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**N. Zh. Baimagambet, Z. A. Salzhanova, G. K. Kenges,
A. T. Abdykarimova, Zh. M. Omarkhanova**

S.Seifullin Kazakh Agrotechnical University, Nur-Sultan, Kazakhstan.

E-mail: baimagambetov_n@mail.ru, satname@bk.ru,

gulji@mail.ru, aliyata@mail.ru, zhynysova@mail.ru

**TRANSFORMATION OF LOAN ACTIVITIES
OF A COMMERCIAL BANK TO DIGITALIZATION**

Abstract. Currently, digital transformation is seen as an integral element of maintaining the competitiveness of banks: on average, a third of banking operations are already carried out using digital technology. The widespread adoption of digital technology is associated with the needs of society, which at the present stage of innovation development is aware of all the advantages achieved through the use of technology in the banking sector.

In conclusion, we note that the digital transformation process should be based on a digital strategy developed taking into account the characteristics and needs of a particular bank. The implementation of a rational digital transformation strategy will allow individual banks, and subsequently the entire banking sector, to increase business efficiency and enter a new stage in the development of financial and credit organizations and the economy as a whole. Currently, the financial system is in the process of development in accordance with the modern requirements of the digital economy.

Key words: Digital transformation, financial and credit organizations, banking sector, digital technologies, digital strategy, digital economy.

Introduction. Due to digital transformation, business models and concepts for the development of the banking sector are being improved: from the advent of Internet banking to the transformation of traditional money transactions. Innovative development is the main opportunity for sustainable and long-term growth in the effectiveness of banks. In the coming decades, the digital development of the financial sector will accelerate, and the sound management of digital transformation in the banking sector will become an inherent advantage in a competitive environment. The process of digital transformation refers to the use of digital technologies in order to improve existing business models, as well as increase business efficiency. This process involves the introduction of innovative technologies on an ongoing basis, which will lead to a complete digital transformation of the entire economy. The use of digital technologies improves the ways of interaction between banks, government and potential customers.

Main part. Digital transformation implies the widespread introduction of modern methods of providing banking services. The number of bank branches is reduced, many services are being transferred to online services, especially when issuing loans or investing funds [9]. Such a transformation of the banking sector has its drawbacks: the older generation may not keep pace with the acceleration of the digital development process and for it a complete abandonment of traditional methods of doing business is not good, although it is beneficial for banks to completely go online and there are already banks operating exclusively on mobile digital platforms. An example is AtomBank in the UK, which does not have physical offices for working with clients, all of whose work (from opening a current account to issuing loans) is carried out using a mobile application.

The application of the achievements of digital technologies expands the client base due to the almost universal and round-the-clock availability of banking services. The process of digital transformation of the banking sector includes the following elements: analysis of customer experience, digitalization of the products and services provided, as well as the transformation of the organization's internal processes.

Digital transformation is ensured through a thorough study of customer experience and analysis of both existing needs and the identification of new ones. It is consumers of banking services that are the driving force behind the innovative development of banks, as they, through the expression of their needs, form requirements for modern banking products and services. Clients evaluate their experience of interacting with banks depending on how easy and comfortable it was for them to receive a particular service, therefore, the banking sector should constantly study customer experience, identify shortcomings in their work, as new customers are likely to require use of even more modern technologies.

Earlier, banking performance was assessed through an increase in sales targets for products and services, but in the era of the digital economy, banks have to reckon with modern digital challenges: now banks are becoming more and more customer-oriented with their urgent needs. Billions of potential customers can be served through the use of a mobile phone with Internet access, which forces banks to constantly improve their digital technologies in order to maintain a competitive advantage. Barclays Bank was one of the first banks to introduce an on-line banking system: now customers visit bank branches on average twice a month, while they use mobile banking services up to 18 times a month

Transformation of internal processes of banks is also an important condition for the digital development of the banking sector. Along with the introduction of digital, customer-centric technologies, it is necessary to improve approaches to management, leadership and control.

The main obstacle to a full-fledged digital transformation of banks may be the lack of necessary skills and abilities in the digital economy. Use of

temporary data analysis technologies through customer relationship management systems (CRM) is one of the elements of digital transformation of banks, although statistics show that only one out of four banks plans to introduce similar data analysis systems into their activities

The digital transformation of banks requires an integrated approach based on the development and application of a digital strategy. Digital transformation covers all aspects of conducting financial and credit activities, including bank management mechanisms, therefore, the digital transformation of the banking sector should be coordinated with other development strategies in order to develop solutions that help achieve maximum business efficiency. The digital strategy should be aimed at solving four main problems: the introduction of digital technologies, the transformation of the process of creating the cost of services, the financial aspect of digitalization, as well as changing the organizational structure. For the successful implementation of the digital strategy, coordination of the above development areas is required, which largely depends on the operating model of the bank.

New digital products of the bank are increasingly creating their own digital teams that combine the competencies of business, IT and marketing. Most large banks seek to focus digital expertise internally, with historically large IT departments and focusing on proprietary solutions.

The larger banks become, the more difficult it is for them to innovate. Accordingly, acceleration paths are needed, including through partnerships with startup teams. For these purposes, banks buy fintech projects and support the development of fintech by investing in it in order to improve their services and increase customer satisfaction. At the same time, fintech companies serve as a factor for banks to respond to changes - by translating business models into digital and mobile forms or changing their business culture to provide a better consumer experience. In this context, banks are transforming from a classical financial institution to digital organizations.

The digital bank offers most of its products and services digitally using digital channels. The infrastructure of such a bank is optimized for digital communications and is ready (along with the corporate culture) for a rapid change of technology.

The number of digital banks in the world is growing - and organizations that do not even have their own offices and ATMs show the greatest dynamics. They are better able to take into account customer habits, offering special conditions unusual for the banking market, as well as additional non-financial services.

New additional opportunities for expanding the business - for example, through the sale of partner products (through the digital marketplace, as well as the implementation of the white label concept) are still of little interest to TOP30 Russian banks. First of all, the restraining factor here is the non-obviousness of monetization, the absence of obvious successful cases, including in world practice.

The world's leading digital banks in terms of customer base

| № | Банк | Материнская компания | Страна | Количество клиентов (млн) |
|----------------------------|-----------------|-----------------------------|----------|---------------------------|
| 1 | ING Diba | ING Group | Германия | 8,5 |
| 2 | Capital One 360 | Capital One Financial | США | 7,8 |
| 3 | USAA Bank | USAA | США | 7 |
| 4 | FNBO Direct | First National of Nebraska | США | 6 |
| 5 | Rakuten Bank | Rakuten | Япония | 5 |
| 6 | Tinkoff Bank | – | Россия | 5 |
| 7 | TIAA Direct | TIAA-CREF Trust Company | США | 3,9 |
| 8 | Discover Bank | Discover Financial Services | США | 3,5 |
| 9 | Alior Bank | – | Польша | 3 |
| 10 | DKB AG | – | Германия | 3 |
| Источник: Frost & Sullivan | | | | |

Most banks note that they do not find a suitable turnkey solution on the market, and therefore they are considering foreign platforms as well. Large banks are interested in maximizing the competitive edge of digitalization. This determines a shift in priorities towards in-house development.

Six Ways to Get Into the Digital Race:

The development of the Internet of things, artificial intelligence, social networks and mobile solutions offers enormous opportunities for financial service providers. To use them, financial service providers are forced to transform their business by introducing digital technology.

According to Avaya representatives, the financial services industry is gradually shifting to an open, integrated and promising technological ecosystem, which, with proper organization of processes, promises financial institutions numerous advantages in terms of customer experience, promises competitive business results, and also opens up wide possibilities for differentiating services. On August 2, 2017, Avaya published a list of six different options that, according to company representatives, will help financial service providers stay competitive in a smart digital world.

With the ability to create or embed custom communication tools, financial service providers can, in particular, embed real-time video support in online and mobile terminals in order to create even more personalized interactive services. Integration of video will allow, for example, to simplify the procedure for reporting damage as a result of an accident to an insurance company. Or optimize the process of user interaction with an ATM with minimal costs. Not surprisingly, about 80% of financial service providers see video banking as a tool that will improve their customer experience and reduce costs.

These solutions are able to maintain a conversation with customers on almost any topic, starting with information about their accounts and ending with a history of expenses. Moreover, these solutions allow you to give personalized recommendations and suggestions, based on historical data and on real-time information. According to industry experts, as technology is optimized, the chatbot ecosystem will only expand. This will provide financial service providers with little effort to automate tasks such as intrusion detection, transferring funds, comparing insurance programs, payment, etc. According to experts, European financial institutions can achieve cost savings of up to 90% by automating workflows using solutions like chat bots.

Considering that two-thirds of clients of financial institutions in the United States find attractive features offered by consultant robots, it is not surprising that the market for digital counseling systems will reach \$ 500 billion by 2020. With the help of artificial intelligence technologies, banks can create intelligent mechanisms. who will be able to offer advice on almost all issues, starting with investment opportunities and ending with personalized approaches to accumulating savings. This is achieved through

the use of an open integrated architecture, which allows us to achieve a single unified presentation of all customer banking information.

The future of banking authentication technology can be described in one word - biometrics. Although not yet ubiquitous, many market leaders are already actively introducing the use of physical characteristics (fingerprints, voice, face, method of pressing keys) for automatic recognition. Biometrics is one of the most important steps in the direction of digital transformation for PFCs facing today's realities in the field of mobile services security. More than 90% of customers believe that their banks do not sufficiently protect mobile applications, and 41% are confident that they will be hacked. Therefore, about 80% of customers would use voice biometrics if this would provide increased security. In general, analysts expect the biometrics market to reach \$ 17 billion by the end of 2017, with an impressive CAGR of 18.5% over the past 7 years.

Conclusion. Ultimately, financial institution clients seek targeted and personalized experience. They want intuitive service providers to feel and understand their desires and address potential problems before they arise. Due to the ability to comprehensively track and collect data and share it across the entire organization, financial service providers can use training algorithms that will provide the necessary intellectual capabilities at the last stage of resource selection and naturally optimize any interactions. At the same time, a comprehensive analysis of all aspects of consumer contact with the company and its services will allow the financial services provider to be proactive and eliminate any potential problems.

**Н. Ж. Баймағамбет, З. А. Сальжанова, Г. К. Кенес,
А. Т. Абдикаримова, Ж. М. Омарханова**

С. Сейфуллин атындағы Қазақ агротехникалық университеті, Нұр-Сұлтан, Қазақстан

КОММЕРЦИЯЛЫҚ БАНКТИҢ КРЕДИТТІК ҚЫЗМЕТІН САНДЫҚ ТРАНСФОРМАЦИЯЛАУ

Аннотация. Қазіргі уақытта сандық түрлендіру банктердің бәсекеге қабілеттілігін қолдаудың ажырамас бөлігі ретінде қарастырылады: орта есеппен банк операцияларының үштен бірі сандық технологияны қолдану арқылы жүзеге асырылады. Сандық технологияның кеңінен енгізілуі қоғам қажеттілігіне байланысты әрі қоғам өкілдері инновациялық дамудың қазіргі кезеңінде банк секторында технологияны қолданудың барлық артықшылықтарын меңгерген.

Цифрлық трансформациялау үдерісі белгілі бір банктің сипаттамасы мен қажеттілігін ескере жасалған сандық стратегияға негізделуі қажет. Трансформацияның ұтымды сандық стратегиясын іске асыру жекелеген банктерге, содан кейін бүкіл банк секторына тиімділігін арттыруға және қаржы-несиелік ұйымдар мен тұтастай экономиканы дамытудың жаңа кезеңіне шығуға мүмкіндік береді.

Байланыстың арнайы құралдарын құру немесе ендіру мүмкіндігімен қаржылық қызмет провайдерлері жекелеген интерактивті қызметтерді құру үшін нақты уақыт режимінде онлайн және мобильді терминалдарға бейнеқолдау көрсете алады. Мысалы, бейнені интеграциялау сақтандыру компаниясына жазатайым оқиға салдарынан келген шығын туралы есеп беру рәсімін жеңілдетуге мүмкіндік береді. Немесе аз шығынды пайдаланушының банкоматпен өзара әрекет ету үдерісін оңтайландырады. Қаржылық қызмет көрсетушілердің шамамен 80% бейне-банкингті клиенттердің тәжірибесін жақсартатын және шығындарды төмендететін құрал ретінде қарастырады.

Бұл шешімдер клиенттермен кез-келген тақырып бойынша, олардың шоттары туралы ақпараттан бастап, шығын тарихына дейін сөйлесуге мүмкіндік береді. Сонымен қатар, бұл шешім тарихи деректерге және нақты уақыттағы ақпараттарға негізделген жеке ұсыным мен ұсыныс беруге мүмкіндік береді. Сала мамандарының айтуынша, технология оңтайландырылғандықтан, чатот экожүйесі кеңейеді. Бұл қаржылық қызмет провайдерлеріне қолсұғушылықты анықтау, қаражатты аудару, сақтандыру бағдарламаларын салыстыру, төлемдер және т.б. тапсырмаларды автоматтандыру үшін аз күш жұмсайды. Сарапшылардың пікірінше, еуропалық қаржы институттары чат-бот сынды шешімдердің арқасында жұмыс ағындарын автоматтандыру арқылы шығындарды 90% дейін үнемдеуге қол жеткізе алады.

Америка Құрама Штаттарындағы қаржы институттары тұтынушыларының үштен екісі кеңесші-роботтар ұсынатын тартымды мүмкіндікке қол жеткізгенін ескерсек, сандық кеңес беру жүйелерінің нарығы 2020 жылға қарай 500 миллиард долларға жетсе таңданыс тудырмайды. Жасанды интеллект технологиясының көмегімен банктер зияткерлік тетіктерді орындай алады. Сондай-ақ, инвестициялық мүмкіндіктерден бастап жинақтаудың жеке тәсілдеріне дейінгі барлық мәселелер бойынша кеңестер

ұсынады. Бұған тұтынушылардың банктік ақпараттарды алуға септігін тигізетін ашық біріктірілген архитектураны қолдану арқылы қол жеткізіледі.

Түйін сөздер: сандық түрлендіру, қаржы-несиелік ұйым, банк секторы, сандық технология, сандық стратегия, сандық экономика.

**Н. Ж. Баймағамбет, З. А. Сальжанова, Г. К. Кенес,
А. Т. Абдиқаримова, Ж. М. Омарханова**

Казахский агротехнический университет
им. С. Сейфуллина, Нур-Султан, Казахстан

ТРАНСФОРМАЦИЯ КРЕДИТНОЙ ДЕЯТЕЛЬНОСТИ КОММЕРЧЕСКОГО БАНКА В ЦИФРОВИЗАЦИЮ

Аннотация. В настоящее время цифровая трансформация рассматривается как неотъемлемый элемент поддержания конкурентоспособности банков: в среднем треть банковских операций уже производится с помощью цифровых технологий. Повсеместное внедрение цифровых технологий связано с потребностями общества, которое на современном этапе развития инноваций осознает все преимущества, достигаемые за счет использования технологий в банковском секторе.

В заключение отметим, что процесс цифровой трансформации должен быть основан на цифровой стратегии, разработанной с учетом особенностей и потребностей конкретного банка. Реализация рациональной стратегии цифрового преобразования позволит отдельным банкам, а впоследствии и всему банковскому сектору повысить эффективность деятельности и выйти на новый этап развития финансово-кредитных организаций и экономики в целом. Имея возможность создавать или встраивать собственные средства связи, поставщики финансовых услуг могут, в частности, встраивать поддержку видео в реальном времени в онлайн и мобильные терминалы для создания еще более персонализированных интерактивных услуг. Интеграция видео позволит, например, упростить процедуру сообщения о повреждениях в результате несчастного случая страховой компании или оптимизировать процесс взаимодействия пользователя с банкоматом с минимальными затратами. Не удивительно, что около 80% поставщиков финансовых услуг рассматривают видеобанкинг как инструмент, который улучшит их качество обслуживания клиентов и сократит расходы.

Эти решения способны поддерживать диалог с клиентами практически на любую тему, начиная с информации об их аккаунтах и заканчивая историей расходов. Более того, эти решения позволяют вам давать персональные рекомендации и предложения, основанные на исторических данных и информации в режиме реального времени. По мнению отраслевых экспертов, по мере оптимизации технологий, экосистема чат-ботов будет только расширяться. Это позволит поставщикам финансовых услуг без особых усилий автоматизировать такие задачи, как обнаружение вторжений, перевод средств, сравнение страховых программ, платежей и т.д. По мнению экспертов, европейские финансовые институты могут достичь экономии до 90% за счет автоматизации рабочих процессов с помощью таких решений, как чат-боты.

Учитывая, что две трети клиентов финансовых учреждений в Соединенных Штатах находят привлекательные возможности, предлагаемые роботами-консультантами, не удивительно, что рынок систем цифрового консультирования достигнет 500 миллиардов долларов к 2020 году. С помощью технологий искусственного интеллекта банки могут создавать интеллектуальные механизмы, которые смогут дать совет практически по всем вопросам, начиная с инвестиционных возможностей и заканчивая индивидуальными подходами к накоплению сбережений. Это достигается за счет использования открытой интегрированной архитектуры, которая позволит нам обеспечить единое представление всей клиентской банковской информации.

Ключевые слова: цифровая трансформация, финансово-кредитные организации, банковский сектор, цифровые технологии, цифровая стратегия, цифровая экономика.

Information about authors:

Baymagambet Nursultan Zhanatuly, Master of Economics, doctoral student, JSC “S.Seifullin Kazakh Agrotechnical University”, Nur-Sultan, Kazakhstan; baimagambetov_n@mail.ru; <https://orcid.org/0000-0002-8291-1208>

Salzhanova Zauze Abildinovna, Doctor of Economics, Professor, Karaganda Economic University of Kazpotrebsoyuz, Karaganda, st. Academic, Karaganda, Kazakhstan; satname@bk.ru; <https://orcid.org/0000-0003-0763-3399>

Kenges Gulzhihan Kengeskyzy, Candidate of Economic Sciences, JSC “S.Seifullin Kazakh Agrotechnical University”, Nur-Sultan, Kazakhstan; gulji@mail.ru; <https://orcid.org/0000-0001-8529-8923>

Abdikarimova Aliya Toleutaevna, PhD in Economics, Karaganda Economic University of Kazpotrebooyuz, Karaganda, Kazakhstan; aliyata@mail.ru; <https://orcid.org/0000-0001-5440-9803>

Omarkhanova Zhibek Maksutovna, Professor, Department of Finance, JSC “S.Seifullin Kazakh Agrotechnical University”, Nur-Sultan, Kazakhstan; zhynysova@mail.ru; <https://orcid.org/0000-0002-8015-2383>

REFERENCES

[1] Kenzhebeyeva Zh.E., Sarieva A.M. Development of special mathematical and software systems analysis. News of the National Academy of Sciences of the Republic of Kazakhstan. Series of social and human sciences ISSN 2224-5294, Vol. 1, N 323 (2019), 126–129. <https://doi.org/10.32014/2019.2224-5294.19>

[2] Sabirova R.K., Adietova E.M., Karamuldina A.A. Self-employment in Kazakhstan // News of the National Academy of Sciences of the Republic of Kazakhstan. Series of social and human sciences. ISSN 2224-5294 Vol. 2, N 318 (2018), 138-142. <https://doi.org/10.32014/2019.2224-5294.14>

[3] Berstembraeva R.K., Rubenkova N.B., Toyzhigitova Zh.A. Financial mechanism for supporting entrepreneurs and hedging their risks // REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN ISSN 2224-5227. Vol. 2, N 324 (2019), 80–85. <https://doi.org/10.32014/2019.2518-1483.41>

[4] Atom Bank. Fabulous Atom Questions. [Electronic source]. Access: <https://www.atom-bank.co.uk/faq> (date of access 01.11.2018).

[5] Nyussupova G., Kalimurzina A. The dynamics of sex-age structure of the population in urban and rural areas in the Republic of Kazakhstan in the years 1991-2013 // BULLETIN OF GEOGRAPHY-SOCIO-ECONOMIC SERIES. Vol. 31. Issue 31, 2016. P. 87-111. DOI: 10.1515/bog-2016-0007.

[6] Nyussupova G.N. Mechanisms of the formation of ecologically-oriented agricultural land use in Kazakhstan. – Oxidation Communications. Bulgaria: издательство: Scientific Bulgarian Communications, 2015. N 2 (38). P. 886-899. IF=0.489

[7] Dzhumabekova A.T., Kanatova A.ZH. Transformation of the transmission mechanism of the National bank of the republic in the conditions of financial instability // News of the National Academy of Sciences of the Republic of Kazakhstan. Series of social and human sciences. ISSN 2224-5294 Vol. 6, N 322 (2018), 119–123. <https://doi.org/10.32014/2018.2224-5294.43>

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