



## PROSPECTS FOR THE DEVELOPMENT OF ELECTRONIC MONEY IN THE REPUBLIC OF UZBEKISTAN

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### Annotation

Payment methods for services and products are rapidly evolving in the world of e-commerce. Through constant innovation, payments are becoming more efficient and convenient for shoppers using online platforms. Merchants also benefit from improved processing navigation systems that help overcome differences in currencies, tax laws, and funds transfers.

**Keywords:** Payment methods, innovation, tax, electronic commerce, online transactions.

### Introduction

In fact, we are talking about a program that allows the user to store (and manipulate) electronic money. It is a kind of digital currency for online transactions through a desktop computer or smartphone.

But before using their e-wallet, the user must select a digital payment system, which is a type of prepaid and password-protected account to store money for any future online transaction. It is to this account that the client must connect payment cards.

An e-wallet basically consists of two components:

The software component provides security and strong data encryption. The information component is a database containing the user's personal data (name, card details, payment methods, etc.).

For several years, there has been a tremendous growth in cashless trade. In 2022, the e-wallet will become a digital alternative to payment methods such as credit/debit cards and virtual currencies. Hassle-free transactions made using mobile devices have made the development of an electronic wallet one of the most popular industries today.

This data is from 2017 and since then the demand for electronic payment services and digital card wallets has been growing, as the following statistics show.

As we have said, this demand is due to the rapid development of e-commerce. Confirmation is another infographic.

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As you can see from the following figure, 2020 saw the growth of the e-business retail unit globally at \$4.28 trillion, and future e-business revenue is projected to rise to \$5.4 trillion in the next two years. . Online shopping is one of the most popular online activities all over the world.

Let's understand the different types of e-wallet categories before diving into further details of developing an e-wallet application:



## 1. Electronic wallet of the seller

Retailers have started to create their own e-wallets to make the buying and payment process easier for their customers. They can even store discounts and coupons applicable to various products. This method is good for secure transactions and also increases customer engagement and loyalty. Walmart's Scan & Go app is one of the best examples of a digital wallet. Here, the customer simply needs to scan the barcode found on the product and the amount will be automatically debited from the account.

## 2. Electronic wallet for financial institutions

Banks and various financial institutions can also develop their own e-wallet application to facilitate microtransactions. This is useful for cardholders of this financial institution.

## 3. Electronic wallets for Cards

### Literature Review

N. Philipps and M. Anderson put forward the idea that money should be considered as a flow of information. Now, while the analysis of money as a means of payment shows that money is a flow of information, money in the theory and practice of finance requires it to be a rewardable asset.

T. Smitin, despite the fact that he defines the medium of exchange as an electronic impulse and an "interest-bearing asset", argues that the evolution of innovations does not require a reassessment of the foundations of monetary theory, the exact form of the medium of exchange is not a serious monetary problem. Smitin's conclusion is not surprising, as it confirms the traditional lack of interest of researchers in payment systems and confirms the fact that monetary theory and changes in payment systems have usually been studied almost independently of each other.

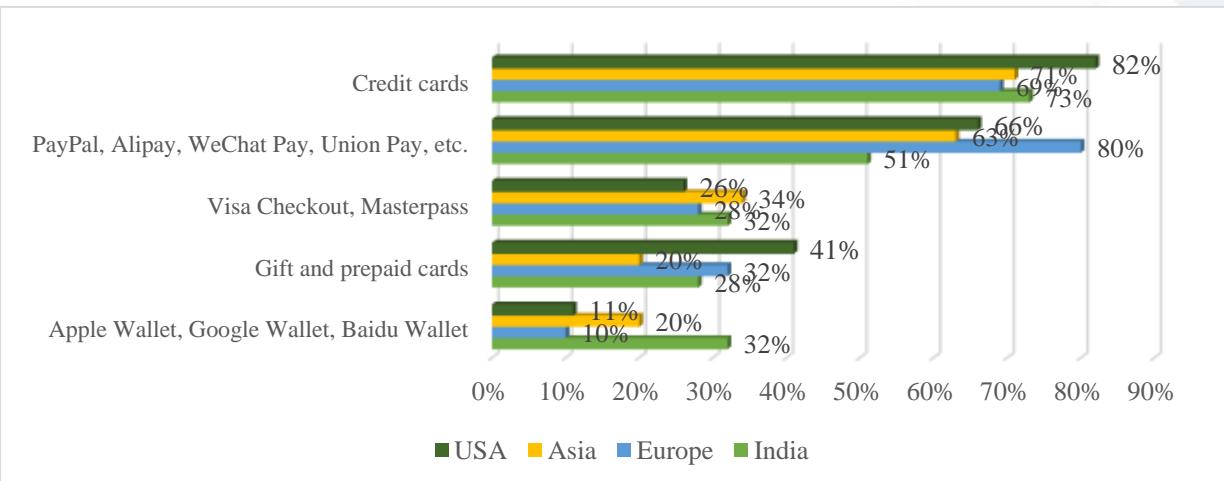
### Methodology

E-commerce is gaining momentum, and in this regard, digital payment services are in increasing demand. And where there is demand, there is also supply. In other words, now is the time to build wallet apps. Mobile and online digital wallets are a relatively new concept, they are only at the beginning of their journey, and they certainly have a great future ahead of them.

### Data Analysis

According to the statistics in Figure 24, electronic payment services rank second in popularity. You can understand this type of eWallet application by looking at Google Pay and PayPal. The user must link their debit or credit card to these applications. Payment can be made through these apps with a linked debit or credit card. This is one of the safest payment methods as you do not need to enter your CVV number or account details when making a payment. Payment is made through the amount that you transferred to the e-wallet account.

Different types of mobile e-wallet applications



Rice. 1 Preferred online retail payment methods globally, 2019, by region.

**Closed e-wallets:** In this type of wallet, a purchase can only be made for the product of that particular application. Other online payments cannot be made through closed e-wallets.

**Semi-closed e-wallets:** These provide more flexibility for users. Users can pay for different stores that are in partnership with or have a deal with an e-wallet company.

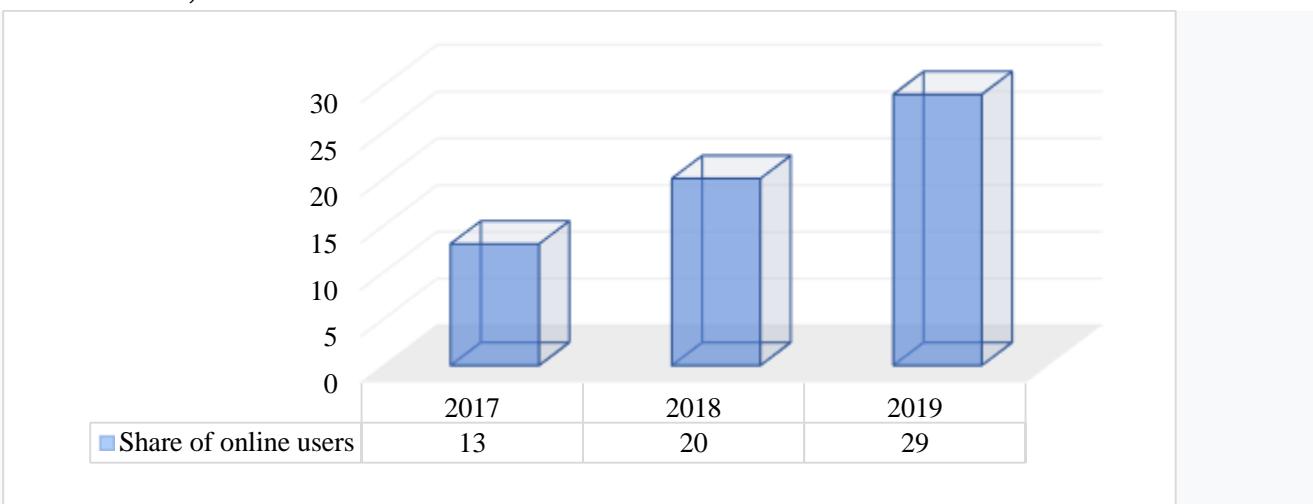
**Open e-wallets:** These applications can be installed on all devices and many transactions can be made with different companies through the same platform. These are the most commonly used e-wallets.

Various transactions made through the mobile wallet

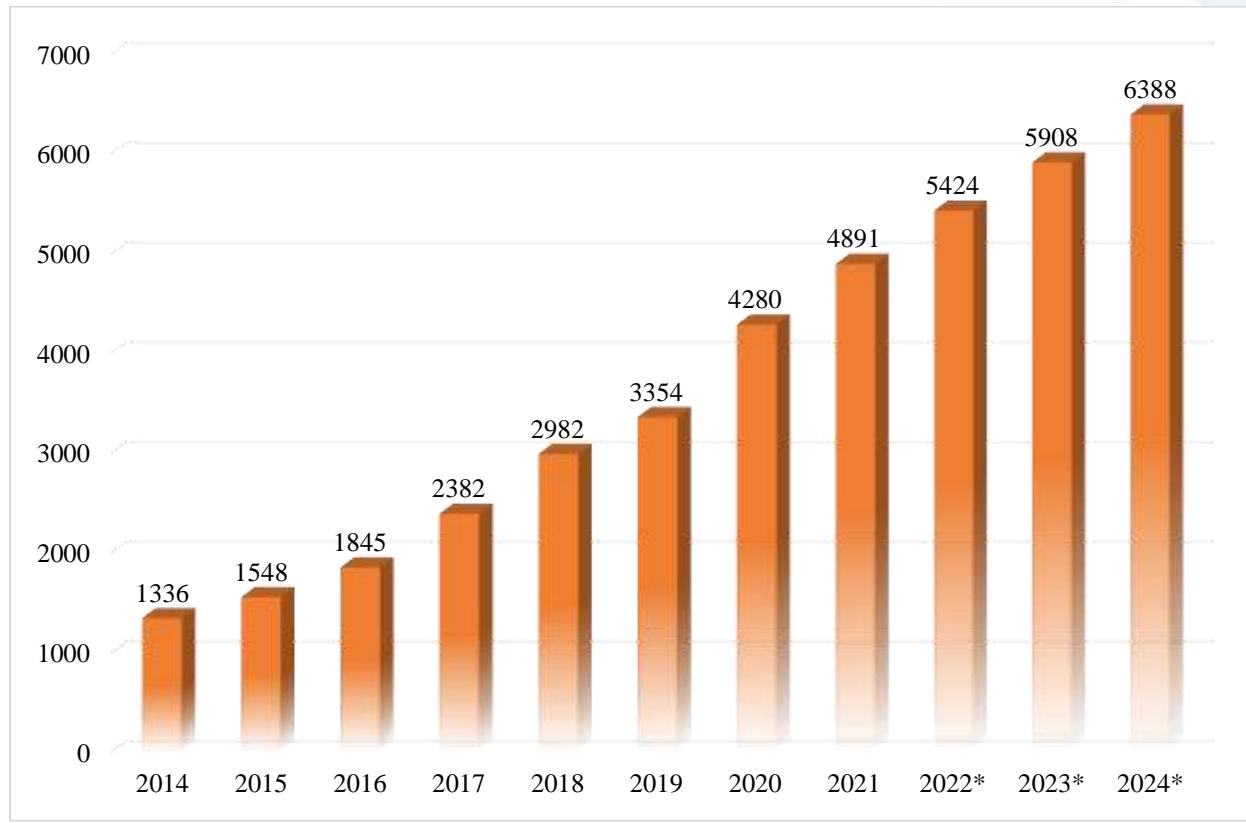
**Online trading payment:** when payment is made online and a receipt for the transaction is generated.

**Mobile P2P money transfer:** when a transaction is made from a linked user account to another account.

Thanks to this method, instant transfer of funds occurs without additional effort.



Rice. 2 Percentage of online users who paid for online purchases using mobile payments or a digital wallet



Rice. 3 Online Retail Sales 2014-2024

**Point-of-Sale Payments:** When a user purchases a product directly from a store and pays using mobile technology.

**Popular Ways to Empower Mobile Wallet POS Payments** QR code: The encrypted QR code is stored by the company in the cloud. The user simply has to scan the code to make the payment. This method is now becoming very common. Starbucks is a good example of a company providing a QR code for payment.

**NFC (Near Field Communication):** In this method, payment is made using a contactless chip. When the device of the person wishing to make the payment approaches the recipient's device, the transaction can be completed.

Smartphones with Bluetooth 4.0 that can communicate with external BLE transmitters are known as Beacons. This is a great payment method that also works offline. The POS terminal automatically receives the user's card details and processes the payment. This is a convenient payment method.

**Payment Applications:** These are mobile e-wallet applications such as PayPal, Alipay, Venmo and Google Pay which are easy to use and secure. There is a growing trend among local providers to use payment apps, and people have begun to prefer cashless transactions.



The main task of the eWallet application is to solve the security problems associated with online payments. Some users think that making online payments poses a threat to their personal account information. They fear that their device might get lost or even their account might be hacked.

To deal with such issues, eWallet applications use a technique known as tokenization. In this method, whenever any transaction request is initiated, a nonce or one-time PIN (OTP) is generated for the user. This OTP is sent to the user whose account details are specified in the e-wallet account. Thus, the transaction cannot be completed until the user enters the number. The service provider controls the generation and detokenization of tokens. There are three ways to tokenize:

The tokenization technique is used to obtain information that is updated by the user when making any payments for online purchases or accounts. Merchants cannot parse account or card data due to tokenization. The card data is encrypted and then converted into a token that looks like a combination of different characters.

When the card passes through the point of sale terminal, tokenization occurs for security reasons.

Tokenization is also used to keep sensitive information and PANs secure on the device (Apple) or in the cloud (Android).

## Benefits of tokenization

The following are the benefits of tokenization:

E-wallet applications meet all the requirements for secure payments. This keeps your data safe.

If you represent a financial institution or an online store, you are responsible for maintaining the security of customer data. Tokenization reduces the risk of data leakage.

Tokenization helps add an extra layer of security as people will need a password to access your site.

This helps build trust among customers. When people receive a nonce, they are mentally confident that their account is secure.

Thanks to the progress in the development of mobile applications for e-wallets, there has been a huge growth of enterprises in various industries:

**Retail & Ecommerce Industry:** Most people use online payment options when transacting online. EWallet apps also easily provide coupons and deals from various stores.

**Banking and Finance:** E-wallets have made it easy to transfer money from one account to another and allow you to perform various day-to-day banking-related tasks while sitting at home. These apps even notify you of any latest service related updates.

To further improve the liberalization of foreign exchange transactions during the COVID 19 pandemic, it is necessary to develop a mechanism for using nominal currency wallets in the mobile application of commercial banks for instant conversion of foreign exchange transactions when receiving money transfers through the Golden Crown service. This in turn will allow:

First: to increase the number of users of remote commercial banking services.

Secondly, it will attract additional funds at the expense of a commission for users of bank cards of other commercial banks.

**Delivery and Logistics Industry:** The popular taxi business is already enjoying the convenience of paying with the eWallet mobile app.



Food and restaurant industry: many restaurant and cafe chains provide their customers with the ability to pay through e-wallet applications.

Extended possibilities of e-wallet mobile applications

The e-wallet mobile application development company guarantees that the following attributes will be added when creating the e-wallet application:

**Promotion Tools:** It should be able to track coupons and rewards offered by merchants and retailers. This is important to improve the customer experience. Offers and discounts can be promoted on the homepage and customers can take advantage of them from there. Once the e-wallet application is successful, various brands can also contact the owner to provide discounts and offers for their brands.

**Online Receipt:** After completing a transaction, the user should receive a digital receipt. It becomes important for customers to receive a receipt for payment of bills, and also increases the authenticity of the seller. This helps users keep track of their spending and better manage it.

**Regular notifications:** App owners should receive notifications related to cash flow through their account. Notifications can also be about any new changes or announcements made by the app.

**Loyalty Program Benefit:** E-wallet applications can also offer loyalty programs. This can be in the form of accumulating points for a purchase or some sort of cashback through scratch cards.

**Customer Support:** Users should get some help if they have any questions. For the convenience of users, even support for a chatbot can be added.

**Secure transactions:** Payments made through the e-wallet application must be secure and authenticated. This is the main part of developing an e-wallet application.

**Simple Dashboard:** The application dashboard should be user-friendly and provide the administrator with real-time analytics.

**Billing options:** The eWallet app should offer different billing options for electricity, gas, phone, etc. These options have become extremely important because people want to avoid standing in lines to pay their bills when they can. with one click.

**Reminders:** There are certain transactions, such as monthly bill payments, that need to be done at regular intervals. The eWallet app should remind the person of the due date. This is beneficial for companies, as it ensures timely payments from customers.

**Location-Based Services:** E-wallet applications also have the ability to recognize your location and provide services accordingly. This may include promoting offers at a nearby restaurant or gas station.

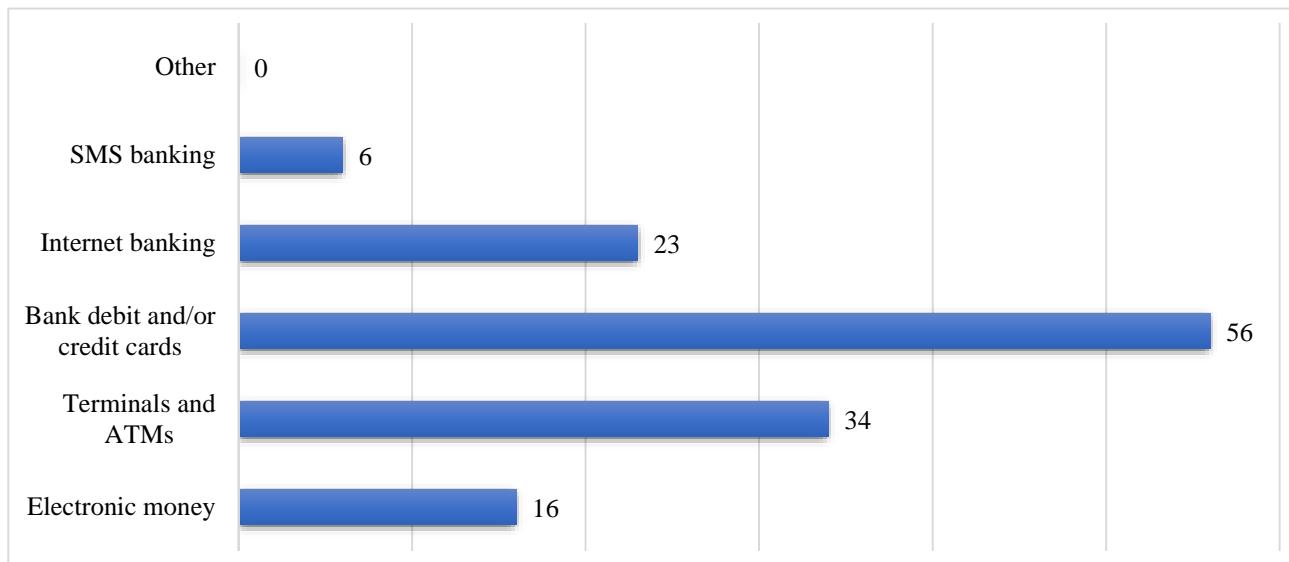
**Related payment options:** Whenever the user wants to make a payment, various options should appear in front, such as credit card, debit card to make the payment.

Mentioned above are some of the features that any sophisticated e-wallet application should have. Whether you are running a business looking for some growth or a customer looking for a convenient payment method, you should ensure that the e-wallet app you choose has these characteristics.

Looking at the features, we can say that the development of e-wallet applications is an urgent task and will remain important in the future. For a business, it is a great idea to develop your own e-wallet application with the help of an e-wallet application development company. In order to substantiate or, on the contrary, challenge the results of the study, the author conducted an anonymous online survey



in google.doc. forms. The selection parameters were: the number of interviewees - 192 respondents, in the age range from 21 to 24 years old, with minimum income in the form of a scholarship, while at the same time a significant proportion of respondents who are third and fourth year students have a full-time paid job, it should be noted that the largest number of respondents were considered highly active Internet users. fourth year students have a full-time paid job, it should be noted that the largest number of respondents were considered highly active Internet users.



Rice. 4 Results of a quantitative analysis on the question What do you have an advantage in non-cash payments?

The question clarifying the respondents' awareness of the definition of electronic money, the overwhelming majority of respondents answered positively, only 10% of respondents reacted ambiguously, without giving an exact definition and formulation of the concept of electronic money. Considering the preferences of the respondents when choosing a non-cash payment method, the results are overwhelming, not in favor of electronic money (Fig. 1), the vast majority choose traditional bank cards, the respondents gave the second place when choosing terminals and ATMs.

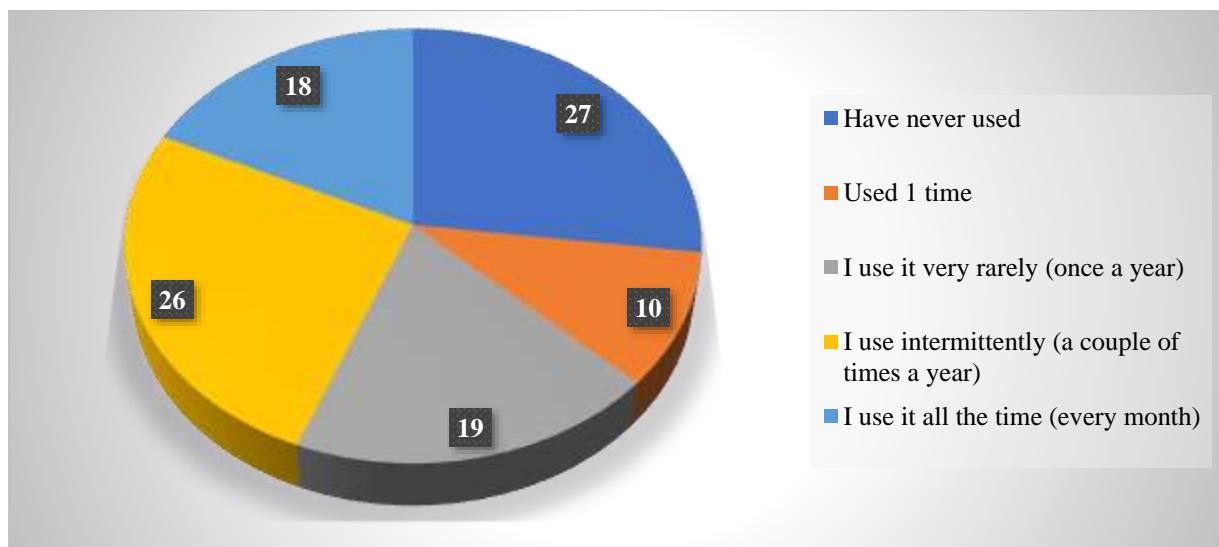
Electronic money, with 16%, is only in fourth place, overtaking the CMC-banking service. Similarly, in this question it was supposed to answer in writing why the choice fell on this category. The vast majority of respondents noted comfort as the main parameter, the second place in the ranking fell on mobility and the ubiquitous nature of payments. In turn, the primary sign of prevalence was the favor of the selected method and the speed of transactions. However, the absolute number of respondents still use or had experience using electronic money (Fig. 4).

About 27% of respondents have never used electronic money at all. However, at the same time, only 18% of respondents regularly use electronic money, which indicates the low popularity of payments using electronic money among the respondents. For 27% of respondents who answered that they had no experience in using electronic money, it was presented in writing to answer the reason or reason.



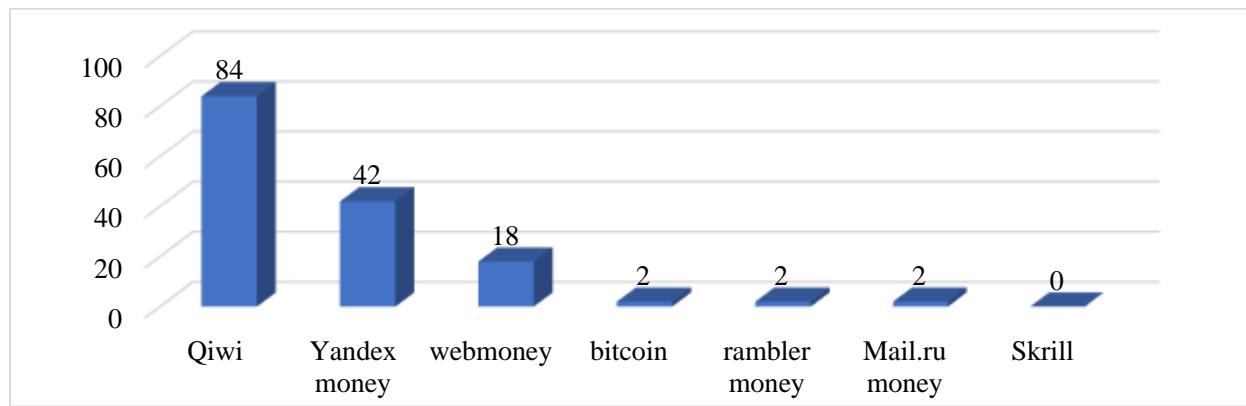
The overwhelming majority noted two main reasons, first of all, the lack of the need to use electronic money, and secondly, the lack of confidence in this type of cashless payment.

Subsequently, for maximum transparency of the analysis, those who answered positively to the previous question took part in the next question. The next question was to name which specific electronic money operator the respondents choose (Fig. 3). With a noticeable predominance, the Qiwi operator is in the leading position, Yu-money (formerly Yandex-money) is in the next place in popularity, and PayPal is in third place, even despite the fact that the PayPal service does not function for bank cards of residents of Uzbekistan.



Rice. 5 Results of quantitative analysis on the question “Do you use electronic money?”

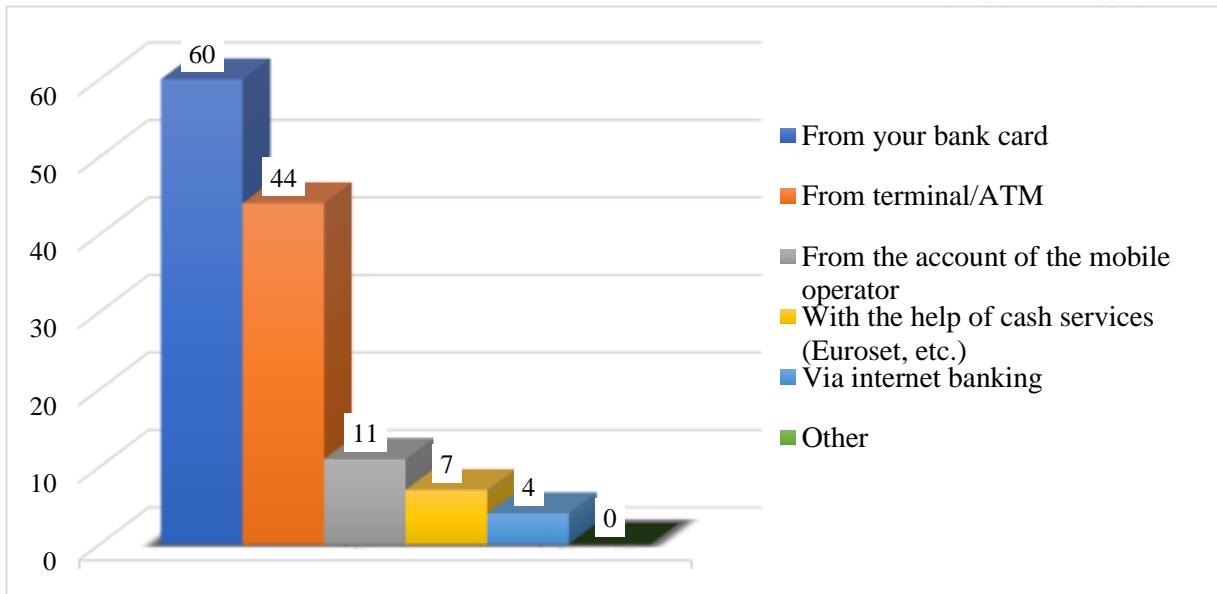
With an obvious predominance, the option with the answer electronic wallet in a single copy dominated, reaching 71% of the respondents. Only 29% have registered one or more e-wallets with various e-money operators



Rice. 6 Results of the quantitative analysis on the question “Which e-money services do you use?”



The question about whether the respondents keep the balance of funds in electronic form was not answered positively by the majority, only 4% of respondents keep the balance equivalent to more than 1000 sum, the other 38% keep the balance not



Rice. 7 Results of quantitative analysis on the question “How do you replenish your e-wallets?”

It is noticeable that 27% of the respondents monthly make payments in the amount of 1,000 soums to 5,000 soums. More than 5,000 soums per transaction and for the total amount of all transactions are used monthly by only 4% of respondents. Most of the respondents make payments with electronic money to make purchases only for minor soums.

When it comes to what goods and services the respondents pay for through electronic payments, in this case we get the following results: at present, most of the respondents make payments through electronic money for various purchases and services in online stores with a result of 76%.

The second place in the ranking is occupied by payments for mobile services (40%), the third place goes to transactions in favor of other individuals with results of 29%. At the same time, there is a noticeable increase in the results between the results on the questions of who uses electronic money when paying at the moment, and those who intend to pay for services and purchases with electronic money in the future.

## Conclusions and Suggestions

Analyzing all the statistical data of the survey, we came to the following conclusions: everyone in this selection has the concept of electronic money to a different extent. At the same time, preferences are given to alternative methods of non-cash payments, and specifically to bank cards. Approximately one third of the respondents have never used electronic money, while the majority used it at least once in their lifetime. The largest number of respondents use electronic money rarely, once or twice a year.



Nevertheless, most of them do not keep a balance of money in their wallet and replenish funds to an electronic wallet only if necessary, to make payments, most of all, to an Internet service for a small amount equivalent to 1000 soums. They use the Qiwi operator in most cases and have at least one registered electronic wallet in this electronic money service.

As a result, we can summarize that electronic money is still the least popular among other types of non-cash payments and they are used periodically and when necessary. The main characteristic when choosing a remote type of payment, judging by the results of the study, is comfort. It is also obvious from the answers of the respondents that electronic payments are rational in use, since most of them nevertheless intend to use electronic money in the future, however, the respondents are not yet ready to make a choice in favor of electronic wallets as the only method of non-cash payments, since there is no doubt that the number there are much more service points for bank cards than places that allow electronic money as a payment, and in proportion to convenience, both bank cards and electronic money are approximately on a par.

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