

Modern Organizational and Technological Trends in the Financial Sector of the Economy

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Abstract—The article analyzes the key organizational and technological changes and trends occurring in the financial sector of the economy under the influence of active introduction of modern technologies. The author reveals a logical connection between the influence of radical changes in the productive forces in accordance with the laws of dialectical development on the critical transformations and reconstruction of economic relations, including international economic relations and, as a consequence, the extremely changeable global world order. The critical importance of timely transition to new technologies and parallel structural reforms, including changes in the organizational and technological structure of the economy and enterprises is observed. The key role in improving the efficiency of the country's economy as a whole, the company's performance, its success in increasing the market share regardless of the scope of activity, complex technological transformation, use of the latest technologies in activities and certain organizational changes in the organizational structure of management. The key directions of such transformations in the conditions of digitalization of economy are formulated. The peculiarities of building ecosystems as a fundamentally new organizational form of business management in the digital economy are considered.

Keywords—*technological paradigm, digital technologies, ecosystem, organizational structure.*

I. INTRODUCTION

In the 21st century, the transition of the world's leading economies to a new sixth technological paradigm (TP) marks not only huge quantitative but also radical qualitative changes in almost all spheres of social life, due to active introduction of technologies that make up the core of the new TP [1,2]. The wide introduction of digital technologies affected almost all socio-economic processes and facilities, including infrastructure, reproduction (development, creation, production, introduction of a qualitatively different level of products to the market, changes in distribution) and social processes.

Digital technologies in the historically shortest time (5-10 years) have become a key driver of the development in social and economic processes, a tool and means of providing significantly more comfortable conditions of service, erasing time and spatial restrictions, reducing risks, developing fundamentally new products and opportunities, qualitative transformation of service. Depending on the specifics of business processes in a particular area, the specifics of the

implemented projects and products, Big Data, artificial intelligence, distributed data registry, Computer-Assisted Teaching have become widespread; mobile applications, chatbots, 3D printing and others have turned to be very popular.

The experience of the countries and leading companies occupying leading positions in top lists ten years ago (Japan, Kodak, Panasonic, Nokia, etc.) and absence of such companies in the same list being leaders today (PRC, Scandinavia Countries, Google, Facebook, Amazon, Alibaba, Apple, etc.) clearly demonstrates the vital importance of business reconstruction and timely transition to the latest technological basis, making appropriate, complementary and conducive to technological changes, institutional changes to the structure of the national economy.

In the Guidelines for the financial market development in 2019-2021, the Bank of Russia defined creation of conditions for the development of the financial industry as a priority goal, and digitalization as the most important driver of the financial market development, for creating more convenient and safe financial products and services.

Radical transformation of business processes, of customer service principles, of interaction with suppliers, buyers, partners, supervisory and regulatory authorities; rather significant increase in quantity and speed of information processing, of transaction performance rate based on wide application of platform solutions and innovative digital tools led to increased availability of products and services, to variety growth, to increase in various aspects of availability (temporary, geographical, territorial, price, information, communication, etc.), to reduction of the number of intermediaries and, finally, to transition to client centricity as a decisive principle of the companies work - a key factor in achieving the target results of the enterprise, regardless of the sphere of activity, to significant cost reduction, to efficiency increase.

Fundamental changes in the productive forces in accordance with the laws of dialectical development bring a critical transformation and reconstruction of economic relations, including international economic relations and, as a result, a critically changing global world order, escalation of tensions in international relations and contacts [3]. Transformation occurs in business models and organizational and technological framework, including organizational structure of management in economy and

business. The ongoing structural changes are best suited to the technological innovations being introduced and, as a result, producers and consumers have got qualitatively new opportunities [4,5].

For the participants of the financial market, the introduction of modern digital technologies means a significant reduction in costs, a possibility of adapting financial products and services to the needs of clients by more efficient processing of the growing volume of accumulated and analyzed data according to exponential dependence. In addition, the introduction of new financial technologies will lead to changes in existing business models, increase competition, financial products quality improvement, and will provide for significant reduction of the number of intermediaries.

II. METHODS

The theoretical and methodological basis of this research is the methodology of systemic cognition and transformation of socio-economic systems, general systems theory, scientific management. The study used popular scientific methods of comparative, structural, functional and statistical analysis, methods of logical, systemic, economic and mathematical modeling, expert assessments, classification and groupings based on the application of selective and mass approaches in statistical observation.

III. RESULTS

The research has identified the key role in improving the efficiency of the economy as a whole, in achieving the target efficiency and company efficiency, its success in increasing the market share regardless of the sphere of activity, complex technological transformation, use of the latest technologies in the activity and carrying out certain organizational changes in the organizational structure of management. Key directions of economic transformation in conditions of digitalization are formulated. The peculiarities of building ecosystems as a fundamentally new organizational form of business management in the digital economy are considered.

The experience of structural transformation in leading companies and countries clearly demonstrates that an appropriate organizational structure that promotes further economic development has the same determinative effect on achieving results as individual companies (as a case we will describe the work of well-known, by experts, diverse in terms of number of employees and number of participants of the Russian companies groups such as Tinkoff, Sberbank, VTB, Alfa, etc.), as well as economies of the following countries (Denmark, Switzerland, Scandinavia, USA, PRC), as advanced technology.

The result of the ongoing changes was a dramatic increase in the efficiency of these economic entities in the context of fairly low global economic growth rates [6]. In cases of complex and consistent implementation of digital technologies, experts record a next lower order reduction in costs and a manyfold increase in sales.

In general, the introduction of digital technology contributes to:

- increase in competitiveness of the country and companies;
- improve the level and quality of life;

- improvement of the educational level of citizens;
- growth in labor productivity;
- reduction of production costs;
- creation of new jobs;
- reduction of fraud, crime, corruption;
- creation of the conditions for neutralizing the shadow economy.

The decisive driving force of digitalization is the transition to a qualitatively and quantitatively different level of accumulation, processing speed and analysis of data and information, as a result, the emergence of new opportunities to optimize production processes, production space and commercial activities based on a more complete and consistent application of the principles of lean manufacturing, management of financial performance on a new technological base [7]. The key production factor in the digital economy (digital data, accumulation and processing of enormous aggregation of information) is an exponential increase in volumes compared to the pre-digital period. Application and processing of the findings (using technologies based on Big Data, use of artificial intelligence) allows us, in comparison with traditional forms of management, to increase the efficiency and effectiveness of various types of activities, decision-making, to reduce by an order the transaction costs of traditional industries, technologies, equipment, sales, storage, delivery of products.

The main risks in the activities of economic entities, along with geopolitical and macroeconomic ones, remain the risks of imperfection and delay in introducing amendments to the legislation, risks of making unreasonable management, including non-economic, external to business, administrative decisions (for example, court decisions), cybercrime, growth of cybernetic and operational risks and threats associated with the problem of protecting personal data; 'digital slavery' (using data on millions of people to influence their behavior); increased unemployment in the labor market, increased risks of the disappearance of certain professions and industries; 'Digital divide' (a gap in digital education, in terms of access to digital services, products, technologies and, as a result, a gap in the level of well-being of people in one country or in different countries).

In the financial sector, dramatic changes are taking place in all the main areas of strategic management of financial institutions: marketing, risks, human resources, safety, financial technologies and business models. Here are the most effective examples of organizational and technological innovations that are currently used by leading companies that facilitate the launch on the market and formation of offers of marketable modern products and, consequently, achievement of results that best meet the expectations of both consumers and management and shareholders.

1) Architecture transformation and marketing technologies: mass and group market segments have been replaced by personalization of consumers and products.

2) Transformation of technologies and procedures for risk assessment based on mass continuous monitoring, both at the preliminary stage of checking the reliability of buyers,

contractors, partners, and at the stage of subsequent transaction support.

3) Transformation of business building technologies, business models, logistics and geo-marketing.

4) Virtualization, construction detailing and permanent control of business processes.

The abovementioned innovations allow us to provide a significant increase in business efficiency based on the rationalization and optimization of the use of economic resources (production, commercial, material, financial, human resources, information, technological, etc.). The changes are very distinctive in business processes observed in the insurance sector, which traditionally was considered by experts exclusively as case-based financial activities with a clear division into cost centers (raising funds through the implementation of financial products created on the basis of insurance policies, as well as processes related to service support and loss settlement) and profit centers (placement of internal, including accumulated reserves, and borrowed funds in investments).

The introduction of modern technologies has allowed to significantly detail, reconstruct and control business processes, accumulate and operate with significant financial statistics and analytics, which allowed (this is clearly shown in the work of leading companies on the insurance market of the Russian Federation) to personalize financial products and policyholders, make a more reliable assessment of business risks, resist fraud and abuse, optimize logistics, centralize the management of business processes, rationalize allocation of business units in the areas of recruitment, placement and customer service support or, on the basis of these structural units, to establish full-fledged independent profit centers, or to a large extent make their operation self-sustaining.

As a result, during the current year there has happened a significant reduction in tariffs (for a number of products, for example, for certain products of voluntary vehicle insurance a two-fold decrease in insurance premiums was recorded) for products of both compulsory and voluntary types of insurance, the quality of service for policyholders has improved loss ratio and operational profitability of insurance products are, at a stable acceptable level.

Online service and online products are developing rapidly and are structurally crowding out products and services offline. Those companies that were the first to make investments in development and offered the market a complete line of digital products, the possibility of remote sales, maintenance, support and settlement of losses. They also transformed business processes and organizational structure, worked with consumers to adapt to new products, and already receive significant technological rents and, critically, a significantly higher and more promising competitive position in the financial market.

Similar changes with the peculiarities inherent in a particular business occur in banking and other segments of the financial market, in the industrial sector, agriculture, the defense sector, medicine, education, and public administration.

In addition, efficient and high-quality processing of accumulated information allows taking a radical step towards creating financial and economic ecosystems, introduce a

fundamentally different approach to business organization, realize the possibility of introducing transformations not only into the technological structure of reproduction but also influence consumer behavior and create a new culture economic relations, a new quality of service for economic entities [8].

Modern ecosystems are a reflection of a fundamentally new approach to organizing the economy and business, based on offering the consumer a single place - the entry point (in the form of remote access to the marketplace) - in order to gain access on the offering market to the best final target product that meets the basic needs of the client: purchase of an apartment, of a car, of other products, their protection, restoration repair and reconstruction; employment, organization of leisure, recreation, sports; healthy lifestyle, health restoration and treatment; getting an education; free cash management, participation in management, etc.

The widespread introduction of ecosystems in the financial sector of the Russian Federation takes place on the basis of leading financial organizations (for example, Sberbank, VTB), which have the largest volume and quality of commercial information on economic entities, their personal data, financial position, direction, size and dynamics of expenses, etc.

Creating ecosystems, the organization of commodity marketing and distribution of products fundamentally changes, which allows for increasing the performance efficiency, in addition, in the context of increased competition, the quality of products and services is significantly increased.

Fundamental transformations occur in the organizational matrix of business structures. Significant changes are expected in the Russian economy in the very near future (currently in the Russian Federation these changes are somewhat behind the cited economies of foreign countries, but have high rates of implementation dynamics). The essence of the announced changes is a significant increase in the role of small business in ensuring both employment of the population and in the formation of GDP. According to expert estimates, the share of small business at the beginning of 2019 in Russia's GDP is no more than 25%, while in the leading countries which introduce advanced technologies, it is at the level of 50-70% [9]. The same can be said about the share of income from credit financing to small and medium-sized businesses in the structure of banking sector revenues for the six months of this year:

- the banking sector of the Russian Federation - 15%;
- Japan's banking sector 45%.

This year, the Government of the Russian Federation and the Bank of Russia adopted and announced decisions aimed at overcoming the current situation: a dramatic decrease in the key rate, increased credit financing to the real sector of the economy at the expense of the National Welfare Fund, the implementation of national projects, etc.

The hierarchical mechanistic organizational structures of companies in the new economy are being replaced by flexible, adaptive matrix organizational structures of management [10]. The most widespread are network, modular, virtual, atomistic structures. Large companies give way to network-based modular and atomic organizational structures specializing in performing the following basic business functions:

- companies contacting customers, accumulating customer information and analyzing current and future customer requirements for products and services;
- free cash and capital management companies;
- companies - design bureaus, creative laboratories holding patents, trademarks, other secrets and rights to produce products and services;
- Network financial intermediaries - entry points for economic entities providing a market place. The key competence of such companies is trust of consumers and manufacturers, since, as a rule, they are controlled by supervisory authorities;
- manufacturing companies - assembly sites, workshops and factories that carry out direct production, assembly of products ordered by client companies;
- outsourcing service companies that perform universal functions that are not directly related to the products and services offered to the market by the main business: product transportation, personnel selection, adaptation and development, software training and improvement, accounting and tax accounting, cleaning, administrative and business operations, and others.

IV. CONCLUSION

The key trends of economic changes in the economy associated with technological transformations in business processes and organizational structures considered in the article, if implemented sequentially, in the very near future will lead to key changes in the economic landscape and a significant increase in the efficiency of the Russian economy, and access to a qualitatively new level of sustainable development.

In the financial sector, the integrated implementation of digital technologies will increase the accessibility and convenience of using financial products and services, significantly reduce their price and improve quality, create new products, and respond to modern challenges facing the financial sector and the economy.

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