Ovcharenko Anastasiia Sergeevna

PhD in Law, Assistant Professor, Financial Law Department of Yaroslav Mudryi National Law University,

THE ROLE OF INDUSTRY 4.0 IN THE ODERN "FINANCIAL ARCHITECTURE" OF SUPERVISION IN EUROPE

The research examines the characteristics and indicators of the innovative concept of "Industry 4.0" in the context of the latest trends in financial supervision in Europe. The author identifies the principles characterizing the modern "financial architecture" of supervision in Europe. Particular attention is paid to the characterization of open banking as a fundamental international economic concept.

Keywords: Industry 4.0, open banking, financial supervision, Fintex, payment security.

One of the key markers of development is the innovative concept of Industry 4.0, which was proposed by German experts in 2013. The term Industry 4.0 has traditionally been used to describe one of the main stages of the Fourth Industrial Revolution - full automation of production. Industry 4.0 is simply a combination of the three previous eras in production (mechanical production, mass production), but at the same time, the new concept opens up great opportunities and makes industry more efficient than ever before. The term Industry 4.0 is often used synonymously with the concept of the fourth industrial revolution. It is characterized by even greater automation, the unification of the physical and digital worlds using cyber-physical systems enabled by the transition from a centralized industrial control system to one where smart products determine production stages, closed data models and control systems, and product personalization.

This fourth revolution is fundamentally different from the previous three, which were characterised mainly by advances in technology. In this fourth revolution, we are facing a range of new technologies that combine the physical, digital and biological worlds. These new technologies will impact all disciplines, economies and industries, and even challenge our ideas about what it means to be human.

The main indicators of this industry are process automation, logistics and production rationalization. For Industry 4.0, the industrial Internet of Things is the key format. It allows real economy objects to interact beyond the human factor. It is about telecommunication systems for autonomous devices that exchange information based on production processes. The digitalization of objects integrates them into national and international chains and thus provides higher added value.

Over the past few years, the situation in the payments sector has undergone dramatic changes. The use of advanced technologies by both traditional and new financial service providers, including financial technology companies, major IT companies, and alternative banks, has led to increased competition and the overall intensity of innovation in the EU [1].

The principles that characterize the modern "financial architecture" of supervision in Europe include decentralization, weakening of state control over banking activities, cooperation, segmentation, and liberalization of banking capital flows. In addition, the development of technological innovations, open banking, and the impact of Industry 4.0 trends play an important role. The introduction of technological, information and financial innovations is the key to the quality development of modern banking. Such innovations transform the vast majority of business processes of banks, diversify the structure of banking services and products, promote integration and development of technologies, and, as a result, meet customer needs. There is an active exchange of financial products, services, technologies, and capital. Such trends have an undoubted impact on the banking sector, which is characterized by the processes of capitalization of bank capital, transnationalization, increasing the choice of territorial placement of capital, universalization of banking business, consolidation of banking operations, increasing innovation and individualization of banking services, provision of non-traditional banking services, development of investment and digital banking as conditions for ensuring competitiveness in the business environment of Fintex development.

Within the framework of open finance mechanisms, clients represented by government agencies, corporations and individuals have the opportunity to choose

between numerous products that go beyond the services traditionally provided by banks. Over the past ten years, open banking has become one of the fundamental international economic concepts. The formation of the open banking system, whose dynamics are determined by various driving forces, is based mainly on legal obligations and initiatives that are developed under the influence of market factors.

The green light for open banking in Europe was given by the Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/ EU [2].

This Directive replaced the previous Payment Services Directive (2007/64/EC) and ensured the creation of a single market for payments (i.e. cashless payments, direct debit transactions, card payments), and laid down the legal basis for the formation of a single euro payment area. The purpose of its adoption was to improve the security of payments, strengthen consumer protection, stimulate innovation and consumerism, stimulate innovation and competition, and create a level playing field, including conditions for all participants, including new entrants. Under the revised directive, account service providers are now authorized to share certain data from their customers' online bank accounts with third-party service providers, provided that the customer has given their consent.

In addition to enabling new business models in the markets, the Payment Services Directive has strengthened the secure data transfer protocols that payment service providers must use for electronic transactions. The latter use a strict customer authentication method whenever a payer requests online access to his or her current account, initiates an electronic payment, or performs any action remotely that may involve a risk of payment fraud or other improper activities.

Open finance-related services contribute to value creation by enabling the collection of data from different industries, which in turn helps to expand the total amount of information available on all segments of value chains. This helps to improve data quality and reduces the likelihood of human error. In addition,

advanced technologies increase the efficiency of service provision by enabling real-time service delivery, which contributes to higher customer service and improved user experience, facilitating payments at all stages of the value chain and reducing the time spent on each transaction. Data exchange is a key enabler of these new services, but all service providers must take into account the limitations associated with personal data privacy and cybersecurity risks to ensure that the interests of customers using these new capabilities are protected.

REFERENCES

1. Report of United Nations Economic Commission for Europe (The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) ECE/TRADE/C/CEFACT/2022/14. URL: https://unece.org/trade/cefact/uncefact-28th-plenary.

2. Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/ EU. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015L2366.