SECTION 10. MONEY, FINANCE AND CREDIT

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10.1 European experience of digitalization of banking services for individuals

Sustainable functioning and dynamic development of the banking services market is one of the conditions for the successful development of the country's economy. However, in recent years, the Ukrainian banking system has been operating in an environment of uncertainty, financial instability, and political changes, i.e. in a crisis environment, such as the covid pandemic and martial law. Since the banking services market plays a key role in shaping the financial stability of the state, there is a need to ensure the smooth functioning of the banking sector.

The relevance of developing digital technologies in the retail banking market in wartime is growing significantly in terms of security, including reducing risks to life and health associated with visiting bank branches and ensuring the smooth operation of the banking system in the face of infrastructure destruction and power outages. Digital technologies also help to improve access to banking services for people in the war zone or temporarily occupied territories, and are convenient for people who have traveled abroad and people with special needs. It is also worth noting the benefits of digital technologies for banking institutions, namely, reducing the costs of maintaining branches and staff, automating many banking processes, and increasing the speed and convenience of banking operations.

Digitalization in the banking services market is a subject of debate among scholars and representatives of the business community. Digital banking services are studied by such specialists as Kholiavko N. I., Kozlyanchenko O. M., Klioba L. G., Demchyshak N. B., Loik R. V., etc. However, the present requires further research of this issue, based on the experience of European countries.

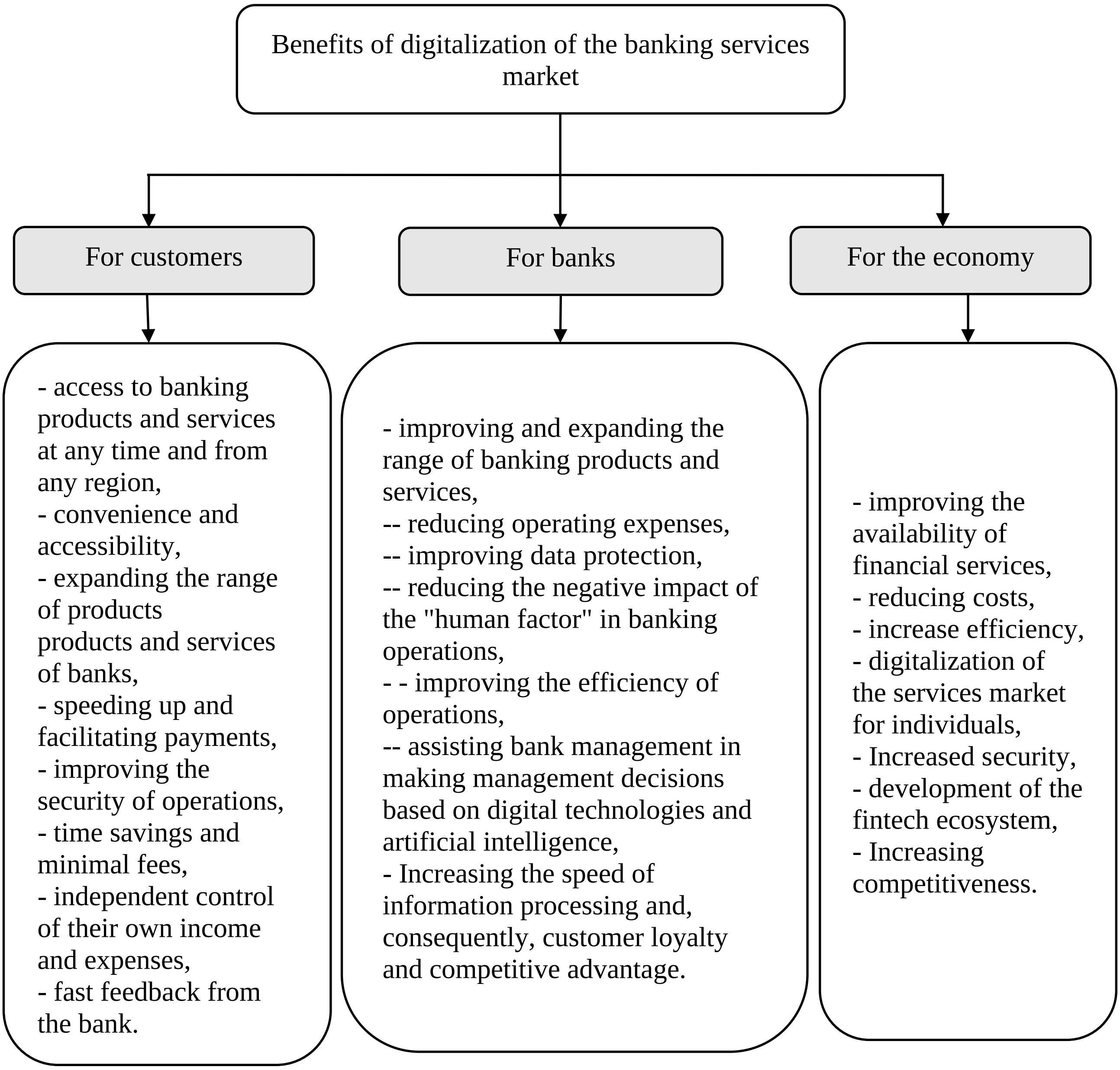
The purpose of the study is to investigate the experience of developed countries in digital services in the banking sector.

Traditional banking services for individuals are already losing popularity as online resources allow banks to attract and interact with customers, improve certain positions in the financial services sector and enter less saturated market niches. Mobility and focus on customer (individual) convenience are becoming priorities for all industries. Mobile applications, specialized programs, electronic and personal accounts are becoming increasingly common [259-260].

The main goal of the modern banking sector is to make financial services and transactions available 24/7 from anywhere in the world via Internet communications. The development of the retail banking market is leading to an increase in the use of electronic technologies designed to simplify the process of using services for customers. Individuals can access banking services at their own discretion, choosing the place and time of day that suits them best.

The use of the latest technologies and approaches to stimulate the financial services market is global, and the IT industry is becoming an active player as an investor, developer, and generator of ideas. In wartime, digitalization in the banking sector illustrates the benefits and prevalence of financial digital services in the process of servicing individuals in retail banking. In general, the digitalization of the banking system has many advantages for both customers and banks, as well as for the economy as a whole (Pic. 1) [261-264].

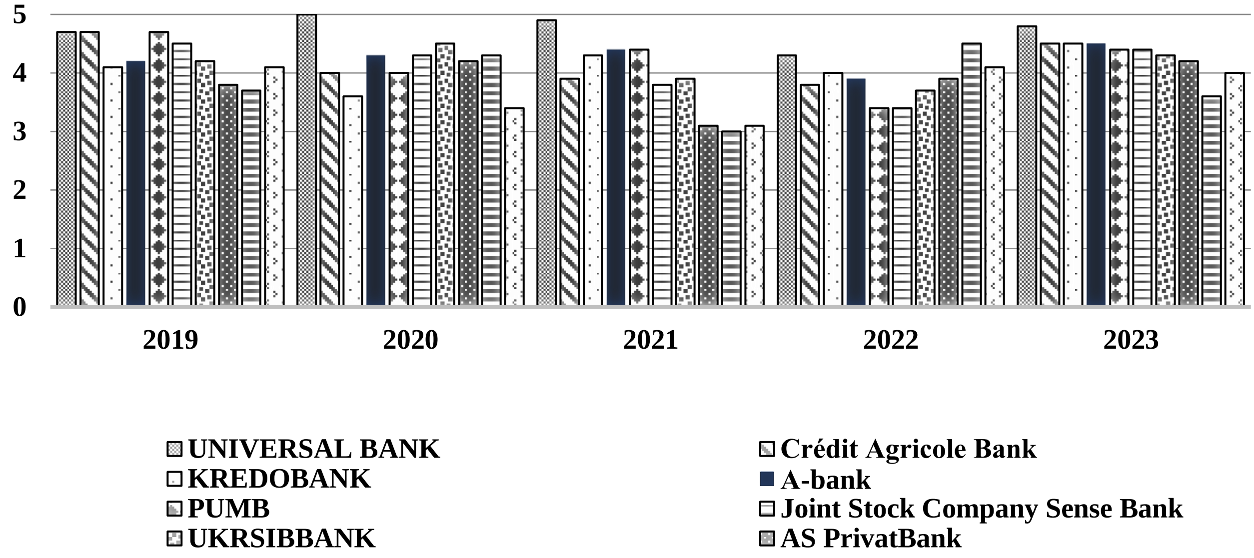
The coronavirus pandemic was the first stimulus for the development of digital technologies in the banking sector. It was the digitalization of the financial and banking sectors that accelerated digital transformation and the introduction of new technologies, namely, digitalization doubled [263]. Digitalization of banking services is a necessary stage in the development of the banking system. It enables banks to increase their competitiveness and provide better service to their customers. It is no secret that attracting new customers will cost more than retaining existing ones. Since customer retention is only possible by meeting all their expectations regarding the level of service, variety of services and their price, there are indicators such as the customer satisfaction index (CSI**)** and the customer loyalty index (NPS). The customer satisfaction index determines the level of customer satisfaction with the services provided, while the customer loyalty index indicates the extent to which the customer (individual) will recommend these services to his or her friends.



Picture 1. Benefits of digitalization of the banking system

Source: compiled by the author on the basis of [259-265].

The study of the index of individual satisfaction on the example of several banks for 2019-2023 (shown in Pic. 2). Analyzing the index of individual satisfaction for 2020-2023 on the example of the most reliable banks according to the NBU [266], we can trace the fluctuations of this index on a scale from 3 to 5; it should also be noted that the indices are different and each year bank customers evaluate their satisfaction differently.



Picture 2. Individuals' Satisfaction Index 2019-2023

Source: systematized by the author on the basis of the source [266].

Given the diagram above, compared to previous years, the data of the index of individuals' satisfaction with banks in 2023 is the highest, which was influenced by the development of the process of digitalization of banking services for individuals, namely the introduction of digital technologies, which is relevant in the context of martial law, in particular [261, 266]:

– electronic payment systems, such as Apple Pay, Google Pay, PayPal, etc., which allow you to securely pay for goods and services online or in stores using a mobile device;

– Internet banking, which is used to manage bank accounts, make payments, transfers, order services, etc. using a computer or mobile device. The rating of the banks-winners in the Mobile Banking nomination in 2023 is presented in the table (Table 1);

– Identification, i.e. the use of biometric technologies, such as fingerprint scanning (e.g. confirmation of transactions in a mobile application such as Oschad 24/7) or face recognition (e.g. FacePay24 by PrivatBank), to confirm the client's identity and ensure the security of their financial transactions;

– process automation, the use of artificial intelligence and machine learning to automate decision-making and customer support processes, which improves the quality of service;

– personalized data analytics offers to create personalized financial offers and services that meet specific customer needs and conditions;

– virtual Internet banking technology, i.e. neobanks, which are as functional as traditional banking structures and at the same time allow banks to save on costs in the absence of physical branches. As of today, the following neobanks are developing and operating in Ukraine: O.Bank, A-Bank, TodoBank, Izibank, Sportbank, Monobank. There are also some banks that have their own online platforms, namely: Oschad 24/7, Privat24, iPUMB, UniCredit Online;

– digital advice and support, providing customers with the opportunity to receive advice and support through online chats, video calls or emails to resolve their financial issues.

Table 1

Rating of banks - winners in the Mobile Banking nomination in 2023

Place in the ranking	Bank	Name of the mobile application	Ability to withdraw cash from an ATM without a card	Ability to set card limits independently	Availability of mobile applications for individual entrepreneurs and SMEs	Possibility to invest in Ukrainian securities (government bonds, bonds, shares)
1	PrivatBank	Privat24	yes	yes	yes	yes
2	Universal Bank	Monobank	yes	yes	yes	yes
3	The meaning of a bank	Sense SuperApp	yes	yes	yes	yes
4	Oschadbank	Mobile savings	no	yes	yes	no
5	A-Bank	Abank24	no	yes	yes	no

Source: compiled by the author based on [266].

Thus, in crisis conditions (martial law), banks are gradually adapting to new realities. The digitalization of retail banking allows banks to improve customer service, ensure greater accessibility and efficiency of financial services, which makes these services more convenient and affordable in times of crisis and has a positive impact on the bank's performance and customer feedback. And it is the use of European experience in the field of digital technologies that will allow us to gain additional experience in the development of online banking operations.

Digital banking is a banking service that allows customers to conduct banking transactions online without visiting traditional bank branches [267]. This service has recently gained popularity and has a number of advantages.

Digital banking services include mobile devices, smart cards, and NFC technology, which makes banking operations convenient for customers.

According to the World's Best Banks for New Financial Technology, the leader in digital banking is Bank of America Merrill Lynch; BNP Paribas is the leader in Western Europe, VTB Capital in Central and Eastern Europe, CCB International in Asia Pacific, BBVA in Latin America, GIB Capital in the Middle East, and Rand Merchant Bank in Africa [259].

Commerzbank and Deutsche Bank, which are now among the largest banks in Germany, are leaders in the digital banking space in Germany. According to a report published by Deutsche Bank in 2020, the market share of digital banks in Germany is 6.5% [267].

With the rapid growth of the digital banking sector in Germany, traditional banks are also investing in digital banking services. In 2020, the digital banking services of traditional banks operating in Germany, such as Commerzbank and Deutsche Bank, accounted for more than 20% of their total revenues. The number of companies offering digital banking services in Germany has been growing rapidly in recent years. There are also many fintech companies in Germany. Fintech companies often offer many different financial products and services. As of 2020, there are more than 1500 fintech companies in Germany. Examples of fintech companies operating in Germany include Fidor Bank, SolarisBank, and Auxmoney [267-269].

Today, Austria has an open banking sector, which is driving the innovative development of fintechs and the pioneering implementation of PSD2 by UniCredit Bank Austria. The Austrian fintech landscape has witnessed a significant increase in the number of startups focusing on payments, investments, insurance and accounting.

There are approximately 300 fintech companies operating in Austria, with digital payments leading the way. According to Statista data for 2023, digital payments were the largest segment in the financial technology industry with a total transaction value of $32.07 billion [270].

The Open Banking Initiative, based on the revised European Union Payment Services Directive (PSD2), has further boosted the sector. The Austrian central bank and research indicate a promising future for digital transactions, predicting significant value in the digital payments segment.

In Austria, open banking is gradually being introduced thanks to a strong payment infrastructure and high conversion rates. The introduction of regulatory sandboxes by the Austrian Financial Market Authority (FMA) in 2020 was a significant step towards promoting technological innovation and made Austria an attractive center for financial technology. This step demonstrated the regulator's desire to position open banking at the forefront of technological innovation [270].

Since the implementation of PSD2, Austria has seen a significant increase in the adoption of open banking with diversified applications across its banking and fintech ecosystem.

UniCredit Bank Austria was the starting point in the evolution of open banking in Austria. This bank has pioneered the implementation of PSD2 recommendations in its digital banking services. UniCredit Bank Austria has opened a new chapter in digital banking and is the first real banking platform under the new PSD2 guidelines in Austria [270].

The shift towards more integrated and user-centered financial services is a consequence of the growth of the digital banking sector. Open banking creates numerous opportunities for innovation, such as personalized financial products, improved data protection, and more competitive banking services. The adoption of the Berlin Group/Next Gen PSD2 API standards is an example of steps towards a unified open banking system. However, the implementation of these standards faces obstacles, including the need to achieve wider market penetration and harmonize the various authentication models used by banks.

Thus, according to the results of the study in the series of digitalization of banking services, it can be determined that the development of alternative forms of customer service has become a characteristic feature of modern banking. Today, the most effective alternative forms of distribution of retail banking products are Internet banking, contact centers, computerized communication tools, and mobile applications for smartphones. It is worth noting that the European experience confirms the active development of digital banking: customer behavior has been moving towards digital use of banking services for several decades. Bank customers approve of innovative banking solutions and show a high level of satisfaction with online banking services. European banks show that online banking, which has spread rapidly during the pandemic, continues to gain momentum. Most customers do not need bank branches if they can access banking services from any device (laptop, tablet, smartphone, smartwatch), at any time and from any geographical location. Continuous modernization of terminals and self-service devices is another trend in the development of remote banking.