promoting the accumulation of positive experiences of their use.
- the improvement of service comfort through virtualization.
- the increase in the number of financial service providers and competition, resulting in the improved quality of services offered to consumers;
- The increase of physical availability of financial services, i.e. granting the consumers who cannot visit credit company offices with an opportunity to receive services.

The increased competition in financial services and their wider availability should be seen as the advantages of financial sector digitalization for the regulator as well.

The advantages for digital financial service providers include:

- the extended opportunities for productive customer interactions through digital environments;
- the opportunity to reduce the number of offices and operating costs without risking the decrease in client base.

Digitalization promotes financial availability because it allows people to use financial services as they need them. Digital financial services help solve the problem of financial availability problem if they comply with the following principles (Ferrata, 2019):

- 1) Financial education aimed at creating awareness about financial services among wide audiences and protecting the interests of financial service users must become a priority aspect of state policies.

Banks and other financial mediators must take an active part in financial education but the state must act as a leader.

- 2) Increasing the availability of financial services promotes the creation and development of institutional and technological infrastructure for their rendering.

Innovation technologies that provide the opportunity to receive financial services remotely allow to eliminate physical obstacles like travel distances and costs necessary to reach service providers.

- 3) Protecting the interests of financial service users from fraudsters and unauthorized access to personal data through technical solutions, legal regulation, and raising the people's awareness of the potential risks associated with using digital financial services.

4) The establishment of a legal framework to protect the subjects of financial relations (financial service providers and consumers) and promote the emergence of new financial market players and competition.

The most popular financial services include money transfers, executing obligatory payments, applying for certificates and excerpts, and making credit/mortgage payments. These services are often received through the back office or a mobile app. Users understand the risks associated with digital channels: 77% believe that they make financial operations less meaningful because participants do not see the real cash.

A third of cardholders in Russia (31%) encountered fraud in the form of attempts to retrieve sensitive card data on the phone or requests to provide data for a money transfer (e.g. fictitious payments to help friends or claim inexistent rewards). Besides, cardholders received messages or letters with viruses or malicious links, confirmation or cancellation messages for card transactions they never performed. Even though most people did not lose the money as a result of fraudulent attempts, every one in four people (27%) are in the risk group: they are ready to give strangers their sensitive bank card data (27% derzhatelye bankovskikh kart., 2020).

The spread of digital finance technologies in the context of mass transition to the online mode creates the threats that lead to the following:

- financial losses;
- the decline of trust towards the financial system (due to the negative experience);
- the increase in household debt (due to the simplicity of receiving services);
- the exclusion of specific vulnerable social groups from the financial system due to their inability to use digital channels because they do not have smartphones or computers (as well as access to the internet or necessary knowledge and experience);
- a higher vulnerability of consumers against third-party activities.

The emergence of these threats is due to the low level of digital and financial awareness that leads to underestimating risks and taking financial decisions that can deteriorate consumers' situation. The perceived 'virtuality' of monetary funds combined with the simplicity of financial operations (just a few clicks) can lead to an increase in mistakes and wrong actions with negative financial results.

The increased role of large companies manipulating consumer data and providing digital services promotes potential threats, which leads to an increase in consumer vulnerability against the unethical practices of companies. These practices can take various forms:

- 'swindling out' users' personal and sensitive data through emails, social media, or text messages, e.g. logins and passwords for accessing a back office, or bank card numbers (phishing);
- redirecting users to a fictitious web-page to obtain their personal data or effect payment to the fraudsters' account instead of the real service from the product provider (pharming);
- installing spyware that transmits personal data from a computer or a phone to the hacker;
- hacking, which stands for stealing personal data from social media accounts or seizing the account;
- organizing pyramid scams disguised as innovative financial services (crowdfunding platforms, blockchain and cryptocurrency investment, etc).

## 7. Conclusion

Despite the threats associated with the use of digital financial services, especially for the consumers, the spread of financial technologies across the entire Russian Federation is very high.

Apart from legal regulation of digital financial service rendering, the reduction of the negative impacts from these threats requires the implementation of systemic actions aimed at increasing financial awareness of the people to be taken by the state, financial market players, and educational institutions.

Therefore, the training of financial service employees mostly in information technology along with the reduction of finance and economy graduates, or the decrease in the quality of financial subject training due to the reduction of classroom hours present a threat to the efficient innovative and competitive sustainable development of digital economy because it may lead to an imbalance in providing the market with finance and IT experts (Chernov, 2020).

The prospects of further research lie in the implementation methods for actions to mitigate the adverse impacts of the threats mention and ensure the comprehensive solution of problems that result in the underestimation of risks and taking financial decisions that can deteriorate the situation of digital financial service consumers. The state must play a special role in the implementation of these actions. It must promote the establishment of a positive environment for the development and spread of innovative solutions and exercise control to protect the interests of digital financial service users.

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