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# Modern Directions of Institutional Regulation, Digital Changes in the Field of Calculations and Payments

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**Annotation:** In this article, the increase in demonetization of high notes will bring great changes in the overall financial system of the country; most of the people have faced a lot of problems as it is difficult to cope with the situation in the cashless market. Thus, demonetization has also increased the use of digital payments as a reliable means of transferring money from one system to another. As the country transitions to a cashless, digital economy, digital payment tools, including e-wallets and mobile banking, are gaining popularity in place of Internet banking. In the current era, advanced digital solutions are emerging and more and more people in the country are using digital funds to make payments and transfer money.

**Keywords:** Electronic money, electronic payment system, mobile banking, cashless payments, digital economy.

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## 1. Introduction.

Today, consistent measures are being taken to develop the digital economy in our country, economic and legal foundations are being created for the gradual introduction of e-commerce systems for the exchange of electronic documents and services to individuals and legal entities in state bodies and other organizations. In particular, the Decision of the President of the Republic of Uzbekistan dated July 3, 2018 No. PQ-3832 "On measures to develop the digital economy in the Republic of Uzbekistan" [1] was adopted on the implementation of the digital economy in our country.

The development of e-commerce in our country in recent years, the formation and strengthening of the competitive environment among the providers of various payment services require the reduction of transaction costs for retail payments, as well as the introduction of innovative and attractive tools that do not require the mediation of financial institutions in making payments. Electronic money, as one such system, is rapidly entering our daily life. According to the legislation, electronic money is an unconditional and irrevocable monetary obligation of the issuer of this money, stored in electronic form and accepted as a means of payment in this system. In other words, electronic money is a means of payment and is the issuer's obligations.

## 2. Review of literature.

The digital economy refers to the digital ability to purchase goods and services and the use of digital technologies to facilitate business (House of Commons, 2016). "Digital economy is a science that studies the economic activity of a person, which envisages the widespread introduction of electronic and information and communication technologies in the processes of production, distribution and consumption of society's benefits" (Gulyamov et al., 2019). According to the International Monetary Fund, "financial technology" (fintech) refers to any

technology used in the provision of financial services (IMF, 2017). [2]

According to the interpretation of the Basel Committee on Banking Supervision, the concept of financial technologies includes technological financial innovations that lead to the emergence of new business models, processes, products, influence financial markets and institutions, and financial services provided using these technologies (BCBS, 2018). [3] Filippone (2016) [4] believes that financial technologies will "erase" the boundaries between sectors, radically change the mechanisms of creation and delivery of products and services, and create additional incentives and new opportunities for entrepreneurial activity. A similar opinion was expressed by S. Merler, and fintech is used to describe digital innovations and technologies that facilitate the provision of financial services (Veugelers, 2017). [5]

### 3. Discussion of analysis and results

Issuance and realization of electronic money begins with the sending of a notification and documents to the Central Bank in the form approved by the issuing bank. The notification received by the Central Bank will be reviewed within 10 days, and a record of the date of issuance of money will be recorded in the relevant Register maintained on the official website of the Central Bank.

Electronic money is made within the framework of funds received from individuals or an agent, in accordance with the agreement on the issuance, use and reimbursement of electronic money. Based on this contract, the conditions for the realization of electronic money are determined. Before concluding the contract, the issuer or operator must provide the individual with information on:

- the name and address of the issuer and the operator (postal address) (in the case of a payment organization - license number);
- Terms of use of electronic money;
- the procedure and amount of collecting the brokerage fee from the owner of electronic money;
- methods of submitting objections and the procedure for their consideration.

Electronic money is realized by transferring it to an individual and an agent to an electronic wallet that is created for each owner of electronic money. Proof of purchase of electronic money is confirmed by a receipt and other documents in paper or electronic form containing the following information:

- name of the issuer and operator;
- the date of the operation;
- sequence number of the operation;
- amount of electronic money;
- the identification code of the electronic wallet belonging to the owner of electronic money;
- the amount of brokerage fee to be charged (if it is specified in the contract on the issuance, use and compensation of electronic money). Also, the issuer may enter additional details. Electronic money is reimbursed by the issuing bank to its owners by exchanging it for cash or by transferring non-cash funds to the bank account of the owner of electronic money. Electronic money is withdrawn from circulation after payment.

The number of electronic money systems (EPT) in Uzbekistan is 12. These electronic money are Turkistonbank (Oson EPT), Universalbank (E-card, QIWI Uzbekistan EPT), Agrobank (Click EPT), Kapitalbank (Wooppay, Interpay, QIWI Uzbekistan EPT), Aloqabank

(alif.mobi, IHLSW, GlobalPay EPT), Bank It is issued by Apelsin (A-pay, Pay Way, Apelsin EPT).

As of August 11, 2022, the electronic money systems listed in Table 1 were included in the Central Bank register, and the number of electronic wallets opened in them reached 5.5 million. Compared to 2021, the number of transactions made through the system increased by 4.6 times to 6.8 million, and their volume increased by 8.5 times to 175.7 billion soums.

**Table 1. Register of electronic money systems [6]**

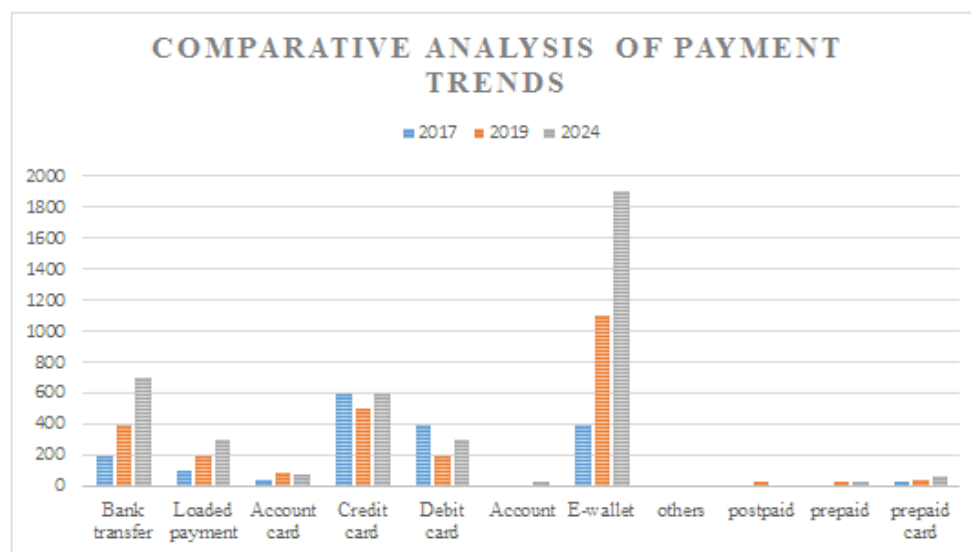
#	The name of the electronic money system	The name of the operator	Name of the issuer	The date of the start of activities on the issuance of electronic money
1.	"OSON"	"BRIO GROUP" LTD	"Turkiston" PSCB	16.06.2020
2.	"E-CARD"	"INSPIRED" LTD	"Universalbank" SCB	21.08.2020
3.	"CLICK"	"CLICK" LTD	"Agrobank" SCB	21.08.2020
4.	"WOOPPAY"	"WOOPPAY UZ" LTD	"Kapitalbank" SCB	02.11.2020
5.	"alif.mobi"	"ALIF TECH" LTD	SC "Aloqabank"	02.11.2020
6.	"Interpay"	"Interpay sys" LTD	"Kapitalbank" SCB	28.07.2021
7.	"A-pay"	"CENTER FOR DIGITAL TECHNOLOGY AND INNOVATION" LTD	"Bank Apelsin" SC	01.07.2022
8.	"QIWI Uzbekistan"	"Payment Aggregation Systems" LTD	"Bank Apelsin" SC	11.08.2022
9.	"IHLSW"	"Genesis Innovation" LTD	SC "Aloqabank"	17.11.2021
10.	"GlobalPay"	"Global Solutions" LTD	SC "Aloqabank"	17.11.2021
11.	"Pay Way"	"Pay Way" LTD	"Bank Apelsin" SC	29.07.2022
12.	"Apelsin"	"Bank Apelsin" SC	"Bank Apelsin" SC	29.07.2022

It is clear that for a long time, payments using plastic cards have been the leader among various payment methods, but in addition to plastic cards, there are other alternative payment methods that can be analyzed from the point of view of use in the field of e-commerce. Several groups were identified to analyze the volume of payments using alternative payment methods:

1. Bank cards divided into payment cards, credit cards, debit cards and prepaid cards.
2. Bank transfer.
3. Cash on delivery.
4. Direct debit.
5. Invoices. Examples: Klarna, Afterpay.
6. Electronic wallets
7. Payment after payment.
8. Other payment methods.

According to most economic and rating agencies, 2014 was recognized as the year of full recovery from the crisis of developed countries, and accordingly, the indicators reflected in 2014 can be called the fairest in the last ten years. This explains the choice of 2014 for comparison with the actual data of 2016-2017 for the alternative calculation methods, and the strategic forecast of the calculation volume for 2023 using different methods is also interesting to study. Also, using one or another method, indicators of the size of settlements are shown by the main regions: North America, Latin America, Asia and Oceania, as well as Europe, the Middle East and Africa. This section will help to analyze as accurately as possible the readiness of the regions to apply innovations in the field of international economic and financial relations, as well as evaluate the real possibility of introducing electronic money and cryptocurrencies into general use everywhere.

Comparative analysis of actual data for 2017, 2019 and forecast data for 2024 is a clear reflection of the current situation with the introduction of new forms of payments and current trends in the online retail sector. (Figure 1).

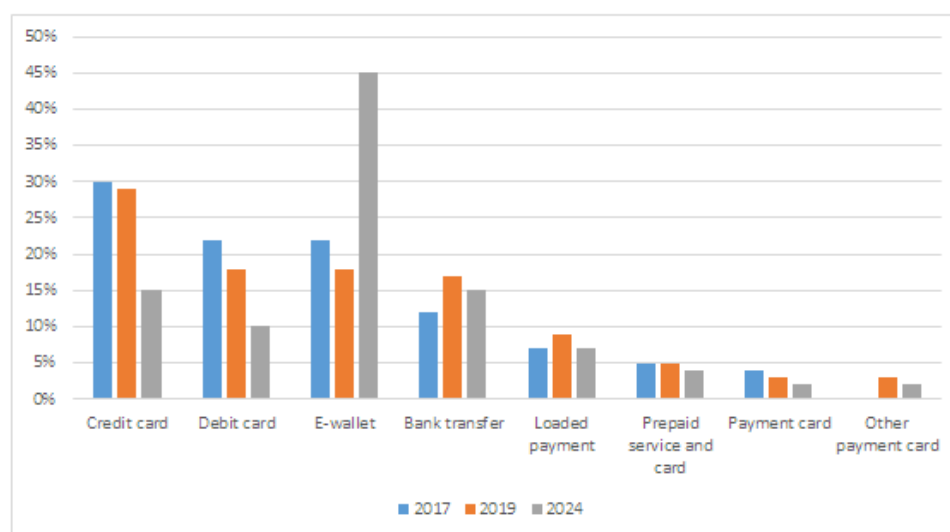


**Figure 1. Data on the volume of various calculations, methods for 2017 - 2019, forecast 2024, billion \$ [7]**

In 2017, credit cards were the most important alternative in the field of international payments in the consumer e-commerce market, and the total volume of payments exceeded 570 billion dollars. In 2019, the electronic wallet took the leading position. At the same time, the total real volume for credit cards in 10 months 2019 is almost at the same level as before, but compared to the volume of settlements using electronic money, it turned out to be less than half. The volume of payments with these cards was only 19.3% of the total volume of payments, and debit cards and bank transfers lag behind credit cards by another third. Comparing the actual data on online payments using e-wallet, this method of payment was not only equal to debit cards in 2017 and had a total volume of almost \$400 billion. In 2019, the volume of e-wallet payments not only exceeded \$1.076 billion, but also became the number one payment method. At the same time, according to odu's 2024 forecast, the volume of payments through electronic wallets is already 1.916 billion dollars and accounts for 45.9%, which is half of the total volume of payments. Surprisingly, in 2019, cash payments for courier delivery amounted to only 202 billion dollars, but it should be noted that in many developing countries, as well as in electronic shopping within one city, cash on delivery is a very effective method and they do not trust modern means. It is projected to grow to \$301 billion in 2024 by cash calculations.

If we talk about the reasons for such a dynamic, then it will be difficult to achieve a

significant popularity of electronic wallets due to the introduction of this payment method to the masses, due to the very simple operation of electronic wallets. In addition, as mentioned above, the electronic wallet managed to overcome a number of disadvantages associated with bank cards, such as commission and transaction time, which helps to attract a part of the audience that can use credit and debit cards. At the same time, due to such an exit of users, the volume of payments using plastic cards will decrease significantly, which will lead to the emergence of bank transfers that do not cover their target audience with electronic wallets. Thus, it should be concluded that according to WorldPay's forecasts and the comparative dynamics and forecast indicators of real data from 2017 and 2024, electronic money can increase its target audience by 2024, which will help them to present themselves as a new form of payment, but this growth will not have. It has a major impact on international economic and financial relations, but it only increases the competition between calculation methods. Another important condition of this trend is the global economic position of monetary regulators. According to many economists, the largest countries are on the verge of a trend of reducing cash payments in the direction of cashless, which will continue to stimulate the growth of various methods of cashless payment. If we talk specifically about electronic wallets, the idea of payment secrecy is very relevant for users who try to conduct their activities on the Internet as secretly as possible, including e-commerce. So, if the circulation of cash decreases, the only advanced alternative form of payment with privacy will be: the e-wallet. In addition, the absence of commissions and the ease of working with electronic wallets, as well as the absence of dependence on intermediaries representing banking organizations, along with minimal transaction and time costs, will continue to encourage consumers to switch to electronic payments using electronic payment systems and electronic money. More precisely, the competition between online payment methods can be seen in the table of shares below (Figure 2).

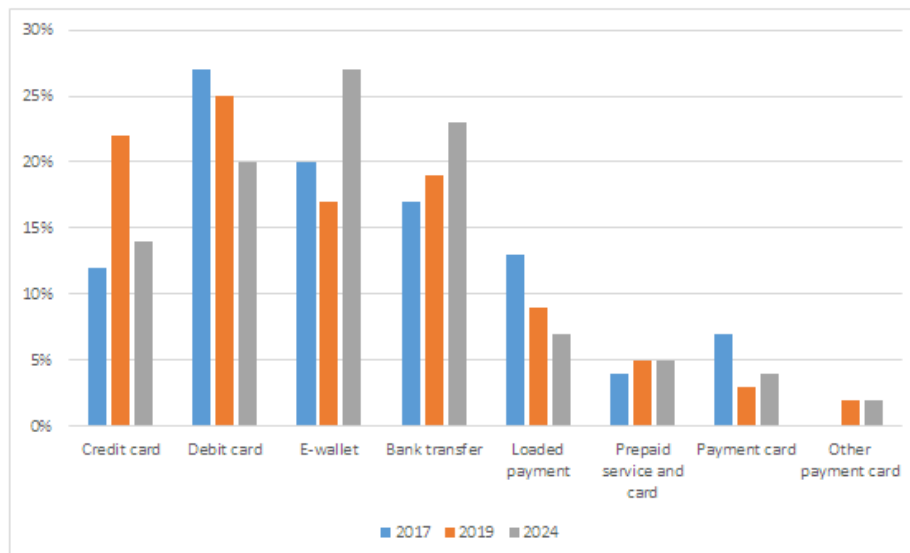


**Figure 2. Calculation methods share distribution worldwide in forecast year 2017, 2019 and 2024 [8]**

Here you can see the share of a particular method in 2017, 2018 or the forecast period of 2024. Regarding the total cash flow for goods and services purchased online, the global trend shows that there are four main payment methods for 2017, 2018 and projected 2024, namely credit and debit cards, bank transfer and e-wallets. The total size of the leading payment methods will exceed 70% in 2016 and will exceed 80% of the market size in 2024. At the same time, as mentioned above, a significant increase in the forecast year of 2024 is indicated by prepaid loans system, bank transfers and electronic wallets are three independent segments of payments for online purchases, which are personal data or security of personal data due to

the privacy of wallets and prepaid services. there is the least doubt about it. The analysis shows that by 2024, the share of payments using credit cards is expected to decrease sharply from 29% to 15% of the total payment volume, the volume of payments using debit cards will decrease significantly from 13% to 8%, and cash payments, subsequent payments and other alternative payment methods are also reduced.

If we consider Europe, the Middle East and Africa as a single region, we can see how the trend of choosing payment methods for online purchases differs (Figure 3).



**Figure 3 - Europe, Middle East and Africa countries in 2017 and 2019 and forecast to 2024**

The credit card segment was initially significantly smaller than the global total, in 2017 their share was only 12% of the total settlement share, in 2018 this volume increased to 22% and by 2024 it is predicted to decrease to 14%, which is the total accounted for only 14 percent of the settlement share. The debit card segment also saw a decline in billings from 21% in 2017 to 18% in 2018, and their share will further decrease by 2024. Thus, payments using credit and debit cards are losing popularity in this region. At the same time, there is a trend similar to the global increase in the volume of payments using electronic wallets and bank transfers in this region. This trend is due to the low cost of the banking segment due to regional integration, where transaction fees for residents are much lower and there is no need to convert one currency into another.

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