

Banking business in the digital society: foreign experience

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Abstract

The article examines the world and domestic experience in the use of digitalization in the banking sector. Foreign experience and the reasons for active digitalization in the banking sector of the Ukrainian economy in recent years are analyzed. The study revealed the essence of digital technologies for the development of banking services. The distribution of countries according to the use of digital banking is studied and the leaders of the world banking market are indicated. The analysis of the reasons and segments of distribution of technologies of Internet banking in the period of digital world economy is carried out. The problems and opportunities of digital banking for the world banking business are described and perspective innovative opportunities of banks are formed. It is proved that digital technologies transform the banking activity in the global economy, make it more personalized and general for all devices and applications in which the banking service is implemented. The role of digital banks and their chronology in the global financial system are clarified. It is proved that the key changes in the activities of the banking sector in the context of digitalization should be customer-oriented and ensure the effective development of the domestic banking sector, namely: the formation of a new quality of customer service; development of new and improved existing products, development of new and improved existing channels of banking services; formation of digitally oriented personnel.

Key words: Digital economy, digital banking technologies, banking sector, digitalization, integrated service, digital currency, blockchain.

Introduction

Cash transactions are the basis of any organization, as they provide inflow and outflow of funds. If large companies mainly prefer the non-cash form of payment, the representatives of small business carry out a significant part of the operations related to the receipt and issuance of money with the use of cash, while conducting cash transactions. An important role in this context is played by banks as participants in the market of settlement and cash services.

The relevance of the study increases in terms

of active development of software and hardware, which simplifies the conduct of cash transactions through their automation. Currently, there is a significant number of improved software and hardware solutions that reduce employee time, and thus reduce the cost of a commercial bank for the organization of settlement and cash services. It is obvious that the owners-shareholders seek to maximize profits, including by reducing spending on cashiers and other employees.

In addition, modern solutions in this area allow to increase the convenience of end users, expand the market for settlement and cash

services, solve other problems within the current activities of Ukrainian banks.

Material and methods

Such domestic and foreign scientists as Belinska K. V., Grebneva M. E., Efimov S., Kravtsova S. I., Kurakov L. P., Lytvyn N. B., Lopasteyska L. G. were engaged in research in

this sphere, Miroshnichenko T. A., Nesterenko T., Netsvetailo S. R., Priydun L. M., Fetisova A. R., Fursa T. P., Shalagin P. V., Shalagina Y. O., Yanish I.

Results and discussion

The digitalization process is actively influencing modern card payment systems. Such organizations not only seek to expand the services they provide through the use of innovations that have emerged over the past few years, but also use digitization tools to improve their current business model. For example, MasterCard and Visa cards should be considered as an international experience. They automate the routine work of their employees, apply new techniques and approaches to combat fraud, use advanced data analysis methods to solve a variety of marketing, information, operational, security tasks.

Of course, an important area of adaptation of card payment systems to the conditions of functioning in the digital economy is the creation of such products that minimize customer risk. For example, special virtual cards are issued, which allow you to store a relatively small amount of money on them, and which can be used to make secure purchases online. Special library APIs are also being developed that allow site owners to interact with the payment system to ensure the transfer of funds online.

Such solutions allow card payment systems to remain relevant even in the context of the emergence of new competitors in the payment market, including those who focus only on ensuring the transfer of funds in the digital environment. Card payment systems are able to withstand such competition, as they currently have significant market power.

Speaking of the application of international practice in Ukraine, it should be noted that the payment systems themselves already operate in

Ukraine. Therefore, partner banks can connect a large list of available digital products for their customers.

For example, a new type of settlement and cash transaction is one that involves cryptocurrency. The company implements cryptocurrency support. Currently, the list of such cryptocurrencies is limited, namely stable coins and other cryptocurrencies that meet the requirements of MasterCard are used. The requirements are the need to ensure privacy, protection of customer funds and data. Despite the limited list, the company has received 89 patents in the field of cryptocurrency, and also claims to receive another 285. The MasterCard payment system has attracted the attention of various partners specializing in cryptocurrency exchange, including buying and selling them for fiat funds. As a result, it allowed the issuance of crypto cards, which allow customers to exchange their own funds, such as US dollars, for different cryptocurrencies (Fig. 1).

The essence of the offer is to provide Ukrainian customers with the opportunity to receive crypto cards. Another proposal is that the National Bank of Ukraine intensify its activities to attract to the payment system in our country the most important international systems operating in this area. First of all, we are talking about PayPal as a solution that allows you to quickly pay different members of such a service. Its value is not that it helps to transfer money, because any other alternative solution, such as payment cards of Ukrainian banks, other settlement services of the financial market, copes with this task.

The main value of this service is that it is

popular among residents of the United States and other developed countries, characterized by an extremely high level of average income per capita. Such a service is actively used in business operations, not only in the provision of services by enterprises to enterprises, but also in the interaction of individuals and legal entities with

individuals. If a typical banking transaction requires significant commissions, it is usually about \$ 25. US for any transaction, the PayPal allows you to make relatively small transfers. Therefore, such a system is especially popular among individuals who make relatively small payments.

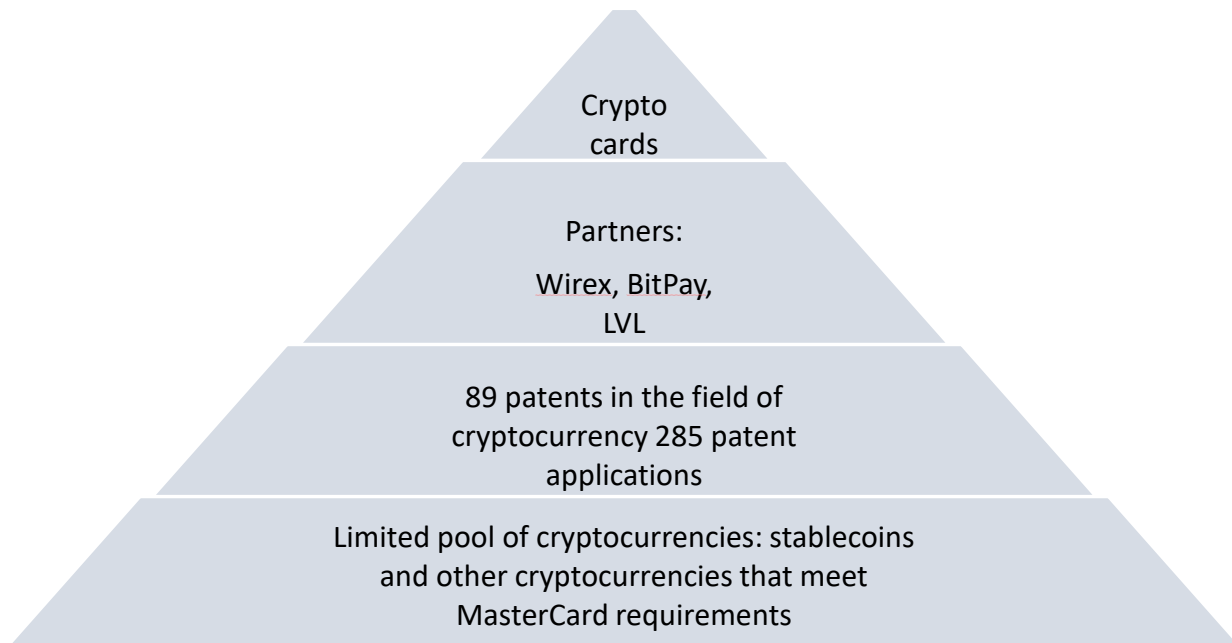


Figure 1 – Support for cryptocurrencies in the Mastercard system

Source: compiled by the author based on (Why Mastercard ...)

At the same time, such an audience creates a significant potential demand for the services of various business entities, including those located in Ukraine. In this context, this service is especially valuable for programmers and other IT professionals who are actively exporting their services abroad. They face a lot of problems when crediting funds received from PayPal. In fact, citizens of Ukraine are disconnected from such a system, because they do not have the opportunity to accept funds for their e-wallet. Solving this problem will significantly increase the inflow of currency into the Ukrainian economy, provide more efficient services to Ukrainian citizens by domestic commercial banks in the implementation of settlement and cash transactions. After all, Ukrainian banks also took part in this process, namely, they would receive transfers in the interests of Ukrainian residents directly from the PayPal system.

In this context, the National Bank of Ukraine should intensify actions that will solve the existing problem of lack of access to one of the most popular payment systems. Given that there have been minor attempts by the regulator to establish a dialogue with PayPal, it is advisable to act in a different scenario, namely to resolve issues through policy instruments. At present, there is close cooperation between the political circles of Ukraine and the United States. If we look at the experience of expanding the coverage of PayPal in developing countries, we can pay attention to providing this opportunity to Cuba, which is much poorer than Ukraine and generates a much higher level of various risks that may be associated with abuse of the payment system. Such access was granted to Cuban citizens as part of the measures taken by former US President Barack Obama to establish

good neighborly relations with his country (PayPal Brings Money Transfers to Cuba).

From the point of view of the current business model, as in the case of Ukraine, Cuba is not of any interest, because the citizens of this country are not able to provide a significant amount of income and expenses, and thus a significant level of commission income for PayPal from using such a system. It is obvious that such a decision was entirely political, aimed at solving humanitarian and other problems. From this example, we can conclude that US presidents have the opportunity to influence PayPal in order to solve certain political problems, but only if it does not harm the current situation of the payment service itself. At the same time, during Obama's presidency, it was the current US President Joe Biden who was responsible for some of the international affairs in this figure's office. Thus, we can conclude that the mechanism of expanding access is clear and understandable.

Accordingly, it is recommended that the National Bank of Ukraine lobby for decisions on the entry of the PayPal system into Ukraine. Of course, only legal tools should be used for this. Employees of the National Bank of Ukraine actively cooperate with other Ukrainian authorities, including the President. The process of forming and signing agreements at the international level is quite complex and involves a large number of meetings, discussions, etc. Accordingly, when formulating subsequent agreements between Ukraine and the United States of America, it is important that employees of the National Bank of Ukraine comment on the need to include the issue of PayPal in discussions between countries. Given the various indirect indications, namely the United States' loyalty to Ukraine at the current stage of development, it can be expected that such a request will most likely be granted, but only if the issue is raised in international dialogue.

Accordingly, the costs within such an event will not be significant, as it is expected to spend working time of employees of the National Bank, who already receive a salary for their work. As for the economic effect, it will be significant, as

it will allow Ukrainian freelancers and other entrepreneurs to actively enter the foreign market with significant average indicators of the development of the financial system of households and enterprises. There will be more opportunities for quality provision of settlement and cash services to Ukrainian citizens, and the latter will generate a significant level of foreign exchange earnings, which will then go to their accounts in Ukrainian banks in the event that they want to spend their money in Ukraine.

Deloitte data show that increasing the penetration of such Internet systems strengthens online commerce, which in turn leads to an increase in gross domestic product by 0.5-1.5% (The economic impact of online payments). Accordingly, it can be expected that such a measure will provide additional growth of gross domestic product by 0.75%.

It is advisable to pay attention to other examples of foreign experience to increase the efficiency of cash transactions. MasterCard is actively implementing artificial intelligence in its operating processes to increase their efficiency. First of all, such machine learning approaches are used to detect credit card fraud. The fact is that attackers are constantly changing tactics, so it is important to have a system that will be adapted. Otherwise, it will not have time to rebuild under the new challenges created by fraudsters. Accordingly, adaptive dynamic models of artificial intelligence are able to protect the company's customers, while minimizing the likelihood of erroneous operation of the anti-fraud system.

Artificial intelligence is also being actively implemented to provide consulting services to MasterCard customers. For example, we are talking about answers to standard questions in letters, chats, other communication channels of interaction with the target audience. At the initial stage, the quality of artificial intelligence in this area is unsatisfactory, but after systematizing a large array of data, artificial intelligence is able to release a significant part of line personnel who interact directly with the customer. For example, as well as when accessing your account, for example, from a mobile phone (Fig. 2).

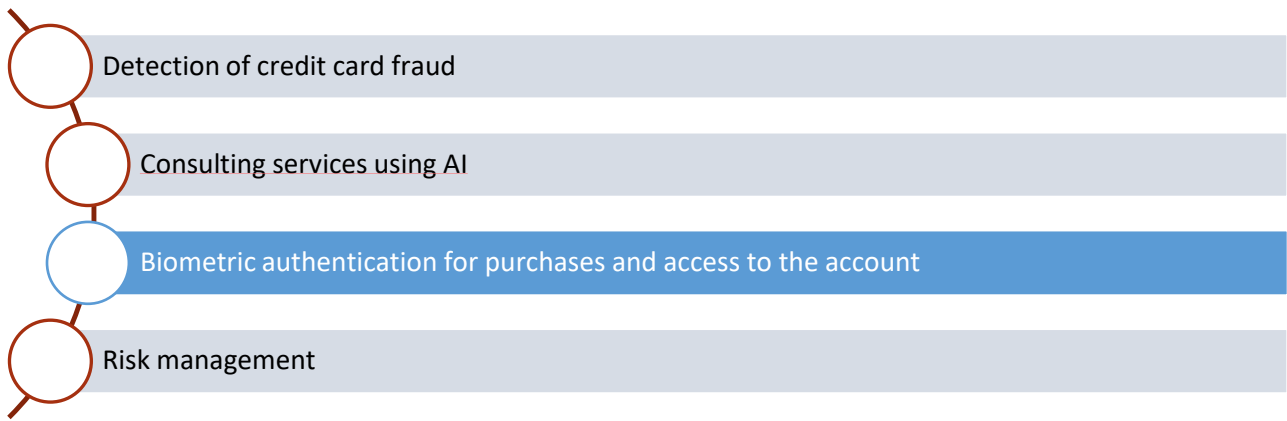


Figure 2 – Artificial intelligence in the work of banks and payment systems
 Source: compiled by the author on the basis (APIs; Artificial Intelligence at Mastercard)

In addition, this technology is used in risk management, namely not only in card maintenance, but also in the implementation of its own financial and investment strategy. It is about controlling currency, interest and other financial risks, determining the optimal areas of investment that the company wants to place in

stocks and bonds of the stock market. That is, MasterCard uses the capabilities of digitalization not only to improve payment processes, but also other ancillary. Considerable attention is paid to creating a user-friendly API for programmers and trading platforms (Fig.3).

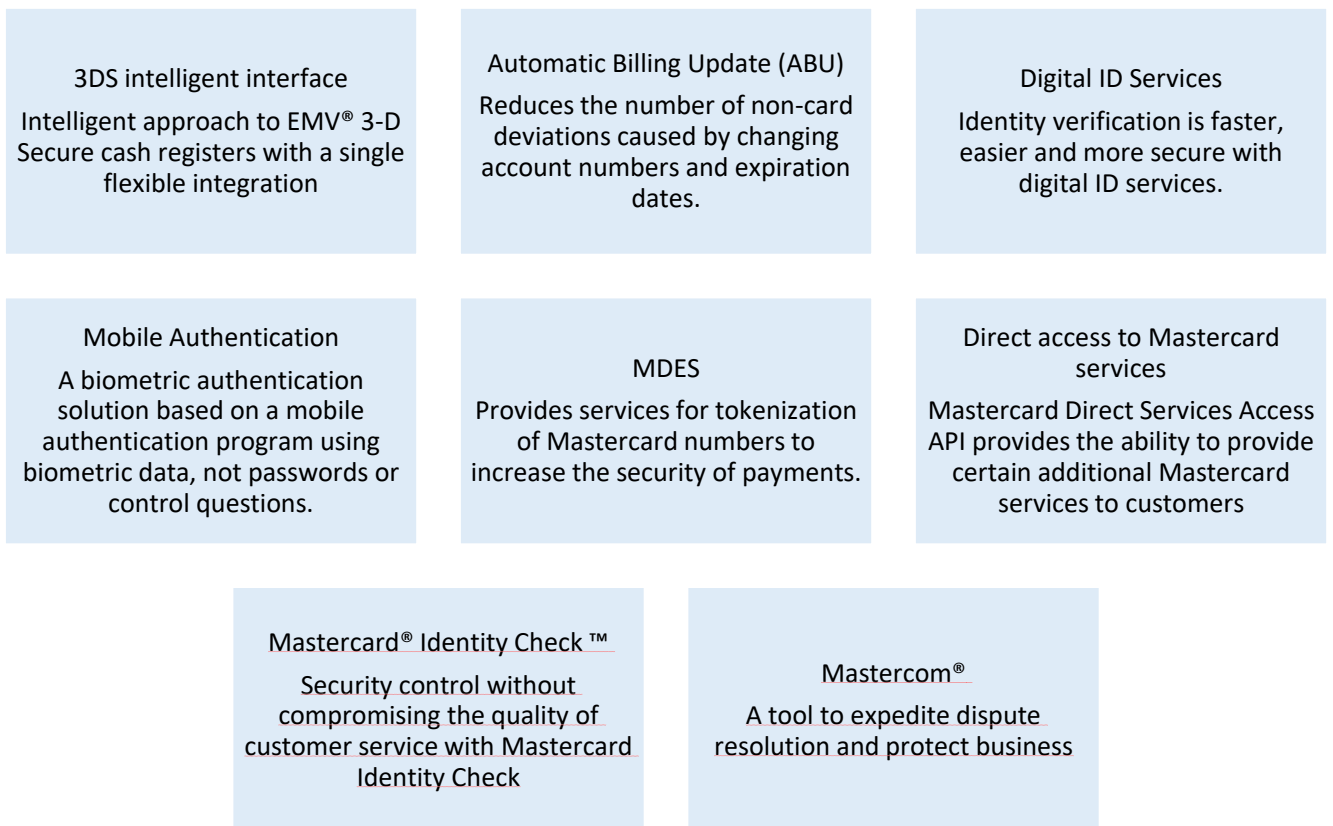


Figure 3 – Software solutions to combat fraud (for stores and developers)
 Source: compiled by the author on the basis (APIs)

We are talking about the formation of such a library of software commands that will automate the process of interaction between the payment system and a particular store. This expands the company's market presence, while allowing the stores themselves to provide the necessary payments. As shown in Figure 3, we are talking about various intelligent interfaces, automatic billing updates, digital identification services, identity verification on a mobile phone, direct access to MasterCard services, as well as a number of other functions. Programmers have the opportunity to integrate their programs, sites with the MasterCard system, thus providing customers with the opportunity to pay for physical and digital goods. In this context, the most important issue is the security and

minimization of the likelihood of fraud.

Such transactions lead to the debiting of funds from the account of a person who is not interested in such actions, to the cancellation of a large number of orders from sellers, to other negative phenomena, which creates losses for the payment system and for stores and their customers. There is also a library of commands for programmers who want to integrate the payment system not only with programs but also with different media. For example, we are talking about payment terminals that allow you to pay for goods in a particular store. The number of different solutions is significant, for example, we can talk about the use of QR-codes, a virtual map, and other tools that will ensure the operation (Fig. 4).

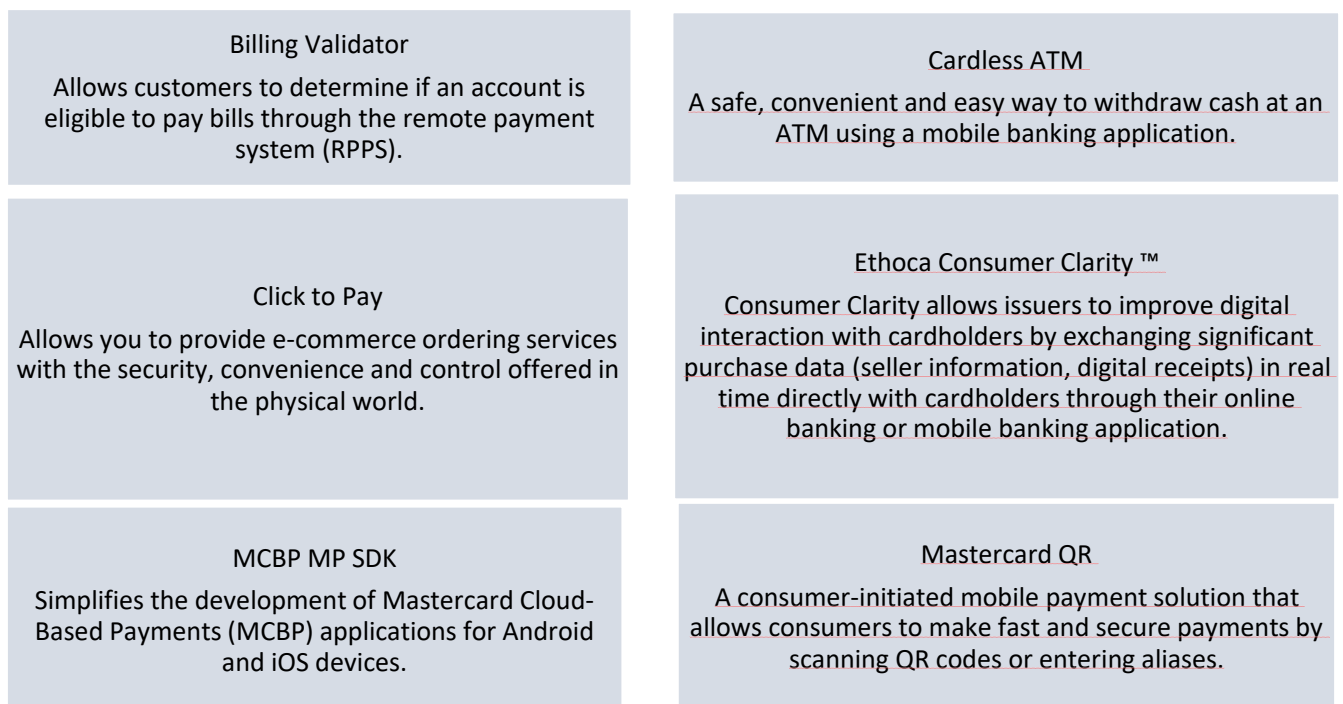


Figure 4 – Payment API
Source: compiled by the author on the basis (APIs)

The company is also developing a team library for programmers to increase customer loyalty. As before, such tools can be used to integrate with your own site, program, physical media. 5, it is a question of possibilities of payment by points, service of selection of Wi-Fi

for the client, addition of opportunities while waiting for the client on the plane, and also use of other tools which will allow to increase loyalty both to the payment system, and to that subject who uses API.



Figure 5 – API to increase loyalty
 Source: compiled by the author on the basis (APIs)

Conclusions

Summing up, we note that the proposed areas for improving the organization of cash services of the bank:

- considered the international practice of cash customer service and the possibility of its application in Ukraine. It is proposed to lobby for the introduction of the PayPal system in Ukraine at the political level. In addition, the expediency of providing Ukrainian customers with the opportunity to receive and use crypto cards from Mastercard is indicated. Measures will increase the gross domestic product by 0.75% annually;

- formulated measures to improve the efficiency of cash transactions. It is proposed to pay attention to two possibilities, namely the use of artificial intelligence and the creation of APIs. Artificial intelligence will significantly increase the efficiency of settlement and cash customer service by Ukrainian banks, while the API provides further expansion of sales of settlement and cash services by attracting individual entrepreneurs and freelancers who will integrate payment decisions of Ukrainian banks into their systems. The experience of Mastercard companies is given as an example.

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