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## DEVELOPMENT OF PUBLIC MANAGEMENT MECHANISMS IN THE CONTEXT OF IMPLEMENTATION OF WORLD PRACTICE OF FINTECH PRODUCTS IN UKRAINE

*Podolchak Nazar  
Lukashevskaya Ulyana  
Lviv Polytechnic National University*

## ROZWÓJ MECHANIZMÓW ZARZĄDZANIA PUBLICZNEGO W KONTEKŚCIE REALIZACJI PRAKTYKI ŚWIATOWEJ PRODUKTÓW FINTECH NA UKRAINIE

**Abstract.** The article theoretically summarizes the development of public management mechanisms in the context of the introduction of world practice of fintech products in Ukraine. On the basis of analysis, generalization and systematization of scientific sources the tendencies of development of fintech are covered.

Fintech is the basis of various financial services, in particular, such as money transfers, settlements, payment for goods and services, accumulation of funds needed to start a business etc. Fintech is a tool that helps companies, business owners and consumers better manage their financial transactions, processes and lives, using specialized software and algorithms that are installed on computers, tablets, smartphones and other multimedia devices.

With the development of fintech and the growth of its influence, the necessity for regulatory supervision by the state increases, sensitive financial data needs protection. However, such supervision should not hinder the development of fintech and the achievement of consumer needs.

Ukrainian society is open to the introduction of fintech. The NBU is promoting many important initiatives. But, unfortunately, many issues need the legislation changes in the Verkhovna Rada. Ukrainian legislation regarding the collection, storage and processing of personal data of clients is similar to the GDPR norms used in most European countries. However, technology is evolving rapidly, and quite often, almost always, the state does not have time to make the necessary adjustments.

Despite the significant potential of Ukraine in the field of fintech today, it is necessary: - to develop a system of regulations on the fintech field; - to clearly identify state institutions that will be responsible for the development of fintech; - to create relevant departments in leading ministries; - to form a strategy and program of cooperation with financial investors.

Artykuł teoretycznie podsumowuje rozwój mechanizmów zarządzania publicznego w kontekście wprowadzenia światowej praktyki produktów fintech na Ukrainie. Na podstawie analizy, uogólnienia i systematyzacji źródeł naukowych uwzględniono tendencje rozwoju fintechu.

Fintech stanowi podstawę różnych usług finansowych, w szczególności takich jak przekazy pieniężne, rozliczenia, płatności za towary i usługi, gromadzenie środków na rozpoczęcie działalności gospodarczej i wiele innych. Fintech to narzędzie, które pomaga firmom, właścicielom firm i konsumentom lepiej zarządzać ich transakcjami finansowymi, procesami i życiem, wykorzystując specjalistyczne oprogramowanie i algorytmy instalowane na komputerach, tabletach, smartfonach i innych urządzeniach multimedialnych.

Wraz z rozwojem fintech i wzrostem jego wpływu rośnie potrzeba nadzoru regulacyjnego ze strony państwa, wrażliwe dane finansowe wymagają ochrony. Taki nadzór nie powinien jednak utrudniać rozwoju fintechu i zaspokajania potrzeb konsumentów.

Społeczeństwo ukraińskie jest otwarte na wprowadzenie fintechu. NBU promuje wiele ważnych inicjatyw. Ale niestety wiele kwestii opiera się na potrzebie zmiany przepisów w Radzie Najwyższej. Ukraińskie przepisy dotyczące gromadzenia, przechowywania i przetwarzania danych osobowych klientów są podobne do norm RODO stosowanych w większości krajów europejskich. Jednak technologia ewoluuje szybko i dość często, prawie zawsze, państwo nie ma czasu na dokonanie niezbędnych dostosowań.

Pomimo znacznego potencjału Ukrainy w dziedzinie fintech, konieczne jest: - opracowanie systemu regulacji w dziedzinie fintech; - jasno określić instytucje państwowe, które będą odpowiedzialne za rozwój fintech; - stworzyć odpowiednie departamenty w wiodących ministerstwach; - opracowanie strategii i programu współpracy z inwestorami finansowymi.

**Key words:** fintech products, public administration, technology, regulatory supervision, market, strategy.

**Słowa kluczowe:** produkty fintech, administracja publiczna, technologia, nadzór regulacyjny, rynek, strategia.

**Formulation of the problem.** The term "fintech" is an abbreviation of the term "financial technology", which refers to the use of innovative technologies in the financial sector and IT in order to improve the functioning of banking and financial institutions.

Fintech began to evolve at the same time as the Internet in the late 1990s.

Fintech is used to describe technologies aimed at improving and automating the delivery and use of financial services. In essence, fintech is a tool that helps companies, business owners, and consumers better manage their financial transactions, processes, and lives using specialized software and algorithms installed on computers, tablets, smartphones, and other multimedia devices.

Fintech is the basis of various financial services, in particular, such as money transfers, settlements, payment for goods and services, accumulation of funds to start a business and more.

**Analysis of recent research and publications.** Being a relatively new phenomenon both in the field of development of the world financial market and in terms of transformation processes in the economy of Ukraine, the activities of fintech companies are studied in the works of G. Pochenchuk [1,2], N. Panteleeva [3], S. Volosovych [4], A. Shklyar [5] and others.

**Selection of previously unsolved parts of the overall problem.** The introduction of modern world fintech practices in Ukraine requires a balanced state approach - the development of a Strategy for the development of the financial sector of Ukraine, the formation of appropriate mechanisms for public management of this process.

**The purpose of the article.** Given the current positive trends in the expansion of credit, banking, non-cash money, the introduction of cryptocurrencies, and, at the same time, threats of military, terrorist, informational nature, anti-corruption policy, and a number of other factors - objectively there is a need to

ensure the formation and proper functioning of public mechanisms for managing the implementation of world practices of fintech products in Ukraine.

**Presenting main material.** With the development of fintech and the growth of its influence, the need for regulatory supervision by the state is growing, sensitive financial data need protection. However, such supervision should not hinder the development of fintech and the achievement of consumer needs. In many markets, regulators take an active approach to overseeing the development of fintech, helping to increase the number of regulatory "greenhouses" that give startups the freedom to develop products and services, ensure their financial development [2]. Such a practice would be appropriate, it would allow to disseminate the experience of implementing such measures, which in turn would improve risk management in the field of fintech in particular and economic growth in general.

There are many areas of implementation of fintech development in Ukraine. Fintechs that seek to innovate in a dynamic market space must not only ensure the development of clear and powerful algorithms, they must also be or at least try to become experts in trading strategies. The ability to create powerful algorithms must be combined with a deep understanding of the rules governing the financial trading process.

There is no doubt that the increase in the speed of supercomputers will be used to establish rapid - almost instantaneous - automated trading. This created the preconditions for High Frequency Trading (HFT), where an entrepreneur can make a trading decision in a second, at best, HFT platforms equipped with sophisticated algorithms can analyze multiple markets simultaneously and make a trading decision per millionth of a second.

The ultimate goal of every entrepreneur is the ability to anticipate changes in market forces before they occur. Because the amount of data that passes

through the Internet reaches the zettabyte every day, reliable solutions remain unattainable. Although entrepreneurs may not be able to reliably predict market trends, advances in data analytics help them improve their chances.

The technology that drives data analytics is diverse, which means more opportunities to implement innovative fintech. Among the technologies that contribute to data analysis is Artificial Intelligence (AI), preliminary data analysis - Exploratory data analysis (EDA), Qualitative data analysis (QDA), predictive analysis and data mining [6].

Ukrainian society is open to the introduction of fintech: According to The FinTech Index from ING Bank, among 73 countries, Ukraine is among those who have created a favorable startup ecosystem and infrastructure. In Ukraine, the market of financial services is relatively young, the consumer is more open to innovation, even compared to other European countries.

The National Bank of Ukraine (NBU) is promoting many important initiatives. But, unfortunately, many issues rest on the need to change the legislation in the Verkhovna Rada (Parliament of Ukraine). The development of fintech is facilitated by funding, which is gaining momentum. New players are entering the market, venture funds are actively involved. We also need to develop a culture of investing within Ukraine.

FinTech has significant value for the expansion of financial services and products in new areas and among various segments of the population. Due to the fact that this sector is not yet oversaturated, fintech startups are dictating new rules of the game.

At the end of September 2019, the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on the Protection of Consumers of Financial Services" [7] was adopted, which settled the most important issues in relations between citizens and financial institutions and eliminated gaps and inconsistencies in the protection of financial services. . Adoption of the new requirements of regulators will strengthen public confidence in the financial sector, create effective mechanisms to protect their rights and interests, provide better information to consumers about financial services offered and provided to them.

The analytics data market is ready to use up to \$ 40 billion. US until 2023, included in the financial sector of trade. One of the most important opportunities for the development of fintech is the development of business operations.

Investment firms are essentially subject to the same challenges as any other firm. Improving internal

processes, increasing operational efficiency and making better business decisions is a common need for all.

As investment companies become more data-driven, the domestic need for powerful tools to optimize business operations will grow in the long run. One of the determining factors in the development of the modern financial system is the introduction of financial technologies and the activities of fintech firms. Focusing on the non-banking segment and the use of modern digital channels will not only quickly increase the involvement of the population in the financial sector, but also quickly scale the business of fintech companies in Ukraine.

Today, a significant number of companies use high-tech solutions in their work, those who do not, lose their customers every day, and hence profits.

Today, signs of financial and technical companies are found everywhere. Investors and business owners seek to improve the quality of their products and minimize costs. As a result of the use of high-tech tools in the field of lending, there is a product that allows you to get a cash loan without the need to collect a large number of documents and certificates - developed a separate market for microcredit.

If you manage to identify customer needs that can be qualitatively met cheaper than others do - this can be a significant motivator for starting a business, company and selling goods or services. But not everything is so simple for fintech companies. The financial product of online lending does not quite comply with the legal framework in most countries, due to the relatively new method of lending. Currently, investing in such a product is quite a risky business.

First of all, it is necessary to decide in which markets the project will be promoted - exclusively in Ukraine, or at the same time abroad. For example, working with EU citizens will require a fintech product to comply with the General Data Protection Regulations (GDPR). [8]

Ukrainian legislation regarding the collection, storage and processing of personal data of clients is similar to the GDPR norms used in most European countries. Improving the quality of providing qualified electronic services, increasing the level of trust in them and promoting them by central authorities is one of the priorities of the Ministry of Digital Transformation of Ukraine.

It is important to note that only 4 out of 22 (18.2%) qualified trust service providers use international electronic signature algorithms, all others work according to national algorithms (Fig. 1).

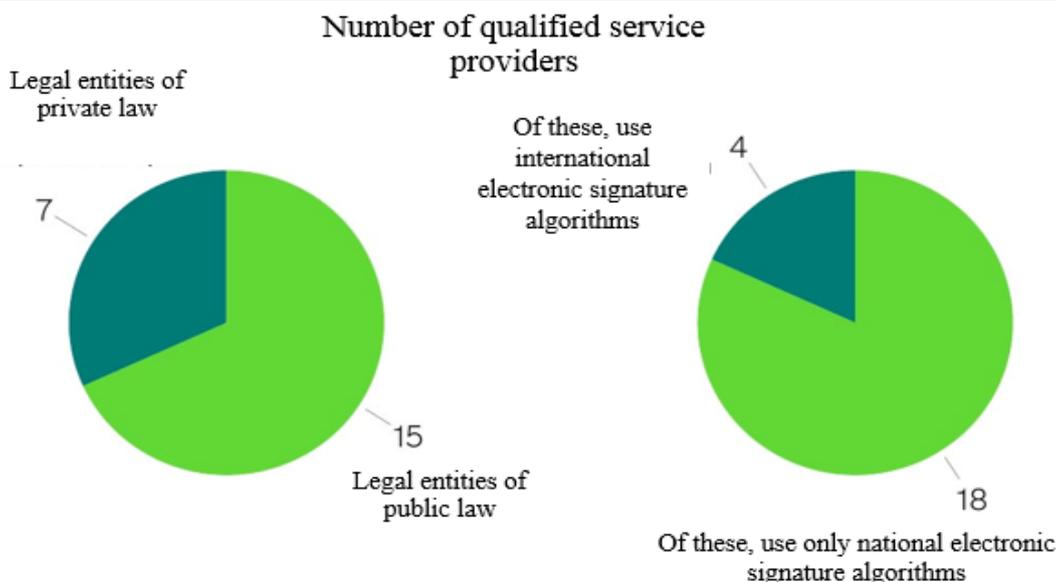


Fig.1. Number of qualified trust service providers

The Ministry of Digital Transformation of Ukraine facilitates the gradual transfer of all data centers to international algorithms.

The use of international algorithms for electronic keys will expand the capabilities of the Ukrainian

electronic signature, for example, in the future it will create an opportunity in Ukraine to recognize documents of other states, and other states to recognize Ukrainian documents sealed with electronic seal or signature (Fig. 2)

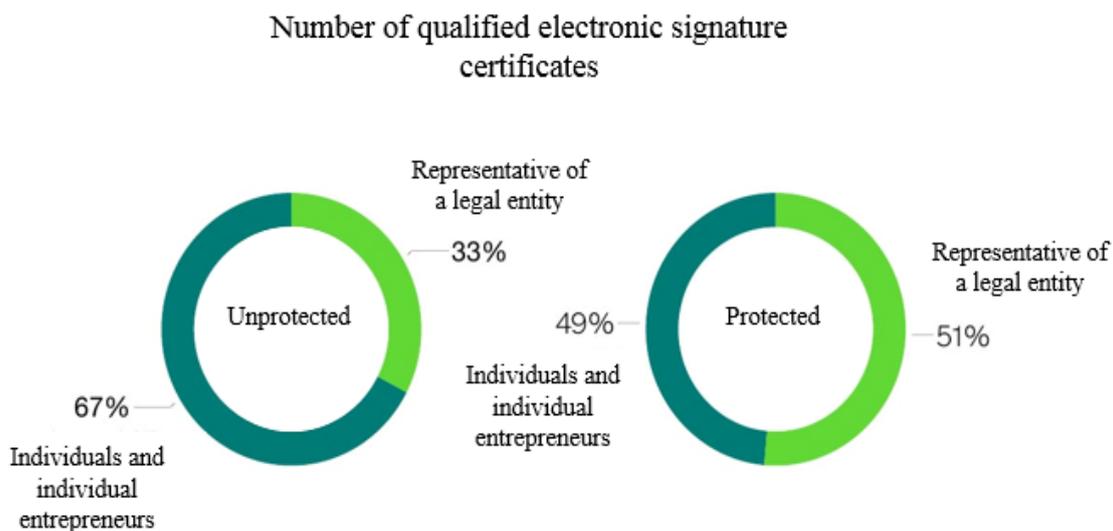


Fig.2. Number of qualified electronic signature certificates

The Ministry of Digital Transformation continues to create conditions for the full launch and development of the virtual assets (VA) market in Ukraine. In early 2020 a working group has been set up in the Ministry to develop regulations on the implementation of virtual assets.

The working group includes representatives of more than 20 governmental and non-governmental organizations that have the potential to influence the VA market. Among them are the Ministry of Finance, the National Bank of Ukraine, the State Tax Service, the Ukrainian Association of Fintech and Innovative Companies, etc. The working group will be headed by the Deputy Minister of Digital Transformation for IT

Development and the head of the Blockchain4Ukraine inter-factional association.

It is worth analyzing what is hindering the development of the Ukrainian virtual asset market today. The lack of a legal framework forces local market participants to remain "in the shadows" or operate through foreign jurisdictions, hinders innovation and creates conditions for abuse and fraud.

Leading international companies operating in VA and related technologies cannot operate and invest in Ukraine's economy.

The relevant law on virtual assets should clearly define:

- legal status and classification of VA

- requirements for the release and circulation of certain categories of VA
- VA market participants and relevant financial monitoring criteria
- issues of state regulation and counteraction to abuse

The relevant legal framework allows you to run the market "in white", which will lead to:

- increase in the number of business entities operating in Ukraine with the use of VA;
- increase in investments in the innovation sector and budget revenues;
- counteraction to legalization (laundering) of proceeds from crime;
- obtaining comprehensive and objective statistical information on the VA market in Ukraine.

All this will be a prerequisite for achieving the ultimate goal - the successful introduction of digital technologies, launch and development of the Ukrainian VA market, the creation of new products and values.

Today, one of the examples of financial products that are ahead of time and regulatory aspects - are cryptocurrencies. Just 10 years ago, cryptocurrencies were not taken seriously and they occupied a small share of the global financial market. Recently, this product has become the main competitor of VISA and Master Card payment systems. Millions of people around the world watch this product every day.

Ukrainian regulators do not recognize virtual coins as money, but have developed a concept for regulating cryptocurrencies. Therefore, it should be understood that if there are no rules and laws for an innovative product now, the state may introduce them in the future.

In Ukraine, contactless payment services using smartphones and other devices that support NFC technology are becoming increasingly popular. Tokenization services allow you to use the details of payment cards (including only with a magnetic stripe) for contactless payments on this technology. At the same time, every ninth active payment card in Ukraine is contactless - 4.0 million. This is 44.3% more than last year [9].

Resolution of the Board of the National Bank of Ukraine № 391 of 18.06.2015 approved the Comprehensive Program for the Development of the Financial Sector of Ukraine until 2020, which initiated the actual creation of a financial system capable of sustainable economic development through effective redistribution of financial resources in the economy a full-fledged market competitive environment in line with EU standards.

The program provided for the implementation of a number of interrelated measures aimed at

comprehensive reform of the financial sector. The Program is based on the following basic principles:

- regulatory approximation of Ukraine's financial services to EU rules and regulations;
- liberalization of financial markets and acquisition of the internal market regime with the EU in the field of financial services;
- balance of economic interests through the formation of a competitive market environment;
- independence and efficiency of regulators, supervision based on risk assessment;
- transparency and high standards of information disclosure by financial sector participants and regulators;
- responsibility and trust between financial sector participants and regulators;
- integrity of the financial system, comprehensive protection of the rights of creditors, consumers and investors.

In early 2020, financial market regulators (National Bank of Ukraine, National Securities and Stock Market Commission, National Commission for State Regulation of Financial Services Markets) The Ministry of Finance of Ukraine and the Individual Deposit Guarantee Fund have approved the Strategy for the Development of the Financial Sector of Ukraine until 2025 [10].

The purpose of the Strategy (Fig. 3) is to ensure further reform and development of the financial sector of Ukraine in accordance with leading international practices and implementation of measures provided for in the Association Agreement between Ukraine and the EU and other international obligations of Ukraine. It will take the place of the Comprehensive Financial Sector Development Program until 2020, which has identified priority regulatory reforms over the past five years.

The strategy envisages the development of the financial sector in five main areas: - strengthening financial stability; - promoting macroeconomic development and economic growth; - development of financial markets; - expansion of financial inclusion; - introduction of innovations in the financial sector.

The strategy envisages reforms in all segments of the financial sector: in the banking market, in the sector of non-banking financial institutions, in the capital markets. The implementation of the Strategy will make it possible to create a transparent, competitive, stable and high-tech financial sector in five years. Under such conditions, it will become a driver of sustainable and inclusive development of Ukraine's economy and contribute to improving the welfare of citizens through the effective accumulation and redistribution of financial resources in the economy.

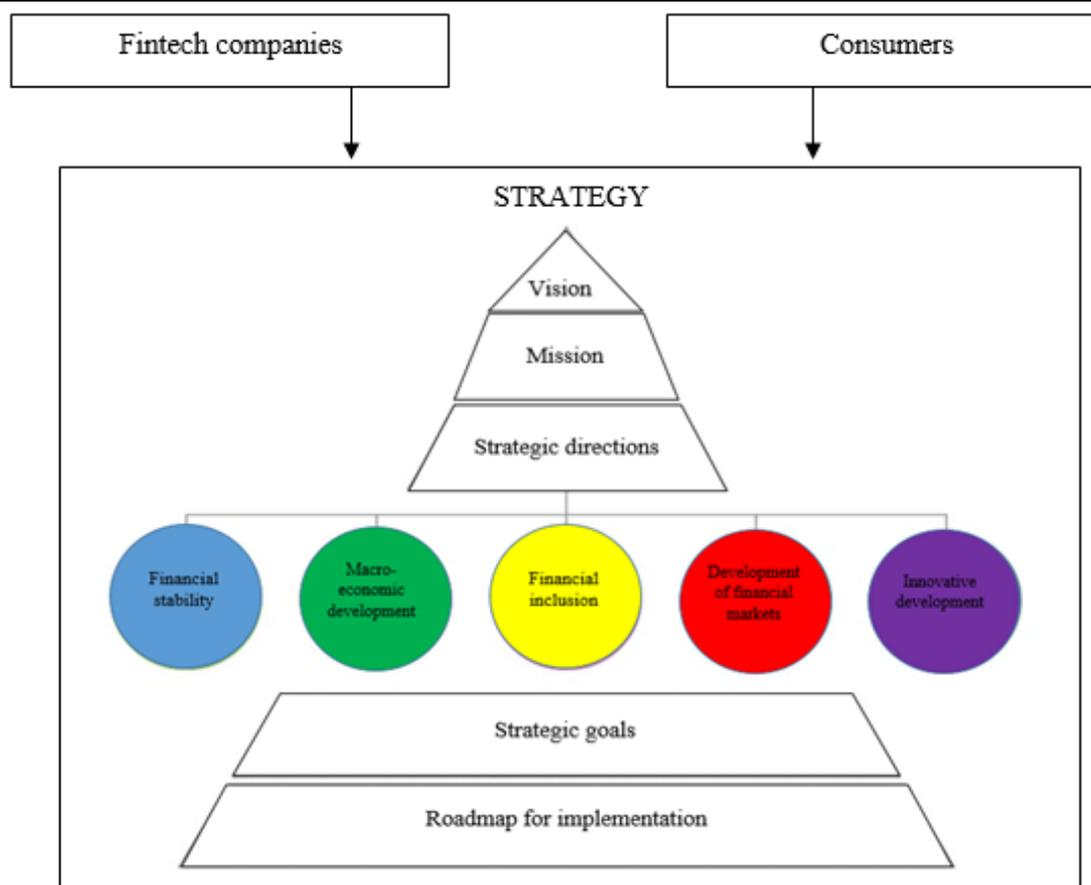


Fig.3. Strategy in the context of FinTech development model

In our opinion, the Fintech development model (Fig. 3) should include the realization of the interests of all stakeholders: fintech companies, consumers, public authorities, higher education institutions.

#### Conclusions

Summarizing the above, it should be noted that despite the significant potential of Ukraine in the field of fintech today:

- the system of normative-legal acts concerning fintech sphere is not developed;
- state institutions responsible for fintech development are not clearly defined, relevant departments in leading ministries are not established;
- the lack of a legal framework forces local market participants to remain "in the shadows" or operate through foreign jurisdictions, hinders innovation and creates conditions for abuse and fraud.
- it is not possible to counteract the legalization (laundering) of proceeds from crime;
- leading international companies operating with relevant technologies cannot conduct their activities and invest in the economy of Ukraine;
- the inability of the full functioning of the e-payments market, which today is a priority for the Ukrainian financial business;
- lack of a sufficiently necessary level of financial literacy of the population in matters of fintech;
- the lack of clear regulatory tools to ensure easy access to services is a significant problem;
- Lack of strategy and program of cooperation with fintech financial investors on the volume of access

to the financial services market with simultaneous regulation of limits / limitation of their capabilities.

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