

**INFORMATION AND
INNOVATIVE TECHNOLOGIES
IN THE TURBULENCE ERA**



Katowice 2022



INFORMATION AND INNOVATIVE TECHNOLOGIES IN THE TURBULENCE ERA

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PREFACE

The development of information technologies and the widespread use of information resources, which are the result of the intellectual activity of the most educated part of society, have determined the necessity to create a framework for their successful use. That is why the development of certain methodological approaches to the use of new information technologies for the implementation of ideas in education, economics and management is currently relevant. It is these issues that the monograph, "Information and Innovative Technologies in the Turbulence Era" is devoted to.

The value of information and the sharing of information services continues to grow on a daily basis in our world. It can arguably be said that the primary role in the process of informatization is played by the information itself, which by itself does not produce any material value. Information is factual data and the body of knowledge concerning the relationship between said data: i.e. a means by which society can be aware of itself and function as a whole. Information must be both empirically verifiable and accessible so it can be received, understood and assimilated. The data taken from the information must be significant and correspond with the latest scientific parameters.

The monograph "Information and innovation technologies in the era of turbulence" consists of two parts: "Contemporary information and innovative technologies in education in times of turbulence" and "Modern technologies in the economy and management in conditions of turbulence".

The works presented in the first part of the monograph deal with several problems; teaching people of various ages, developing their creative potential, developing the ability to predict the results of activities and developing a strategy for solving problems, both educational and practical. Issues related to the fields of psychological, pedagogical and methodological developments aimed at identifying the optimal conditions for using the means of new information technologies in order to fortify the educational process while also considering an increase in both efficiency and quality.

The articles contained in the second part of the monograph relate to the possibilities of implementing the technical and software tools of modern information technologies in economics and management. The benefits of this allow ensuring the management of information flows, communication with the user in natural language, recognition and classification of images and situations, the effective development of the logic and argumentation of evidence, the accumulation and use of relevant knowledge, the organization of various forms of activities, making independent discoveries, etc.

Information and innovative technologies in the economy and management stimulate the development of business, local economies and start-ups. They offer new financial products and services and change the way people live. The problems of modern innovation management, based on identifying the causes and relationships that can arise in the activities of systems from fleeting changes in the environment as well as global phenomena and events, are considered. Without the constant introduction of innovations into the processes of any organization, its life cycle is sharply reduced and it becomes practically impossible to achieve the goals in general and at each stage of any activity in particular.

The central importance of information technology is based on three key conceptual foundations in strategic theory: the competitive forces of the system, the structure of the value chain, and the market hierarchy frame. Information technology can create significant and sustainable competitive advantages by changing the nature of competition: reshaping industries, creating new advantages, and spawning whole new businesses. Transactional information technologies are those systems where technology is used to ensure the quality of other activities. Information technology plays an important role in the restructuring and creation of market sectors.

The presented monograph is not an exhaustive source of theoretical and practical information on the above issues. At the same time, the information provided in the publication will be useful to the international community of educators, psychologists, educational methodologists, leaders of various levels, economists, and managers.

Editors

2.2. INTERNET BANKING – INNOVATIVE DEVELOPMENT OF THE BANKING SECTOR IN UKRAINE

Introduction.

The banking system is sufficiently sensitive to the European integration processes that lead to the introduction of modern innovations. Despite the fact that the development of various types of financial institutions is uneven, banks must quickly respond to external changes, take into account the needs of the market and adapt as much as possible to the preferences / demands of customers. Domestic banks, as well as other business entities, must take into account the processes of globalization and internationalization of the modern economy, which open up both new opportunities and cause an increase in the level of competition.

Today, Internet banking and mobile banking expands the boundaries of the relationship between the client and the bank, which is one of the main tasks of any domestic bank in the competition for new markets for the sale of banking products. However, many experts claim that marketing, design and logistics of the banking sector do not meet the demands of modern customers, and as you know, the key to success for any type of business is customer orientation.

Therefore, innovative technologies in the field of providing services by banks have been actively developing recently. The rapid development of mobile communications and the Internet opened up new opportunities for banks, which allowed not only to maintain their position in the market of banking services, but also to increase the cost of their capitalization.

The advantages of introducing electronic banking services are the following: saving time and money – using the electronic service system reduces the time spent on meeting the needs of customers, and also reduces the level of cash transactions and the frequency of visits by customers to banking institutions; responsiveness – the ability to receive certain operational information about services and the state of the market in general, the ability to quickly respond to changes in the market situation; mobility – the possibility of using electronic banking services at almost any time and in any place; simplicity in the implementation of electronic transactions by customers – there is no need to download and install special software.

In addition, the implementation of Internet banking services minimizes the use of human labor, contributes to the reduction of organizational costs, reduces some types of banking risks, such as the loss of payment documents, their falsification, incorrect addressing, reduces the probability of errors in payment details, speeds up the exchange of information between banks and clients, payment processing is carried out mainly in real time, the speed of payment processing is increasing, etc.⁴⁶⁴.

The instability of the modern world banking system, systemic transformational financial processes require new approaches to solving the problems of international electronic business, it requires new knowledge, the latest tools, which actualizes the need for further scientific research and the introduction of new tools and technologies.

Internet banking services are especially relevant as a result of increased competition not only in the banking market, but also in the financial services market. Nowadays, the introduction of innovations is no longer a way of obtaining competitive advantages, but a competitive necessity, without which it is impossible to function successfully among other institutions on the market. The use of non-traditional forms of banking service is important because it allows you to maintain a competitive position and improve the efficiency of work with retail clients. The introduction of such alternative forms allows you to save bank resources for service and to respond more quickly to the growing needs of users of financial services, thereby increasing your own client base.

In Ukraine, commercial banks are currently actively involved in transformational changes under the influence of the rapid development of the latest technologies in the world. However, currently there is no sufficient theoretical base that would allow us to reveal the essence of remote banking services, and there are no clearly established recommendations for ensuring the effectiveness

⁴⁶⁴ Security of Internet banking in Ukraine: practical aspects. (2020).

of the introduction of new forms of service in practical activities. Already now, the inconsistency of banks' strategies with real conditions is observed, which has certain negative consequences. Because of this, banks should make a number of qualitative changes in favor of innovation, while focusing on meeting the needs of the mass consumer, as well as avoiding potential risks. The level of innovative development of the bank can be considered as one of the indicators of the efficiency of its work.

Rational and complex management in the field of Internet services will provide many new opportunities for both banking institutions and their clients, and relations between them will become more productive and transparent thanks to the creation and offering of competitively attractive services. At the same time, certain principles of work must be formed, which must be followed.

Issues related to the restoration of clients' trust in the banking system, as well as overcoming the panicked moods that arise due to the low level of financial literacy, as well as the insufficient level of the legislative framework that would help protect the interests of all subjects of the relationships that are formed, require immediate resolution when conducting banking operations.

Currently, the implementation of electronic transactions remotely using information and telecommunication systems, for example, the Internet, is relevant. All this actively develops e-commerce both in the whole world and in Ukraine. And electronic means of payment and payment systems, which can be used to make electronic bank payments via the Internet, can be considered an integral part of this industry.

The development of information and computer technologies became a prerequisite for the emergence of Internet banking services, which in modern conditions are characterized by new standards of financial transactions and service quality, and also provide opportunities to attract new and retain existing bank customers. Remote banking is a general term for technologies for providing banking services based on client orders that are transmitted remotely (ie, without a client's visit to the bank), most often using computer networks. Remote banking services are classified according to the following types (Fig. 1). Internet service technologies can be classified according to the types of information systems (software and hardware) used to perform banking operations in the step-by-step evolution of modern information technologies.

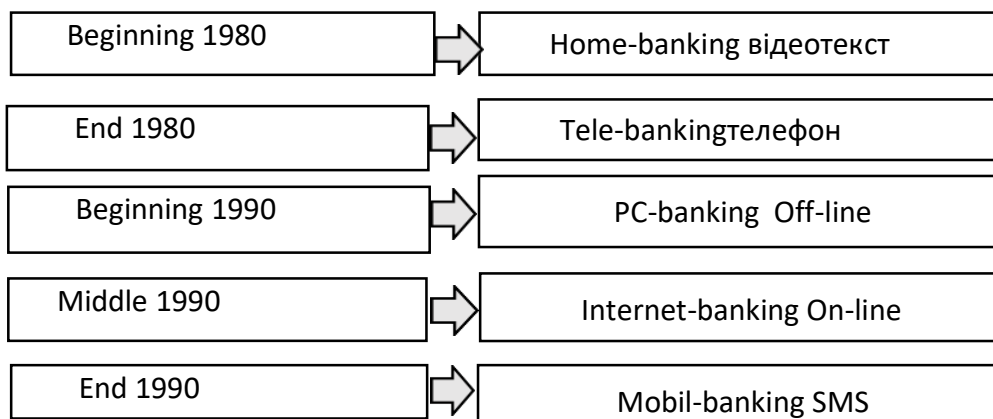


Fig. 1. Stages of evolution of types of remote banking services⁴⁶⁵

In developed countries, where Internet technologies are always in the center of attention of large investors, virtual banks have appeared, which are based on a www server – a virtual office that performs the same functions as a traditional bank. The cost of services of such a virtual bank is significantly reduced due to the use of smaller premises, a small number of employees, and the absence of storage facilities. But so far, due to the technical complexity of implementing such a project (which means the high cost) and distrust of potential clients, they are isolated examples or closely related to traditional financial institutions.

⁴⁶⁵ Banking future in the context of economic stagnation. (2022).

It is clear that such projects are still a long way off in Ukraine. Internet banking provides users with the following opportunities:

- make all utility payments (for electricity, gas, telephone, heating, rent);
- pay bills for communication (IR-telephony, cellular and paging connections, Internet) and other services (satellite television, education, etc.);
- make money transfers, including in foreign currency, to any account in any bank;
- transfer funds on invoices for goods, including those purchased through Internet stores;
- buy and sell foreign currency;
- replenish or withdraw funds from plastic card accounts;
- open various types of accounts (term, savings, pension) and invest in them;
- receive account balance statements for a certain period in various formats;
- receive information about payments received in real time;
- receive information about the payments made and, if necessary, refuse an unpaid payment;
- receive other services: subscribe to magazines and newspapers, brokerage services (purchase and sale of securities), create an investment portfolio, participate in the formation of bank mutual funds, in auctions.

Internet banking services in Ukraine are developing at a rapid pace. Despite this, the shortcomings and insufficient flexibility of the legislation for the implementation of certain types of services are a significant reason, which in turn slows it down. One of the open issues is the legal provision of information security in banking services.

The issue of ensuring information security in banking services today for Ukraine is on the same level as the protection of sovereignty and territorial integrity, its economic and vital interests. These concepts are interrelated: just as information security cannot exist outside the borders of national security, so national security will not be comprehensive in case of deprivation of its information vectors. Therefore, it is important to say that regulatory legal support is necessary in remote banking services, as a factor that will regulate all relations between clients and the banking institution, will provide guarantees related to information security in remote banking services.

Internet services of banks are regulated by the laws of Ukraine "On the National Bank of Ukraine" and "On banks and banking activity"⁴⁶⁶. The National Bank of Ukraine is the main body that controls this activity. Legal relations that arise with the help of the Internet have recently become more and more widespread. At the same time, there is still no legally defined terminology for electronic banking services. In particular, the Basic Law "On Banks and Banking" does not contain definitions of "electronic banking", "Internet banking" or "banking services using the Internet". The development of the national component of the global Internet information network, ensuring wide access to this network of citizens and legal entities of all forms of ownership in Ukraine, proper representation of national information resources in it, legal provision of remote service in the bank is one of the priority areas of state policy in the field of informatization, satisfaction constitutional rights of citizens to information. Each bank must maintain electronic questionnaires, which must contain all the information obtained by the bank as a result of the identification and study of the client, including the results of the assessment of the client's financial condition, quarterly analysis of his financial transactions, detailed data on the identification and study of the client, as well as the bank's conclusions regarding customer reputation and customer risk assessment.

It is required to set the client's risk level taking into account the following main components: risk by type of client, service risk and geographic risk.

Analyzing these requirements, it is not difficult to notice that they are designed mainly for traditional forms of banking services and in the conditions of remote banking services face the difficulty or impossibility of ensuring the reliability of the information received, establishing the location of the client, the essence of his activity and the appointment of the service he

⁴⁶⁶ The Verkhovna Rada of Ukraine (2000), The Law of Ukraine "On Banks and Banking Activities".

is requesting. At the same time, a bank providing remote service is exposed to significant risks associated with fraud. To minimize their impact, banks use various types of protection: one-time and multiple passwords, digital signatures, SMS notifications.

Such measures are quite effective if they are applied to customers who have already been identified by the bank once. Speaking of primary identification, banks currently do not have such a possibility within the framework of remote service.

According to the current legislation, certain conditions must be met: personal presence of the client; provision of original documents; identification by an authorized person of the bank; confirmation of its implementation by copying relevant documents.

The development of the banking system and banking technologies may soon reach full remote service, when the relationship between the client and the bank will be carried out only through the Internet, and banks will have only one main branch. Such trends are already observed in developed countries today, which gives reason to say that Ukrainian banks will soon start using this practice in our country, but for this, a decent provision of the regulatory and legal framework is required.

In most countries that are members of the FATF (Financial Action Task Force on Money Laundering – International Anti-Money Laundering Group, requirements for customer identification by banks are established by legislative acts. The identification process is carried out on the basis of valid documents provided by the client, which contain complete and comprehensive information about the client.

It is customary to distinguish the following types of electronic banking services: services provided through remote customer service; services accompanied by the use of payment cards; interbank electronic transfers; electronic money

It is important to understand the essence and features of each type of electronic banking customer service for effective implementation and use in the future and increase the level of profitability. Proper management of such systems will allow the banking institution to reduce personnel and branch service losses, expand the client base, and organize a prompt response to changes in customer demand. It is such factors in the complex that affect the overall profitability of the bank, and therefore are important at all levels of management.

In modern conditions, the range of services that clients can receive through communication systems is practically no different from what a client can receive in a bank. Today, it is impossible to imagine the life of the population without mobile technologies and the Internet. It is because of this that there is a change in the behavior of customers who feel the need to properly satisfy their needs through remote banking service channels.

The Internet service system should be simple for everyday use when performing various banking services and should not require additional skills and abilities from the client. Note that in addition to account management services, the Internet service provides an opportunity to receive up-to-date analytical information in the form of charts, courses, reports, and news. The client can independently choose the information that is interesting and necessary for him. For those who do not have the time or desire to go to the bank's website and search for the necessary information, the bank can provide an e-mail distribution service, which is based on sending all the necessary information to the client by e-mail. There is also an opportunity to simplify the procedure of submitting various documents to the bank by attaching to the site all forms of applications, orders, contracts in text format.

Today, Internet banking is the most common and convenient system, because it allows you to expand the range of services that the client can receive remotely. Having only a personal login and password, the client has the opportunity to work with the system without specialized software. Services provided through the remote service system, cash management, account management and settlement automation, credit and deposit operations, electronic and money operations, clearing operations, currency operations, information and consulting services. Today, remote banking services in Ukraine are provided by many financial institutions. Internet services of PrivatBank, Oschadbank, AlfaBank, VTB Bank, PUMB, Raiffeisen Bank Aval, UkrSibbank and Ukrsotsbank are considered the most successful and technological by market participants (Table 1).

Table 1. The most technological Internet services of banks⁴⁶⁷

Name of the bank	List of remote electronic banking services customer service
PrivatBank	"Client-bank", Internet-Client-bank; mobile banking; "Privat-24 Corporate "
Savings Bank	Internet banking mobile banking; terminals for making payments
Alfa Bank	"Internet banking + SMS banking + e-mail banking", package of services "Alfa-Prestige"
VTB Bank	Client bank, GSM banking, VTBOnline internet banking
PUMb	ATMs, terminals for making payments, GSM-banking, internet banking PUMB Online
Raiffeisen Bank Aval	Internet banking + mobile banking + Aval-televoice UkrSibbank combination "Internet banking + SMS banking + e-mail banking"
OTP Bank	Internet banking Online, Mobile banking, SMS banking, Contact center

The popularity of online payments in the country is growing every year. According to the consulting company McKinsey & Company, today Ukrainians use computers and gadgets to make about 40% of calculations. In Poland, for example, 96% of retail payments and money transfers go through digital channels.

The online banking market in Ukraine is actively developing, but modern world trends create directions for its further improvement. The popularity of remote banking motivates the study of theoretical and practical aspects of its implementation and operation,

People aged 25-34 use Internet services the most, 43% of them are active users. In the remaining age categories, their share does not exceed 22%. At the same time, the share of Internet users among different age groups is higher and has a stable upward trend. This trend certainly indicates significant prospects for the development of digital banking and allows us to predict the intensification of competition in this market segment. The market of the most popular types of electronic banking, such as mobile and Internet banking, is growing rapidly in Ukraine and has already passed the UAH 100 billion mark. per year.

General characteristics of the electronic banking market. given in the Table 2.

Table 2. Characteristics of the development of banking electronic remote service in Ukraine⁴⁶⁸

Type	Characteristics
Age range of users	25-30 years old
Gender distribution of users	Men: 56.7% Women: 43.3%
Groups of participating banks	Active entry into the market of medium and small banks
The most popular types of banking electronic remote service	Mobile banking and Internet banking
The level of making online payments using computers and gadgets	60% of calculations
The level of the bank's operating expenses	4.5% of assets

The main types of online banking products: viewing account statements; registration of deposits; repayment of loans; currency exchange; money transfer; ordering an additional plastic card; mobile phone top-up; making various types of payments; purchase of tickets; registration of an insurance policy Price parameters of connection and maintenance of online services. In 92.5% of banks it is free.

The modern development of the banking sector is inextricably linked with the introduction and improvement of remote banking systems. If before, in order to occupy a leading position in the market, a bank had to expand the network of its branches, today such a bank must increase the number and quality of services of the electronic banking system.

The development of such systems is beneficial to both the client and the bank. Thanks to online banking, banks reduce administrative costs (for personnel, rent of premises, etc.). According to NBU data, in January-February 2020, banks allocated UAH 7.2 billion to this item of expenses, which is 21% of their total expenses. For example, for each active user of the UniCredit Internet service

⁴⁶⁷ Bank in a smartphone: TOP-7 mobile banks in Europe. PaySpace (2022).

⁴⁶⁸ Overview of Internet banking systems of Ukraine. (2022).

system Bnk saves at least UAH 2 per month. At the same time, if we compare the cost of banking services, it is at least UAH 7 in branches. for each payment, while in online mode it is almost free.

Despite the significant achievements of domestic banks in the electronic banking market, its level is inferior to some foreign countries. Thus, according to the data of the consulting company McKinsey&Company, as of 2019, Ukrainians used computers and gadgets to make about 40% of calculations, while in Poland, 96% of retail payments and money transfers go through digital channels. Calculations carried out by the research company GfK proved that in Ukraine in 2019, out of 70 million customers connected to Internet services, only 10% carry out at least one online transaction per quarter, while in Poland this figure is equal to 61%. In addition, the level of operating expenses in Ukrainian banks is about 4.5% of assets, which is more than twice the similar indicator in Poland. At the same time, according to McKinsey 's assessment, the relative costs in small banks are almost two to three times higher than in leading institutions⁴⁶⁹.

Examining the structure of customers in the market of electronic banking services, experts note that customers are not fully ready to replace traditional services with virtual ones. Among the most active users of electronic banking services are people aged 25-34, among them active users – 43%. In the remaining age categories, their share does not exceed 22%. A similar trend is characteristic of most banking institutions in Ukraine. At the same time, the gender distribution of clients is also uneven: almost 56.7% are men and 43.3% are women.

Among the main types of online services offered by banks, the following can be distinguished: viewing account statements; making deposits, repaying loans, exchanging currencies, transferring money, ordering an additional plastic card, topping up a mobile phone, making various types of payments, buying tickets, as well as issuing an insurance policy. As for the price parameters of services in Internet service systems for individuals in banks of Ukraine, as of January 1, 2021, 37 organizations out of 40 (or 92.5%) did not charge a fee for connecting to the service, they include: "Oschadbank", "PrivatBank", "PUMB", "UkrSibbank", etc., while some financial institutions (7.5%) earned from this service.

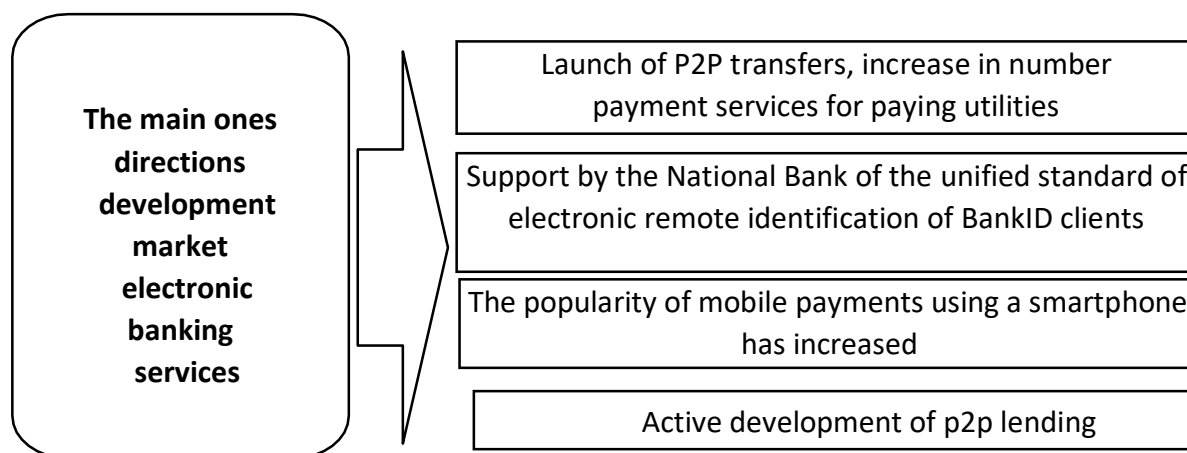


Fig. 2. The main directions of development of the market of electronic banking services⁴⁷⁰

So, it should be noted that the domestic market of electronic banking has made a significant leap forward, but it has room for development, as global trends create new opportunities for improvement. Let's consider some of them.

1. Thus, experts noted the use of blockchain technology in banking operations as one of the global trends in online banking. In 2016, a \$100,000 trade transaction was recorded by the British bank Barclays and one of the Israeli startups based on this technology. At the same time, the operation time was reduced from 7-10 days to four hours.

⁴⁶⁹ Banking future in the context of economic stagnation. (2022).

⁴⁷⁰ Overview of Internet banking systems of Ukraine. (2022).

2. Customers are also offered another new service on the global electronic banking market. So, in March 2016, the Swiss financial group UBS launched a service that allows customers to open accounts using a smartphone. At the same time, identification takes place directly with the help of a video connection with a bank employee, and clients receive the contract for opening a bank account and other documentation in an encrypted format by e-mail. A similar operation was also carried out at the Bank of Scotland (Bank of Scotland), where customers were offered to open an account online with a selfie using a smartphone or tablet web browser without having to download an additional app. This service greatly simplifies the process for new customers and allows them to open an account without leaving their own home. In addition, notification of the decision on the submitted application is received from an hour to a maximum of two days.

3. A very important step towards improving the security and reliability of online payments is the transition to biometric payment authorization. According to experts, biometrics is of great importance in preventing theft when making online payments. According to a study by the Goode company Intelligence, by 2017 more than a billion people will use biometric authentication for banking transactions. So, since October 1, 2016, Japan has already started testing cashless payments with biometric authentication for foreign tourists – the platform⁴⁷¹.

Omotenashi (translated as "hospitality"). In the system developed by Dai companies Nippon Printing Co and Deloitte Tohmatsu Consulting, tourists can register fingerprints, credit card data and other personal data, in order to then make cashless payments for shopping, dining, accommodation and other services with one touch of a finger.

A rather interesting point is the combination of the two newest technologies – biometrics and blockchain. Both technologies work in the same direction – protecting the security of financial transactions in cyberspace. It is for this reason that the idea of combining these two technologies is very relevant, although the opinions of experts on this matter are contradictory and ambiguous.

To choose directions for the further development of electronic banking in Ukraine, it is important to take into account not only world experience, but also to borrow the experience of the countries of the near abroad. Comparative characteristics of mobile banking services in some countries (Table 3).

Table 3. Innovations in the field of electronic banking services in the countries of the near abroad⁴⁷²

The name of the country	The main innovations
Georgia	Using an ID card Using a "basket of bills" paid in one transaction
Belarus	An interbank identification system was created. An information system based on blockchain technology was created Created its own mobile application (INSYNC.BY), positioning itself as a digital bank Active use of social networks for communication with clients
Azerbaijan	Remote user identification (Asan Imza) The function of protecting the screen of the mobile bank from screenshots
Kazakhstan	Use of mVisa, Cash technology by Code, accepting transfers via cash-in

The technologies of remote banking services can be classified according to the types of information systems used to carry out banking operations:

1. Traditional "Client-Bank" systems (PC-banking) are systems accessed through a personal computer. At the same time, the bank provides the client with technical and methodical support during system installation, initial training of the client's staff, software updates and client support in the process of further work. "Client-Bank" systems provide full settlement and depository services and management of hryvnia and currency accounts from a remote workplace. "Client-Bank" systems allow you to create and send payment documents of any type to the bank, as well as receive account statements from the bank (information about movements in the account). Modern computer banking

⁴⁷¹ Ruda O. L. (2020) Remote service in the banking system. P. 355.

⁴⁷² Banking future in the context of economic stagnation. (2022).

is designed to serve legal entities in the "offline" mode, that is, the client works with financial documents locally, and the exchange of information with the bank is carried out during the synchronization of a short-term communication session via the Internet.

2. Video banking is a system of interactive communication between the client and bank staff, it provides the client with the possibility of virtual communication with the bank using specially designed devices, the so-called "video kiosks" equipped with monitors. Video banking is still a popular form of remote banking in the West.

3. Internet Client ("thin client"). The user enters the system through an Internet browser. The Internet Client system is located on the bank's website. All user data (payment documents and account statements) are stored on the bank's website. Systems for mobile devices – PDAs, smartphones (mobile banking) are also being built using the Internet Client technology. Information services with a limited set of functions can be provided on the basis of the Internet Client

4. "Telephone-Bank" systems (telebanking, Telepho-Client, SMS-banking)⁴⁷³.

As a rule, Telephone-Bank systems have a limited set of functions compared to "Client-Bank" systems:

- information on account balances;
- information on the amount of receipts for the benefit of the client;
- entering applications for providing a facsimile copy of an account statement; managing payment applications, cash orders;
- entering applications for the transmission of a facsimile copy of a payment order; entering an application for the execution of the order prepared according to the template
- to transfer funds, etc.

The transfer of information from the client to the bank can be carried out in different ways, depending on the implementation of the system:

Interactive client with telephone service operator (Call Center). Using a push-button phone (Touch Tone Telephone) and voice menu (means of computerized telephone communication). By means of sending SMS messages (SMS-banking).

Let's consider the main possibilities of Internet banking. Online services of leading credit organizations have a number of similar functionalities. These include:

- control of funds: at any time you can check the balance of the account and the flow of funds;
 - payment of various services: mobile communication, fines, satellite TV, taxes.
 - Internet banking provides a system of requisite templates for payment of the same services.
- Also, the services of many banks provide the "Autopay" option. After connecting this service, the client sets certain parameters, and the service automatically debits funds, ensuring zero waste of clients' time;
- opening new accounts (deposits);
 - replenishment of electronic wallets, money transfers to other accounts and repayment of loans;
 - no subscription fee for using the service and minimal interest on transfers.

Among the banks that are actively advancing on the path of innovative development and development of Internet banking, the following can be distinguished: "PrivatBank", " OshchadBank", "UkrSybbank", "Ukreximbank", "PUMB", "Alfa-Bank", "OTP Bank". According to Prostobank Consulting, for 2020, 24 banks out of the 50 largest retail banks offer Internet banking services for private individuals. At the same time, you can use the remote service service free of charge in nine banks. At the same time, banks compete with each other, constantly expanding the capabilities of their remote service⁴⁷⁴.

Modern innovative Internet technologies allow banks to significantly speed up and simplify document flow, reduce the cost of banking operations, and reduce the amount of paper work. Internet

⁴⁷³ Overview of Internet banking systems of Ukraine. (2022).

⁴⁷⁴ Ibidem.

banking reduces the bank's costs, increases comfort and allows the bank to receive additional commission income. Thanks to this, in order to attract and retain customers, banks often offer more favorable conditions to customers who conclude contracts using the Internet banking system, higher interest rates on deposits and the possibility of their early closure, introduce a small fixed rate for the operation, a single fee for any – the number of payment orders.

Moreover, thanks to the Internet banking system, the client can choose a bank not according to the territorial principle, but focusing on the provided service and the established tariffs of one or another bank. Internet banking services are already becoming standard for most retail banks. These services are related to the information service that will be provided by most modern banks. Even if the bank does not consider it necessary to bear certain costs for the development of software and the launch of a Web server, it can use any standard systems that are available on the market in sufficient quantity. At the same time, you should not expect an immediate return. As experience shows, this service does not bring extra profits. The main goal is to provide customers with additional convenience when working with the bank and thereby expand the customer base.

The boldest analysts already agree that Internet banking can be considered the most useful invention since the advent of the telephone. In any case, each of us can already assess the possibilities of Internet banking (Fig. 3).

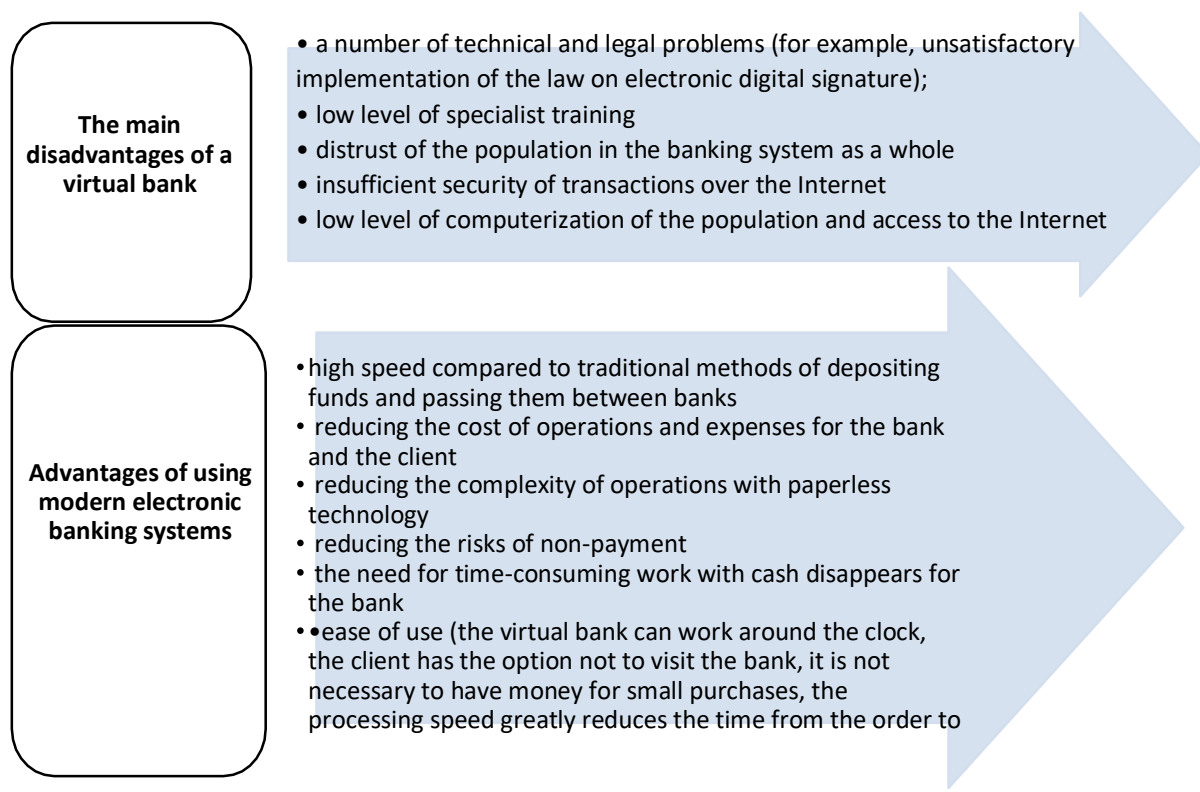


Fig. 3. Evaluation of the possibility of Internet banking⁴⁷⁵

The development of information technologies allows to significantly "shorten the distance" between the producer and consumer of banking services, significantly sharpens interbank competition, and, therefore, contributes to the development of banking services in both quantitative and qualitative aspects.

In addition, contactless payment services using smartphones and other devices that support NFC technology are gaining more and more popularity in Ukraine. Tokenization (information security) services allow the use of payment card details for contactless payments using this technology. At the same time, every ninth active payment card in Ukraine is contactless – 4.0 million cards. (an increase of 44.3% compared to the beginning of 2021). The dynamics of Internet banking

⁴⁷⁵ Martseniuk O. (2020) Risks in the credit activities of banks of Ukraine. P. 10.

in Ukraine has a positive trend, every year more and more people use these services. You can see a big jump in 4 years, compared to the beginning, the growth of Internet banking users was 34%.

You can also see positive forecasts for the future development of this field in Ukraine. Despite the rapid growth of mobile banking in Ukraine, the range of operations through this remote service channel is not very wide. In the first place in terms of popularity are transactions related to viewing bills (17%), in second place – transactions related to mobile payment (14%) and in third place – transactions related to reviewing recent operations (12%).

Today in Ukraine, with the help of modern innovative Internet banking systems, you can buy and sell non-cash currency, pay for utility services, pay bills of cellular operators, make non-cash intra- and interbank payments, transfer funds to your accounts, and, of course, track all bank transactions on your accounts for any period of time. Internet banking is also indispensable for tracking operations with plastic cards – any withdrawal of funds from the card account is promptly reflected in the account statements, which helps to increase the control of the client over his operations.

The development of Internet trading systems, the rejection of large costs for renting premises for bank branches will contribute to the further successful development of the banking sector and the promotion of Internet banking systems. This, in turn, contributes to the reduction of cash circulation. Also, due to the innovative system of online account management, the transparency of payment discipline for regulatory and tax authorities can be increased, thanks to which it contributes to the improvement of investment attractiveness.

In recent years, Oschadbank has taken the leading position in the rating of banks in terms of the number of bank terminals. Since 2014, this bank has been intensively expanding the network of its own information and payment terminals, which make it possible to perform a number of various operations and save customers' time. The peculiarity of information and payment "kiosks" is that they can use not only Oschadbank cards, but also those of other Ukrainian banks. When using Oschadbank terminals, clients have the opportunity to carry out the following transactions:

- pay for utility services;
- top up accounts for using a mobile phone, television or the Internet;
- transfer funds from card to card;
- pay bills for the use of credit, medical services and services of kindergartens and educational institutions;
- make insurance and charity contributions;
- pay for fines;
- make other payments for arbitrary details.

Let's consider the specifics of regular payments using the example of the work of Privatbank, because this particular service of this bank is quite popular among customers (Table 4).

Another step towards meeting the client was the implementation of the system of regular payments. Now a bank client can not only not leave the house, but even not look in the mailbox in search of monthly bills for payment, because the banks also took care of this by introducing the service of making regular payments based on the principle of standing order. As part of this service, the bank automatically debits funds from card and current accounts based on the client's prior instruction without personal presence and any action on his part. This service allows the client to top up deposit accounts and repay loans, as well as regularly and timely pay utility bills, cable and satellite television, Internet access, mobile communication services, insurance premiums.

Internet banking of PrivatBank is among the top 3 most reliable Internet banking systems of Ukraine. This bank offers two modes of online operation – informational (available to all customers, does not involve transferring funds) and active (combines: informational mode, the possibility of transferring funds between own accounts and transferring funds to third parties. Obv' a mandatory condition for access to the active mode is the presence of a card account serviced under the terms of one of the bank's service packages).

Table 4. Features of the "Regular payment" service from PrivatBank⁴⁷⁶

"Regular" service payment"	Characteristic features
How to configure the service?	<ul style="list-style-type: none"> • visiting a bank branch; • by configuring in the terminal • self-service; • by connecting to the Privat24 system ("Payment calendar")
What is the service mechanism?	<ul style="list-style-type: none"> • payments that are repeated at equal time intervals are made on the basis of a one-time order client
What data must be entered to create an order?	<ul style="list-style-type: none"> • details of the payee; • amount of withdrawal of funds; • operation frequency
What are the types of this service?	<ul style="list-style-type: none"> • regular payment with a fixed amount determined by the client (for internet payment, mobile top-up, loan repayment; • regular payment according to the sent invoices, in which the amount specified by the service provider is debited from the client's account (to pay for utilities, debt for which is variable)
The advantages of the service are:	<ul style="list-style-type: none"> • saving the time of the client, who does not need to visit the bank branch often; • saving money on the commission, because with this service it is much smaller than at the bank's cash desk; • timely payment of all services if there is a sufficient amount of funds in the account; • informing the client about the successful completion of each payment; • possibility to receive a receipt

Internet banking can be called innovative with full confidence, as it is a first-of-its-kind service that has features of extraterritoriality, interactivity and round-the-clock availability, which fundamentally distinguishes it from traditional banking services that are provided with the help of office workers.

PrivatBank has developed a mobile application that can be downloaded free of charge for use by individual clients via Google Play or through the App Store for simplified and safe access and acceleration of operations of various kinds. The capabilities of the Privat24 system are presented in the Table 5.

Table 5. Features of the Privat24 system⁴⁷⁷

Service	Information mode	Active mode
Control of the movement of funds on own accounts	+	+
View details of your own accounts	+	+
Formation of account statements in a convenient format	+	+
Payment card blocking	+	+
Correspondence with the bank for consulting assistance	+	+
Replenishment of deposit	-	+
Transfer between own accounts	-	+
Repayment of credit debt	-	+
Payments in favor of legal entities and individuals within PrivatBank and to any bank of Ukraine	-	+
Instant payments	-	+

Modern information technologies, which develop according to their modern laws, open up a wide range of innovative opportunities for the development of electronic payment systems, Internet banking, mobile banking and other promising forms of remote banking services. Thus, today Internet banking is a reliable partner for every client in the development of a fairly convenient and promising service. Although this is an innovative and currently underdeveloped field in Ukraine,

⁴⁷⁶ Security of Internet banking in Ukraine: practical aspects. (2020).

⁴⁷⁷ Overview of Internet banking systems of Ukraine. (2022).

based on the current situation and forecasts, it can be said that it will see development and success in the future.

The dynamic development of remote banking services is characterized by many positive changes, however, there are certain obstacles, so it is possible to single out various reasons that have a negative impact on the development of innovative systems of remote banking services. Such reasons include increased risks and the relatively expensive cost of the necessary systems that would ensure the implementation of banking services on a large scale and would be reliably protected from illegal access.

It has been studied that when using remote service channels, new risks appear that were not previously observed when the bank provided services using traditional methods. As a result of risk events, both banks and their customers suffer from threats caused by unreliable technologies. The main factors that cause the appearance of new banking risks in the process of remote service are: the use of intermediaries for the distribution of services (providers); insufficient security of bank automated systems. The source of the threat can be banking software, or the operation of the human factor. Examples of such threats can be the illegal activities of users of external networks, intentional or careless actions of bank employees, technical failures of equipment and software. In modern conditions, it is possible to distinguish a number of risks of various kinds, which are inherent in remote banking services (Fig. 4).

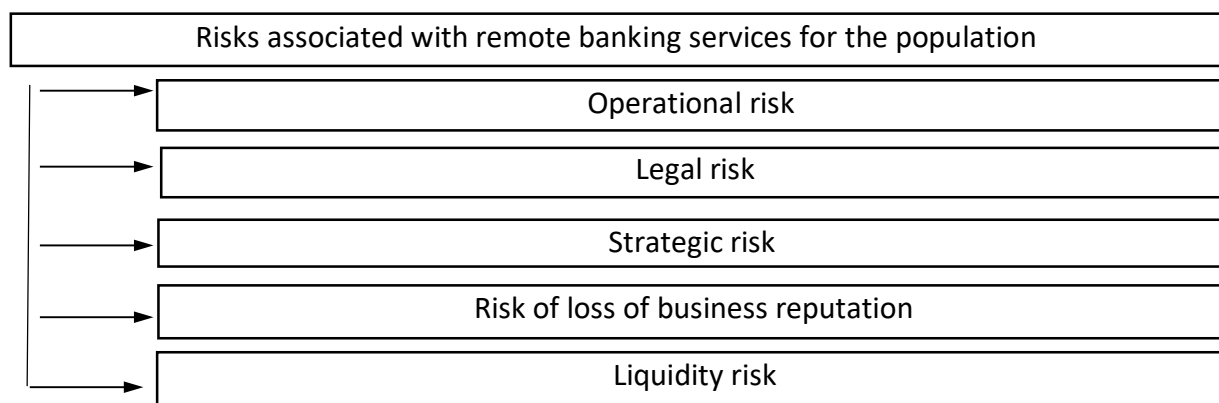


Fig. 4. Risks associated with Internet banking services⁴⁷⁸

Operational risk is a risk that is associated with possible or prospective losses caused by erroneous actions in the course of banking operations. Such actions may be caused by cases of fraud, or by disruption of the cycle of automated systems that ensure the process of providing banking services of a remote nature

The main components of the bank's reputation risk can be noted: public trust in the banking institution; reputation of bank owners; social position of the institution; quality of service and attitude of bank employees to customers; loss or disclosure of confidential information; marketing policy; relations with the state; the ability to maintain its international recognition.

Previously, the evaluation of the bank's reputation was carried out only before the sale of the banking institution or before its merger with another in order to increase the value. At this stage, such an assessment is necessary for each bank to forecast future costs or for potential economic growth and economic security. This risk remains under-researched due to the fact that its influence is reflected in the formation of public opinion about the banking institution's activities.

Banks should properly build their relations with society in order not to lose their image and occupy their well-deserved niche in the market. Steps to minimize the threat of loss of reputation can be the following actions in the management process: creation of a bank department whose representatives specialize in public relations; development of instructions for official and timely processing of customer complaints; establishment of ethical norms that reflect the main provisions

⁴⁷⁸ Ruda O. L. (2022) Forms of manifestation and methods of regulation of the banking crisis in Ukraine. P. 160-167.

of the code of conduct; establishment of correspondence between image (how the bank positions itself for society) and reputation (how the bank sees society).

Effective reputation risk management involves the necessary actions not only of representatives of the marketing department, but also of all other departments and bank personnel who must adhere to internal norms of moral and ethical behavior. Risk management of the remote banking service system is recommended to be organized in such a way as to ensure control in general, including within the framework of the functioning of hardware and software, the implementation of individual operations, and at the same time use arrays of banking data.

When organizing the risk management system, which are observed when using the remote banking service system and accepting internal documents of the banking institution, the following should be taken into account:

- high pace of innovation processes in remote banking technologies;
- increasing the bank's dependence on information technologies in general and on the effectiveness of building intrabank automated systems;
- integration of new Internet technologies that operate within the automated banking system;
- increased degree of risk when conducting transactions using the remote banking service system, taking into account the possibility of legalization (laundering) of income obtained through criminal means and financing of terrorism;
- the need to improve banking management processes and internal control, taking into account the use of Internet technologies;
- the need to improve the qualifications of banking institution employees and improve risk management of remote banking services. In order to achieve an effective result from the management of risks that arise when a banking institution carries out operations using remote banking systems, a number of recommendations can be made regarding the work of the bank's management bodies (supervisory board and executive bodies):
 - to ensure exact compliance of implementation and development plans for customer service using remote banking systems with strategic goals;
 - to develop and implement into practical activity procedures for monitoring banking operations carried out through remote service systems;
 - carry out proper control over remote banking services, which should be aimed at reducing associated risks;
 - develop new and improve existing risk management processes of the remote banking system on the basis of timely and adequate detection, analysis and monitoring of possible new sources (factors) of risks associated with intra-bank automated systems and the appearance of new participants in the information circuit of remote banking services, for example, providers;
 - engage in the organization of monitoring and contribute to the timely improvement of the productivity of all internal automated banking systems, with the help of which service is provided in the system of remote banking services, in accordance with the expansion of its client base, the development of the provided banking services and the expansion of customer needs. Risk management of the remote banking system must be carried out in such a way as to ensure:
 - provision of services to clients through the remote banking service system on a joint and timely basis;
 - formation of authorization rules and means of authentication of bank transactions;
 - control of logical and physical access to the hardware and software of the remote banking service system;
 - an adequate security maintenance structure to comply with the established rights and powers of users of remote services; to take a number of measures to maintain the confidentiality of client and other internal bank information, as well as bank secrecy;
 - the completeness and reliability of the information provided on WEB sites by the banking institution;

- effective mechanisms for responding to disruptions in customer service and banking transactions;
- providing antivirus protection;
- avoiding illegal access to information resources of the credit organization and possible embezzlement of funds⁴⁷⁹.

Each banking institution is recommended to provide methodological and consulting assistance to clients using the remote banking service system, to provide them with information about the risks they have taken, and also to develop the necessary set of measures to protect information.

Thus, to date, Internet banking is a reliable partner for every client in developing a fairly convenient and promising service. Although this is an innovative and currently underdeveloped field in Ukraine, based on the current situation and forecasts, it can be said that it will see development and success in the future.

A feature of the modern banking system is its close connection with information technologies. The use of the results of scientific and technological progress allows not only to ensure uninterrupted banking activities, but also provides an opportunity to create new banking products and services, as well as to improve their distribution channels.

Currently, there is a combined use of both old and new technologies, because consumers cannot accept all innovations at the same time. To meet the needs of retail customers, banks of Ukraine use transitory (represented by banking service devices – ATMs and terminals) and remote forms of service (consisting in data transmission via the Internet, telephone, mobile network, digital television).

It is worth noting that in connection with the accelerated development of humanity, the periods of the appearance of economic crises of a global nature are decreasing, while their scale is increasing. In modern conditions, this phenomenon is moving from the production to the financial sphere of human activity, which means that there are potential threats to the banking sector as well.

That is why, today, problems related to the organization of financial security of banks are undoubtedly one of the factors not only of the national, but also of the world economy in the conditions of globalization. The crisis, which caused significant losses, made it clear that an extremely important problem of our time is the importance of understanding double responsibility when making financial decisions, because the financial collapse that affected the world economy was caused, on the one hand, by the irresponsibility of individual financial institutions, and on the other – lack of elementary financial knowledge of the population, and therefore, irresponsibility in decision-making.

The problem of the low level of financial literacy of the population is worldwide today. The governments of many countries invest a large amount of money in increasing the level of financial literacy of the population. For Ukraine, this issue is one of the strategic tasks that requires a priority solution.

In recent years, the question of increasing the financial literacy of the population has remained quite relevant. The importance of financial awareness is emphasized not only by scientists and specialists, but also by ordinary citizens, whose level of knowledge affects the results of managing personal funds, planning a family budget, effectively directing expenses and using savings.

A financially literate population is the basis for both the further growth of the banking sector and the prosperity of the economy as a whole. Financial literacy is a complex of acquired theoretical knowledge and the ability of the population to use this knowledge in practical activities. The following factors can indicate the level of financial literacy:

- the ability to effectively manage personal funds;
- the ability to realistically assess one's own income and expenses, to keep track of them;
- the ability to realistically assess the situation in the financial services market;
- the ability to navigate the specifics of various products and services of a financial nature;

⁴⁷⁹ Banking future in the context of economic stagnation. (2022).

– having the potential to make informed decisions and understanding one's own responsibility for financial decisions made.

There is a trend in the world that is connected with the growing responsibility of the population regarding personal finances, as well as regarding their financial decision-making. The need to increase the awareness of retail customers in the financial sphere is formed under the influence of various types of risks that arise during the implementation of financial transactions. It should be emphasized that currently financial education is not effective, because the population does not receive relevant practical knowledge, but is only guided by generally accepted norms and rules.

Information security management remains a problematic point in the banking system in general, as well as in remote customer service in particular. At the same time, it is important not only to manage banking risks, but also to raise the level of public awareness in the field of financial and information security. Today, organizations that care about increasing the level of financial awareness of consumers of relevant products and services operate both at the national and international levels.

In the world, representatives of the World Bank, the Organization for Economic Cooperation and Development, the Committee on Financial Markets, financial regulators of economically developed countries, and specialized institutions for financial education and protection of the rights of consumers of such services are working on increasing the level of financial literacy.

At the national level, in order to improve the situation, it is necessary that certain standards be introduced by the National Bank of Ukraine. For banks, compliance with such economically justified standards would provide an opportunity to preserve the stability of work, as well as the trust of customers. Since the National Bank of Ukraine aims to protect the interests of bank clients, one of the tasks of the regulator should also be to increase financial literacy and financial culture of the population.

The National Bank of Ukraine offers two main ways to minimize the negative consequences of the existing problem: increasing the financial awareness of citizens; strengthening of legal protection of the population⁴⁸⁰.

Thanks to such a proposal, there is an opportunity to restore trust between all subjects of financial relations. The issue of improving financial awareness has matured in Ukraine due to a number of the following reasons:

- low level of knowledge of financial services;
- a small stock of knowledge about the rights and obligations of the consumer of financial services;
- insufficient understanding of the existing threats that carry financial risks, as well as their improper management;
- insignificant level of knowledge of financial mathematics.

According to experts, Ukrainians use the simplest basic services, at a time when a different trend is observed in the world. Citizens of Ukraine currently aim to reduce the level of consumption of financial services, which indicates a high level of discomfort. Both the state and representatives of banking institutions should work to reduce the negative attitudes of the population.

It should be noted that at present, with joint efforts, gradual changes in the state of financial literacy (especially among young people) are still taking place.

The following positive points can be highlighted:

- publication of literature by Ukrainian authors on the management of personal funds;
- financial literacy weeks are held to teach accounting of personal funds, effective formation of savings, protection against various types of fraud and fraud.

The program of these events is filled with practical trainings, business courses, interactive exercises, the basis of which are banking operations (including those of a remote nature).

Since 2012, the "Financial Literacy" course has been gradually introduced in Ukrainian schools. By 2019, 1,100 such general education institutions will be operating.

⁴⁸⁰ Official website of the National Bank of Ukraine. *bank.gov*

It is necessary to concentrate attention on the literacy of consumers and on the protection of their rights in order to support and further develop the spectrum of financial services. It is precisely in connection with the growing needs of society that it is necessary to direct attention to remote banking, which involves not only the provision of traditional financial services, but also gives the client the opportunity to familiarize himself with important information necessary for the safe use of modern means in everyday life.

It should be noted that leading banks are already starting to work on increasing the financial literacy of clients. With the help of television broadcasts, social networks or e-mails, banking institutions teach customers elementary rules of behavior in the financial space in order to avoid various groups of risks. It is also worth noting that the banks of Ukraine began to actively implement the possibilities of Internet banking in their practice of providing banking services relatively recently.

The main reason for this situation is the problematic technical implementation of the Internet banking system, which is primarily related to the complexity and high cost of protecting the transmitted information. The Internet is an open environment, so the problem of maintaining bank secrecy is always timely. This type of service attracts the special attention of fraudsters, who are more easily able to hack a bank client's device than a bank's well-protected database. They also commit illegal actions related to the theft of funds from virtual cards, because it is much easier to get access to them than to real bank accounts. If we consider other problematic aspects of the electronic banking business, we should pay attention to the growing risks of information security. These risks arise in connection with the spread of cybercrime, as well as due to insufficient protection of users' mobile devices.

The lack of the latest technologies in the activities of many banks does not give an opportunity to quickly respond to such problems. However, there are certain ways to reduce these risks that allow you to achieve a high level of security by implementing modern technologies that allow you to fully manage the entire system in real time, identify potential threats, and eliminate the negative consequences of such attacks.

A negative point when using electronic services can be frequent technical failures, computer viruses, sudden power outages. Such problems can bring down the entire system for a certain period of time, thus creating inconvenient circumstances for customers. The characteristics of the main problems that slow down the further development of alternative sales channels of new and improved banking products are given in the Table. 6.

Table 6. The main problems of the development of electronic banking services in Ukraine⁴⁸¹

Reasons	Effects
Insufficient level of legal regulation	leads to the emergence of risky situations and reduces the popularity of remote service
Low level of domestic protection communication channels	increases the risk of loss or damage data, fraud
Relatively low general level of financial literacy of the population	slows down the process of distribution of electronic services, due to insufficient understanding of the essence of services on the part of the client
Low level of public trust in new types of services	causes a slowdown in the process of development of such services in the banking market in connection with the transfer of responsibility on the client
The high cost of implementing such systems with the modern development of the banking sector and the level of risks that arise	leads to loss of time, which goes to the search for alternative ways of solving this issue in order to avoid it possible risk situations

Modern technologies in the development of customer service in Ukraine are still in the initial stages of implementation, and therefore based on the experience of many leading banking institutions of foreign countries, it is possible to assert the existence of prospects for the further development of electronic banking business. A higher level of technology of the bank will allow to quickly respond

⁴⁸¹ Security of Internet banking in Ukraine: practical aspects. (2020).

to changes in the mood of customers, therefore, it will be possible to observe the emergence of panic moods and prevent their further spread in a timely manner.

The responsible staff of the bank will be able to assess the activities of their own institution in real time, and in adverse circumstances, with the help of a single information system, they will be able to prevent cyber attacks, which are quite common nowadays. A unified information system will not only improve the work of staff on effective customer service, but will also give an opportunity to increase the level of interaction with them, because they are also users of certain banking information.

With the introduction of payment accounts together with the procedure for securing the funds of payment service users on such accounts, which can be opened not only by banks, but also by other financial institutions, it is envisaged to strengthen the requirements for the protection of payment services, in particular, the establishment of requirements for enhanced client authentication and secure remote interaction. The protection of the rights of users of payment services is carried out through the legislative establishment of clear requirements for the providers of such services regarding their obligations, the introduction of liability limits for unauthorized transactions, the establishment of specific criteria for distinguishing responsibility and damages between banks and users for disputed transactions using payment cards, as well as for untimely transfer or not in full amount of taxes, fees and other payments to budgets and extra-budgetary special funds, etc. In the implementation of the protection of the rights of users of payment systems, an important role is assigned to the NBU as the state regulator of the activity of payment systems and settlement systems, the order of making payments in Ukraine.

Along with supervision (oversight) of payment systems, the NBU detects violations and reacts accordingly by applying measures of influence in case of violation of legislation. In particular, new approaches to the protection of the rights of consumers of financial services, including payment services, establish for the NBU the control over the provision of payment services, the approval of preventive measures to prevent deceptive behavior of financial market participants, the organization of work with service user appeals and their analysis to detect violations legislation, monitoring the correctness of information disclosure on websites and in advertising, regulating the level of the interbank commission rate for card payment transactions, etc.

Summarizing the above, we can draw a general conclusion that the effectiveness of the protection of the rights of users of payment systems (payment services) is ensured by the high-quality implementation of the following tasks of this protection by both the state and the participants of payment systems: guaranteeing the stability and continuity of payments; providing payment services at a high level from the point of view of ensuring the security and independence of payment systems using the latest technologies; protection of the payment infrastructure against criminal encroachments and unauthorized access, including forgery of financial documents, payment cards or other means of access to payment accounts, electronic money, illegal actions regarding making changes to such payment instruments, etc.; ensuring equal and equal conditions of competition for money transfer operators on the payment market; facilitating the reduction of tariffs and commissions for the provision of payment services⁴⁸².

Therefore, the protection of the rights of users of payment systems (payment services) can be defined as a system of legislative and regulatory measures that protect users at all stages of their relations with providers (providers) of payment services and should be as follows: regulatory and legal consolidation of clear requirements for payment service providers regarding their duties, the legislative introduction of liability limits for unauthorized transactions, establishing specific criteria for the separation of liability and damages between payment service providers and users for disputed transactions using electronic payment means, as well as for late or incomplete remittance of taxes, fees and other payments to budgets and extrabudgetary special funds.

⁴⁸² Banking future in the context of economic stagnation. (2022).

Conclusions.

An important issue is the information security of the population, which provides its financial needs remotely. The state of both the national and world economy depends on the level of organization of financial security. We can single out two of the most optimal ways to reduce the negative consequences of the problem and restore clients' trust in the banking system: increasing the level of financial literacy of the population, as well as strengthening the legal protection of citizens.

A low level of financial literacy is observed all over the world, so not only individual financial organizations, but also the governments of countries and representatives of the most influential global organizations aim to improve this situation. Only the collective work of all subjects will make it possible to achieve the set goals. In Ukraine, an important role is played by the educational work of commercial banks led by the National Bank of Ukraine.

The term "financial literacy" characterizes the combination of theoretical knowledge and practical skills into an integrated complex that allows users of financial services to make correct and informed decisions in the system of economic relations with other subjects.

One of the areas of work on increasing the level of financial literacy of the population of Ukraine can be identified as stimulating the demand for financial services and increasing the level of consumption, which will indicate a decrease in discomfort in the financial sphere.

In order to increase the effectiveness of the provision of educational services of a financial nature, it is necessary to overcome the barrier that was formed over a long period of time on the basis of generally accepted norms and rules. Also, a step towards improving the perception of the latest banking services can be an increase in the level of information security, which will make it possible to overcome the panic of the population by guaranteeing legal protection.

The results of the study of the features of the Internet banking service mechanism give grounds for asserting that all its elements interact as a complete system. The coordinated work of all interdependent processes guarantees the achievement of a successful result from the implementation of innovative services. In order to create favorable conditions for the fulfillment of the goals set for the bank, great attention should be paid to the organization of remote service management, the creation of appropriate standards, the construction of a system for evaluating the effectiveness of innovative processes, as well as the timely identification of threats and their elimination. Undoubtedly, scientific and technical progress influenced the birth and development of methods of remote promotion of banking services. It is the incessant shifts in the field of innovation that give impetus to the emergence of new forms of banking.

In this way, there was a gradual transformation of traditional channels into home banking, which in turn improved and changed into the form of mobile banking, which, accordingly, under the influence of Internet technologies, gave the basis of Internet banking. Practice shows that it is banking institutions that are able to quickly absorb all the achievements of science and technology in order to successfully promote their products and services in the market where competition prevails.

Based on the results of the research, it can be concluded that the role of banks is radically changing in modern society: now the bank is a personal financial manager who, regardless of place and time, can fully manage the finances of each client and shares potential risks with him. Undoubtedly, the implementation of the latest banking products and services requires significant initial capital investments and is accompanied by a high level of risk. This fact dictates that at the moment, only systematic, high-tech banks with an appropriate level of automation of banking processes, an adequate risk management system and qualified personnel are able to implement innovations.

At the same time, significant capital investments for the organization of the considered services are not comparable to the benefits obtained as a result of saving the bank's operating costs and obtaining additional income. A reasonable alternative for banks that do not have their own services is the possibility of providing such services to their clients with the help of concluding agency agreements with other banks in order not to lose their clients, but with such a mechanism,

the profitability of customer service is significantly reduced. Thus, banks that are less successful in this direction should catch up with more active competitors, as delay due to savings on development can cost the bank very dearly: customers love successful ones.

Based on the market research of remote banking services offered to individual clients, it can be confirmed that Ukrainian banks are only at the initial stages of innovative transformation. Currently, dozens of commercial banks of Ukraine use non-traditional channels in their practice, and the limited functionality of the remote banking service system remains a significant drawback. The problem on the way to the development of electronic banking is that many current banks are not compatible with the Internet because the banking system with its products and services was invented long before the World Wide Web. Therefore, banks need to create a system for working with social networks, mobile versions for sites and applications for smartphones, and not a bank on the Internet. If we consider the digital bank as a way of communication, then everyone has been ready for it for a long time. An important favorable factor for domestic banks is the rapid development of the Internet throughout the country, including the most remote and smallest villages⁴⁸³.

When choosing a bank, the public uses two interrelated criteria – the attractiveness of the financial offer and the level of technology, since the more a bank uses digital technologies, the less it spends on supporting its daily activities and can offer more attractive conditions for customers. And then there is no need to keep huge networks of branches and a large staff of employees.

A feature of banking services provided through Internet channels is their regular nature (payment of utility bills, ordering and payment in online stores, ordering tickets for various types of transport or for certain events and paying for them, transferring funds between individuals or paying for the use of services legal entities). In order to draw the client's attention to the bank and make him an active user of banking services, it is enough to provide him with the opportunity to perform a full range of operations in one system. For this, banks are developing mobile applications, or specialized self-service terminals. The transition from traditional service channels to digital ones leads to an increase in customer loyalty, an expansion of the range of banking services, and the creation of new systems that allow the client to quickly and efficiently carry out a whole set of operations without visiting a bank branch. There is also a simplification and optimization of the service process in order to save time spent on the offer and consumption of banking services, because the speed of service is often one of the main criteria when choosing a bank.

During the study, an analysis of transitional forms of Internet banking services, which are represented by the operation of a network of self-service centers in the form of ATMs and terminals, which allow the client to carry out a number of operations quickly and independently, was carried out. The disadvantage of this form is the significant costs of maintaining a network of self-service devices, which therefore leads to a reduction in their number and a transition to alternative forms of providing banking services. Evaluating alternative banking services of Ukrainian banks, it can be said that the most common are internet banking, mobile banking, and managing funds by phone. These channels are popular among consumers of banking services due to saving time for transactions, lack of territorial attachment to a bank branch, as well as low cost.

Leading Ukrainian banks offer clients comprehensive service, the features of which were discussed in the master's thesis. In Ukraine, uneven use of online services can be observed among different age categories of the population. In order to become one step closer to customers, banking institutions need to build their service on the principles of simplicity and convenience. Such potential threats can lead to undesirable consequences on the scale of the entire client base, within the limits of the work of an individual bank, and even the banking system as a whole. Because of this, remote service requires a comprehensive study of all considered risks and a balanced system of their management. Currently, both the National Bank of Ukraine and commercial banks must choose certain priority ways of implementing electronic services with the help of appropriate payment systems and relying on the experience of foreign banking institutions.

⁴⁸³ Martsenyuk O. V., Vidarska V. P. The banking system of Ukraine: current state and development prospects. P. 15.

In order to effectively implement electronic services for the public, legislative norms should be improved to guarantee safety during electronic transactions and help restore customer trust. It was noted that the application of remote banking services by Ukrainian banks needs considerable improvement. In this case, it is not only about adopting global information technology trends that have become widespread in leading countries. Here, first of all, it is worth directing the actions of banking institutions to work with customers, whose behavior affects the demand and supply of banking services in the retail market, because an excess supply does not bring benefits to the bank, but only unnecessary costs.

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ANNOTATION

Part 1. INFORMATION AND INNOVATIVE TECHNOLOGIES IN EDUCATION

1.1. Mykhailo Kalenyk. ORGANIZATION OF ONLINE EDUCATION IN PHYSICS AT SCHOOL USING MODERN INFORMATION TECHNOLOGIES

The method of using modern information technologies for the organization of online classes in physics at school is proposed. It is based on an integrative model of the educational process. Multimedia technologies are considered when working with educational texts, conducting a physical experiment, solving problems, managing the educational activities of students, repeating the studied material, checking, recording knowledge, organizing independent activities of students. Ways of organizing distance learning in synchronous mode using video conferences, interactive animations of processes and phenomena, training exercises, web 2.0 technology, and cloud services are offered.

1.2. Lidiia Slipchyshyn. THEORETICAL AND METHODOLOGICAL BASIS OF SPECIALISTS VISUAL CULTURE FORMATION

The article substantiates the theoretical foundations of the specialists' visual culture formation. The philosophical basis of the concept of "visual" is analyzed. The importance of discourse experience forming is shown, which helps the individual to perceive and explain the "inexpressible", to fill the image with meaning, and produce ideas. It has been established that the visual-figurative way of conceptualizing reality opens up wide opportunities for identifying connections and working with information, building new concepts and images. The role of visual thinking in organizing mental activity and working with information is emphasized. The essence of a specialist's visual culture is revealed and its features for artistic and technical profiles are shown.

1.3. Natalia Afanasieva. FEATURES OF THE RELATIONSHIP OF EMPATHY AND BEHAVIORAL STRATEGIES IN CONFLICT AMONG PSYCHOLOGY STUDENTS

The article presents an analysis of the relationship between empathic abilities, tendencies and styles of conflict behavior in the studied psychology students, which revealed the presence of a direct and inverse relationship between these indicators. The general trend shows that the higher the level of empathy among the subjects, the less aggressive forms of behavior they choose in the conflict. It should be noted that among the strategies of behavior in the conflict, compromise and cooperation prevail. This is probably due to two main factors – the gender of the subjects (girls predominate in the group) and professional focus (psychology). But this assumption needs additional analysis. Based on the conducted psychodiagnostics research, a social-psychological training program aimed at optimizing the empathy of future psychologists was developed.

1.4. Ivan Vasylykiv. FORMATION OF PROFESSIONAL COMPETENCE OF PRIMARY SCHOOL TEACHERS IN THE FIELD OF INFORMATION AND COMMUNICATION TECHNOLOGIES

The article examines information competence, which is a necessary quality of teachers, characterized by their focus on mastering the theoretical and practical foundations of their specialty, professional self-development, personal self-actualization and self-realization in the conditions of an increase in the amount of information and the development of technologies.

The formation of informational competence of teachers should occur simultaneously with the formation of their communicative competence.

Communicative competence of teachers is closely related to their ability to use ICT for access to information, its organization, production and transmission in order to carry out productive professional and pedagogical activities in the modern informational and educational space.

1.5. Olena Havrylo. FORMS AND METHODS OF FORMING NATURAL CONCEPTS IN PRESCHOOL CHILDREN

The article analyzes different definitions of the term “concept” and “natural concept”. The aim is to prove the formation of concepts in preschool children. In the context of the article, the most optimal is the definition of the concept as a form of thinking, generalization of the essential features of the object. The article proves the effectiveness of selected methods in the formation of preschool children’s natural concepts. The child’s natural concept is largely dependent on the personality of the educator. In the modern pedagogical research, the concept of readiness for environmental pedagogical activity is interpreted differently. Thus, under the condition of purposeful pedagogical influence, natural concepts can be effectively formed on preschool children.

1.6. Nataliya Drozhzhina. INNOVATIVE TECHNOLOGIES FOR SHAPING PERFORMANCE CHARACTERISTICS OF VARIETY SINGERS IN THE SYSTEM OF HIGHER MUSIC EDUCATION OF UKRAINE

The main task of higher education at the current stage of the development of variety music is to create the theoretical and methodological bedrock, on which the system of training professional vocal performers in institutions of higher education of culture and arts should be based. Therefore, the purpose of the research is to analyze the introduction of innovative technologies for shaping performance characteristics of variety singers into the higher music education of Ukraine with the aim of substantiating the universal methodology of training highly qualified specialists in the field of variety vocal art.

1.7. Alla Diachenko. APPLICATION OF INNOVATIVE APPROACHES DURING UNDERGRADUATE PRACTICE BY STUDENTS OF THE INDUSTRIAL DESIGN SPECIALIZATION AT THE MYKHAILO BOICHUK KYIV STATE ACADEMY OF DECORATIVE-APPLIED ARTS AND DESIGN

The article examines the peculiarities of the application of innovative approaches during pre-diploma practice by students specializing in "industrial design" at the Mykhailo Boichuk Kyiv State Academy of Decorative-Applied Arts and Design. It is established that during the course of pre-diploma practice, students have the opportunity to choose design methods according to the nature of the project and other design tools, which are based on various innovative approaches and design methods, such as ICA, ICB, 3D, 3R, PSS, information architecture, user design interface etc.

1.8. Yuliya Zhurat. INNOVATIVE METHODS FOR TEACHING READING IN PRESCHOOL THEORY AND PRACTICE

Nowadays, understanding that full-fledged personality development occurs only when a child's full-fledged physical and mental development is in harmony, which means that the future of a person depends on the conditions created in childhood.

Therefore, it is necessary to promote the development of children's reading skills and the desire to independently familiarize themselves with works, not for the sake of the process itself, but mainly because the book is one of the main and irreplaceable means of spiritual and moral education. Since it is important for the future desire to read and successful learning how the child feels when learning reading skills at the first stages, it is advisable to make this process easy, interesting and natural. Therefore, the use of game techniques both in a preschool institution and at home when getting acquainted with letters is an important condition for the child's successful development.

1.9. Volodymyr Kovalchuk. INFORMATION AND THE LATEST EDUCATIONAL TECHNOLOGIES AS AN IMPORTANT FACTOR IN INCREASING THE EFFECTIVENESS OF THE MODERNIZATION OF PEDAGOGICAL EDUCATION

Students and teachers most willingly master new forms of pedagogical activity, but at the same time pay the least attention to the techniques of the pedagogical toolkit – helping the schoolchild to enrich his experience of creative life. If the nature of the student's work on the educational material is exploratory and research, then the studied material will acquire personal significance for the student, since it was obtained by him in real activity and, accordingly, will be retained in his memory for a long time. In addition, in this process, students master the basics of working with computer information technologies, their capabilities and perspectives, which is important for life in modern society.

1.10. Tetiana Koliada-Berezovska. EDUCATIONAL INNOVATIVE DEVELOPMENTS: FORECASTING ALGORITHMS IN THE SOCIAL COMMUNICATION SPHERE

The study results of information analysts professional training modernization problem are presented in the context of higher education new paradigm as its fundamentality and integrity united principle. The proposed development purpose and tasks are defined by the need to provide potential specialists, second-level higher education students mastering a specialty related to the information analytical and synthetic processing processes, documentation support of social communications, information and documentation management support based on knowledge and information technologies' algorithmic essence understanding. Also emphasized is that, considering the professional competences requirements, the ability to predict the socio-communication environment condition, to forecast the socio-communication processes development a factor of professional data handling with the algorithmic analytical-synthetic procedure as an optimal combination of fundamental and practice-oriented knowledge aimed at the prospect of a specific problem solving.

1.11. Zhanna Melnyk. TRAINING OF SOCIONOMIC SPECIALISTS FOR PROFESSIONAL ACTIVITY BY MEANS OF INNOVATIVE TECHNOLOGIES

One of the central tasks of modern economic reform in market conditions is to activate the human factor. A person is the bearer of all social relations. Nowadays, technology is becoming universal, acquiring importance as a factor that becomes one of the main sources of social change. Society has reached such a stage in its development when the solution to social problems is impossible without the appropriate technology. Today, the problems of technology, more than ever before

in the history of mankind, directly affect social aspects and aspects that reveal the life content, existence of Man and humanity. At the present stage, when the need to move from the spontaneous to the conscious nature of social practice becomes not only an obvious social truth but also a technological requirement of the era, especially the social need for socio-philosophical awareness of the essence and human content of Technology, ways of its evolution and use in the interests of man is growing.

1.12. Olexiy Pavlenko. THE USE OF INFORMATION AND DIGITAL TECHNOLOGIES IN THE ORGANIZATION OF SCIENTIFIC WORK OF APPLICANTS IN THE SPECIALTY OF TRANSPORT TECHNOLOGIES

The necessity of using modern information and digital technologies for organizing the scientific work of applicants is substantiated. Existing information resources used for preparation were assessed. The presented competencies obtained by the applicant made it possible to establish directions for increasing the level of teacher training in the direction of his information and digital awareness. The means necessary for the applicant for high-quality and effective preparation of scientific developments, motivating him and encouraging him to search for new ideas, striving for the future, are determined.

1.13. Tetiana Spirina. MAKING EFFECTIVE DECISIONS AS A COMPONENT OF THE PROFESSIONAL CULTURE OF A SOCIAL WORKER

Modern professional education focuses on the preparation of a competitive specialist, capable of self-development and creative search in professional activity, an individual with a stable system of moral values. The professional culture of a social worker involves not only theoretical aspects, which are expressed in the possession of certain knowledge, abilities and skills in the professional field, currently, a more important role is played by the practical use of theoretical knowledge, the meaning of which lies in the performance of a certain set of humanistic tasks and functions aimed at an effective solution problem of recipients of social services, as well as reducing social tension in society. The author considers effective decision-making as a component of the professional culture of a social worker. Analyzes the scientific and theoretical foundations of decision-making in social work and considers the factors and criteria for effective decision-making.

Part 2. INFORMATION AND INNOVATIVE TECHNOLOGIES IN ECONOMY AND MANAGEMENT

2.1. Anna Kozachenko. INNOVATIVE ACTIVITY IN THE CONDITIONS OF ECONOMIC COMPETITION

The article analyzes the role of the innovation process as a basis for increasing competitiveness enterprises. The relationship between the main elements of innovative activity of enterprises, as well as levels, is considered its manifestation. Factors affecting the implementation of innovations at enterprises were analyzed. The forms of innovative activity are considered. The importance of innovative activity for the purpose of forming and maintaining competitive advantages, as well as strengthening the competitive positions of the enterprise both on the domestic and foreign markets, is substantiated.

2.2. Olena Martseniuk. INTERNET BANKING – INNOVATIVE DEVELOPMENT OF THE BANKING SECTOR IN UKRAINE

Internet banking service is an intangible information form of conducting commercial and banking business in the international online space. The trends of their formation have a powerful influence on international electronic business and the international monetary and financial sphere, the banking system, which are systematically subject to financial crises and global currency transformations.

The article is devoted to the study of the use of digital and Internet technologies in banking activities on the territory of Ukraine, taking into account the European experience. Features of remote banking services for retail customers are summarized. The essence and main forms of Internet banking services for retail customers are considered. The mechanism of remote service to the population, which is an important element of the banking business, has been studied. The prerequisites and factors that became the driving force behind the development of channels for the provision of banking services are highlighted. The analysis of transitional forms of providing banking services in Ukraine was carried out. Banking services, which are formed under the influence of the development of digital Internet technologies, have been evaluated. The possibilities of improving the Internet banking service process are substantiated.

Given the economic importance of digital technologies in banking in the face of modern challenges, recommendations on improving the efficiency of providing Internet banking services to customers, which are associated with improving the quality of service through the use of innovations, as well as recommendations on avoiding risks inherent in alternative channels, are substantiated implementation and identification of current models of banking activity.

2.3. Mariia Miroshnykova. INCREASING THE EFFICIENCY OF REFRIGERATING EQUIPMENT OF PASSENGER CARS

Most of the passenger cars operated on Ukrainian railways were built in the 70s and 80s of the last century and their service life is coming to an end. Under the condition of limited funding, carrying out restorative repairs by car repair plants and railways remains the main means of maintaining the car park in the required number.

Thus, during the operation of passenger car air conditioners, the internal surfaces of their pipelines are contaminated (primarily due to the accumulation of oil residues on them), as a result of which the performance of the air conditioner decreases.

In addition, the passenger car park has cars equipped with refrigerating equipment designed for the use of freon-12 (R12), freon-22 (R22) refrigerants. Therefore, it is necessary to clean the internal surfaces of pipelines and refrigerating equipment of air conditioning systems from mineral oil residues and impurities when replacing (retrofit) R12, R22 with ozone-safe alternative refrigerants.

2.4. Olena Polova. INNOVATIVE MANAGEMENT OF MARKETING ACTIVITIES OF THE ENTERPRISE

The modern stage of development of the agrarian sector of the economy of Ukraine is characterized by the gradual creation of fundamentally new conditions entrepreneurial activity. An economic situation is formed, under which it arises urgent need for further development of market orientation of production. The global food crisis caused a number of peculiarities in implementation of the production and commercial process of this industry. In this regard a real economic tool for organizing agricultural activities enterprises, taking into account the requirements of the market, becomes a marketing activity – complex and systematic method of solving problems of agricultural organization production All this requires solving a number of research tasks based on system approach, development and implementation of market strategies management for agricultural enterprises.

The practical significance of the obtained results lies in the possibility of using theoretical and methodological developments and practical recommendations regarding the formation and functioning of the mechanism for managing the marketing activities of an agricultural enterprise.

2.5. Oksana Ruda. INNOVATIVE TECHNOLOGIES IN BANKING ACTIVITIES AS THE DRIVING FORCE OF THE EFFICIENT FUNCTIONING OF THE BANKING MARKET

The essence, principles and chronology of the implementation of banking innovations were studied. The modern trends of banking innovations in Ukraine have been determined. The classification of banking innovations is considered. Advantages and prerequisites of banking innovations are disclosed. Domestic banking innovations are highlighted. Specific features and directions of implementation of innovative technologies in banking activity are identified, among which can be attributed: financial component, technological component, and organizational and structural component. The main innovative technologies that were introduced in banking activities were considered, including: contactless payments, identification using biometric technologies, blockchain technology, NFC technologies, Internet banking, virtual bank technology, etc.

2.6. Nataliia Havrylenko. DEVELOPMENT OF FISCAL ADMINISTRATION IN UKRAINE UNDER THE CONDITIONS OF DIGITAL TRANSFORMATIONS

The purpose of the study is to develop theoretical provisions and practical recommendations regarding the development of digital transformations in the field of tax administration in Ukraine. The theoretical basis of the research was the results presented in fundamental and applied scientific works of Ukrainian and foreign scientists in such areas as: taxation, tax management, tax control, tax administration, digital economy, as well as in analytical reports and documents of international organizations on topical issues of digitalization tax administration. A digital platform is proposed, which will allow attracting specific proposals from individuals and legal entities – taxpayers in the field of fiscal administration, aimed at improving the quality of digital technologies that are introduced in the fiscal sphere. This will help reduce the risks of taxpayers' interactions with fiscal authorities in the digital environment and increase their interest in participating in the digital environment.

2.7. Yuliia Haibura. SOME ASPECTS OF ANALYSIS AND FORECASTING OF THE FINANCIAL STATE OF ENTERPRISES IN CRISIS CONDITIONS

The financial condition of the enterprise is the ability to finance its activities. The financial condition is characterized by the provision of financial resources, the expediency of their placement, as well as the efficiency of use and many other parameters, for example, financial relationships with counterparties and partners, solvency, financial stability.

The enterprise must evaluate and analyse its current financial situation and compare it with the financial situation of previous periods and with the financial situation of enterprises of similar activity. The purpose of this analysis is to obtain an objective and reasonable description of the financial state.

Analysis of the financial condition of any enterprise is a necessary condition. It is financial analysis that is a means of assessing and forecasting the financial state of the enterprise. It can be performed both by the company's management staff and by any external analyst. The results of the financial analysis are used for planning, control and forecasting of the financial state of the enterprise.

The current state of the economy of our country leads to the fact that business entities need to find ways and directions to increase the efficiency of their activities, find new ideas and opportunities to overcome shortcomings and market challenges. Thus, the problem of improving the company's financial condition and finding ways to improve the company's financial condition is undeniable and relevant.

2.8. Vasyl Gorbachuk. ECONOMICS OF DATA CONSUMPTION AND MANAGEMENT OF EXTERNAL NETWORK EFFECTS

While network externality refers to all types of (negative or positive) feedback from the market, network effect is usually mentioned only for positive feedback leading to an increase in the value of the network. Each digital service will involve network effects that can influence the evolution of the respective market over time. If positive network effects lead to slow initial adoption of new services, it can be accelerated by initial offering the new service for free. Estimates of the value for networks of various types are used in strategic planning. Network effects can be visualized using undirected networks, where the number of nodes, as a rule, does not exceed the number of connections (links) between them.

2.9. Olexander Krasnoshtan. SYSTEM AND METHODOLOGICAL FOUNDATIONS OF SOLVING THE PROBLEM OF MODERNIZATION AND INNOVATIVE DEVELOPMENT OF THE COUNTRY'S TRANSPORT SYSTEM

The system and methodological foundations of solving the problem of modernization and innovative development of the transport system are considered. A modern complex definition of the transport system as a multi-level hierarchical system, its structure, place and role in the general socio-economic system of the country is given. The main regularities of the development of the hierarchy of multi-level transport systems have been identified and systematized. The concept of the system-mental complex of the country's transport system was introduced.

2.10. Iryna Markovych. BEHAVIORAL AND CULTURAL ASPECTS OF CORPORATE MANAGEMENT IN THE CONTEXT OF ENSURING MOTIVATION OF ACTIVITIES

The article analyzes concepts related to labor motivation and its place in the enterprise management system. Content and process theories of motivation are analyzed in detail. Approaches to the assessment of personnel motivation are summarized by identifying the factors that have the most noticeable impact on the employee's motivation at the enterprise and its formalization. A study of the influence of cultural factors on staff motivation was conducted, as well as a comparison of the cultural foundations of work motivation systems in the United States of America, Switzerland, France, and Germany with the motivation system of Ukraine.

2.11. Alla Meish. POLAND AND UKRAINE: PROBLEMS OF INNOVATIVE ECONOMIC DEVELOPMENT

The problem of innovative development of the economy is highlighted. On the basis of an analytical understanding of the factual material and a comparison of the dynamics of statistical indicators of Poland and Ukraine, deductive generalizations of the false reformation of the causes of the paradoxes that arose as a result of the shortcomings of the stretching of the economy of Ukraine, which are not localized to this day and make innovative development of industry and agriculture impossible, but on the contrary, catalyze environmental problems, are given. The impasse of this variant of the development of the domestic economy, when domestic owners of industrial and agricultural enterprises are satisfied with the current status of suppliers of raw materials for export, is emphasized. Attention is focused on the fact that only the leveling of protracted paradoxes in these industries can become a reliable basis for the innovative development of the economy.

2.12. Serhii Moroz. ELECTRONIC TRADE IN UKRAINE AS AN INDEPENDENT ATTRIBUTE OF BUSINESS DEVELOPMENT

At the moment, the transformation of business process implementation trends by business entities in accordance with the permanent rapid development of the latest electronic commerce technologies is extremely relevant. And if small enterprises in practice use a narrow range of such tools, then transnational corporations invest significant sums of money in the introduction of data processing systems and cloud computing, etc. The current conditions of the functioning of Ukrainian economic entities are characterized by the increasing instability of the domestic economic situation, the increase in this connection of both internal and external competition. Taking into account the European integration vectors of the functioning of domestic business entities and the deepening of relationships on the international labor and capital markets, in particular in the field of information technology development, as well as in order to increase the competitiveness of domestic enterprises, it is advisable to use electronic commerce and analytics technologies.

2.13. Svetlana Suprunenko. INSTITUTIONAL REGULATION OF STATE INFORMATION SECURITY: ASPECTS OF DETERMINING EFFICIENCY

The study is devoted to the study of the current state of institutional regulation of the information security of the state in the conditions of globalization challenges and military threats and the development of a methodological apparatus for conducting an analysis of determining its effectiveness. The article discloses modern aspects of the choice of approaches to the assessment of institutional regulation of information security. The author thoroughly analyzed the impact of state management mechanisms on the work of information security regulatory institutions and identified key problematic aspects and directions for further improvement. In the course of the research, the author's approach to the evaluation of the level of effectiveness of the institutional regulation of information security of the state when changing its system-forming factors is proposed.

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