

Ways of Developing Electronic Money

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Abstract:

This article provides detailed information about the history of electronic money and its types. Also, issues such as the place of electronic money today and some aspects of its circulation systems are covered in detail.

Keywords: cash, electronic money, financial sector, computer technology, information security, virtual, private networks, plastic cards, electronic key.

Introduction: In today's world, it is noteworthy that by the middle of the 17th century, precious metals began to be replaced by paper banknotes, and three hundred years later, they began to give way to electronic money. In the mid-1970s, for the first time, a cashless transaction, that is a shipment, was made by card. But this was not electronic money, but only a method of mutual exchange within the banking system. The first electronic money transfer "was carried out in 1994 based on the idea of the American computer scientist David Lee Chaum to convert real money into virtual currency through the DigiCash payment system." In fact, this historical reality was seen primarily as a product of the Internet's expansion and emergence as a virtual currency storage and communication system.

Four types of money dominate the world: cash, non-cash, electronic and crypto-currencies. Currently, less than 30 percent of the world's population uses cash banknotes, and the rest uses electronic money. This figure averages 10 percent in developed countries, including less than one percent in Sweden.

Electronic money works in the same way as cash. You can use them to pay for products or services. The difference is that they are stored in bank cards, electronic devices or electronic wallets.

In the following years, the development of e-commerce in our country, the formation and

strengthening of the competitive environment among the providers of various payment services will reduce the transaction costs of retail payments, as well as the current use of innovative and attractive tools that do not require the mediation of financial institutions in making payments. demands that it be done. Electronic money, as one such system, is rapidly entering our daily life. Today, "the total number of users of digital banking systems worldwide has exceeded 2.4 billion in 2020. Analysts predict that digital banking users will grow 54 percent globally to 3.6 billion by 2024, as digital banking alone catalyzes the market. This growth will only be driven by the proliferation of digital banks and the continued focus on digital transformation by established banking brands."¹. Therefore, in many countries of the world, remote management of banking services without visiting the bank has become one of the most urgent issues.

Systematic works are being organized in the banking system of the Republic of Uzbekistan to provide electronic banking services to customers. In particular, in the decree of the President of the Republic of Uzbekistan dated May 12, 2020 "On the strategy of reforming the banking system of the Republic of Uzbekistan for 2020-2025" No. PD-5992 "The banking system of the Republic of Uzbekistan is considered as one of the priority directions of reforming the system, and it is very important to improve the efficiency of the banking system by modernizing banking services, creating an efficient infrastructure and automating the activities of banks, as well as gradually canceling the functions of banks that are not related to the main type of activity attention is being paid. Also, creating the necessary conditions for the widespread introduction of modern information and communication technologies, the automation of business processes of commercial banks, and the expansion of the types of remote banking services; expanding the number and scope of remote banking services, including contactless payments; extensive use of automated scoring system, digital identification and credit conveyor; strengthening the information security of bank data and systems; The definition of tasks such as "introduction of new concepts and technologies in the banking sector (fintex, marketplace, digital bank)"² indicates the relevance of the topic.

Some aspects of the specific features of electronic money have been studied by foreign scientists Schär F., Bech M.C., Boar, D.Yeidan, P.Haene, H.Holden, W.Toth and are expressed in the scientific research of other scientists.

According to D.Gentle, J.Sinki, P.Rose, the idea of "Financial supermarket" and "financial boutique" and the inclusion of banks specializing in a narrow field in the ranks of universal banks are becoming relevant. Services in the loan capital market, electronic services have become widespread, and the number of mergers and acquisitions of banks has increased.

The scientific and practical aspects of existing problems in this field were studied by local economists Sh.Z.Abdullaeva, T.M.Koraliev, A.A.Omonov, M.M.Nuralieva, Z.T.Mamadiyarov.

Adoption of the Law of the Republic of Uzbekistan "On Payments and Payment Systems" created the legal basis for electronic money circulation, including the issuance, use and compensation of electronic money. On the basis of this law, "Rules for issuing and circulating electronic money in the territory of the Republic of Uzbekistan" were developed and registered with the Ministry of Justice under the number 3231 on April 29, 2020. Based on world experience, this document was developed in order to organize the operation of the electronic money system, electronic money circulation, risk management in the electronic money system, and ensure security in the system.

It covers key concepts of e-money, including "exchange transaction", "single and multi-issuer e-money", "prepaid card", "e-money agent", "e-wallet" and industry-specific other terms are explained in detail.

¹ Prepared based on information from www.sciencedirect.com/juniperresearch/press/digital-banking-users

² Decree of the President of the Republic of Uzbekistan dated May 12, 2020 No. PD-5992 "On the strategy of reforming the banking system of the Republic of Uzbekistan for 2020-2025".

According to the rule, the issuer, operator, agent of the electronic money system, owner of electronic money, as well as banks, payment organizations, individual entrepreneurs and (or) legal entities that have signed a contract with the issuer are the subjects of the electronic money system. In this case, a bank and (or) a payment organization with an appropriate license, which ensures the operation of the electronic money system, is the operator of the electronic money system. The issuer or another non-issuing bank may operate as a settlement bank of the electronic money system based on a contract concluded with the operator. It is worth noting that in order for the issuer to start its activity, first of all, a notification to the Central Bank in the prescribed form on the issuance and sale of electronic money and, as an appendix, a contract concluded with the operator and contracts with entities of the electronic money system it is necessary to send samples.

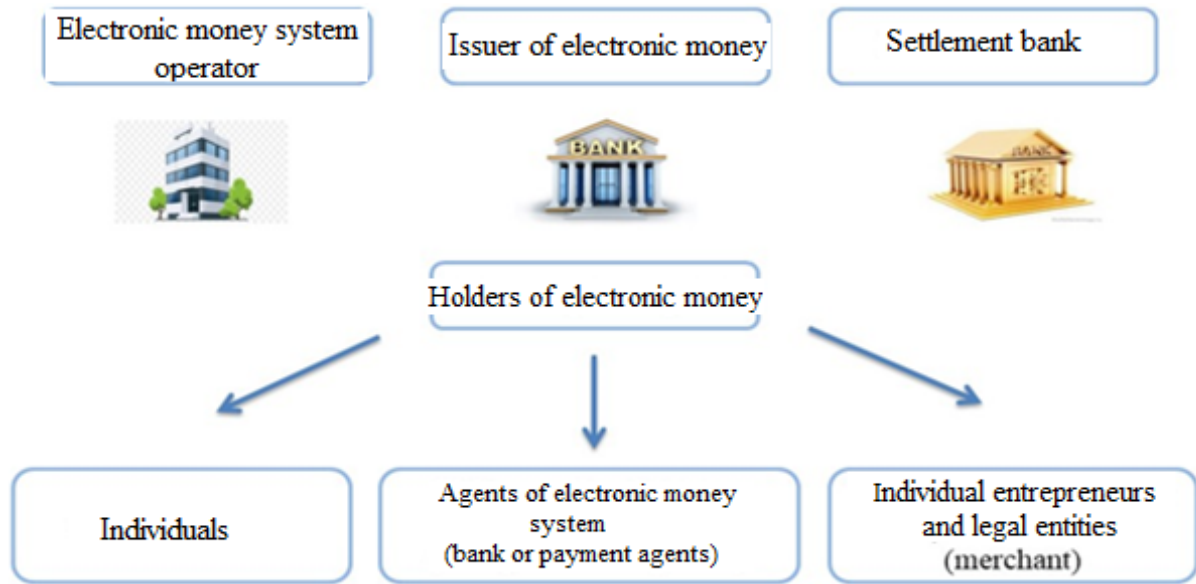


Figure 1. Subjects of the electronic money system³

One of the main advantages of electronic money is the possibility of making payments without opening a bank account and the rapid system has been established. At the same time, when making payments, the brokerage fee is cheaper than other means of payment.

Table 1. Electronic money facilities for individuals⁴

Bank cards	Electronic money
Opening a bank account is required	An individual customer can open an e-wallet to a mobile phone number
When performing operations, it is required to apply to the bank card account	Transactions are processed directly through the electronic wallet (the corresponding bank brokerage fee is not deducted, costs are reduced)
Commercial banks must identify the customer when opening bank cards	The holder of an electronic wallet may or may not be identified. The maximum amount of one transaction carried out by an individual who is the owner of identified electronic money shall not exceed the amount equal to 100 BHM. The maximum amount of one transaction carried out by an individual who is the owner of unidentified electronic money

³ www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

⁴ www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

	cannot exceed the amount equal to 1 BHM. The maximum amount of electronic money stored in one electronic wallet (device) of an individual who is the owner of unidentified electronic money is 5 BHM.
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Now, the number of electronic money systems in Uzbekistan has reached 15.

Table 2. Register of electronic money systems⁵

№	The name of the electronic money system	Operator name	Name of the issuer	Electronic money issue date
1.	«OSON»	"BRIO GROUP" MChJ	«Turkiston» XATB	16.06.2020 y.
2.	«E-CARD»	"INSPIRED" MChJ	ATB «Universal bank»	21.08.2020 y.
3.	«CLICK»	"CLICK" MChJ	«Agrobank» ATB	21.08.2020 y.
4.	«WOOPAY»	"WOOPAY UZ" MChJ	«Kapitalbank» ATB	02.11.2020 y.
5.	«alif.mobi»	"ALIF TECH" MChJ	AT «Aloqabank»	02.11.2020 y.
6.	«Interpay»	"Interpay sys" MChJ	«Kapitalbank» ATB	28.07.2021 y.
7.	«A-pay»	"CENTER FOR DIGITAL TECHNOLOGY AND INNOVATION" MChJ	«Bank Apelsin» AJ	01.07.2022 y.
8.	«QIWI Uzbekistan»	«Payment Aggregation Systems» MChJ	«Bank Apelsin» AJ	11.08.2022 y.
9.	«1HLSW»	"Genesis Innovation" MChJ	AT «Aloqabank»	17.11.2021 y.
10.	«GlobalPay»	"Global Solutions" MChJ	AT «Aloqabank»	17.11.2021 y.
11.	«Payway»	"Payway" MChJ	«Bank Apelsin» AJ	29.07.2022 y.
12.	«Apelsin»	"Bank Apelsin" AJ	«Bank Apelsin» AJ	29.07.2022 y.
13.	«ExMoney»	"O‘zbekiston Respublikasi Tovar-xomashyo birjasi" AJ	«Trastbank» XAB	30.08.2022 y.
14.	«AIST»	"Ozinterpay" MChJ	ATB «Universal bank»	30.08.2022 y.
15.	«PAYNET WALLET»	«INSTANT PAYMENT SOLUTIONS» MChJ	AT Xalq banki	30.08.2022 y.

According to a summary from the World Agency for Migration and Development Studies, “officially recorded remittance flows to low- and middle-income countries totaled \$540 billion in 2020, just 1.6 percent of the \$548 billion in 2019. percent less. The decline in recorded remittance flows in 2020 was smaller than during the 2009 global financial crisis (4.8 percent)”⁶.

⁵ www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

⁶ <https://www.worldbank.org/en/topic/socialprotectionandjobs/publication/migration-and-development-brief-33>

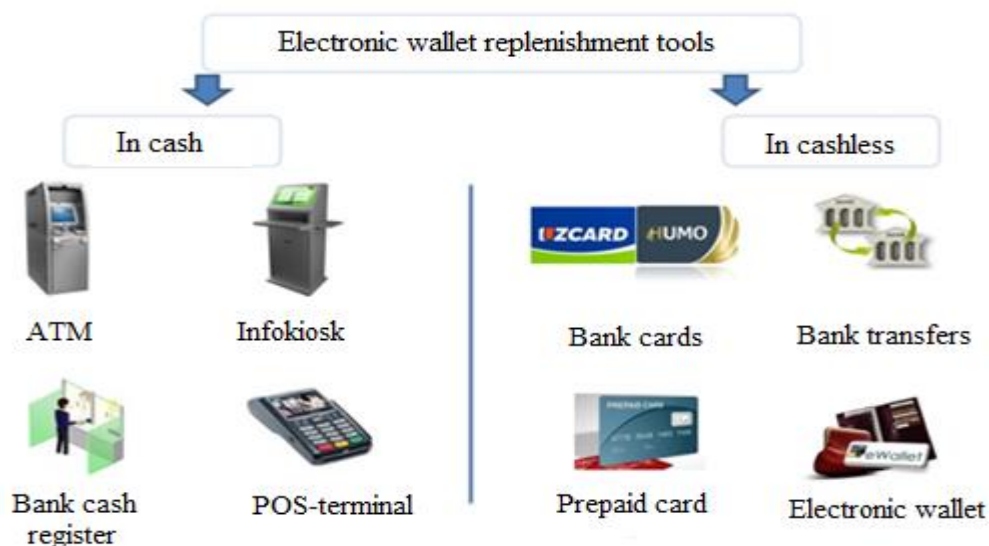


Figure 2. Electronic wallet filling processes⁷

The analysis of the data in Figure 2 shows that the issuance of electronic money is within the framework of the funds received by the issuer from an individual or an agent of the electronic money system, as well as the rules of the electronic money system and on the issuance, use and reimbursement of electronic money. is carried out according to the contract.

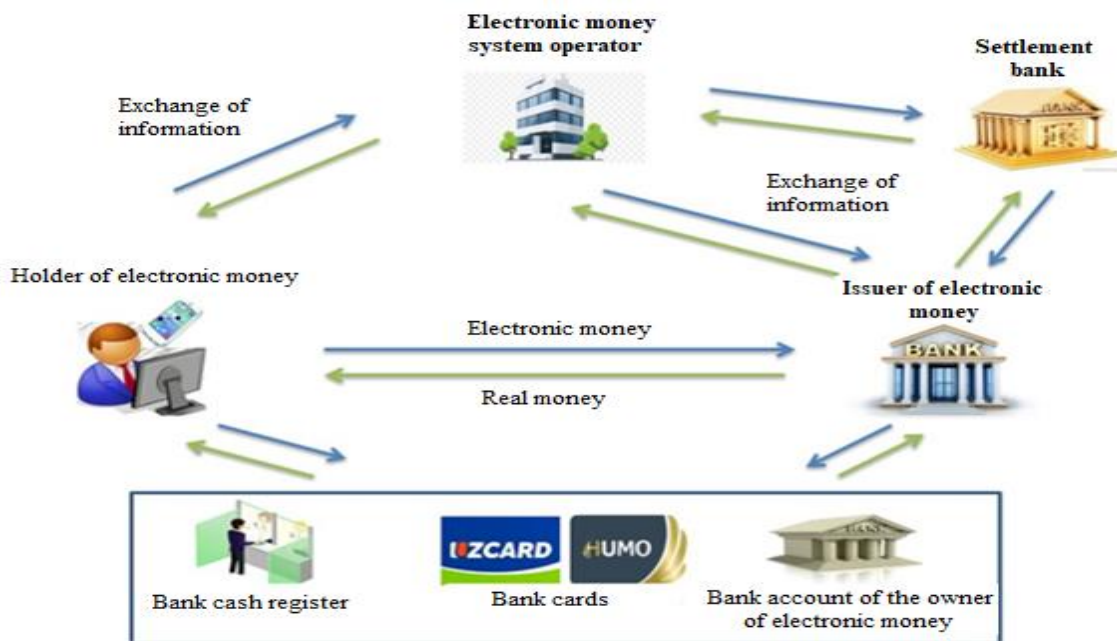


Figure 3. Electronic payment technology⁸

The analysis of the data in Figure 3 shows that the electronic money provided by the issuer of the electronic money is in accordance with the rules of this system and the contract between the issuer and the owner of electronic money on the issuance, use and compensation of electronic money. exchange for cash or cover non-cash funds by crediting the bank account of the owner of electronic

⁷ www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

⁸ www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

money.

Today, the Central Bank is paying special attention to the automation of banking business processes and the provision of services through digital channels as part of the work aimed at developing national payment systems and increasing the popularity of financial services. In particular, the number of users of remote bank account management services increased by 1.5 times and reached 30 million as of January 1, 2023. In this case, 1.2 million users. of legal entities, the number of individuals using remote management systems for bank cards and bank deposit accounts is 28.8 million. is equal to As a result of the creation of the opportunity to use all basic banking services for individuals in the mobile application programs of banks, the volume of transactions carried out remotely online amounted to 145.8 trillion in the reporting year. amounted to soums. In this case, we can see that online deposits made through mobile application programs - 21.9 trillion. soums, conversion operations - 20.9 trillion. soums, online microloans - 5.6 trillion. soums, the volume of loan repayment - 8.2 trillion. soums.

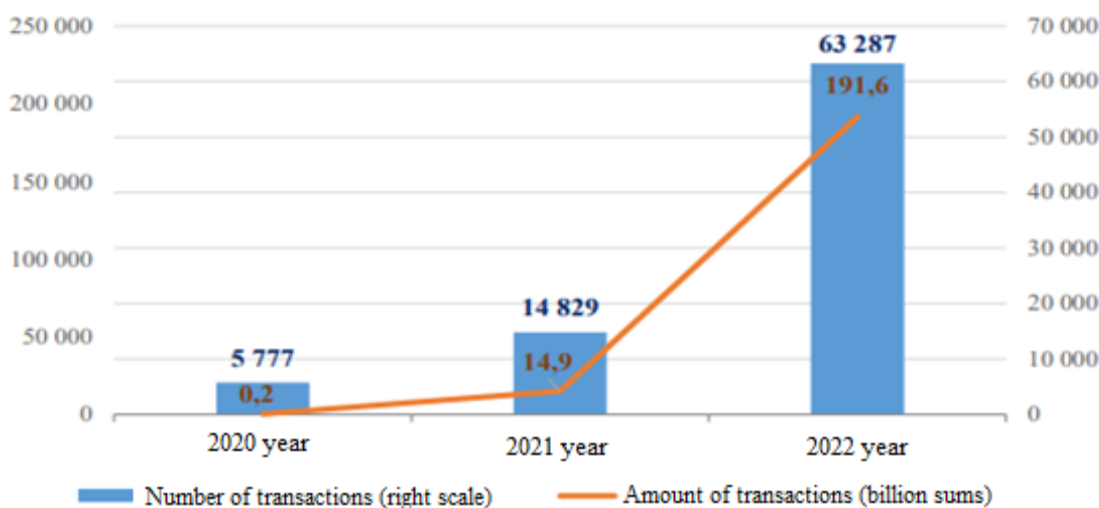


Figure 4. Transactions made in the QR-online system⁹

The analysis of the data in Figure 4 shows that in 2022, the number of QR codes provided to business entities by the "QR-online" information system increased by almost 8 thousand to 99 thousand compared to 2021. Nevertheless, the volume of transactions made through this system in 2022 will be 14.9 billion in 2021. 191.6 billion from the sum increased to soums, and the number of transactions increased by 4.2 times to 63.2 thousand.

⁹www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

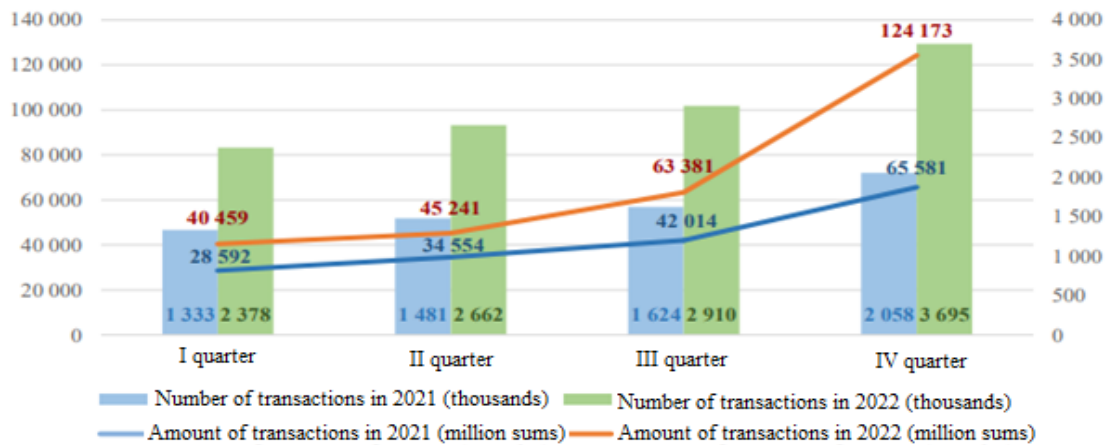


Figure 5. Transactions made through electronic money systems¹⁰

The analysis of the data in Figure 5 shows that as of January 1, 2023, 15 electronic money systems were included in the register of electronic money systems of the Central Bank, and the number of electronic wallets opened in these systems was 8.4 million. to pieces. In the reporting year, the number of transactions made through electronic money increased by 1.8 times compared to 2021 and reached 11.6 million. units, and the volume of transactions increased by 1.6 times amounted to 273.2 billion. soums.

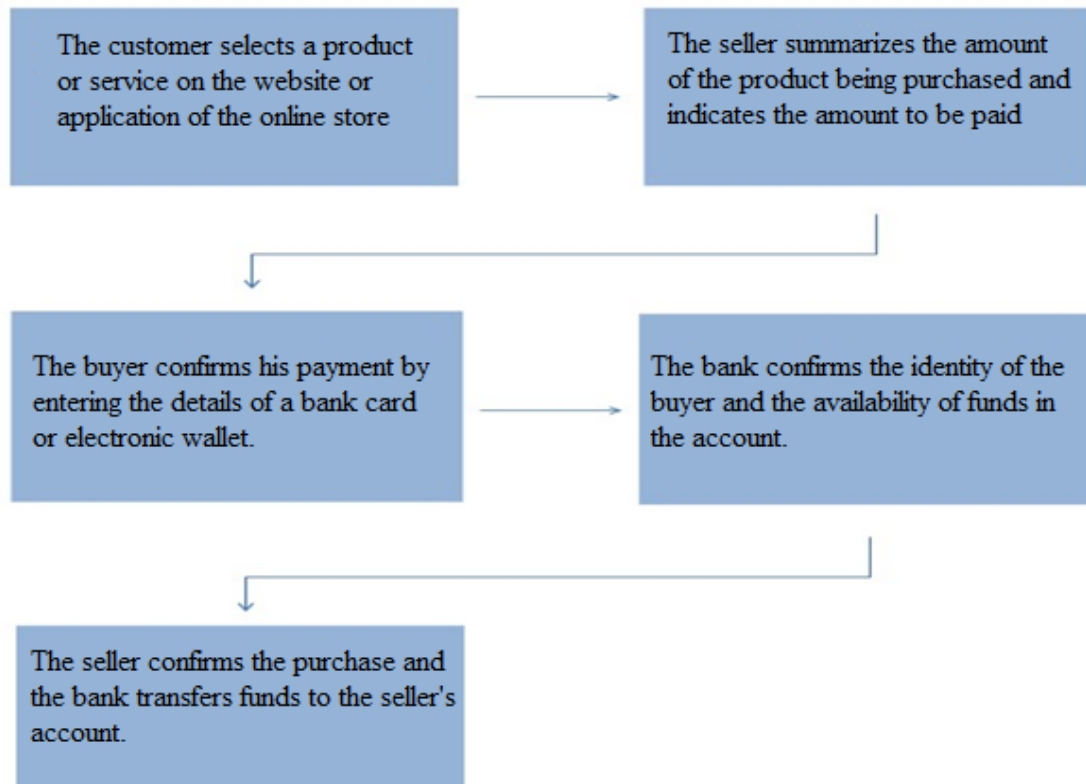


Figure 6. The online payment procedure is as follows¹¹

The transactions' 92% carried out by the owners of electronic wallets were for the purpose of

¹⁰www.cbu.uz It was prepared based on the information of the Central Bank of the Republic of Uzbekistan.

¹¹ Author's development (based on information from www.cbu.uz).

making payments for certain goods (services, works) to the electronic wallets of business entities participating in electronic money systems, and 8% for making money transfers to the electronic wallets of individuals. used. 28% of payments made by means of electronic money are services of mobile operators, 10% - utilities and services in games and social networks, 9% - top-up of foreign electronic wallets, 5% - payments on the spot and other services. constitutes payments made.

Summary

A number of important measures aimed at ensuring the stability of the banking system and stimulating high growth rates of the economy were developed. This allows the expansion of competition in the market of banking and other financial services and the improvement of the quality of customer service, and creates conditions for the development of a modern market infrastructure that meets the highest international standards. Wide application of modern information and communication technologies in the banking system ensures more efficient operation of this system.

In modern reality, it is impossible to carry out the activities of a banking institution without using information technologies in marketing. The use of various types of Internet marketing allows you to attract new customers and expand the existing market. There is no doubt that banks that pay enough attention to these promising marketing tools today will have a serious advantage over their competitors tomorrow. In this regard, banks should develop an online data collection system along with the development of the online service provision system. This allows them to obtain the latest information about customers and partially reduce research costs.

Thus, the development and conduct of effective customer research by banking institutions allows them to improve their relationship with themselves and increase their market performance. It is very important for the bank to combine its marketing research with the services of professional companies. Also, banking institutions should use modern research methods using various types of modern communication tools. Because they have the necessary information on direct contact with customers.

The lack of development of overdraft, currency swap services, non-availability of overdraft, overdraft, and trust services in the services of commercial banks of our republic indicates the existence of urgent problems in increasing the number and quality of financial services of banks.

In commercial banks, by organizing marketing departments according to the type of Internet banking service, it is necessary to cover a wider range of customers and ensure their awareness of this type of service;

Regular training of personnel who are competent in working with new banking services and have a good understanding of information technologies and banking services;

Changing the way banks operate, developing their own strategy for each client.

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