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INTRODUCTION OF INNOVATIONS AS A PRECONDITION FOR IMPROVING THE WORK OF UKRAINIAN BANKS IN THE CONDITIONS OF COVID-19 DISTRIBUTION

Ohrenych Yu.O., Zaytseva T.V.*Zaporizhzhya National University**Ukraine, 69600, Zaporizhzhya, Zhukovsky str., 66**yuliashvets@ukr.net, tata.khramtsova@gmail.com*

ORCID: 0000-0002-0294-1889, 0000-0001-5563-2740

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The article is devoted to analysis of Ukrainian banks innovations under conditions of pandemic spreading. The spread of the COVID-19 coronavirus has an extremely negative impact on economic processes in Ukraine and the world. Ukrainian businesses and financial institutions are facing significant losses as a result of the quarantine, and the banking system is facing a whole host of large-scale disruptions and problems. The main role of innovative development of banks is a favorable impact of innovation on the activities of the banking sector, which predicts an increase in the competitiveness of the bank, increasing confidence in bankruptcy organizations and increasing efficiency of activity. Innovations allow you to facilitate the process of conducting activities and increase the new customer base. The main purpose of innovative development for banks of Ukraine on the present stage is the positive influence of innovations on activity of bank sector that is directed on increase of competitive capacity of bank and increase of trust to banks. The article contains the main theoretical approaches to the understanding of “innovation” and “bank innovation”. The main innovative technologies that are implemented in the bank activity of Ukraine were considered including: Contactless payments, customer identification using biometric technology, blockchain technology, NFC-technologies, online banking, technology of virtual banks, use of the “Dlya” add-on. The main risks that arise in the implementation of innovations in banking activities were also identified. The article revealed the factors that limit the process of implementation of innovative technologies in the banking activity. The article also demonstrates the main problems that are encountered by the clients in implementation of bank innovations in Ukraine and the ways of their solution.

ВПРОВАДЖЕННЯ ІННОВАЦІЙ ЯК ПЕРЕДУМОВА ПОКРАЩЕННЯ РОБОТИ БАНКІВ УКРАЇНИ В УМОВАХ ПОШИРЕННЯ COVID-19

Огренич Ю.О., Зайцева Т.В.*Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**

інновації; банківські інновації; інноваційні банківські технології; розвиток банків; банківська діяльність; інноваційний розвиток банків

Стаття присвячена аналізу інновацій банків України в умовах поширення пандемії. Поширення коронавірусу COVID-19 вкрай негативно впливає на економічні процеси в Україні та світі. Українські підприємства і фінансові установи унаслідок карантину несуть великі збитки, а банківська система наражається на цілу низку масштабних викликів і проблем. Провідною роллю інноваційного розвитку банків є сприятливий вплив нововведень на діяльність банківського сектору, що прогнозує збільшення конкурентоспроможності банку, збільшення довіри клієнтів до банківських організацій та підвищення ефективності діяльності. Інновації дозволяють полегшити процес ведення діяльності та збільшити нову клієнтську базу. Головна ціль інноваційного розвитку для банків України на сучасному етапі є позитивний вплив нововведень на діяльність банківського сектору, що

спрямована на збільшення конкурентоспроможності банку та збільшення довіри клієнтів до банків. В статті наведено основні теоретичні підходи щодо розуміння понять «інновація» та «банківська інновація». Були розглянуті основні інноваційні технології, які запроваджені в банківській діяльності України, серед яких: безконтактні платежі, ідентифікація клієнтів за допомогою біометричних технологій, технологія блокчейн, NFC-технологій, Інтернет-банкінг, технологія віртуальних банків, використання додатку «ДІЯ». Також визначені основні ризики, які виникають при впровадженні нововведень в банківській діяльності. Виокремили фактори, що обмежують процес запровадження інноваційних технологій в банківську діяльність. Стаття також демонструє основні проблеми з якими зіштовхуються клієнти при запровадженні банківських інновацій в Україні і шляхи їх вирішення.

Statement of the problem

Negative events as a result of COVID-19 in Ukraine significantly impacted the development of the market of banking services, resulting in decreased confidence in banks and, as a consequence, decreased demand for banking products, which in its turn undermined the financial performance of the banking system. This leads to the need for research of theoretical and practical aspects of implementation of banking innovations, as well as increasing the level of confidence and shaping customer loyalty.

Analysis of recent studies and publications

In today's conditions, the functioning and development of the banking system has been investigated by scientists such as: Andrushkiv I.P., Nadiyevets L.M. studied the features of digitalization in the banking sector [1]; in work Perepechay N.M. the prospects of development of the market of non-traditional banking services are determined [11]; trends in the innovative development of the banking system are identified in the work Stepanenko O.P. [13]; the structure of the modern market of banking services is analyzed in the work Trokhymenko V.I. [15]. Peculiarities of the implementation of innovations in banks have also been investigated in the works of Bondarenko L.P., Politylo M.P. [2], Yegopicheva S.B. [4], Matviichuk N.M., Burlachuk N. Yu., Harbar Zh.V. [5], Melnyk O.I., Bodnar O.A. [6], Khomenko V.O. [17]. In addition, prospects for the development of the latest services of commercial banks are analyzed in the paper Sidoruk I.S. [12] and current trends in the online banking market in Ukraine are studied in the work Tishchenko H.I. [14]. However, in the conditions of quarantine measures, there is a need to improve the banks' activity through the implementation of innovative products to improve their work.

Objectives of the article

The aim of the article is to research innovative products of the bank and improve them under quarantine conditions, as well as to explain the influence of bank innovations on the increase of confidence level and formation of loyalty of clients.

The main material of the research

The spread of the COVID-19 coronavirus has a negative impact on economic processes in Ukraine and

the world. Therefore, Ukrainian enterprises and financial institutions are already suffering significant losses as a result of the quarantine, and the banking system is affected by a whole low level of large-scale events.

Under these conditions, the National Bank of Ukraine as the main body regulating the money turnover, credits and the financial system in general [9], uses unreasonable measures to support the economy of the country, namely:

- maintains the liquidity of banks (refinancing);
- Internal audits of banks and other financial institutions;
- The financial sector development is constantly monitored (indicators of liquidity and quality of the loan portfolio of banks) [7].

During the quarantine period, the NBU introduced a number of priority measures to support the banking system. For example, the bank reduced the interest rate to 10%. It means cheaper financial aid to banks and indirectly lower cost of loans for businesses and individuals, as well as reduced risks from bad loans. Also the possibility of refinancing is proposed (on March 13 and 20, 2020 the regulator allocated UAH 17 billion for the support of financial institutions) [8].

Due to the fact that the majority of people are forced to stay at home and unable to earn money, the NBU has ordered banks not to charge fines and penalties to customers. For the businesses that are affected by the quarantine, the regulator prepares credit conditions. Banks continue to provide an uninterrupted service to their customers, and the NBU is ready to do everything necessary to ensure an uninterrupted supply of cash and increase the number of ATMs in case of increasing population's demand for cash [8].

Today, it is difficult to imagine the functioning of any market without innovative technologies. The banking market is also no exception. The main role of innovative development of banks is a favorable impact of innovation on the activities of the banking sector, which predicts an increase in the competitiveness of the bank, increasing confidence in bankruptcy organizations and increasing efficiency of activity. Innovations allow to facilitate the process of increasing the new client base.

Today there are different approaches to defining the notion of innovation activity (tab. 1).

Innovation activity is the activity, which is focused on the use and commercialization of the results of scientific research and development and predicts the release of new competitive goods and services to the market [10].

Table 1 – Approaches of scientists to defining the notion of "innovation activity"

Scientists	Approaches to identification
П. Туфано	is the creation and expansion of new financial technologies, financial instruments, institutions and markets [17].
В. Корниоров	It is noteworthy that while there are some differences in the understanding of "financial innovation" and "bank innovation," these definitions are shared as a whole and a part, which may not often be even different. Therefore, there is a reason to equate financial innovation with banking innovation in many cases, the essence of which is disclosed through the updating of tools and areas of financial and banking activity [3].
Е.А. Уткин	he formulated a "broad" approach to the understanding of bank innovation, which, in the scientist's opinion, "includes not only technical or technological developments, but also any changes for the better in all spheres of bank activity" [6].
А.И. Полишук	It is noteworthy that bank innovation as a set of uncompromisingly new banking products and services is a synthetic notion of the target and result of activity of a banking institution in the field of innovative technologies, which are focused on obtaining additional revenues [17].
Т.В. Рубинштейн	"Innovation in a commercial bank is the end result of innovative activity realized in the form of an improved or new bank product, market implemented on the market, improved or new technology of client service used in the practical activity of the bank, or a number of fundamentally new services" [3].
К. Шмигельска	is the result of the bank's activity aimed at creating new products and technologies as well as innovative ways of bank management in order to gain additional income and new competitive advantages. The notion of innovation can be applied to all innovations in all spheres of bank functioning that will enable to achieve a certain positive strategic or economic effect [4].
С.В. Горичева	The bank's innovative activities are aimed at improving, updating tools and areas of bank activities, in other words, any changes that improve the quality of the basis for the renewal of banking services. Orientation of bank innovation activity is focused on the convergence of interests of consumers, the bank and the society in general in the framework of creating products and services of higher quality than those of competitors [4].

Source: compiled by the authors on the basis of [3; 4; 6; 17]

There are also different definitions of the concept «innovation»:

- «Any new approach to the implementation, production or sale of goods, as a result of which the innovator and his company gain advantages over competitors» [10];
- «the product of creative work, which has the completed look of the product, ready for use and distribution in the market» [9];
- «it is the end result of innovative activity in the form of a new or improved product or technological process, which has a quality advantage in use and design, production, marketing, is used in practical activities and has a universal advantage» [9];
- «investing money into the economy, which ensures changes in technology and technology» [9];
- «New technology, technology that is the result of scientific and technological progress. The historical factor of innovation is the development of innovation, rationalization, the emergence of great discoveries» [9];
- «the result of systematic activity aimed at the implementation of the achievements of scientific and technological progress and their improvements» [9].

Innovations currently include the development and implementation of new organizational structures of the organization. Modern bank institutions are developing under conditions of globalizatsii telekomunikatsiyhnyh means, development meshnojnyh form of business organizations, so at this stage neabikoyi relevance nabuet vinodyennya new forms of organizational structures. Thus, the concept «bank innovations» can be applied to all innovations in all spheres of bank functioning, which will enable the bank to achieve a certain positive economic or strategic effect (increase in the customer base, increase in the market share, reduction of costs for certain types of operations, etc.) [9].

One of the varieties of innovation is bank innovation. Bank innovation has its own peculiarities. In the opinion of Professor. I.T. Balanov, «bank innovation is a final product of innovative activity implemented in the form of a new bank product or operation» [17].

Thus, taking into account different approaches to the definition of the concept of «bank innovations» it can be summarized that the implementation of innovations in banks is of great importance, enhances their image, privatization for customers.

We will review the bank's innovative activities during the pandemic using the example of FUIB. First Ukrainian Bank during the first days of the epidemic COVID-19 carefully monitored the course of events and analysed the state of its customers, realizing that many may require support. FUIB was one of the first banks to respond to the quarantine situation and took a number of decisions aimed at supporting its small and medium-sized business customers [8].

Above all, the bank gave its customers a chance to receive a loan cancelling (postpone loan principal and instalment payments during quarantine period to the next 3–6 months). FUIB was aware of the force majeure circumstances, even taking into account possible delays in settlements between counterparties, and therefore imposed penalties for untimely loan payments [7].

FUIB did not suspend lending to small businesses during the quarantine period, but reduced lending rates and developed partner lending programmes for agricultural customers, As well as a product aimed at financing short-term business needs in working capital – overdraft «Light», increasing the period of continuous use of the limit to 90 days [19].

The bank was aware of the force majeure circumstances and discounted the fee for foreign and domestic payments

in national currency, discounted the fee for POS-terminals on clients who had no turnover [19].

The Bank introduced electronic signing of contracts via EDI (Electronic Digital Signature) and online verification of business and registered property in order to reduce customer contact during the period of increasing COVID-19 incidence. In 2020 FUIB launched remote opening of videoconferencing accounts. During the pandemic the bank revamped all possible online service processes, so as not to put customers at risk. Card validity periods were extended so that customers did not need to visit the bank's branch [19].

FUIB was named «Best Bank Antivirus» in the ranking of «Business» magazine. The bank was ranked first for the best comprehensive solutions for supporting small and medium-sized businesses under quarantine, loan facilities, loan restructuring programmes, flexible lending, cancellation of penalties, etc. [19].

In 2020, the Bank's investments in business modernization amounted to over UAH 404 million, and social investments – in improving the safety of employees and their development, Improvement of quality of the bank's products and services, business environment development, improvement of financial literacy of Ukrainians, and support of the healthcare system – amounted to over UAH 93 million. In 2020 FUIB transferred to the budget more than UAH 1.8 billion in taxes [8].

It should be noted that the features of innovations implemented in the banking sector are as follows:

1. The process of implementation of innovative technologies is being disrupted due to the fact that banking institutions are under the influence of the system of regulation and supervision.

2. Most of the bank's innovative technologies were generated by consumer demand.

3. Know-how and copyrights are the main means of protecting the intellectual property of the Bank's innovations.

4. Spending on innovative activities of banks decreases due to the fact that innovative technologies are based on applied and practical research [5].

Under the conditions of integration of the Ukrainian banking system into the global economic space, competitiveness of the banks depends partly on their desire and ability to shift from Use of traditional mechanisms and procedures for customer service to implement innovative methods of development and implementation of banking products and services, expansion of assortment of offered services.

The main innovative technologies that have been introduced in banking activities include: contactless payments, identification using biometric technology, blockchain technology, NFC technology, online banking, technology of virtual banks, etc. During the period of the pandemic, most banks introduced the possibility of opening bank accounts using the «DIIa» add-on, and most functions were transferred to remote service, such as: card reissuance, opening of accounts, consultations about the bank's existing products. In addition, the most mobile banks have introduced card delivery to work or home [17].

In banking practice, the widest division of services into traditional (deposit, credit, cash and settlement and other services) and non-traditional (have not belonged to the typical banking services before, they appeared relatively recently) is used.

Among the non-traditional services of commercial banks that are actively used in Ukraine, we should distinguish:

- Internet banking, telephone banking, video banking;
- Cardless payment via mobile phone;
- 24/7 mode of operation;
- electronic share: the share in kopecks is transferred to the client's account or is replenished by the mobile phone;
- merchant acquiring: allows trade and service enterprises to accept bank payment cards as payment for their goods and services;
- Factoring: a type of trade and commercial transaction, which is combined with crediting of receivables;
- Forfeiting: a form of short- and medium-term crediting of foreign economic transactions through the purchase by a commercial bank of bills of exchange accepted by the importer, i. e. the exporter assigns to the bank its claims to the buyer;
- self-service centers;
- leasing operations: lease of machinery, equipment, transport vehicles, production facilities;
- Cash management is a set of services offered by commercial banks that enables clients to reduce costs and efficiently manage their financial flows. As a rule, there are several components: management of bank accounts, liquidity, cash management, interest rate management, electronic banking and various information services [16].

It is reasonable to distinguish benefits from the use of contactless payment technologies for Ukrainian banks, namely: Diversification of services; competitive advantages; receipt of a compulsory fee from POS-terminals placement; innovative activity; expansion of potential clientele; acquisition of new niches in the market of banking services; development of online banking; receipt of value from transactions; Increase in retail lending volumes; membership in international payment systems; growth of the customer base due to more secure customers; flexibility in the provision of services; increase in the speed of receipt of money for the service provided or goods sold [4].

Along with this, the use of innovations in banking activity is associated with a great part of risks. Therefore, among Ukrainian banks PJSC First Ukrainian International Bank prioritizes clients' needs and positions itself as client-centered. Throughout the period of its existence the Bank has been consistently introducing innovative technologies and products, inter alia: Internet banking «FUIB Online 2.0», mobile extension of FUIB Online, social banking technologies, prepaid card reader, as well as the number of SCTs is constantly growing [16].

The comparative characteristics of Internet banking services among Ukrainian banks are shown in Table 2 [19].

Innovations contribute to the development of the banking system and make it easier to expand the client base. To increase their competitive advantages, Ukrainian banks need to make more use of Internet technologies,

Table 2 – Comparative characteristics of Internet banking services among Ukrainian banks in 2020–2021

Name of service	PJSC CB Privatbank Privat24	PJSC "FUIB" FUIB Online 2.0	"Oschadbank" Oschad 24/7	"Alfa bank" My alfa bank
Cost of WebMoney connection and service	0	0	0	0
Availability of a mobile add-on	+	+	+	+
Client identification by fingerprint	+	+	+	+
Opening of the account	–	+	+	+
Repayment of the loan	+	+	–	+
Payment of utility bills	+	+	+	+
Regular payments	+	+	+	+
Buying tickets	+	–	+	–
Transactions in foreign currencies	+	–	–	–
Retail Sales	+	+	+	+
Popovneniye/Zyateniye WebMoney	+	+	–	–

Source: difficult by authors on the basis [4]

update their systems to the level of foreign countries and satisfy their customers to a greater extent.

The assessment of the development and efficiency of electronic services and online banking by means of the performance and functional approach is given in Table 3 [17].

To assess the efficiency of innovation implementation it is suggested to use such indicators as the level of transaction costs, composite costs, rate of deposit base growth, profitability of assets. The calculation of indicators based on publicly available financial accounting data as of December 1, 2020, showed that the bank was not able to fulfill its obligations as of December 1, 2020. The results of the analysis showed that the banks with the highest ranking in terms of development of electronic services and online banking are PrivatBank and FUIB. Indeed, they have the lowest transaction costs and the highest return on assets, which is also supported by the positive impact of the development of electronic services and online banking on the performance efficiency of these banks. As we know, the implementation and development of online banking requires significant costs (Table 3).

We can distinguish three main components of bank innovations:

1. Increasing automation of banking processes and transition of most banking activities online, mainly

through mobile add-ons. Expansion of digital banks where all banking operations are performed only online.

2. Further deepening of «bank-client» relations into more partner and client-oriented ones (e. g. birthday announcements and gifts for family or friends).

3. Integration of banking operations into new spheres of customers' life (e. g., transfer of money by fathers to their children's electronic handset, which looks like a toy).

As a result of the conducted research, it should be noted that at the current stage of development of innovations in Ukrainian banks the most popular are these types of products:

1) Mobile banking is a service where a bank customer can manage his/her own non-loaned funds by using a mobile phone;

2) Internet banking (web-banking) is a remote banking service that helps you manage your accounts via the Internet;

3) «Zone 24» is a zone where bank customers can freely access the services;

4) POS-terminals in retail stores – providing an opportunity to pay by card for purchased goods and services;

5) QR-banking is a service through which it is possible, without using a plastic card, to pay for goods, services and Internet purchases through a QR code;

Table 3 – Assessment of development and efficiency of electronic services and online banking using the performance and functionality approach

No. s/p	Banks	General indicator of the development of electronic services and online banking	01.12.2020, %			
			Level of transaction costs	Level of compulsory income	Growth rate of clients' funds in three years	ROA
1	FUIB	17.78	3.08	3.1	1.9	1.3
2	Privatbank	16.70	3.78	2.68	1.8	0.9
3	Alfa-Bank	13.34	5.89	2.2	1.1	0.4
4	Motor Bank	12.61	6.78	2.1	1.25	0.4
5	Agrikol Bank	13.23	10.56	1.1	0.9	0.6
6	Bank Credit Dnipro	14.45	11.55	3.5	0.98	0.56
7	UkrSibbank	16.11	8.74	4.8	0.96	0.98
8	VTB Bank	10.49	8.99	2.22	1.0	1
9	According to the banking system	–	4.10	1.89	1.15	0.12

Source: difficult by authors on the basis [13]

6) Reasonable refueling is an add-on that makes it possible to fill up with gasoline at the ticket office without having to leave the vehicle;

7) Send money – a service that allows you to transfer money to the recipient's account using a mobile phone number;

8) Photokasa – the possibility for the bank employees to create all necessary documents using photos of the bank account and utility payments, which then come to the e-mail as a scanned photo [13].

We believe that today it is impossible to imagine the banking system without the above-mentioned services that enable easy and quick implementation of operations and at the same time significantly save time. It is possible to distinguish the main problems of innovative development in bank activity of Ukraine:

- Insufficient protection of domestic communication channels, which increases the risk of becoming victims of shahraj;

- Low level of legal regulation of bank innovation technologies, which leads to the creation of risky conditions;

- Lack of permanent access to the Internet and a permanent connection in many settlements;

- The cost of implementing innovative solutions used in the current development of banks is increasing;

- Low level of technological development of Ukrainian banks that are implementing innovative technologies;

- low level of training of bank staff and deficit of qualified personnel;

- Insufficient level of information awareness among the population [16].

Also, banks often want to implement everything at once, but their technological capabilities do not allow this, resulting in customers encountering technical problems and errors through add-on upgrades. Also, do not forget that each update requires more space in the phone memory and a more powerful Android and iOS system, and, unfortunately, not every customer can afford it.

To ensure that our banking services are always at the highest level, it is necessary not only to communicate with bank employees and specialists, but also to communicate with customers who use these services, to conduct surveys in social networks and take into account the needs of customers. It is also necessary to properly communicate information to those people who work on technical errors and products in banking activities.

Conclusions

Anyway, problems in Ukrainian economy and banking system cannot be avoided in any case, but the NBU tries to minimize possible expenses at the expense of implementing complex measures for support of banks and other financial institutions during the quarantine period and the state of emergency in Ukraine. However, banks, just like any other company, try to minimize their costs and constantly create something new and innovate. Thus, the innovation potential of Ukrainian banks is very high.

Domestic banks actively use the experience of foreign partners. The spread of the COVID-19 coronavirus has an extremely negative impact on economic processes in Ukraine and the world. Ukrainian enterprises and financial institutions are already suffering significant losses as a result of the quarantine, and the banking system is affected by a whole low level of large-scale events.

A key driver of banking sector development is the improvement of banking infrastructure and information technology. In the future, banks should focus their efforts on the development of advisory, information, trust, guarantee services and ancillary operations, which help ensure the activity of the bank's services customers and should not forget about the continuous improvement of banking products.

Development of modern banking services is largely dependent on the willingness and desire of the banks themselves to change and adapt in accordance with the needs of their customers and conditions of functioning.

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