INNOVATIONS IN BANKING SECTOR: CURRENT CONDITION AND PROSPECTS

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Increasing the competitiveness of the national economy in modern conditions based on the development of information technologies. The definition of innovation is a key factor in economic development. The traditional range of services provided by the bank today cannot fully satisfy the needs of the client. It becomes necessary to introduce new services and develop methods for their provision. Given the importance of information in banking, it is not surprising that banks were among the earliest adopters of automated information processing technology.

Financial institutions, as compared with other industries, rely more on gathering, processing, analyzing and providing information in order to meet their customers' needs. This is the reason why banks were the first to start automated information processing technology.

There are reasons why financial institutions have been and still are heavily investing in technology. First, financial institutions anticipate a reduction in operating costs through such efficiencies such as streamlining back-office processing and the elimination of error-prone manual input of data. Second, institutions find ways to serve their current customers and attract new customers by offering new products and services and at the same time enhancing the convenience and value of existing products and services. Third, with new technology, institutions have been able to implement sophisticated risk – and information-management system and techniques.

However, the use of uniform information systems is not safe both for a bank and for its clients as they are subject to harmful influence of hackers who can intercept personal messages, operation information, bank cards numbers and other data which may result in writing off from accounts. Nowadays many banks and remote services users realize the danger of such interaction.

Nevertheless, they are completely satisfied with the quality of the service provided and are ready to assume these risks and thus use very convenient programs and applications. Many card holders presently use their cards not only for acquisition of goods in shops but also for various purchases and bill payment on the Internet. These operations disclose information on payments as no protection at bank card data input on the Internet is provided; at all rates reliability of the site security system can be very doubtful.

Many banks still use outdated IT infrastructure to host online services. For instance, some banking websites do not use case-sensitive passwords or allow customers to put special characters in passwords. This makes passwords extremely weak and easy for hackers to brute-force into your accounts.

Considering it holds your life savings, most customers expect their banks to follow updated policies, regulations, and infrastructure to keep their information protected.

Past literature has identified technological innovation as a key indicator of bank efficiency and productivity. The rapid development of globalization and information technology (IT) has led to most banks requiring automated electronic systems to compete with other banks to offer better and faster services.

Electronic technologies have been used in the bank sphere since their early introduction. With the advent of electric telegraph, banks started to apply it to maintain interaction with stock exchanges and transmit information about the prices. "Wire Transfers", one of the first means of funds transfers, was first carried out through telegraph in the 19th century. The first commercial use of a telephone also took place between two bankers. Since the first "online" technologies emerged

banks have been obliged to use electronic networks to carry out clearing operations. As electronic communication means (smartphones, laptops) are widely available at present, banks have

started to pay special attention to customer service making use of various software programs and applications. All modern means used for bank customer service are multifunctional and interconnected. But in general one can name four innovative directions for electronic banking:

- 1. Electronic bill payment. This term denotes the system based on the use of a personal computer, smartphone or interactive television with Internet-connection through which clients can remotely pay all their bills, fines, taxes and other charges. Electronic check payment may also be enlisted here.
- 2. "Home-banking". This term refers to communication between a client and their bank via Internet through the client's "online account" to fulfill various operations: opening or closing of accounts, money transfer, debt repayment (loan or mortgage). In addition, nowadays many US and European banks include service of individual investment accounts and their analogs into the "Home-banking" programs.
 - 3. Internet transactions. This term names all money transfers made by means of Internet.
- 4. Electronic payment cards. This term implies electronic credit or debit cards (with a magnetic strip or a microchip) used to pay for various goods and debts, take cash from ATM's and perform other monetary operations.

Despite the fact that the technologies listed above were used even more than 15 years ago, overwhelming number of bank clients prefer conventional service. There are some reasons of such attitude towards the given technologies. And the

main ones are sociological. Major bank customers are people from 30 to 50 years old who do not trust these systems. While bank clients from 20 to 30 years old use the named systems rather often and consider them very convenient due to the

time saved for bank operations. Therefore, we can eventually claim that information technologies in the bank sphere intended for remote customer service, will get more popular.

Standardization of information technologies is a very important aspect of their development. One can hardly imagine that it is impossible to withdraw money from a card in the ATM of another bank, or that the card of a certain bank is valid

to pay only in certain shops. Due to these uniform standards such operations as payment of goods and services, money withdrawal and transfer can be executed virtually all around the world with no regard to technological barriers.

With uniform standards development a synergetic effect between information technologies is observed. For example, bank cards which earlier could be used to pay in the shop are now used to pay on the Internet or by phone. This effect allows creating very convenient multipurpose services which will attract new clients to use bank services and regular customers to use remote ways of service.

Technology is affecting the degree of contestability in banks. Due to the advancement of technology, banks superiority in information is deteriorated. New competitors have emerged and the many barriers provided by banks have been declining and security breach is more imminent today. Some financial products,

services and commodities are becoming more transparent. Due to the lowered entry and deconstruction of some banks, contestability in banking is rising

The advancement of technology has influenced the methods banks use to deliver financial products to its customers. Technology has created alternative delivery mechanisms such as the internet, electronic transferred, ATM's, and many others which all reduce the dependence on the network as a core delivery mechanism. Now, financial systems are substantially over-supplied with delivery systems through a duplication of networks which allows or encourages the banks to change their delivery strategy, rationalize their branch network strategy and provide or develop a wide variety of delivery options.

In the developed countries, the share of users of Internet banking services is up to 80%. For example, in Denmark, the number of users is 90% of the total adult population of the country, the Netherlands - 89%, Finland - 87%, Sweden - 86% [1]. According to the results of 2018, the share of

Internet banking users in Kazakhstan is still no more than 10% of the total adult population of the country. Internet banking has been increasing every year (figure 1) [2].

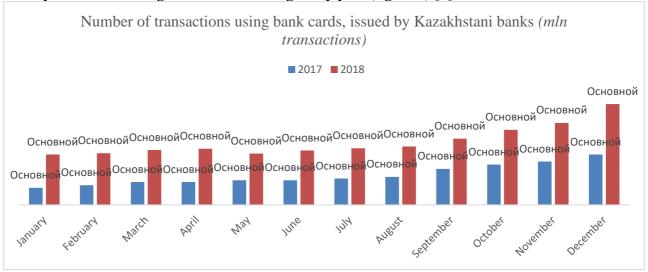


Figure 1 – Number of transactions using bank cards

The total number of transactions doubled in 2018 and amounted to 173 million. The total volume of transactions using bank cards on the Internet also increased and amounted to 2.9 trillion tenge at the end of 2018 (figure 2) [3].

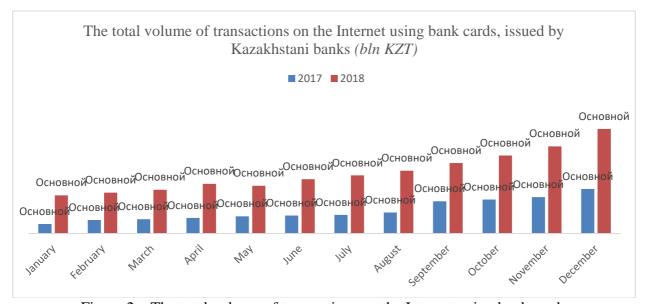


Figure 2 – The total volume of transactions on the Internet using bank cards

Such a wide range of indicators across countries (10% in Kazakhstan to 90% in northern European countries), poses a number of questions for researchers about the reasons for the low of Internet banking users among the population in Kazakhstan against the background of the obvious advantages of this type of banking service for clients.

- Is this connected with the peculiarities of the development of the regional banking system in these countries, the density of "coverage" by bank offices of certain regions of the country?
- Is this related to the low quality of this type of service on the part of Kazakh banks, as well as the degree of satisfaction of existing users?
- Can these facts be explained by the behavioral aspects of the bank customers themselves? Therein can this behavior be explained by the level of education, financial and digital literacy of the population in these countries?

- What can affect the further development of information security in banking systems in Kazakhstan?
 - Finally, the most important question is how to change development strategies

to Kazakh banks in order to expand the field of information security and increase the number of users of Internet banking?

For long, banks have been reluctant to update their systems – and for good reason. The current systems that they use are the product of years of continued innovation to meet immediate customer requirements. But this has resulted in siloed systems being used for the transaction, savings, investment and loan accounts.

Banks and other traditional financial service provider have had to respond with an array of digitization and innovation initiatives. These initiatives employ cutting-edge technologies to ensure a customer-centric perspective rather than the traditional focus on products, real-time intelligent data integration rather than slow analysis being performed after-the-fact and open platform foundation.

Banking is undergoing a technological churn right now due to rising competition from fintech startups and increasing concern for cyber-security. I would like to look at 7 technologies that are going to impact the future of banking sector.

1. Blockchain

Blockchain is a catchall phrase used to describe distributed ledger technologies.

It allows multiple parties to access the same data simultaneously, and at the same time ensures the integrity and immutability of the records entered in the database. At present, leading banks around the world are exploring proof of concept projects across various aspects of banking and financial services.

2. Robotic Process Automation

The volume of unstructured data that the bank has to process is increasing exponentially with the rise of the digital economy. This is not just banking transaction data, but also other behavioral data that could potentially allow the banks to improve and innovate customer experience.

This has made bankers realize that they need to find technologies that can mimic human action and judgment but at a higher speed, scale, and quality. The answer that has emerged is a combination of various technologies that enable cognitive and robotic process automation in banking.

These technologies consist of machine learning, natural language processing, chatbots, robotic process automation, and intelligent analytics in banking that allow the bots to learn and improve.

3. Artificial Intelligence

Banks are looking at Artificial Intelligence as a differentiator to beat down the emerging competition. Artificial Intelligence allows banks to use the large histories of data that they capture to make much better decisions across various functions including back-office operations, customer experience, marketing, product delivery risk management, and compliance.

4. Hybrid Cloud

One of the biggest challenges that the digital age has brought to banking is the need to respond quickly. They need to be able to provide resources across the enterprise in a timely manner to address business problems faster.

High performing banks have discovered that the most cost-effective way of achieving this is through an enterprise-wide hybrid cloud. This allows them to pick benefits of both public and private while addressing issues like data security, governance, and compliance along with the ability to mobilize large resources in a matter of minutes. Hybrid cloud also allows banks to offer innovative new offerings to its customers [4].

All factors influencing the degree of penetration of internet banking among the country's population can be divided into factors with direct and indirect impact.

The level of digitalization does not directly affect the level of penetration of information security in the country, but is an important condition for its development. The level of financial

literacy of the population, knowledge of major banking products and services, the possibilities of using remote banking channels, as well as receiving other financial services online is an important factor in the development of information security. The age structure of the population does not have a direct impact on the development of information security among the population of the country. The density of coverage of settlements by bank offices is not a decisive factor for the development of Internet banking in the country, although it indirectly affects it. The level of consumer confidence in the banking system, in the bank they use, in technical systems and devices that are associated with the promotion of Internet banking services, is a key factor in the development of information security.

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КОМПАНИЯ КАПИТАЛЫНЫҢ ОПТИМАЛДЫ ҚҰРЫЛЫМЫН БАҒАЛАУ

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Кез келген елдің қазіргі заманғы экономикасын қалыптастыру перспективалары әртүрлі ұйымдарда ресурстарды тиімді басқаруды қамтамасыз ету қажеттілігімен тығыз байланысты. Біздің елде коммерциялық ұйымның капиталын басқару тәжірибесі қалыптасу сатысында деп айтуға болады, өйткені коммерциялық ұйымдар қаржыландыру көздерін тартудың шектеулі жиынтығына ие [1,156].

Қазіргі жағдайда капитал құрылымы компанияның қаржылық жағдайына — оның төлем қабілеттілігі мен өтімділігіне, қызметтің рентабельділігіне, сондай-ақ қаржылық тұрақтылыққа тікелей әсер ететін фактор болып табылады. Капитал құрылымын ішкі талдау шаруашылық жүргізуші субъектінің қызметін қаржыландырудың балама нұсқаларын бағалаумен байланысты.

Капиталдың ұтымды құрылымын қалыптастыруда олар мақсатты ұстанымнан туындайды: бизнестің құны барынша көбейтілетін және меншікті капиталдың кірістілігі артатын қарыз бен меншікті қаражаттың арақатынасын қамтамасыз ету.

Жұмыс тақырыбы бойынша ғылыми әдебиеттерді талдау капитал құрылымын рационализациялаудың қолданыстағы модельдері сипаттамалық болып табылатындығын және қаржыландыру көздерінің арақатынасын таңдауға әсер ететін көптеген факторларды ескермейтінін көрсетті. Дәл осы факт зерттеу тақырыбын таңдауға негіз болды.

Өндірістік тәуекел негізгі факторлардың бірі болып табылады. Бұл компания активтерінің кірістілігін болжау кезінде пайда болатын белгісіздікпен байланысты. Бұл тәуекел сұраныс динамикасына, сату бағасының ауытқуына, ресурстар шығындарының өзгеруіне, сондай-ақ операциялық левереджге байланысты. Жоғары өндірістік тәуекел инвестицияланған капиталға үлкен кірістілікті талап етеді, яғни тартылған капиталдың құны жоғары болады.