

FINTECH AS A DRIVER FOR TODAY'S FINANCIAL MARKET TRANSFORMATIONS: THE UKRAINIAN CONTEXT

FINTECH ЯК ДРАЙВЕР СУЧАСНИХ ТРАНСФОРМАЦІЙ ФІНАНСОВИХ РИНКІВ: УКРАЇНСЬКИЙ КОНТЕКСТ

The article analyzes the impact of the FinTech sector on transformation processes in the financial markets. Modern transformations of the financial market are connected with the emergence of new financial instruments and financial service providers on the basis of accelerated development of digital financial technologies. In today's environment, the Internet has become widespread, smartphones, mobile applications and social networks are rapidly expanding and gaining popularity, existing IT companies are developing innovative products and services that are setting new standards for consumers, businesses are looking for alternative sources of finance. There is a combination of finance and the latest technologies and the emergence of non-traditional financial institutions of FinTech companies. The most popular area of work in FinTech in Ukraine is payments and software development for the financial sector. The FinTech sector has tremendous transformational power for the financial markets, but it also causes new risks, especially in marketing discourse. Overcoming such risks also requires institutional change. Finding new marketing opportunities by the financial business and focusing on competitive strategies makes FinTech a major driver of transformation in the financial markets.

Key words: *financial technologies, financial innovations, FinTech-companies, institutional transformations, financial markets, card payments, software products.*

В статті аналізується вплив сектору FinTech на трансформаційні процеси на фінансових ринках. Сучасні трансформації фінансового ринку пов'язані з виникненням нових фінансових інструментів та оферентів фінансових послуг на базі прискореного розвитку цифрових фінансових технологій. В сучасних умовах Інтернет став поширеним явищем, швидко розповсюджуються, набувають популярності смартфони та мобільні додатки, значними темпами поширюються соціальні мережі, існуючі IT-компанії розробляють інноваційні продукти та послуги, які формують нові стандарти для споживачів, бізнес шукає альтернативні джерела фінансування. Відбувається поєднання власне фінансів і новітніх технологій та з'являються нетрадиційні фінансові інститути FinTech компанії. В Україні у сфері FinTech працює понад 100 компаній, найпопулярнішим напрямом роботи є платежі та розроблення програмних продуктів для фінансового сектору. Сектор FinTech має величезну трансформаційну потужність для фінансових ринків, проте і обумовлює, особливо в маркетинговому дискурсі, виникнення нових ризиків. Подолання таких ризиків вимагає у тому числі інституціональних змін. Рівень захисту інститутів цифрових фінансових технологій повинен залежати від рівня ризиків при здійсненні фінансових операцій. Регулятор повинен здійснювати постійний моніторинг нових сегментів фінансового ринку, бути в діалозі з його учасниками та здійснювати регуляторний вплив у міру виникнення системних ризиків для споживачів. Саме пошук фінансовим бізнесом нових маркетингових можливостей, орієнтація його на конкурентні стратегії робить FinTech основним драйвером трансформацій на фінансових ринках. Виокремлено чинники, які сприяють розвитку FinTech в Україні – інфраструктура, правове та регуляторне середовище, доступ до капіталу та інвестицій, кваліфікація працівників. Водночас основними викликами для розвитку українського ринку FinTech на думку фахівців залишаються законодавче та регуляторне поле, банківський сектор, який повільно впроваджує інновації, обмежений доступ FinTech компаній до капіталу та фінансування. Узагальнюючи аналіз впливу FinTech на трансформацію фінансових ринків зроблено висновок про його великий потенціал росту та наявні передумови прискореного розвитку.

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веніем новых финансовых инструментов и оферентов финансовых услуг на базе ускоренного развития цифровых финансовых технологий. В современных условиях Интернет стал распространенным явлением, быстро распространяются, приобретают популярность смартфоны и мобильные приложения, значительными темпами распространяются социальные сети, существующие ИТ-компании разрабатывают инновационные продукты и услуги, которые формируют новые стандарты для потребителей, бизнес ищет альтернативные источники финансирования. Происходит сочетание собственно финансов и новейших технологий и появляются нетрадиционные финансовые институты FinTech компании. В Украине в сфере FinTech самым популярным направлением работы является платежи и разработки программных продуктов для финансового сектора. Сектор FinTech имеет огромную трансформационную мощимость для финансовых рынков, однако и обуславливает, особенно в маркетинговом дискурсе, возникновение новых рисков. Преодоление этих рисков требует в том числе институциональных изменений. Именно поиск финансовым бизнесом новых маркетинговых возможностей, ориентация его на конкурентные стратегии, делает FinTech основным драйвером трансформаций на финансовых рынках.

Ключевые слова: *финансовые технологии, финансовые инновации, FinTech-компании, институциональные трансформации, финансовые рынки, карточные платежи, программные продукты.*

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Ключові слова: *фінансові технології, фінансові інновації, FinTech компанії, інституціональні трансформації, фінансові ринки, карткові платежі, програмні продукти.*

Formulation of the problem. The modern world lives in the conditions of technological revolution on the basis of informatization and digitalization, which fundamentally changes the life of mankind. At the same time, technological progress has always been a crucial factor in the constant changes in the economy, structural and institutional transformations in its

individual sectors. In the last decade (after the global crisis of 2008-2009), there have been active changes in the financial markets due to the emergence of new financial instruments and financial services providers. This is a period of explosive expansion and penetration of the Internet in human life (including mobile, 3G and 4G), the spread of smartphones, the develop-

ment of social networks and mobile applications, the first steps in the use of artificial intelligence in business processes. All this has also been facilitated by the accelerated development of new financial technologies (FinTech).

Analysis of recent research and publications.

The theoretical and applied aspects of FinTech development have been considered in the works of foreign and domestic scientists, they are devoted to the research of both scientists and practitioners in the fields of business and finance. Some issues of FinTech development were covered in the works of R. Brown [1], M. Dolat [2], A. Mazaraki and S. Volosovych [3], L. Dudynets [4], G. Kulish [5], G. Pochenchuk [6] and others. At the same time, as a rule, domestic scientists research financial technologies in separate segments of financial markets: insurance, banking, investment [7]. However, despite significant improvements, there is a need to further explore these emerging trends and processes, especially in terms of institutional transformation of financial systems and financial markets in particular.

Objectives statement. The purpose of the study is to analyze the state of the FinTech industry, to determine the impact of FinTech companies on the institutional transformation of financial markets, especially in terms of their interaction with existing financial institutions.

Outline of the main research material. The development of the domestic financial market is a prerequisite for the sustainable functioning of the Ukrainian economy. The financial market is structurally the most important component of the economy of the country, the economic stability of the country depends on the effectiveness of its development. In the current domestic and foreign literature, the financial market is defined as a mechanism of capital redistribution between different economic entities with the help of financial intermediaries and, of course, on the basis of supply and demand. It is constantly emphasized that the main purpose of the financial market is the transformation of temporarily free cash into capital, i.e., the transformation of savings into investment.

Scientific and technological progress has always been a major factor in the transformation of both the public as a whole and economic in particular, therefore, it is also a factor of financial systems' transformations. Modern financial market transformations are associated with the emergence of new financial instruments and financial service providers (entities), and have accelerated the development of financial technologies in these processes (hereinafter FinTech). On the one hand, it can be argued that the integration of finance and digital technologies took place and, on the other hand, non-traditional financial institutions and financial business models began to appear, and on the other hand, in traditional financial institutions (banks, insurance companies, investment

funds and companies and others), such technological innovations took place, such recent technological processes, nowadays commonly called the processes of digitalization of economy and finance, and which significantly changed the functionality of these institutions. If we make a brief excursion into the functional specifics of FinTech companies, we note that in the global economy, the impact of technology on financial services is probably the most noticeable in retail payments. New market players, namely non-banking financial institutions, have improved transaction account coverage and offer micro-loans and consumer lending. The competition, supported by modern regulatory approaches and regulatory sandbox programs, has reduced the cost and increased the speed of financial transfers. FinTech companies aggregate the demand of small businesses and individuals for cross-border payments and currency exchange, and offer attractive rates. Even today, such central banks as the Bank of England, the Bank of Lithuania, the Hong Kong Monetary Authority have made it possible for non-bank financial companies to open settlement accounts with them. International card payment systems are developing B2B payment services and investing in national payment systems. There are banks in the market that operate exclusively through mobile applications, and those providing Internet payment services have expanded significantly and are already offering consumer lending. Instead, Ukraine is in dire need of a retail payment system, available in a low-cost smartphone app, primarily for retailers. Alternative cross-border payment channels are also underdeveloped in Ukraine.

In turn, retail lending has changed significantly under the influence of technology. Machine algorithms perform credit scoring by automatically retrieving data from third-party systems and using behavioral data. Requirements for regulatory compliance are on the rise, which also means improving and optimizing monitoring and reporting. Personalization of financial products is already anticipated, allowing repayment of loans on an individual schedule and adjusting interest rates based on a more complete individual risk profile. Client experience is crucial. Data analytics support sales and thorough processes are underway to identify, attract, and retain customers. Retail lending is experiencing new consumer interfaces: P2P lending platforms that bring investors and borrowers together, they collaborate with major liquidity providers for whom these platforms are a new lending tool. Financial services marketplaces make it easier for consumers to choose better and cheaper service, and commercial banks focus on building closer relationships with customers, they want to become the hub of household finance that aggregates different financial products. Central bank digital currencies are already being evaluated as a new monetary policy tool. Private cryptocurrencies are a new type of finan-

cial asset and value exchange systems. Blockchain technology is entrenched in value sharing systems that operate without a central hub.

As a result of the above processes in the field of financial technologies, more than 100 companies are operating in Ukraine today, most of which started their activity in the last three years. Payments and mobile wallets remain the most popular business. Such data are provided in the Ukrainian FinTech Catalog 2019, prepared by the Ukrainian Association of FinTech and Innovation Companies in cooperation with Visa and NBU. It is a unique map of the domestic FinTech ecosystem and a directory of companies operating in this market in Ukraine. Thus, according to the information contained in the Ukrainian FinTech Catalog 2019, 63% of the Ukrainian FinTech companies are financed solely at their own expense and the same number have passed the break-even point. At the same time, 14% of companies have more than 75 employees. 43% of the Ukrainian FinTech companies conquer the international market. And 73% of those who work exclusively in Ukraine are going to start business abroad. Today, FinTech is one of the main drivers of the digital transformation of the financial sector and enhancing financial inclusion [8].

However, card payments and software development for the financial sector are still the most developed subsectors in Ukraine today. Monobank as a phenomenon of banking is the biggest achievement of the market due to convenient services and "specific" spirit. There are cryptocurrencies in Ukraine, but not yet defined at the legislative level and not regulated. The pace of development of FinTech in Ukraine is explained by factors that impede the development of all sectors of the Ukrainian economy. First of all, there is a lack of investment and capital, an outdated legal framework and a delay in its modernization, resistance to innovation, low income and distrust of financial institutions.

Today, the NBU, as a regulator of the financial sector, supports the introduction of innovations and the development of the FinTech market in Ukraine and is actively working in this direction, focusing its activity on a number of projects that can stimulate the development of innovative financial services in Ukraine. Such projects include a major update of the legislative framework for the Ukrainian market for payments and transfers of funds, and consequently the implementation of the provisions of the European PSD2 Directive into national legislation; the operation of the BankID remote identification system of the NBU, which facilitates the receipt of banking and other services; modernization of the NBU Electronic Payment System, which will make payments in a format close to 24/7 nationally and using the international standards IBAN and ISO 20022. An important event aimed at the development of the FinTech industry was also the creation in May 2019 by the National

Bank of the Expert Council on communication with innovative companies. This structure will help the regulator to understand the needs and directions of development of the FinTech market, and to innovative companies – the features of regulation and the legislative base [8].

Thus, today in the domestic financial market there is a FinTech sector, which has a huge transformative power, but this sector for financiers and especially for marketers causes new risks to be created and realized, which the financial management has not known before. If a fundamental doctrine of marketing is to be based on financial market management as a doctrine of financial business, it is the search of financial business for new marketing opportunities, its orientation to competitive and growth strategies make FinTech a major factor in financial market transformations, and the impact of FinTech determines new opportunities for financial marketing in this market.

The analysis of the specialized literature shows that there is no significant scientific basis in ensuring the institutional transformations of the financial market using the marketing approach. This situation is caused by a lack of understanding of the essence of financial marketing as an economic category, as well as insufficient use of financial marketing mechanisms in real markets, which causes a low level of effectiveness of strategic planning of financial marketing by financial business entities and limits the dynamic development of the financial sector of the Ukrainian economy.

Traditional financial institutions in Ukraine tend to provide clients with a rather narrow range of financial services, many of which are of poor quality, the legal rights and interests of consumers of these services are not sufficiently protected. The current legal framework and the imperfections of oversight do not effectively counteract the manipulation of prices and the illegal use of insider information. Awareness of the ways and boundaries of self-regulation, on the one hand, leads to unjustified state interference in market processes, and on the other hand, it does not allow the intellectual and organizational resources of the professional associations of its participants to be connected to the effective development of the financial market. In this respect, it is FinTech, as an innovative technology, that allows financial institutions, government, business to overcome negative trends in the financial market. FinTech should be seen as a system that includes subsystems of technology in the areas of payments, lending, investment, banks and capital markets, insurance, regulatory technologies. If we take the whole set of FinTech institutions operating in the financial market, they are identified under the name "FinTech ecosystem".

Today, the development of the FinTech industry in the context of further digitization of the economy and public life is widely supported by the government and

the National Bank of Ukraine. For example, the NBU implements the Comprehensive Program of the Ukrainian Financial Sector Development until 2020 (Resolution No. 391 dated June 18, 2017), which envisages the following initiatives: a course on the cashless economy 2020; exchange of documents in electronic format using electronic signature; cancellation of stamps, seals and paper copies; storage of documents in electronic format; remote identification of individual; electronic scanning of copies and signature of cash documents; possibility of using Bank ID system for remote identification of bank clients; increase of financial literacy of the population; new rules to encourage licensing of new players in the payments sector [9].

In today's Ukraine, the most active is the sphere of payments and currencies, platforms (P2P, P2B, crowdfunding) are beginning to develop. In recent years, the investment market for the Ukrainian startups, including financial startups, has been growing steadily. The system of lending is implemented in Privat 24, where depositors have access to a loan service by their means of borrowing. In this case, the deposit owner, who provides his money for lending, receives 5% more on his deposit. The basic principle of a sharing economy is to connect private demand with a private supply as closely as possible and as conveniently as possible [10]. In the crowdfunding segment, several clones of Western Kickstarter platforms operate in Ukraine. Analyzing other areas of development of the FinTech industry in our country, it is worth noting the creation in 2015 of the above FinTech Cluster, which appeared on the basis of the Ukrainian Venture Hub, the purpose of which is to unite financial start-ups, banks, investment funds, joint market development FinTech and its lobbying interests [6].

The socio-economic conditions of Ukraine indicate that there are several factors that are unique to our country and contribute to the development of FinTech. Among these factors, we can distinguish:

- available infrastructure: widespread penetration of the Internet, which became available to the vast majority of the population and the prevalence of smartphones in the country for the use of mobile applications:

- legal and regulatory environment: it can be stated that it is improving and there is an electronic signature of bills and agreements today, IT companies use simplified taxation, the NBU has lifted restrictions on the repatriation (exportation) of dividends and upholds EU directives such as PSD2, the Law "On electronic identification and trust services" was adopted in internal legislative acts;

- access to capital and investment: expert environment shows that in general, starting and launching such business in Ukraine for foreign investors is no different from the conditions for domestic investors, and domestic banks want to actively cooperate with FinTech-startups;

- qualification of employees: notwithstanding all the negatives of socio-economic development, Ukraine still maintains high standards of education, especially in mathematics and the sciences, and talented IT professionals support the global FinTech industry. For example, FinTech-unicorn "Transferwise", valued at more than 1.1 billion USD, has a team of software developers in Cherkasy.

Analyzing the market for FinTech services, USAID's Financial Sector Transformation Program sent questionnaires to 80 FinTech providers in the course of this study, of which 59 were returned. According to the survey results, the market for FinTech providers is divided as follows (Figure 1).

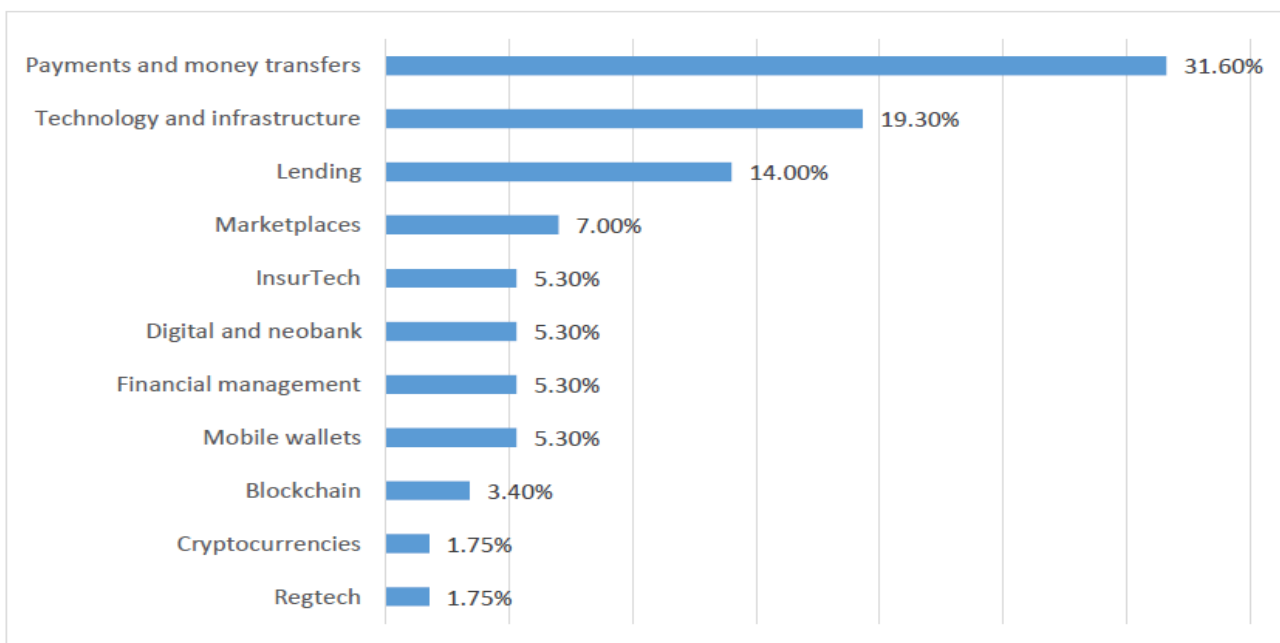


Figure 1. FinTech market division by type of service [9]

40% of FinTech providers were established by 2015, while 60% of providers have appeared in the last three years. About 84% of FinTech companies have already started offering products and services, and 16% are still at the stage of formation. Volt24, Mtax, Altbank, P2P credit, Credit plus, POZYCHAYko and others are among the largest known FinTech companies in Ukraine. Startups are mostly founded by individuals with experience in IT (65%) and finance (30%), most of them speak English fluently. It is important to note that the top management of FinTech providers is predominantly comprised of former bankers (70%) with experience in major commercial banks. Analyzing the market segmentation, over 37% of FinTech providers are in the B2B market segment and are focused on serving small and medium-sized businesses [9].

In terms of business models, FinTech providers are focused on getting a variety of commissions, though there are monthly subscription models. A small number of providers exist on the basis of the “licensing” model, that is, on the sale of the license and its support. Some of the FinTech providers maintain partnerships with banks and international payment systems. This includes platforms for P2P card transactions, payment cards with multiple company logos, and other payment services. These are mainly such banks as Oschadbank, Alfa Bank, Raiffeisen Bank Aval and international payment systems.

At the formation stage, and further at the stage of progressive growth, the active development of FinTech companies has been considered a threat to the banks. However, in our opinion, the best option for coexistence is to have partnerships between banks and FinTech representatives, which will bring together the strengths of both banking institutions and FinTech companies. In particular, for most FinTech companies, the main benefits are: innovation, speed and adaptability, consumer orientation, and digital infrastructure. These are advantages that most banking institutions do not have. Instead, most banking institutions have a significant amount of capital, an expanded customer network, clear regulatory framework and established market status. [5].

According to FinTech providers, the main challenges for the development of the Ukrainian market are the legislative and regulatory fields, the traditional banking sector that is slow to innovate, the lack of open APIs in the banking system, and limited access to finance and finance by FinTech providers.

Conclusions from the research. Therefore, to summarize the above about FinTech's impact on financial market transformation, we can make the following conclusions. This financial market sector is growing rapidly and objectively has great potential. It is simply forced to develop at a rapid pace. At the same time, there is a strong infrastructure in the form of high penetration of mobile communica-

tion and smartphones in Ukraine, and in combination with a large part of the well-educated and technologically competent population, this will certainly help to accelerate the development of FinTech. Among the IT companies, according to the objective logic of the NTP development, the greatest potential for growth is given by those, which focus mainly on financial inclusivity and the mass market. In the field of cutting-edge technology, the implementation of the “learning by testing” or so-called “regulatory sandbox” approach is particularly important. This approach will help to advance FinTech, and legislative and regulatory changes will “catch up” with this development. In the framework of the Association Agreement with the EU, Ukraine is in urgent need of further harmonization of its legal field with the EU Directives on electronic money, remote account opening, multi-level customer identification (KYC), PSD2, open APIs and the use of third parties as agents, this may further accelerate development of the FinTech industry in Ukraine.

REFERENCES:

1. Ryan Browne (2017). Everything you've always wanted to know about FinTech. Available at: <https://www.cnbc.com/2017/10/02/fintech-everything-youve-alwayswan-ted-toknow-about-financial-technology.html> (accessed 25 March 2020).
2. Zavolokina, L., Dolata, M. & Schwabe, G. (2016). The FinTech phenomenon: antecedents of financial innovation perceived by the popular press. Available at: <https://jfinswufe.springeropen.com/track/pdf/10.1186/s4085401600367?si-te=jfin-swufe.springeropen.com> (accessed 25 March 2020).
3. Mazaraki, A. & Volosovych, S. (2018). Fintech u systemi suspilnykh transformatsii [FinTech in the system of social transformations]. *Visnyk KNTEU – Herald of Kyiv National University of Trade and Economics*, 2, 5-16. (in Ukrainian)
4. Dudynets, L.A. (2018). Rozvytok finansovykh tekhnolohii yak faktor modernizatsii finansovoi systemy [Development of financial technologies as a factor of financial system modernization]. *Hlobalni ta natsionalni problemy ekonomiky – Global and National Problems of Economy*, 22, 794–798. (in Ukrainian)
5. Kulish, H.P. & Romanska, L.V. (2019). Fintech yak vyklyk suchasnosti na rynku finansovykh posluh [FinTech as a modern challenge on market of financial services]. *Prychornomorski ekonomichni studii – Black Sea Economic Studies*, 39-2, 116–120. (in Ukrainian)
6. Pochenchuk, H.M. (2017). Finansovi tekhnologii: rozvytok i rehulivannia [Financial technologies: development and regulation]. *Ekonomika i suspilstvo – Economics and Society*, 13, 1193–1120. (in Ukrainian)
7. Zherdetska, L.V. & Horodynskyi, D.I. (2017). Rozvytok finansovykh tekhnolohii: zahrozy ta mozlyvosti dlia bankiv [Development of financial technologies: threats and opportunities for banks]. *Ekonomika i suspilstvo – Economics and Society*, 10, 583–588. (in Ukrainian)
8. Kataloh fintekh-kompanii Ukrainy-2019 [Catalog of fintech companies of Ukraine-2019] (2018). Available at:

<http://drive.fintechua.org/Fin-techCatalog19Ukr.pdf?> (accessed 25 March 2020).

9. FinTech v Ukraini: tendentsii, ohliad rynku ta katalog [FinTech Report in Ukraine: Trends, Market Overview and Catalog] (2018). Available at: http://data.unit.city/fintech/fgt34ko67mok/fintech_in_Ukraine_2018_en.pdf (accessed 25 March 2020).

10. Sherynhovaia ekonomyka – novaia model potrebleniya [Sharing economy – a new consumption model] (2016). Available at: <http://chp.com.ua/all-news/item/39637-sheringovaya-ekonomika%E2%80%94novaya-model-potrebleniya> (accessed 26 March 2020).

БІБЛІОГРАФІЧНИЙ СПИСОК:

1. Ryan Browne. Everything you've always wanted to know about FinTech. URL: <https://www.cnbc.com/2017/10/02/fintech-everything-youve-always-wanted-to-know-about-financial-technology.html> (дата звернення: 25.03.2020).

2. Zavolokina L., Dolata M. and Schwabe G. The FinTech phenomenon : antecedents of financial innovation perceived by the popular press. URL: <https://jfinswufe.springeropen.com/track/pdf/10.1186/s4085401600367?site=jfin-swufe.springeropen.com> (дата звернення: 25.03.2020).

3. Мазаракі А., Волосович С. FinTech у системі суспільних трансформацій. *Вісник КНТЕУ*. 2018. № 2. С. 5–18.

4. Дудинець Л. А. Розвиток фінансових технологій як фактор модернізації фінансової системи. *Глобальні та національні проблеми економіки*. 2018. Вип. 22. С. 794–798.

5. Куліш Г.П., Романська Л.В. FinTech як виклик сучасності на ринку фінансових послуг. *Причорноморські економічні студії*. 2019. Випуск 39-2. С. 116–120.

6. Поченчук Г.М. Фінансові технології : розвиток і регулювання. *Економіка і суспільство*. 2017. Вип. 13. С. 1193–1120.

7. Жердецька Л.В., Городинський Д.І. Розвиток фінансових технологій : загрози та можливості для банків. *Економіка та суспільство*. 2017. Вип. № 10. С. 583–588.

8. Каталог фінтех-компаній України-2019. URL: <http://drive.fintechua.org/Fin-techCatalog19Ukr.pdf?> (дата звернення: 25.03.2020).

9. Фінтех в Україні: тенденції, огляд ринку та каталог. *Проект USAID «Трансформація фінансового сектору»*. URL: http://data.unit.city/fintech/fgt34ko67mok/fintech_in_Ukraine_2018_ua.pdf (дата звернення: 25.03.2020).

10. Шеринговая экономика – новая модель потребления. URL: <http://chp.com.ua/all-news/item/39637-sheringovaya-ekonomika%E2%80%94novaya-model-potrebleniya> (дата звернення: 25.03.2020).