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# Digital transformation of Russian banking institutions: assessments and prospects

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**Abstract.** The area of banks activity goes far beyond the borders of the banking sector and increasingly penetrates the functioning of the whole variety of material and non-material services. Analysis of key areas and assessment of the capabilities of domestic banking institutions in the process of transition to a new business model of “digital” Bank, show that the characteristic trends are: focus on remote services; competition for banking products of innovative digital solutions; investing in artificial intelligence technologies and reducing cyber risks. The Bank, like any other financial service provider, should create financial processing capabilities that can be integrated into customer interaction systems. Major players in the digital financial economy are already taking initial steps in this direction in form of creating omnichannel platform, a modern ecosystem of remote servicing of corporate clients, the integration of banking business with social networks, the accelerated introduction of blockchain technologies in customer relations with banks. However, these innovations are fragmented and reproduced only by individual banking institutions. On the example of Sberbank and Gazprombank innovations, technological solutions that have become sufficiently operational and replicated in the activities of business partners are characterized. The study contains estimates and reference directions in system adaptation of banks to new requirements and features of the transformation traditional business of universal credit institutions in to the new model forms of digital Bank with corporate-investment content.

## 1. Introduction

The banking sector digitalization is inextricably linked with the development of the Internet and IT technologies. This phenomenon is typical for the countries of the first five and for developing countries, the numerous analytical reviews and basic research evidenced. S. Carbo-Valverde, C. Kahn, in particular analyzing the effectiveness of the US and European payment systems, emphasize the role of online banking products and do not see threat to them from the cryptocurrency [1] A. Omarini considering the digital transformation of banking services, justifies the place New technology platforms in the Mediterranean countries. [2], T. Akhisar, K. Tunay, emphasize the growing effectiveness of electronic



banking services [3]. A study conducted by F. Liebana-Cabanillas in Spain shows the growing businesses and people interest in this segment [4]. Electronic banking is actively developing in Asia [5] Africa and the Middle East [6].

The precursors to the official launch of digital technologies in Russia were objectively determined by the tremendous changes in the industry of world powers, focused on the intellectualization of production, a high level of automation, a global network space. According to St. Petersburg scientists like A. V. Babkin, D. D. Burkaltsev, D. G. Kosten, Yu. N. Vorobyov, the causal relationships of the breakthrough development of digital technologies are due to a paradigm shift in development in which information acquires a characteristic resource in social and economic processes [7]. N. T. Savina emphasizes that socio-economic relations are increasingly moving to the network space [8]. The study of D. N. Gridjuk notes that the environment imposes its own characteristics on institutional structure of society, including the sphere of finance [9]. The implementation of the conceptual solutions into banking industry in the digital format is the new business models with such key factors as investing in high-performance artificial intelligence technologies and in the technology of reducing cyber risks, competition for digital banking products solution, the use of flexible information and communication systems compatible with a wide range of components – data sources, financial instruments, management mechanisms [10, 11]. The article reveals the empirical aspects of the formation of an innovative model of a modern Russian bank, objectively included in digitalization processes, global information and communication financial technologies and the creation of new generation banking products. The channels on which fundamental changes are being implemented in the light of the advantages of the digital economy and the characteristic trends of these processes are presented.

The purpose of the study is to assess the trends in modern banking industry and disclosure key technological and information and communication trends in the strategies of new business models of the “digital” banking Institute.

## **2. Research methods**

General scientific methods of cognition are used – dialectical, systematic approach; classical methods of logic: analysis, studies of cause-effect relationships, empirical generalization

## **3. Obtained result**

The ideology laid in the program “Digital economy of the Russian Federation” is based on the development and application of modern information and communication technologies in various sectors and spheres of the national economic system. Transformations in banking business, due to advantages of the digital economy, are strategically carried out at three interrelated levels:

1. contact zones of activity where direct interaction of specific subjects-actors of financial transactions is carried out;
2. platforms and technologies for effective customer-oriented service, where competencies for business development and innovative products are formed: big data; artificial intelligence; distributed registry systems; robotics and sensor components; wireless, virtual and augmented reality technologies;
3. environment that creates conditions for the development of platforms and technologies and covers regulatory, information infrastructure, personnel, security [12, 13].

The main result of this innovative modernization of banking sector of national economy should be the transition to a new business model of high-tech digital Institute, operating in the global market and forming around a system of “start-UPS”. Analysis of key aspects and prerequisites of innovation reformatting business architecture indicate the characteristic trends: focus on remote service; competition for banking products, innovative digital solutions; investing in artificial intelligence technologies and reducing cyber risks [14, 15]. The Bank, like other financial services provider, acts as a financial processing, creating conditions and opportunities integrated into the system of interaction with various customers and partners.

The ranking of experts' assessments tracking the introduction of new technologies and innovative products and the results of the analytical review of the Russian banking sector in key areas of financial technologies allowed to identify the most popular products and services for users [16].

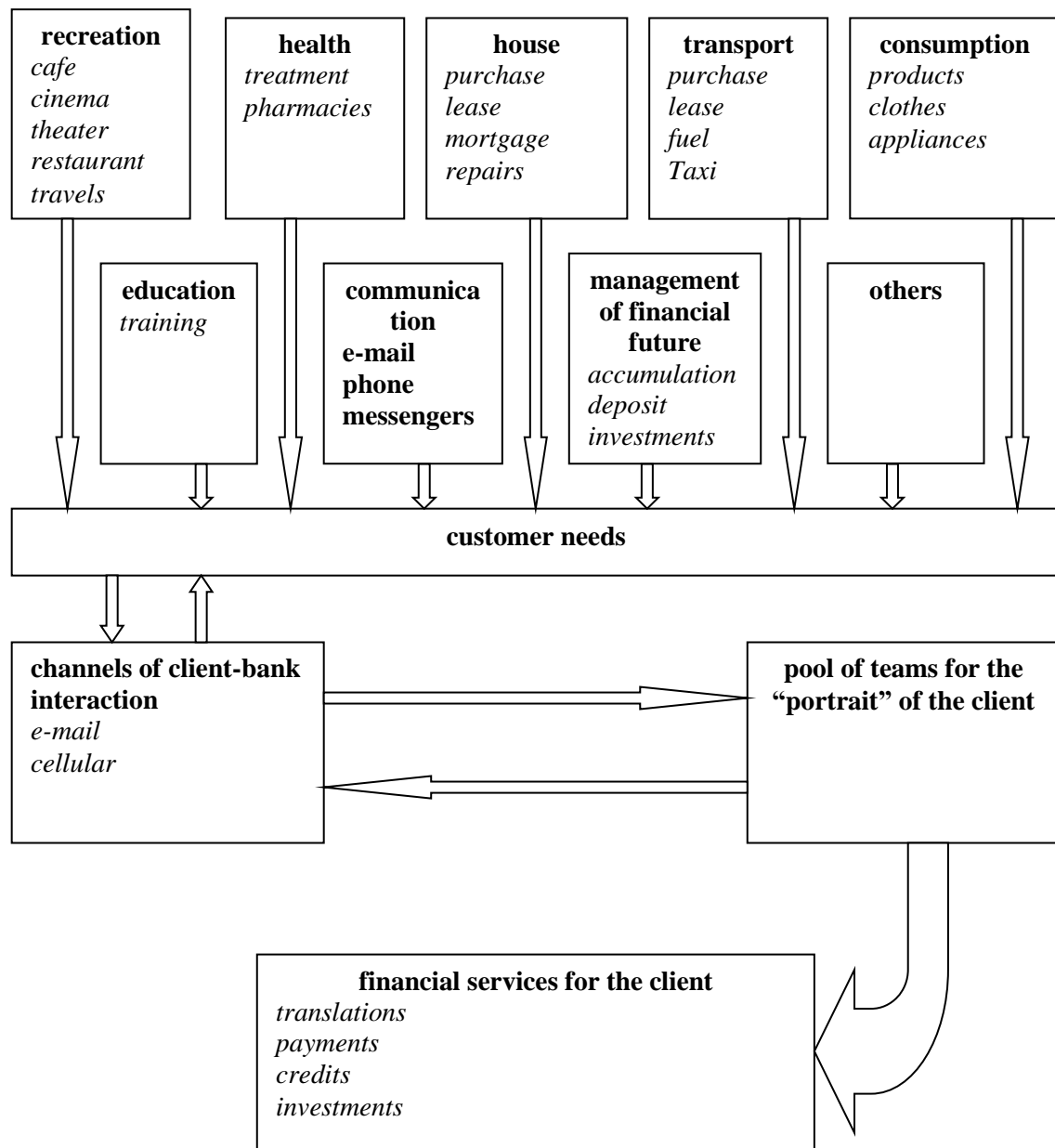
- payments and transfers: online payment service, online transfers service, P2P, currency exchange services, B2B payments and transfers, cash cloud, smart terminal, services mass payments, digital wallet;
- financing: P2p consumer lending, P2p business lending, crowdfunding;
- capital management: robo-advising, programs and applications for financial planning, social trading, algorithmic exchange trading, targeted savings services;
- technologies: biometric identification, voice, gamification, contactless technologies; integration with social networks.

Identification of obtained characteristics with the classic “portrait” of universal banks, which are still the majority of domestic credit institutions, allows us to state with confidence the emergence and progressive development of a new business model with pronounced signs of the “corporate investment Bank”. The distinctive features of the new model are the features of object-subject orientation and innovative technological solutions systems of organization and management. Policy of implementing the model of such Bank proceeds from the understanding that the area of operation of the credit institution goes far beyond the boundaries of the banking sector and increasingly interpenetrates into the diversity of tangible and intangible services. A certain parallel in understanding of the general and special factor in the development of digitalization in banking sector can be compared with the practice of business structures in context of their conjugation with the adaptation to the digital economy (authors O.V. Chistyakov and A.V. Babkin) [17, 18]. The authors identify distinctive features of entrepreneurship due to the use of digital technologies: a high level of automation; electronic internal document management; accounting and management accounting systems; electronic data storage; the presence of corporate social networks [17]. The features that should be taken into account by banks in the system units of regulation and coordination become obvious; a set of tools, types and forms of banking products, services, etc. The influence of such factors on the modification architecture of relations in the financial markets is significant. We took this message into account and presented our position on formation of the structure of the product range, which is the basis of successful business in the new design of the Bank. The key solutions are the emphasis on modernized investment products and services such as corporate lending, including trade finance, documentary business, investment banking, trading with securities, own investment projects in client's business by direct or portfolio investments, providing services of a financial advisor and consultant [19, 20]. This practice is already embodied in the activities of major players in banking sector – Sberbank, Gazprombank, Vnesheconombank, VTB group of banks. According to experts, Sberbank's trade and investment business is one of the largest market makers in the Russian and international markets for foreign exchange transactions and derivatives; key products of the foreign exchange market – short conversion, foreign exchange forwards, swaps, individual currency hedging solutions, are available to customers and counterparties through its own electronic trading system [16].

A review of modern banking innovations used by large banking institutions and the grouping of their types from the standpoint of utility, accessibility, demand, choice of a convenient communication channel for the client laid the basis for developing conceptual approaches and substantiating strategies for further digitalization of banking business. One of the new technological solutions of Gazprombank, Sberbank, VTB-24 was the introduction omnichannel platform that allows to communicate with customers on the principles of partnership. The client choosing a communication channel with the Bank, as a rule, tries to focus as much as possible on usual information channels: mail, phone, “VKontakte”, “Facebook”, WhatsApp, “Viber”, “Instagram”, “Telegram”, “Classmates”. This technological “preferences” for Bank client included in the omni-channel customer-centric service option. Through the synthesis of needs for specific types of services, products and customer-friendly means and communication channels, a personalized pool of information is formed as a platform for managing complex sales in real time. The more the Bank has detailed business information about customers and

contractors, the more substantial offers on market, the targeting of customized, the more loyal is the position of real and potential customers. The criterion of success for the client lies in the ability to offer the so-called “perfect seamless service”. It means the imperceptible transition from one point of interaction with the Bank to another – whether it refers to actions on the website, contact through SMS and/or email, communication to the call center or social network.

The difference between omnichannel and multichannel is in the continuous communication of channels and ability to create a portrait of the buyer on the basis of his contacts with the company (figure 1).



**Figure 1.** Scheme of the omnichannel platform of universal “digital” bank. (Source: Compiled by the authors by source: [10, 12, 15, 16, 23].)

The technological component takes an increasing weight in a variety of criteria, which must correspond to a bank that meets the challenges of the current time and is able to compete with large powerful technology corporations [21, 22]. And this ideology does not contradict the general strategic mood of the corporate banking community, but more and more coordinates the credit institutions in favor of a decision in the digitalization of their business.

Along with emerging intellectual technologies, innovative virtual products, etc., front-end network services remain very popular, that is, services in the form of “offline infrastructure”, when a client needs, for objective and subjective reasons, visualization and consultation directly with a specialist for making a business decision. Without discarding such type of client, credit organizations are also seeking options for optimizing the operation of digital channels and front-end networks, including using the technological capabilities of the omnichannel platform. So Sberbank, applying omnichannel model features, sets standards for checking accounts and payments from mobile applications, conducting current analysis of company's own expenses, other.

In the system of corporate remote banking services, the first strategically important stage has been passed – the centralization of existing systems. According to experts, this will be the basis for creating a modern ecosystem of remote service to corporate customers. Today, operations on ruble payment orders, account statements of customers, import / export payments, payment requests / collection orders, withdrawal of documents, currency payments are performed through the corporate remote banking services.

In this article, we present the readiness of the leaders of the domestic banking business to systemic immersion in the digital economy. Socially significant forms and technologies organization digital bank model came into view, which ultimately predetermined the understanding and direction of constructive empirical solutions in the field of consistent transformation of economically and socially significant sphere of national economy.

#### **4. Conclusions**

The results of survey show that even on the initial results of the transformation of banking business into the digital economy, it can be hypothetically asserted about the high activation of technological modeling, normalization of customer-oriented services, improvement and optimization of managerial processes. In general, the digital financial sphere positively influences the markets of banking products, services, instruments, the system of relations with customers and counterparties, partners and competitors. The development and use of modern banking innovations contribute significantly to improving the efficiency of credit institutions, allows stimulating the creation of new and improved processes in offered banking products and services which can contribute to the overall development of information technology and ensure sustainable economic growth rates in other sectors of the economy.

#### **5. Directions of further research**

Scientific understanding of strategic steps of banking business in further digitalization and new technological solutions in the intellectualization of productive labor, with the need to highlight the study of fundamentally important aspects of systemic modernization, coordinated in organizational, institutional, economic, management frameworks. In this regard, the next steps in the disclosure of the problem will be the identification of factors and conditions for modernization of models of universal banks that are not currently leading the digital innovation market. In structure of domestic banking sector, their share is significant. Priorities need to be addressed for changes in mechanisms for preventive risk management that are reinforced with sustained periodicity of cyberattacks, the use of software products innovative digital format, meeting the norm of standardization and protocol conclusions.

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