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**The impact of new adopted consumer behavior on the future of banking industry in
Kazakhstan**

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Abstract

Digitalization today penetrates into all spheres of modern life. This also affected the financial market of Kazakhstan.

The purpose of this study is to analyze the changes in the consumer behavior of the banking sector under the influence of digitalization, to what extent consumers are adapted to the innovations introduced, and what are the strengths and weaknesses of this process.

For this work, both primary and secondary research was carried out. The primary survey consisted of consumer surveys and interviews, while the secondary survey mainly consists of theoretical parts and statistics. The theory covers most of the study to make the research understandable, and the statistics mainly reflect the numerical indicators of change to clearly see how this is reflected on consumers now. Moreover, the study considered fintech, artificial intelligence, big data and digital currency as some of the possible stages in the development of banks in the future.

This paper reflects the main points of the process of banks' transition to digitalization and what tools are used for this.

For the study were used quantitative and qualitative research methods. It helped to assess the views of consumers of Kazakhstani banks on the implemented innovations. Moreover, many relevant cases were studied, which helped to identify both the positive and negative aspects of this process.

The main objectives are to determine the decisive factors when choosing a bank from consumers, customer preferences for online services, and to understand the level of readiness for the transition to an online format in the banking industry

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Introduction

Nowadays, in the era of digitalization, our world has changed dramatically. Many things that people are used to have become much simpler and easier to use, and some processes have completely switched to online mode. This was also influenced by the global COVID-19 pandemic. Digitalization has penetrated almost all areas of our lives, which has greatly facilitated and reduced many routine processes. It also affected one of the most important areas of human life - the banking industry.

In addition to reducing the number of infected people, the introduction of digitalization in the banking sector has also helped to simplify many tasks in the life of a modern person. If earlier people stood in long queues to get a salary, pay for utilities, pay for any other expenses, losing a lot of time and spending it on the road, now all this has become available in one click. All you need is a smartphone and the Internet. This has opened up a lot of new opportunities for people and changed their behavior habits– through online banking, people can do almost everything now: from buying a chair to buying air tickets in installments.

According to article on the web-site Capital¹(2017) in the era of digitalization, almost all areas of modern life are moving to the online format. This also affected the financial market of Kazakhstan. In addition to banks actively developing these technologies, there is a growing number of fintechs that are beginning to compete with banks, especially in online lending. The development of online lending and digital technologies, in general, encourages Kazakhstani banks to develop even more actively in the digital environment. Banks have started implementing various online operations, such as issuing online loans and issuing credit and debit cards with home delivery. Many domestic banks are already using biometric technologies, such as voice recognition, face-scanning based on a photo or video image.

¹ Kapital.kz - Business Information Center- is an information agency that informs about the events in the economy, business and finance in Kazakhstan and abroad

The object of study was the banking industry in Kazakhstan: how quickly and skillfully this sector has adapted to the new format, what are the positive aspects, whether there were difficulties, whether this has affected demand, and what is the future of this.

The main subject of this study was consumer behavior. Since it is the formation of new habits among consumers that generates demand, which, in turn, affects not only the company but also, in general, the country's economy.

A lot of scientific literature, news sources, articles, and articles were studied for the study. At some points, the opinions of people and experts differ, but the relevance of the topic is confirmed in each of them.

Research hypothesis

Digitalization and changes in consumer behavior lead to the fact that banks will cease to exist as financial institutions and completely transform into fintech companies.

Research goal

The goal of this research is to understand how digitalization has affected the behavior of consumers of banks in Kazakhstan, whether customers are ready to switch banking services to online, if so, to what extent, and if not, why.

Research objectives

1. To determine the decisive factors when choosing a bank from consumers.
2. To identify customer preferences for online services
3. To understand the level of readiness to switch to the online format in banking industry

To do this, we conducted qualitative and quantitative research methods among the population of our country, which helped to identify the disadvantages and advantages of the implementation

Consumer behavior

The consumer plays a critical role in today's market system. Companies use various marketing tools to influence their behavior. Consumer behavior is the main reference point, on the basis of which companies build their marketing policy, set prices, determine the range of goods and the way of their promotion.

During the Soviet Union, the opinion, interests, needs, and demands of the consumer were not taken into account, but nowadays everything has changed. The desire of the consumer plays almost the most important role for a lot of firms now: how to attract the consumer, how to make them choose the product, etc.

To achieve success it is necessary to know consumer behavior theory because it is the foundation on which any business is built. It is necessary to take into account all the details: what there are types of consumer behavior, how it is formed, what affects the decision, etc.

(Exhibit 1)

According to P.Kotler (2014)², “Consumers make many buying decisions every day, and the buying decision is the focal point of the marketer’s effort. Most large companies research consumer buying decisions in much they buy, when they buy, and why they buy. Marketers can study actual consumer purchases to find out what they buy, where, and how much.” (Principles of marketing, p. 159)

Market realities are increasingly putting pressure on consumer behavior. Consumers are becoming more demanding and increasingly focusing on the consumer experience that is shaped by trends and the use of technology.

² Kotler, P. and Armstrong, G., 2014. *Principles of marketing*. 15th ed. p.159.

The banking industry, as any other sphere, focuses on relationships and interaction with its consumers – individuals and legal entities. The approach, when the interests of the client and the satisfaction of their needs are put first, is the most important condition for the demand for banking products, and, consequently, for the profitability of a commercial bank, and is called customer-oriented.

The desire of consumers for a more convenient and affordable shopping process gives companies new opportunities for growth and development. As consumer expectations increase, one of the most important needs will be to get a high-quality consumer experience.

As Keith Pogson (2019) correctly pointed out, " Digital transformation in banking is not only about doing the same thing faster and more efficiently, but also about rethinking long-standing approaches and developing new business models to deliver existing and new financial services. Questions remain about the scalability and sustainability of some of these models. However, product and service delivery innovations occurring in the financial services ecosystem, and how they change customer expectations, are already affecting traditional banking models" " (Tapestry Networks, EY)

With the advent of digitalization, consumers' desires have slightly changed. What used to be possible only in real life is now available online. Consequently, it has become necessary to adapt to the new desires of consumers.

For example, online shopping in the Republic of Kazakhstan is rapidly gaining popularity. This has been influenced not only by the pandemic but also by the global digitalization process. So, in just two months of this year, non-cash turnover in the Republic of Kazakhstan has already reached 7.7 trillion tenge - 2.2 times more than a year earlier. This is practically three-quarters of the total turnover of payment cards in the Republic of Kazakhstan.

By the end of 2020, the number of mobile and Internet banking users reached 28.7 million - almost 1.5 times more than a year earlier.

Many different banking services have become available. For example, many Kazakhstani banks have introduced their own online shops - marketplaces, where one can buy a variety of goods not only at bargain prices and with delivery, but also by installment. Buying goods by instalments makes them more affordable for the general public; in addition, the longer the period for which instalments are possible, the lower the monthly payments and the more advantageous the offer is for the user. All this has a positive effect on consumer behaviour. The more advantageous services a bank offers, the more willing people are to choose it over other competitors.

When it comes to communicating with the customer, there is also such a tool as marketing mailings. According to statistics conducted by SAS³ (2019), customer desires vary in this regard.

More than half of interviewed people don't accept phone calls, 35% support receiving sms 1-2 times a month, about 50% of people agree to receive mailings to e-mail and the largest percentage of people look positively on offers at bank branches. Also, respondents noted that an individual approach to each client can make mailings more effective.

Speaking about the content of the mailing lists, over 90% of respondents found them irrelevant, 8% found them useless, and only 4% found the offers they received interesting. In short, only 1 out of 20 respondents found all the offers interesting. **(Exhibit 2)**

According to an article from finprom⁴ (April, 2021) about cash withdrawals from payment cards, we can conclude that over the past 10 years, the number of people withdrawing money from cards has decreased significantly. In 2018, for example, the figure was 71.3%, but at the end of 2020 it was only 33.3%. This suggests that the introduction of

³ SAS is the world's largest private IT company specializing in the development and sale of business intelligence solutions and services.

⁴ Finprom.kz-analytical portal about business and finance

digitalization in the banking sphere has markedly changed consumer behavior. Whereas people used to cash out at bank branches to make transactions, people now do them online simply by downloading an app.

The introduction of features such as QR code payment, ApplePay, and PayPal has also made significant changes not only in banking, but also in commerce. Many banks offer different advantageous promotions, installments, where people can pay the sum in installments without making any special efforts now.

According to the statistics (Finprom, December 2020), over the last year the volume of cashed out funds in Kazakhstan increased only by 4.3%, which is the lowest indicator ever. The share of cash withdrawals from payment cards of the total card turnover in January-November 2020 was 33.3%, while a year ago cash withdrawals accounted for more than half of the volume - 55.8%, and five years ago - almost 90%. **(Exhibit 3)**

The volume of cash, issued by cards through POS-terminals decreased by 39.5% to 1.2 trillion tenge, while the number of transactions decreased by 85.2% to 3.3 million, which increased the average bill per transaction from 91.4 thousand to 372.6 thousand tenge. **(Exhibit 4)**

Personalization

Personalization today is both about understanding the financial situation of customers and helping individual customers in more direct ways. What previously seemed impossible is now considered commonplace. For example, previously, customers could not even think that a bank could automate a recurring transaction.

Banks that want to stay at the top are looking to understand and serve customers in a more direct way. The peculiarity here is to implement this on a larger scale— with the help of digitalization, the systems of which are constantly being improved and customize the

experience available to all bank consumers. This is an opportunity to provide an individual experience for each client, which, in turn, can lead to an influx of new customers.

Consider the statistics of a recent BCG⁵ study on the importance of personalized experiences. Just over half (54%) of those surveyed who have become clients of a new bank in the past said that what their new bank did to personalize their experience was the most important factor in their decision to move to this bank. **(Exhibit 5)** More than half (68%) of people said that due to personalization, they have strengthened ties with their existing bank by purchasing new services. Among the respondents who refused the bank's services, less than half said that the main factor that influenced their departure was not enough personalized processing.

In all regions, the youngest and wealthiest respondents identified the personalization factor as one of the most important.

Banks are trying to focus more and more on personalization, in exchange for the willingness of millennials to share information. An equally important factor in the implementation of personalization in banks is the competition from digital banks.

It is also worth noting the constantly improving organizational capabilities of banks, which have made it much easier for them to have a personalized view of their customers.

All these processes will be improved only with the implementation of digitalization. Therefore, now there is a process of its implementation in all spheres of life.

Internet penetration in Kazakhstan

The Internet officially appeared in the Soviet Union in 1991. Initially, there was only one “su” domain for the entire country, but in September 1994 the “kz” domain also appeared. Mass connection of Kazakhstani users to the Internet happened much later. At the

⁵ The Boston Consulting Group (BCG) is a global management consulting firm and the world's leading advisor on business strategy

initial stages, the Internet speed was only 28.8 Kbps, but after two years it increased 2.5 times.

Approximately at the same time with the appearance of the Internet in Kazakhstan, by the mid-90s, the banking sector began to develop rapidly - both local and the first branches of international banks entered the country. The arrival of international representations determined the use of computer technology, and became the reason why software products written by local developers began to be created in Kazakhstan. Thus, the banking sector was the first industry to begin the widespread introduction of software applications into its operations. This trend gave such a strong impulse to the development of information technologies that by the end of the 90's the Kazakhstani IT infrastructure of banks turned out to be the leading one in the countries of the post-Soviet Union (Lyakhov, 2005).

The decisive year in the spread of the Internet in Kazakhstan was 2000. According to the International Telecommunication Union⁶ (ITU) (2020), starting with 0.67% of Internet users, the number of people with access to the network began to grow rapidly and by 2002 increased by almost 100 %. The Kazakhstani Internet made a real breakthrough in 2008, when the mobile Internet appeared. This year, the percentage has grown by 7% reaching 11%. Already in 2012, the mobile Internet penetration rate was 120%, which brought Kazakhstan to the 4th place among the CIS countries based on this factor. (Fomicheva, 2007).

Following the Internet development, the popularization of smartphones began in Kazakhstan. According to the research of The Steppe⁷ (2019), the beginning of the 2010s can be called a period when more and more people decided to change their usual push-button phones to touch-sensitive ones. As in previous years, the banking sector was one of the first to adapt to the new market situation and consequently start developing mobile applications. The largest banks at that time were the first to react: Halyk Bank, Kazkommertsbank, Bank

⁶ The International Telecommunication Union is a specialized agency of the United Nations responsible for all matters related to information and communication technologies.

⁷ Website about modern Kazakhstan

CenterCredit. Starting in 2010, they began to offer customers services that can be obtained online through a mobile application, thus adapting to changing consumer behavior and providing the service via a smartphone. The emergence of 4G technology in 2016 catalyzed the transition of users to mobile banking and influenced the increase in the popularity of the mobile Internet in general. Today, according to Yandex (2018) Mobile Internet Penetration is 84% and overall Internet Penetration is 95% with the total population of 18 million people in Kazakhstan: these are residents of all 118 cities and 4,235 rural settlements that have the opportunity to use 3G / 4G networks.

Digitalization in banking industry

Internet banking became the pioneer of digitalization in the banking sector. It is a system that provides online services to bank clients and also is an additional channel of access to the bank. Thanks to Internet banking systems, the user can avoid wasting time in queues and carry out many transactions online right from home.

The digitalization of this sector also has a positive effect on reducing the internal costs of the banks themselves. For example, according to research by the Analytical Center Banki.ru based on data from the Central bank of the Russian Federation (2020) over the past few years, large banks in Russia have been cutting off the number of offline branches, since today clients are faced with the need to go to a bank office only in exceptional situations. The number of Russian offices of Russian banks has decreased by about one and a half times since 2014. **(Exhibit 6)** Thus, the high costs of banks on IT technologies are paid off at least by reducing the cost of maintaining offices.

Considering the Kazakhstani market, the first Internet-banking here appeared on May 18, 2000, during the active spread of Internet penetration in the country. TEXAKABANK was the first to launch this service, followed by Internet-banking at Halyk Bank and

Kazkommertsbank. **(Exhibit 7)** Clients of all these banks could use this service for free with the only expenses as credit cards and digital signatures for personal identification (Lyakhov, 2005).

Over time, Internet banking has become less popular due to the increase in the number of smartphones and changes in consumer behavior: users want to get the service as quickly and easily as possible and the most convenient option is to do it through a smartphone that is always at hand. Therefore, banks began to create their own applications in order to satisfy customers' needs and reach them everywhere. Today, all 25 largest banks in Kazakhstan have both Internet banking and a mobile application.

Digitalization has also affected the share of online transactions, both via Internet banking and mobile application. According to the results of the first 9 months of 2019 the share of online transactions was 67%, but in 2020 it increased to 81%. **(Exhibit 8)**

Over the past few years, the number of online banking services has increased dramatically leading to the fact that now most customer requests can be resolved remotely. By 2019, most applications of Kazakh banks have already implemented such functions as: transfers by card number, phone number, QR code (Kaspi Bank) and between arbitrary cards; replenishment of the card; payment of utilities and various services, replenishment of the phone balance, debt inquiries and payment subscriptions etc. Many apps have also introduced the function of ordering a debit or credit card, as well as making a loan. Besides the basic functions of digital banking, companies are also trying to get a competitive advantage by adding unique services. For instance, Bank CenterCredit and Sberbank provide an opportunity to open a currency account and make currency transfers, while Kaspi Bank provides its clients a marketplace with a huge number of goods from different categories.

According to the study “Mobile Banking Rank Kazakhstan” by Markswebb (2019), which was carried out in 4 stages: preparation, desk research, usability testing and data

analysis, the best banking applications for solving daily tasks were mobile banking of Sberbank, Kaspi.kz and CenterCredit bank.

The number of mobile banking users is growing every day. According to a study by Forbes Kazakhstan (2020), 7 out of top 10 programs by the number of downloads in 2020 were bank applications. In September 2020, the quantity of Internet-banking users in Kazakhstan increased by 4 million compared to the beginning of the year, reaching 12 million people. By the end of 2020, the total number of active payment cards was 25 million.

(Exhibit 9)

According to a study by Baker Tilly Qazaqstan Advisory LLP (2019), which focused the research on such indicators as:

- "Stability": assets, deposits, equity;
- "Efficiency": change in assets, change in deposits, change in capital, change in portfolio, change in NPL;
- "Profitability": ROA, ROE, net profit indicator;
- "Rating by rating agencies": ratings by S&P, Fitch, Moody's built a rating of second-tier banks of the Republic of Kazakhstan on the basis of a point calculation system.

The leaders in the Kazakhstan banking sector in 2019 and 2020 were Kaspi Bank, Halyk Bank and Sberbank. **(Exhibit 10)**

Considering the convenience and quality of online services, the latest Mobile Banking Rank Kazakhstan survey (2020) identified leaders in the Kazakhstan market among the 25 largest banks that meet the following criteria: banking services are available both on IOS and Android platforms; in addition to bank cards, credit products and deposits are offered; popular Apps: over 100,000 downloads as of December 2020. Research results showed that Kaspi.kz, Sberbank and Bank CenterCredit remain the leaders for the second year in a row.

Based on the analysis of user experience and requests, as well as the industry as a whole, new products and services were proposed for implementation in mobile applications in 2021:

- Change of client's data: phone number, passport data, actual address of residence.
- Quick access to legal documents: GTE agreement, deposit agreement, loan agreement.
- Purchase and manage simple investment products in the mobile bank.
- Management of tax and pension relations: tax returns via mobile bank, applications for transferring pension to the bank and ordering an extract from the Pension Fund.
- Identification in third-party services through mobile banking.
- Sales and management of insurance products in the mobile bank.

Mobile banking for business

Since the beginning of 2020, banks in Kazakhstan have made a significant step forward in the development of mobile applications for business purposes. Several new products were launched: applications by CenterCredit Bank and ATFBank, made the transition to new platforms Halyk Bank and Sberbank, significantly improved and improved their applications Alfa-Bank and Kaspi Bank.

SME Banking Club⁸ (2020) has calculated the rating of Kazakhstani banks for business based on the functions and usability of mobile applications. According to the results of this study, Alfa Bank became the best one for business clients in Kazakhstan, meanwhile Kaspi.kz mobile application was included in the top 20 apps for business in the CIS. This study allowed to identify the most trending features that will define the face of mobile banking in the near future.

⁸ SME Banking Club is an international platform that brings together business bankers to exchange information, analytics, and experience in how local, regional and global markets for servicing micro, small and medium-sized businesses are developing.

1. Currency exchange operations.

Over the past year, there has been progress in improving the usability of foreign exchange services (the operation looks like a normal transfer of money from one account to another) and more flexibility in the formation of the exchange rate. Today more and more people are starting to invest and open accounts in foreign banks. Moreover, after the pandemic, the volume of travel will increase many times, so both foreign exchange transactions and multi currency cards are becoming a necessity.

2. Digital and virtual cards.

In 2019, payment systems began to actively promote digital and virtual cards on the Russian and Ukrainian markets. This is reflected in the development of the functionality of mobile applications.

3. Lending in mobile banks.

Lending has already started to take root in mobile banking. In 2019, at the Expert Council on Financing, SME Banking Club noted the development of Promsvyazbank, which became the winner among unsecured loan products. Now a number of other banks can boast of adding credit modules to the mobile application.

4. Accounting department.

Some banks already started to create their own online accounting, available through a mobile application. They provide functions based on pre-configured details, allowing entrepreneurs not to search for tax details, but automatically fill in all the necessary data by choosing the type of payment and the tax administration. One of the most important services for customers is tax calendars and reminders to pay taxes.

5. Marketplaces, partner discounts and special offers.

They have not yet become widespread in mobile applications, and their users cannot yet receive the same full-fledged service that is available to them in Internet Banking.

6. Online chat, chatbots, voice assistants.

The cost of chatbots does not differ much from human service, but there is a trend towards improving chatbots and increasing the share of issues they solve. It should be noted that two models of customer service development have emerged:

integrated chat in the banking mobile application, service through social messengers (Viber, Telegram, Facebook Messenger).

7. Cross-platform.

Native application development is giving way to cross-platform development. The development of individual mobile applications is not for users of certain operating systems, but for different sub-segments: for small businesses, for self-employed and freelancers.

Kaspi Bank

Initially, the bank was a traditional company serving small and medium-sized businesses. Kaspi was just one of the other banks of the second echelon. It ranked 8th in terms of assets (between the Eurasian Bank and Nurbank), and 6th in terms of individual deposits (between BTA and the Eurasian Bank). In 2006, “Baring Vostok Capital Partners”⁹ invested in it, and in 2007 the bank was headed by Mikhail Lomtadze¹⁰ and began to build an ecosystem that was supposed to put the bank on the global innovation map. First of all, the new management of the bank decided to change its focus from commerce to retail. The next key decision was to turn Kaspi into a technological platform that would provide a significant competitive advantage (Ivashina, 2019).

⁹ Private investment fund. The fund invests in a variety of industries, including oil and gas, consumer goods, media and technology, telecommunications, and financial services.

¹⁰ Technology entrepreneur, investor, co-founder, shareholder and chairman of the board of Kaspi.kz, shareholder and chairman of the supervisory board of the united company Wheels, Roof, Market.

The first online product Kaspi (online payments) impressed customers and allowed the bank to get new clients. This service allowed people not to stand in long queues, but to pay for everything they needed online, right from home. In 2014, Kaspi launched the first marketplace in Kazakhstan, where users could buy goods from completely different categories, staying on the bank's website and receiving additional bonuses for this. The breakthrough was in 2017, when the bank presented its mobile application Kaspi.kz. It was maximally adapted for ordinary users who use the bank for their daily needs. The application provided all the same services as the website, but it was located in a smartphone, which made the bank even more accessible and convenient for customers.

Today, Kaspi is positioning itself in the market as a technology company rather than a bank. Starting from 2010, the number of assets and deposits of individuals began to grow rapidly, reaching one of the highest levels among Kazakhstani banks in 2020. **(Exhibit 11)**

Until 2012, the bank developed the credit card segment, but closed the program for the sake of maintaining a focus on meeting consumer needs. In this regard, the product Kaspi Red (installment plan for consumer purchases) appeared.

Example of Astana Bank

Astana Bank can be considered as the closest case to Kaspi bank on the Kazakhstani market. This bank rapidly got the love of customers, because, just like Kaspi, it focused on their needs, offering such products as: a convenient mobile application, bonuses, simple money transfers, payments and conversions, delivery of an issued card by courier. Astana bank was actively involved in the digital environment which brought it great popularity among clients.

As a result of this strategy the deposit base of individuals of the bank was increased 10 times in the period from 2015 to 2018. At that time, there were no analogues of Astana Bank in the Kazakhstani market. **(Exhibit 12)**

The bank ceased to exist in September 2018 due to the decision of the National Bank to deprive it of the rights to carry out banking activities. The funds of a huge number of depositors throughout Kazakhstan were blocked. At that moment, Kaspi Bank already had a mobile application and its main product - Kaspi Gold card, and the consumer behavior of users had changed a lot - they wanted to receive it quickly, conveniently and remotely. The current situation allowed Kaspi Bank to win over the former clients of Astana Bank. **(Exhibit 13, 14)**

Focus on customers

According to an article published by Harvard Business Review (Ivashina, 2019), customer focus was not the most important indicator for Kaspi in the beginning of its journey. Initially, the company pursued the goal of large revenues without paying due attention to customer feedback. However, the company soon found itself in a situation, as Lomtadze puts it, "when most financial services end up being hated by clients". This prompted Kaspi to make changes. One of the most important milestones in the company's history has come - the team embarked on a new phase of the transformation plan with a new main goal - to focus on customers. The previous strategy was generating revenue and was quite profitable and effective, but it was not making customers happy (Lomtadze¹¹, 2019). Then, a new mission was set - "to improve people's lives by developing innovative products and services. The main indicator for improving customer focus was the NPS¹² - an index of customer loyalty. In simple terms, an index that reflects the consumer's attitude to the brand. This led to major

¹¹ Mikhail Lomtadze, CEO and Co-founder Kaspi.kz

¹² Index for determining the commitment of consumers to a product or company, used to assess readiness to repeat purchases.

changes in the internal structure of the company - the reorganization, so cross-functional teams were created that were directly responsible for each product or service. The teams included people from different activity groups - product development, design, consumer interaction, etc. Also, one person was assigned to answer questions that arose about the product. All of this was done to make it as easy and convenient as possible for the customer to use the company's service. Mikhail Lomtadze put it this way: "If the client uses your product and has a question about the product and service, there should be one person, not a business process, not a group of different people, but one person responsible for interaction with the client and answering all his questions".

Taking as an example global companies, such as Apple, Google and Amazon, Kaspi tried to add more and more new flexible tools in order to win the love of customers. They developed its ecosystem of the highest quality and continuous improvement of the interaction with the user based on the NPS (Ehrens, 2014). Already at the end of 2014, a marketplace was launched, where customers can freely choose the products they need, learning their characteristics, reading other people's reviews, with a minimum of effort.

Kaspi Bank business model

Kaspi Bank's business is built on three platforms that are presented in one application Kaspi.kz: marketplace, online payments and fintech. Like other banks, at first Kaspi focused on building a business through Internet banking, but after the creation of a mobile application in 2017, the number of online transactions increased and began to bring half of the volume from this direction.

Basic description of the main services:

1. Marketplace is a store with various goods in the bank's application. At the end of 2019, it had 23,400 active partners, and sold goods for \$ 1.6 billion. As in most

similar platforms, the main income for the bank here is commission on sales. In 2019, the store brought the bank \$ 74 million in net profit, demonstrating an increase of 93% over the previous year.

2. Online payments. This function is separated into a separate segment of the mobile application. This service allows the bank's clients to pay for a huge range of services, starting from replenishing the phone balance and finishing by paying fines. According to Kaspi's report (2019), about 5 million people used this service in 2019. The volume also grew rapidly and tripled compared to 2018, reaching \$ 22.5 billion. The net profit from online payments was \$ 73 million.
3. Fintech is the largest sector of the company, which shows the slowest growth compared to the previous two (57% with a net profit of \$ 369 million). The bank refers to this segment everything that relates directly to financial services: loans, installments, loans, etc. **(Exhibit 15)**

The fact that Kaspi is increasingly becoming an IT company can be seen in its financial indicators. Over the past three years, the share of fintech in its total revenue has declined from 92% to 78%. In profit, the change is even more significant: from 90% to 72%. **(Exhibit 16)**

Kaspi Bank can be compared to the Tinkoff Bank which represents the similar case but on the Russian market. Both of them decided to switch the focus on consumer services and developing new technologies. **(Exhibit 17)**

By now, Kaspi has almost reached Tinkoff both in terms of profit, and total capitalization. Recently Yandex announced a preliminary agreement to purchase Tinkoff for \$ 5.48 billion, while Kaspi was valued at \$ 6.5 billion during an IPO in London.

It must be emphasized that Kaspi has not only diversified its business in terms of revenue - many companies are doing this. It has become a company of a new formation,

which is almost absent in Kazakhstani business. Interestingly, the new Kaspi platforms show not only revenues, but also profits. Although this is not always possible for tech giants with much larger resources (Bostanov, Mazorenko, 2020).

Current trends in banking industry

Based on the current trends and the reality in which we live , banks make decisions to expand the range of services provided ,and everything leads to the fact that the bank in our well-established view becomes not just an element in the structure of financial institutions , but something more. For example, in the second quarter of 2020, the cash flow statement of Kaspi bank shows an outflow of almost 160 billion tenge. It can be assumed that this outflow of funds in the investment activity section is associated with the purchase of a large asset Santufei¹³ as it was declared by its CEO Omarov (2020) in order to provide the service "Kaspi travel".

This phenomenon suggests that the bank finds a way out in a situation of reduced income associated with the emergence of a large number of competitors in the use of multiplatforms that use big data ,which in turn will reduce the risk of bankruptcy. All of the above is the result of the acquisition by banks of companies that provide certain services, which marks the convergence of e-commerce and banks.

How Big data work on banks and changes the industry

21st century is the era of plenty of information, according to the 5th infographic report in “Data never sleeps 5.0”¹⁴(2016) the number of Internet users was 3.7 billion people , and a country like the United States generates about 2.7 million gigabytes of information every minute. Gartner¹⁵ (2001) put forward a definition of one of the phenomena of the 21st century

¹³ Ticket sales and booking service

¹⁴ Data Never Sleeps shows exactly how much data is created every single minute

¹⁵ Research and consulting organization specializing in information technology markets

,namely, a variety of data that comes at an ever-increasing rate and the volume of which is constantly growing, and called it big data. Conventional applications and programs that have been used before will not be applicable to this phenomenon, due to inefficiency, for example, if the size of rows and columns of data is about a million, then it will be extremely difficult to work in ordinary basic software such as Microsoft Excel, and most importantly to make the right business strategies based on the data. The use of database management systems (DBMS), allows banks to analyze the behavior and decision-making process of consumers. Based on the data obtained and the conclusions drawn, it is possible to offer services and banking products with higher quality, we can say that the use of big data allows you to learn more about a person than he knows about himself.

Thus, the three main properties of big data-diversity, high speed of receipt and large volume, make the DBMS an integral part of the business processes carried out by banks in the fight for the customer.

However, considering even greater prospects, blockchain technology, the so-called "block chain", which allows you to provide even greater security of data storage, also introduces decentralization in the field of information. The bottom line is that changes in transactions or information in a block can be changed only after agreement with the other participants, while the information in the database can usually be changed by a person who has control over it, this phenomenon introduces problems with the reliability of information inside the database.

Speaking more specifically about the impact of the use of databases, the emergence of platforms and the trend towards digitalization of the banking sector, as well as the emergence of consumer choice, we can also mention the changing business models of banks. Financial technologies significantly reduce the cost of the number of employees, which means salaries, bonuses and costs associated with the presence of bank branches in the city, automating

routine processes that previously performed a large number of people ,and in fact for the staff had to create certain working conditions. Thus, the emergence of competitors, a decrease in the return on equity of banks, and a reduction in the cost of maintaining a huge staff of employees lead to the fact that banks are beginning to change their business models. Now it has become important to be customer-oriented and provide consulting support from the beginning of obtaining loans to the moment of its repayment. As it was written in “Features of the transformation of banks in a global unstable environment” (2005): “There is a tendency to develop customer-oriented business models. Its main core should not be the creation of cost-effective products for the bank, but the implementation of the wishes of customers”. Customer focus can mean the direction of Internet of Me (IoM)¹⁶, not just favorable rates, time spent on service and other things that were offered to customers in the past.

The process of how to integrate this direction and new business models can be described as follows: smart devices and banking platforms analyze certain customer behavior, purchases, as well as the main items of expenditure and, based on the analysis obtained, can offer more profitable banking products with the highest probability of success.

At the same time , there is a threat of impracticability of doing business, where the business model does not imply a high level of return on capital. However, the technological process will allow banks to create new business models that satisfy both customers and banks, through securitization and the creation of credit derivatives. (Kuznetsova, 2015)

It is also worth considering that the legislation of the Republic of Kazakhstan still does not have a precise definition of "Big Data", a uniform practice of application and interpretation, and therefore there is no specific regulator that would manage this data. Personal data is of course collected and entered into the databases of banks, as well as according to the order of the Minister of Digital Development, Innovation and Aerospace

¹⁶ The internet of me(IoM) loosely refers to technology which connects our minds and bodies with the online world. It transforms human biological and cognitive life into streams of data which can be monitored, shared and shaped.

Industry of the Republic of Kazakhstan (2020), banks have the right to use the received data to carry out their activities, but as mentioned above, there is no uniform practice, accordingly, there is a threat of information leakage or the emergence of the "no privacy" principle.

Fintech

Aforementioned business model is going to get positive aspects of traditional banking and implementation of new technologies that Fintech companies use. Fintech is defined as the integration of technology through software to offer financial services in companies aimed at improving their usage and deliveries to their customers. Examples of Fintech include mobile banking, insurance, digital credit and lending, mobile payments, and trading. Banks are undergoing various changes during this period of digital transformation. Retail banks and customers are in interactions with a clear focus on mobile banking and digital services. Fintech is making financial services, and banking companies abandon their traditional approaches to the customers due to the growth of technology. The industry has changed because of the changes in customer digitalization and expectation. Fintech is supporting business owners, companies, and customers by helping them manage financial operations by applying software and systems that previously were accessed through computers and can now be accessed by smartphones. Through transformation, banks deploy digital channels and ecosystem models and start using the software development methods to release high-quality and digital services. Some of the importance of Fintech to financial institutions and companies are improving customer experience; it improves traditional financial services, it is secure, creates economic growth, empowers business, makes financial inclusion and maximizes operational efficiency.

Customer experience in financial institutions is very important, therefore, new financial technologies seek to improve it. Today, customer experience has more than being able to access an account from different channels (Breidbach, Keating & Lim,2019).

Financial technologies have a positive effect on all stakeholders, including the business itself. All businesses operate by aiming to reduce costs. However, financial companies have pressure to tighten the level of their performance. Optimizing companies' operations and efficiency in the supply chain financial services is one of the most digital priorities of financial organizations. Due to the steep competition of traditional financial services and Fintech, there is a great improvement that promotes changes in the legacy system with the new solution in the financial institutions. Through improvement of financial services, customers, and other areas of the economic benefit. Banks that have familiarized themselves with the new changes have greatly improved in terms of their digital services they are offering by working extra hard through the use of the current technology. The collaboration of both traditional and other improving technological efficiency services can help increase revenue, enhance customer expectations, and generate new businesses. Therefore, fintech providers and traditional banks should apply common goals together for their success. Using this partnership, they can create new business opportunities instead of bringing a threat to the traditional finances. Thus, fintech helps in improving the financial services of traditional banks.

Fintech is secure and more reliable in terms of security when compared to traditional banking. When considering traditional banks, they were quite slower in the adoption of cybersecurity actions. Since Fintech is based on technology, there are minimal cases of threat or insecurity cases compared to the traditional banks where one would be threatened easily and money taken by the criminals. Criminals found it easy to get into the systems and large banks because traditional banks do not focus on the technology. By establishing security in

Fintech, managers are in a good position to deal with cybersecurity problems. Operating through Fintech means that fraud cases are very rare and one's company or financial institution is secure in terms of monitoring the activities that are taking place.

Fintech helps in creating economic growth. Due to the adoption of fintech services, the economy of American countries has greatly improved. Comparing the traditional banking services and fintech services, the economy was a bit down when traditional banks were only available. After the adoption of fintech services, the growth of the economy has improved. This improvement is attributed to the use of payment apps and money transfer services. Also, Fintech has helped the economy through the establishment of new careers in the business sector.

Fintech features and benefits:

1. Gives solutions in that all companies can have a benefit;
2. Small and medium-sized enterprises usually need more economic growth when compared to the companies and financial institutions that are well established. These small and medium-sized enterprises often face a lot of difficulties in terms of securing their financing activities so that they can succeed. Now through the use of Fintech, financial institutions use the fintech product, which is effective and efficient. These products of Fintech give small and medium-sized enterprises access to various options of funding. The possibilities are tailored to suit the needs and expectations of small businesses. These options include e-commerce finance, online trade finance, market lending, and invoice finances;
3. It helps in creating jobs for people, providing better results, reducing risks that can result in more capital for those organizations that are underbanked. Therefore, Fintech has contributed much in bringing economies into life;

4. Has contributed much to making financial services available to anyone and everywhere. Due to enormous changes in customers' expectations, they are moving away from traditional banking and adopting new digital services of banking;
5. The digital application of fintech services has created the development of new software, thereby creating new financial services in financial institutions and companies. People living in countries that lack the traditional infrastructure of banking are now in a position to seek financial needs online through smartphones. Thus, Fintech helps in creating financial inclusions.

Banking systems in Kazakhstan have improved due to the fintech banking services. Kazakhstan has experienced implementation in terms of electronic frameworks that have facilitated the growth of the country. Halyk Bank, which is the largest bank in Central Asia, merged with the Kazkom Bank. Now the Fintech app has enabled the MyHalyk bank to provide money transfer between accounts, show user's loans, pay services, and provide account statements. For security and payments, these banks established an online purchase system. Kaspi is a technological company whose role revolves around the banks, and the bank changed into a super App. Kaspi super App is one of the apps that different people currently use to meet different daily financial needs. Also, clients are offered installment purchases after buying a large number of goods (Dapp, 2017). Therefore, through Fintech, Kazakhstan banks have provided opportunities in launching digital and mobile banking.

Super App MAU up 59% to 9.1 million, DAU up 155% to 4.9 million. Average monthly transactions per active consumer increased 1.9x to reach a record 28.0 transactions. 2020 net income of KZT274,318 million 1 ahead of November 2020 guidance of 'around KZT270 billion'. Every IPO KPI delivered upon or exceeded. In 2020 Kaspi had an even greater strategic focus on innovation for merchants than ever before. Kaspi Pay PoS Solutions

has emerged as a breakout product. 38% of all Kaspi Gold in-store PoS transactions migrated to Kaspi Pay in December 2020.

Fintech advancements have facilitated many banks to use a multichannel approach to distributions. Through multichannel banking, customers can access the services of the banks through a set of appropriate channels. Mobile banking and websites are quite effective on one medium that is good for self-care services such as making payments and checking the savings balance. Call centers are also another channel that allows customers to have day-to-day inquiries. Comparing traditional banking services with the rise of fintech, fintech is more advantageous and beneficial to the clients. By using smartphones, customers can access loans or make payments for products without even going to the bank.

Microservices

Microservices are greatly growing due to the transformation of the fintech industry. Without the microservices, the fintech industry would have faced many problems in disrupting the previous existing financial services (Basole, & Patel, 2018). Microservices offer fintech flexibility in developing innovation and agitation in adopting changing circumstances and forces for competition. Customized technology and integrated systems are designed to meet the changing company needs as early as they arise. Many traditional banking systems and companies are operating on monolithic programs; this implies that they cannot respond to customer's preferences, choices, and behavior. Microservices are usually developed and maintained to facilitate the delivery of specific business necessities. Also help in solving issues such as speed and also supporting the delivery of banking services continuously.

The fintech industry is dependent on data scale (Brus, 2020). Fintech companies are providing highly customized and personalized services to their customers. By reflecting on

the traditional banking services, they mostly rely on the scale of assets and treat their customers in terms of mass. Through personalized and customized services to the customers, the banking services will be greatly improved. Fintech services, in this case, will help in reducing money laundry and terrorism in financial institutions.

Cyber security

As the embedment of digitalization, advancement of technology, increase in viscosity of money all leads to more and more scammers, hackers and theft accidents Cyber security is viewed as one of the problems that are affecting and will also continue affecting businesses. By using predictive analysis, business people are in the baseline of ensuring that they play a big role in strengthening cybersecurity measures and preventing fraud in financial institutions. Also, predictive analysis helps in proving the customer's experiences and identify the clients who are more likely to bring a positive change in the organization and improve the organization's operations (Rasiwal&Koh, 2020). Moreover, predictive analysis helps companies in the monitoring of the behavior of the customers, both those interacting with the organization and across those in the social platform. By using predictive analysis, organization managers can predict problems in their organization before they occur.

Though digital transformation is beneficial in institutional organizations, it can have some challenges, including some organizational institutions, such as middle financial institutions, to learn how to navigate without many robust funds from their larger peers, agility, and flexibility from their smaller financial institutions. Instead, they have to be concerned about their operation, or they are outranked due to competition or lose the relevancy of the industry.

There is also a problem due to the lack of enough experts to implement digital services that are needed in the organizations. Digital transformation always requires good and

right processes and tools with a qualified expert so that these tools and techniques are implanted, managed, and refined (El-Masri, et al, 2019). Some people working in the financial organization lack enough skills and knowledge to run the financial organization towards achieving its objective. Due to lack of qualified experts to run the companies lead to poor performance of the institution.

Conclusively, fintech in the digital transformation contributes very much to the growth of companies and financial institutions. The rise of fintech companies has greatly transformed financial services over the financial institutions and companies. Through the change in the customer experiences and expectations, regulation and operations of institutions are increased. Also, fintech has led to advancements in artificial intelligence, reducing cybersecurity, regulating financial institutions, and improving the maximization of organizational efficiency.

Digital currency as financial game changer

Today, there is probably not a single area of human activity where digital technologies do not meet, almost every routine process is subject to automation in order to increase productivity and reduce the cost of production of works and services. It should be noted that there is also a trend of transition to digital not only processes, but also seemingly those things that would not have a practical background, namely digital analogues of currencies, which in turn will lead to a change in the hierarchy in financial institutions.

The bottom line is that debit card accounts, demand deposits and other equivalents are a source of funds for banks to carry out their operations, namely, by putting cash in their bank account, the client could withdraw money when he needed it, but while the money was in the account, they worked for the bank, which used these funds to invest in low-risk assets or invest funds in a deposit with the central bank. However, now with the emergence of talk

about digital currency, where the issuer would be the national bank and the main holder of customer accounts for digital currencies would also be a first-level bank, there may be a threat of the amount of cash or so-called "cheap liabilities" in second-level banks, of course, the national bank will not compete with conventional banks and will not charge interest on electronic wallets of customers, but people will consider digital currency as an alternative to mutual settlements in everyday life, this will lead to a noticeable outflow of cash in second-tier banks. In turn, this may affect the growth of interest on remuneration for the possession of deposits, which is a very positive factor for the holders of such deposits, and the growth of interest rates on loans issued to customers will not affect in any way, because banks when determining the cost of a loan are based on the risk-free market value of money. In order to encourage people to hold accounts in a standard currency, banks can also resort to commission-free payments and certain products that are currently used by financial technology companies to increase their market share, but due to certain costs associated with raising deposit rates, the question arises whether banks will be able to carry out the above-mentioned stimulation of customers.

Thus, the digital alternative will have a beneficial effect on the consumer, which in turn will give the right to choose a banking product, namely, to keep money in the digital equivalent or in the usual, but at higher interest rates.

Research methodology

To achieve the goals of the thesis both primary and secondary data was collected. Secondary research was conducted in order to obtain more objective results, understand the current situation in the market and get insights which are necessary for building a right strategy for primary research. Primary research was conducted using two methods of data collection: quantitative and qualitative. Quantitative research is needed to provide statistical

data about the current situation within the market and identify new tendencies in consumer behaviour. The aim of qualitative research is to get contextual knowledge about the behaviors, experiences, general thoughts and insights from banks clients.

Since the object of the study is Kazakhstani banks with a wide target audience, and the subject is consumer behavior, it was necessary to obtain a lot of various information, from statistical data to customer insights. These types of research allowed us to consider the problem from different angles and obtain as much information as possible.

Quantitative method

The quantitative part of the study was conducted using an online survey. The questionnaires consisted of 23 multiple Choice Questions, 1 question measured on 10-point net-promoter score scale and 1 matrix question with 4 metrics and 10-point scale. The research utilized Probability sampling methods. However, the respondents who took part in the analysis were divided into 3 categories by age, according to the theory of generations (Mannheim, 1928): generation X (more than half of the respondents), millennials (18%), zoomers (27%), and also into 3 categories by occupation: entrepreneurs (17.4 %), employees (21.5%), working students (26.4%), students (27.3%). Overall sample size was 122.

The questionnaire was created in Google surveys and spread via social networks (Instagram, LinkedIn, Vkontakte) and messengers (Telegram, WhatsApp). All survey questions are attached in the **Appendix B**.

Qualitative method

The qualitative research was carried out through personal interviews with representatives of the target groups. All interviews consisted of 7 basic questions and 5-6

additional questions, depending on the answers of the interviewee. The research utilized Non-probability sampling methods.

The target audience of the qualitative research was divided as follows:

1. Three groups by age, according to the theory of generations¹⁷: generation X (1967-1984), millennials (1985-2000), generation Z (2001-2015) — ten representatives for each group;
2. Two groups by occupation: entrepreneurs, employees / students.

Overall sample size was 16.

Research findings

Most of the respondents are clients of several banks at once, however, 90.8% of them use Kaspi Bank on a daily basis, which proves the shift in user preferences towards more technological companies. The rapid growth in the number of Kaspi Bank users occurred after the appearance of the mobile application, which is proved by the results of the survey — most of the respondents have been the bank's customers for about 3 years (the application was released in 2017).

The factors influencing the choice of the bank were distributed as follows (in decreasing order of importance):

1. Convenient mobile application (82.5%)
2. Convenient online money transfer procedure (63.9%)
3. Cashback (41.8%)
4. The popularity of the bank among friends and relatives (29.5%)
5. Personalized offers from the bank (13.1%)
6. The ability to open a foreign currency account (11.5%)
7. Loyalty program (11.5%)

¹⁷ Generation theory is a theory developed by William Strauss and Neil Howe that describes recurring generational cycles in history.

8. Favorable loan offers (7.4%)

Also, many respondents left additional comments that they became customers of Kaspi Bank, because “everyone has its card” and they like the presence of the marketplace in the application.

With the advent of the pandemic, people began to spend more time in the bank's app (75.2% use the app several times a day) and more often make purchases online, including through the bank's marketplace. 67.8% of respondents have become more online over the past year, but the ratio of online and offline purchases for most people has not significantly changed. 33% of respondents said that they make online and offline purchases in equal proportion, and 43.2% still have a dominant share of offline shopping. For those who prefer to shop online through the bank's marketplace (49.6%), there are top 3 decisive factors in favor of making a decision to buy through the bank:

1. Simple payment and delivery procedure;
2. The ability to place an order without leaving home;
3. Cashbacks and bonuses.

During the interview, it turned out that millennials prefer Kaspi Bank's marketplace to online purchases through the company's website itself. It is noteworthy that among the majority of the surveyed “zoomers” and representatives of generation X, the Kaspi marketplace is not so popular. Many of them do not even consider it as one of the buying channels, since this is still unusual for the Kazakhstani market: “I am embarrassed to buy serious equipment through the bank's app”.

With the growth of digitalization, the number of non-cash funds also increases. 84.9% of people noted that they withdraw money from an ATM about 1-2 times a month: 42.9% of respondents keep cash only “just in case”, 13.4% use it for small purchases in stores without a terminal, and 28.6% of the savings are kept in cash. Despite the fact that only 13.4% of

respondents answered that they do not use cash at all, it can be seen that cash is losing its value, as in everyday life credit cards are rapidly replacing them.

When moving to online and transforming business models of banks, one of the most important factors is the willingness of customers to switch to digital and abandon the usual offline interaction with bank consultants. According to the survey, more than half of people visit a bank branch only to reissue a payment card, and 57% of those surveyed would like to refuse it so as not to waste time in queues. Today Kaspi Bank already has a product that solves this problem - "Kaspi cartomat". It allows people to issue a Kaspi Gold card in less than one minute and without outside help. About 20% of respondents visit bank branches for international transfers and only 3.6% for a loan or mortgage. It is unexpected that despite the prevailing part of those who are ready to refuse to visit banks, 42.8% still prefer the traditional type of interaction with financial institutions. For these clients, it is important to guarantee the success of banking operations, which they cannot provide for themselves by conducting them online. They prefer to go to banks because it is safer, there is an opportunity to consult with a real person and the probability of making a mistake is minimal.

An important discovery was that about half of the respondents, although they are active on the Internet and love the bank for its technology, are still not ready for serious personalization of banking services. 11% said they do not accept the way the bank will develop personalized offers: "it scares me that the bank will have so much of my personal data". More than a quarter of the respondents noted that they want to use the bank's application only for its intended purpose and do not need additional functions. However, despite this, 51% of respondents support the idea of creating personalized bank offers in the form of a virtual assistant, shopping tips, reminders, etc. According to the interview, all representatives of the younger and middle age groups noted that the use of a large amount of personal data by the bank does not bother them at all. They understand that in the modern

world, all applications in one way or another have access to the use of personal information. In contrast, representatives of the older generation claimed that they are wary of such technologies and want to get bank's services in a traditional way.

Based the example of the new function of accounting for personal finances and the formation of subsequent "tips" for the user (whether it is worth taking a loan, what expenses can be cut, etc.), which banks could implement thanks to the use of machine learning, it was discovered that despite a fairly high demand (68% of those surveyed are either keeping records or about to start), it is still difficult for users to start using such a technological service. A quarter of the respondents totally refused these functions, because it was unusual, for 31.9% the question turned out to be difficult and unexpected, and 43% supported this idea.

Almost 90% of respondents noted the ecosystem as one of the most important factors when choosing a bank. According to them, this helps to reduce a lot of time and frees them from the obligation to visit the bank. Millennials' and zoomers' answers converge on questions like visiting a bank. More than half of them said they would be happy if all services became available online, while boomers would prefer to solve some issues in bank branches. About 95% of respondents use 2 cards from different banks- one for daily use, and the second-for storing a deposit. One of the respondents noted that the percentage of the annual deposit in Sberbank attracts him more than in the national ones, so he preferred it. More than half of the entrepreneurs who responded stressed the convenience of digital technologies of Kaspi bank, such as cashless payments, payment by QR code and registration of various transactions and payments through the bank's application.

All groups of respondents are united by the fact that absolutely every one of them uses the services of Caspi Bank due to the user-friendly interface of the application.

Problems and limitations

During the investigation, some difficulties were faced. When conducting secondary research, the main problem was the very small amount of actual research on the topic of the diploma. Most of the relevant research covers either the CIS, with no focus on the Kazakh market, or only Russia. Lack of information from academic resources was also an important issue. The main obstacles during the research include:

1. Incomplete conversion - only 116 out of 122 people who completed the survey, reached the final question;
2. People over 35 are reluctant to take a survey - it is difficult to motivate the respondent.

Conclusion

Both primary and secondary researches showed that the hypothesis is not confirmed. This means that banks will not disappear in general as a financial institution due to the advent of digital technologies. Instead, they will have to change their outdated business models and adapt to the direction of the “Internet of me”. It is obvious that the new business model will bring a decrease in the return on equity of banks, but as it was mentioned above, banks will be able to compensate for this risk with the help of credit derivatives.

Thus, consumer behavior in the banking industry is undergoing a huge change. Previously, it was enough for people that the bank was a place where they could take out loans, transfer funds and keep their funds in demand deposits. However, with the advent of high technology, it is becoming increasingly difficult for banks to operate for the following reasons:

1. Customers began to understand the advantages of using digital platforms and they will no longer be satisfied with the level of services that they were satisfied with before;

2. Central banks will start issuing digital currencies in the future, which will affect the amount of money that was previously held by second-tier banks and invested in low-risk assets and received additional income from this;
3. The emergence of financial and technological companies that are able to provide a more convenient service and more accurately adapt to the current needs of potential customers due to their small corporate size.

However, high technology has brought not only new competitors, but also opportunities for automation and reduced operating costs. Banks, thanks to the advent of big data, will be able to get to know the customer better, and therefore bring a better product to the market. Artificial intelligence will allow financial institutions to reduce the risk of fraud, speed up customer service time and allow consumers to optimize accounts payable to banks, and consequently increase the level of public confidence in the banking system as a whole.

Recommendations

To respond to the global unpredictable climate, the business (bank) must make swift, dynamic changes. Strategic management, also known as change management, aids in gaining a strategic edge in the face of uncertainty and, as a result, in generating high and long-term profits. Banks demonstrate the ability to endure negative influences and use opportunities to increase their own productivity by changing under the influence of the global uncertain climate and adjusting to it. For more details PESTEL analysis was conducted.

PESTEL analysis:

Close relationships with Russia, digitalization and current trends in the finance field can benefit the banking system of Kazakhstan. In the PESTEL analysis main factors and features of banking transformation are going to be analyzed and observed.

1. Political factor

Under conditions: sanctions that initially target Russia restrict its access to foreign markets and capital. Due to Kazakhstan's close ties with the Russian Federation, there is also uncertainty in our market. Features: due to the political situation, banks have to look for additional markets and sources of capital.

2. Economic factor

Under conditions: thanks to the EEU and the sanctions imposed on Russia, there is a new impetus to the domestic production of goods and services , which means that there will be an increase in the appearance of small and medium-sized businesses. Features: in order to saturate the domestic market with goods and services , there will be a demand for loans to open small and medium-sized enterprises.

3. Social factor

Under conditions: People began to use banking services more through online applications and store money in electronic wallets. Features: despite the fact that people are already enjoying the benefits of digital technologies , there is still skepticism and unwillingness to radically change banking products.

4. Technological factor

Under conditions: banks are already using artificial intelligence to prevent fraud and make loan decisions for their customers. Blockchain technology opens up new opportunities for e-commerce and monetary relations. Feature: consumers could trust the bank system more since they know a human factor is fully reduced and time spent on getting a service is as fast as can be.

5. Environmental.

Under conditions: the use of paper is being reduced as a result of technological advancements, especially banking smart platforms. In addition, it will be unnecessary to visit local bank branches. Features: Many problems can be solved by using online

bank services. Credit cards can be applied for electronically, checks can be purchased online, and several banking questions can be asked online or on the internet. As a result, human impact on the environment will reduce due to no need to go to branches.

6. Legal factor

Under conditions: there is no basis of law Big Data implementation and depersonalization process on the territory of the Republic of Kazakhstan. Features: It is unknown how to use unstructured data in order to offer new products without breaking the right for personal information.

According to the research and analysis given above, two main recommendations for Kazakhstani banks were developed. Firstly, with the use of databases and analysis of the credit history of successful business cases, banks will be able to launch a product on the market that would complement the already available offers, such as a cash loan or a consumer loan for the purchase of goods, but intended more for legal entities. The difference from the existing credit products for enterprises will be result-oriented, which corresponds to the new business model with the focus of IoM. For example, a person decided to open a coffee shop, but without having experience and a certain amount of knowledge in the field of finance, he may make a big mistake that will lead him into bondage, but in the event of the emergence and implementation of a new business model, banks will be able to make a product based on the analysis of successful cases, where cash flows would be taken into account, thereby the credit load would be more optimized for the conditions of a newly opened coffee shop. Thus, this innovation will increase the level of confidence in banks and their products. Secondly, with the use of a virtual assistant that would help people better optimize their expenses based on personalized data and advise people to better keep records of liquid assets. It is possible that this will help people to manage their budget more correctly and help them avoid entering

"debt pits". The release of this product would allow banks to gain the necessary level of trust and increase the conversion from potential to regular customers.

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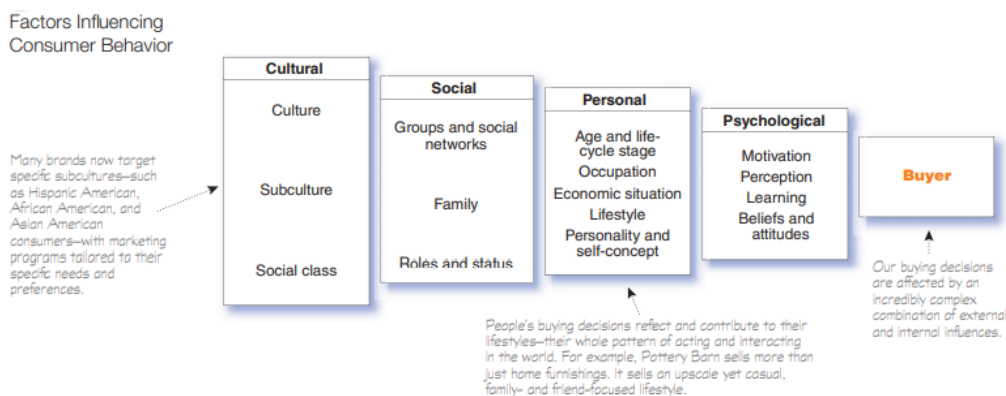
<http://finprom.kz/ru/article/snyatie-nalichnyh-sredstv-s-platyozhnyh-kart-teper-sostavlyaet-lish-tret-ot-obshego-kartochnogo-oborota-deneg>

Appendix A

Exhibits

Exhibit 1

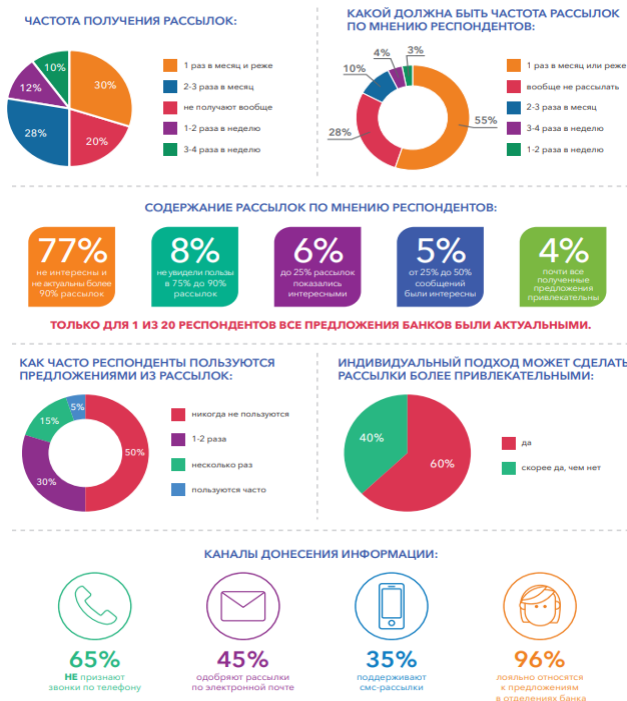
Factors Influencing Consumer Behavior



Note. Kotler, P. and Armstrong, G., 2014. Principles of marketing. 15th ed. p.159.

Exhibit 2

Marketing mailing lists of banks in Kazakhstan



Note. “According to the survey, residents of Kazakhstan are quite positive about new offers from banks, but it is also obvious that customers expect more attention to their interests, habits, plans and life circumstances, that is, an individual approach” - Andrey Sustavov, CEO of SAS Kazakhstan. Citizens of Kazakhstan want to receive individual messages from banks. (2021). Retrieved 11 May 2021, from https://www.sas.com/ru_ru/news/press-releases/2019/april/kazakhstanis-want-receive-individual-messages-from-banks.html

Exhibit 3

Cash withdrawal using payment cards issued by Kazakhstan and foreign issuers in the territory of the Republic of Kazakhstan. (January - November)

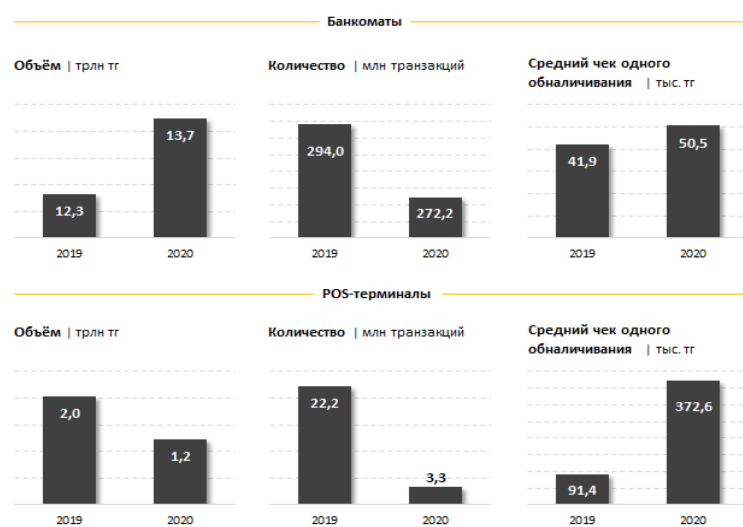


Note. Based on the data of the National Bank of the Republic of Kazakhstan.

Cash withdrawals from payment cards now account for only a third of the total card money turnover. (2020). Retrieved 11 May 2021, from <http://finprom.kz/ru/article/snyatie-nalichnyh-sredstv-s-platvozhnyh-kart-teper-sostavlyayet-lish-tret-ot-obshego-kartochnogo-oborota-deneg>

Exhibit 4

Cash withdrawal using payment cards issued by Kazakhstan and foreign issuers in the territory of the Republic of Kazakhstan. (January - November)

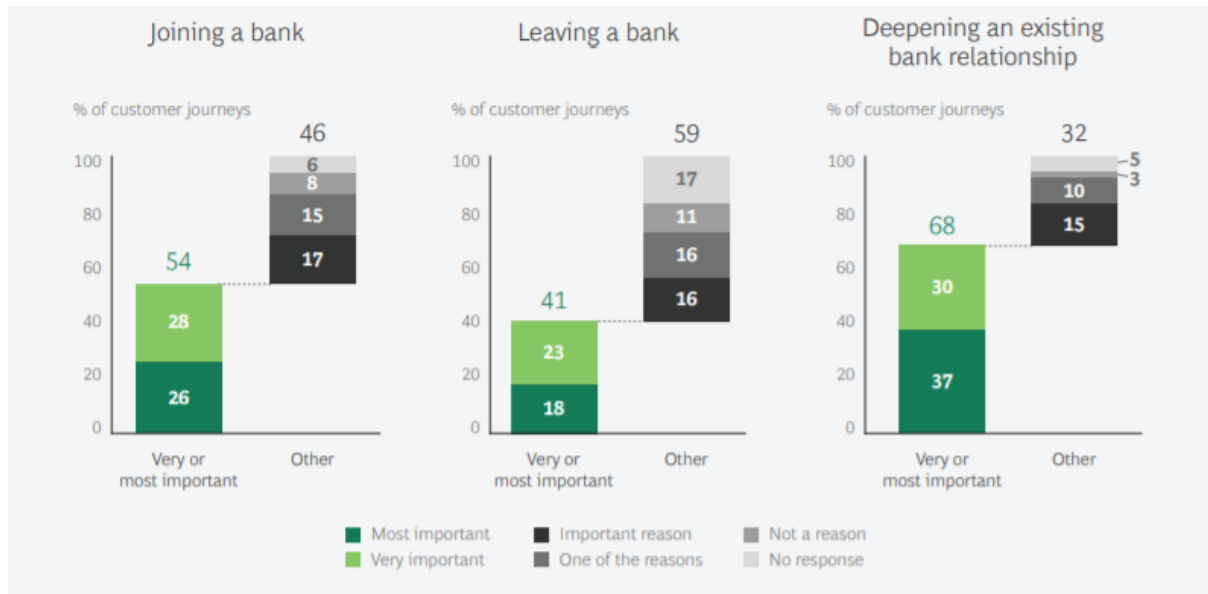


Note. Based on the data of the National Bank of the Republic of Kazakhstan

Cash withdrawals from payment cards now account for only a third of the total card money turnover. (2020). Retrieved 11 May 2021, from <http://finprom.kz/ru/article/snyatie-nalichnyh-sredstv-s-platvozhnyh-kart-teper-sostavlyayet-lish-tret-ot-obshego-kartochnogo-oborota-deneg>

Exhibit 5

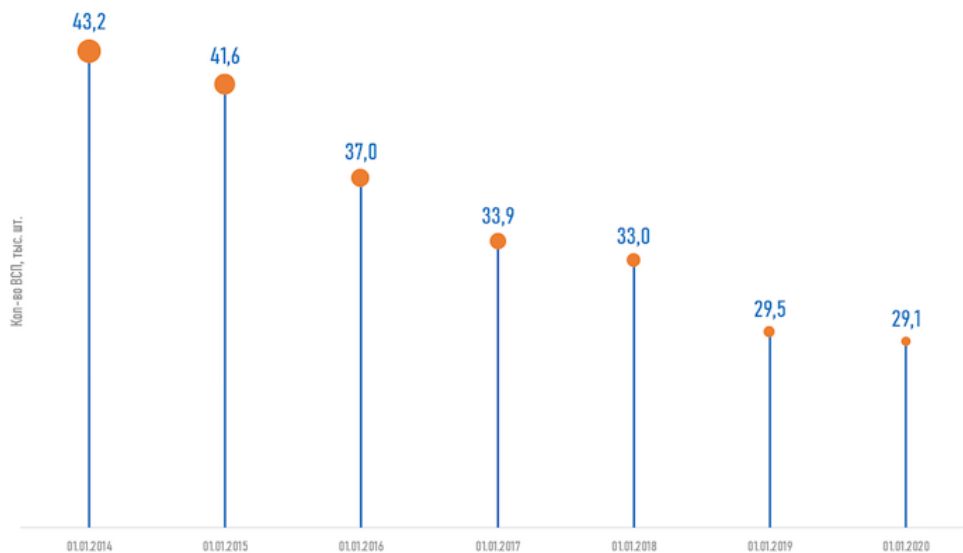
Impact of Personalization on Key Customer Decisions



Note: REBEX consumer survey 2017. Note: Some percentages do not sum to 100 because of rounding. Customer journeys considered: joiners, 56,351; leavers, 13,768; deepening, 18,221.

Exhibit 6

Number of bank branches in Russia, 2014-2020



Note. Data of the Central Bank of the Russian Federation, calculations of the Analytical Center Banki.ru. **Research:** Online Banking Applications Market. Banki.ru. (2020). Retrieved 9 April 2021, from <https://www.banki.ru/news/research/?id=10917948>.

Exhibit 7

Main characteristics of Internet banking systems for individuals of banks in Kazakhstan

№	Услуги через Интернет	Название системы ²⁾				
		Internet Office	Интернет-Банкинг	HomeBank	Персональный ПКО	ATF-online
1.	Отслеживание движений по счетам	+	+	+	+	+
2.	Переводы на карточку	+	+	+	+	-
				только на карты клиента	только на карты ТуранАлемБанка	
3.	Внутрибанковские переводы	+	+	-	-	-
4.	Межбанковские переводы	+	+	-	-	-
5.	Международные переводы	+	-	-	-	-
6.	Открытие, пополнение и закрытие депозитов	-	+	-	-	-
7.	Платежи за сотовую связь и провайдерские услуги	2 организации	3 организации	3 организации	2 организации	-
8.	Региональные коммунальные и другие периодические платежи	-	32 организации для 14-ти регионов РК	4 организации для 3-х регионов	1 организация для Алматы	-
9.	Совершение налоговых платежей	+	+	-	-	-
10.	Конвертация и конверсия валют	+	+	-	-	-
		приём заявок на конвертацию	Валюты - KZT, USD, RUR, GBP, EUR.			
11.	Покупка скретч-карт	-	-	+	-	-
12.	Просмотр всех своих счетов открытых в банке	+	-	+	+	+
				на каждый счет предварительная заявка		Кроме карт-счетов
13.	Контроль индивидуального пенсионного счета (ИПС)	-	+	+	-	-
			только ИПС в НПФ "Народного банка"	только ИПС в НПФ "УларУмит"		
14.	Совершение переводов в пенсионный фонд	+	+	-	-	-
15.	Погашение кредитов	+	+	-	+	-
					только по кредитам "БТА Ипотека"	

Note. The table was compiled by the author on the basis of information from the banks' websites as of April 30, 2005; the sequence of systems in the table is determined by the order of commissioning. Information system "Paragraph." 2010. *Virtual banking*. [online] Available at: <https://online.zakon.kz/Document/?doc_id=30020443#pos=1;384> [Accessed 1 April 2021].

Exhibit 8

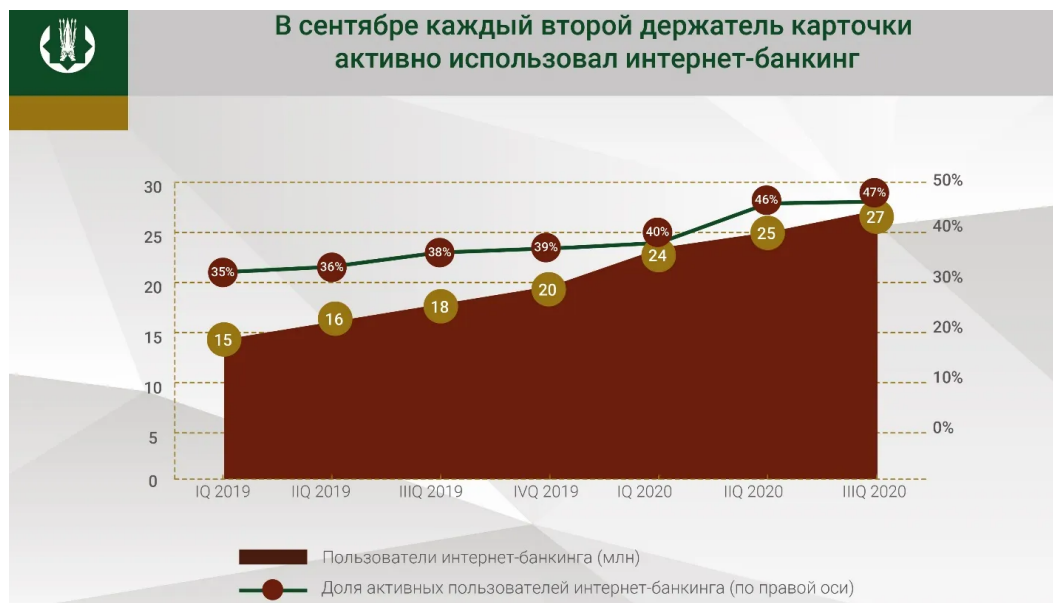
Credit cards payments



Note. The chart was created based on data from the National Bank of Kazakhstan. Kapital.kz. 2020. *Cashless operations in Kazakhstan*. [online] Available at: <<https://kapital.kz/finance/91180/kazakhstanstsy-sovershili-beznalichnyye-operatsii-na-23-trln-tenge.html>> [Accessed 11 April 2021].

Exhibit 9

Internet-banking usage in 2019-2020



Note. The chart was created based on data from the National Bank of Kazakhstan, Kapital.kz. 2020. *Cashless operations in Kazakhstan*. [online] Available at: <<https://kapital.kz/finance/91180/kazakhstanstsy-sovershili-beznalichnyye-operatsii-na-23-trln-tenge.html>> [Accessed 11 April 2021].

Exhibit 10

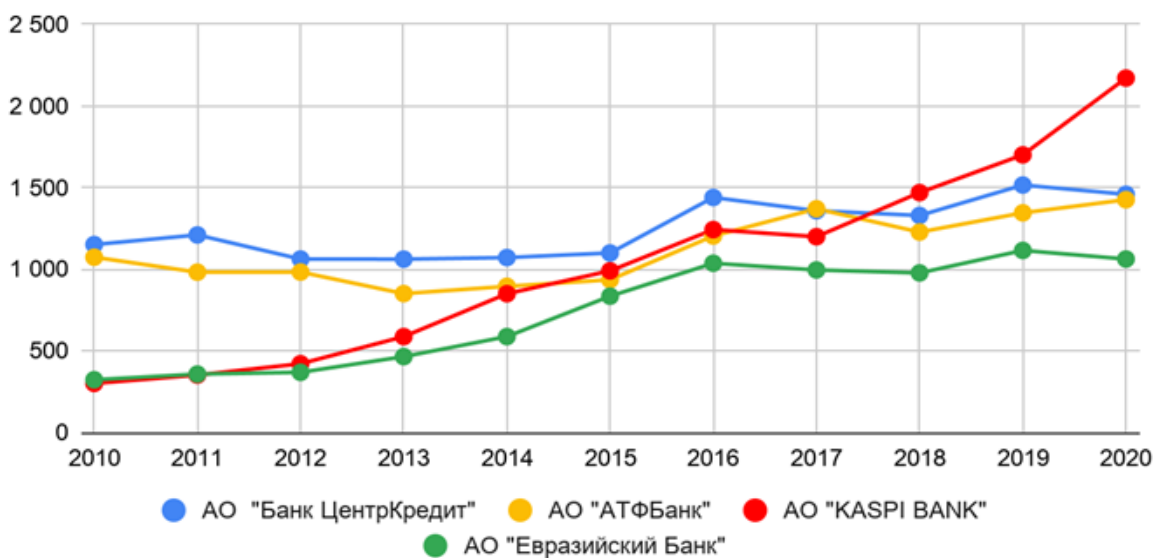
Rating of second-tier banks of Kazakhstan at the end of 2019

Рейтинг 2019	Наименование банка	Вес, %				
		15	3	8	3	3
		Баллы по активам	Баллы по изменениям активов	Баллы по ROA	Баллы по изменениям кредитов, %	Баллы по изменениям NPL
1	АО «Каспи Банк»	13,27	2,65	8,00	1,96	1,75
2	АО «Народный Банк Казахстана»	15,00	1,04	6,77	1,50	2,00
3	ДБ АО «Сбербанк»	14,42	1,96	6,15	1,73	1,63
4	АО «Жилстройсбербанк Казахстана»	11,54	3,00	4,31	2,88	0,75
5	АО «ForteBank»	13,85	2,19	3,69	1,27	1,50
6	АО «Altyn Bank» (ДБ China Citic Bank Corporation Ltd)	8,08	2,08	5,85	2,42	0,88
7	ДБ АО «Банк Хоум Кредит»	7,50	1,85	7,69	2,08	1,25
8	АО «ДБ «Альфа-Банк»	8,65	2,31	5,54	1,85	1,88
9	АО «АТФБанк»	12,12	1,38	2,46	0,92	2,25
10	АО «Jysan Bank»	10,96	0,12	4,00	1,38	0,13
11	АО «Банк ЦентрКредит»	12,69	0,92	1,54	1,15	1,00

Note. The source of information was the data of the National Bank of the Republic of Kazakhstan, kase.kz and the official websites of banks. Baker Tilly Qazaqstan advisory, 2020. *Rating of Kazakhstani banks*. Forbes Kazakhstan, p.44.

Exhibit 11

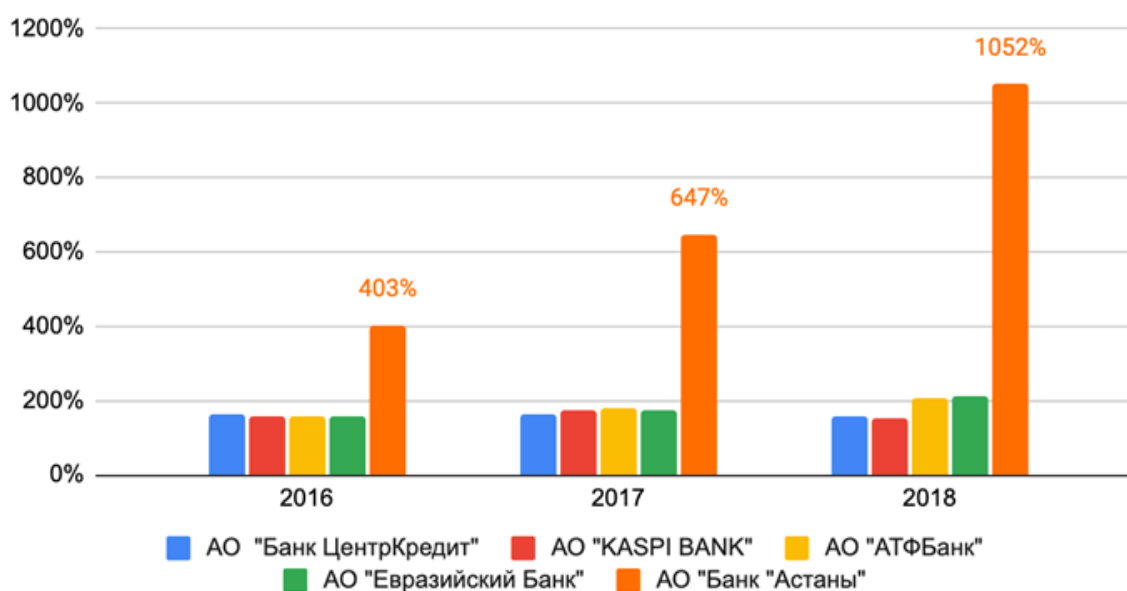
Assets of second-tier banks in Kazakhstan, 2010-2019



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Exhibit 12

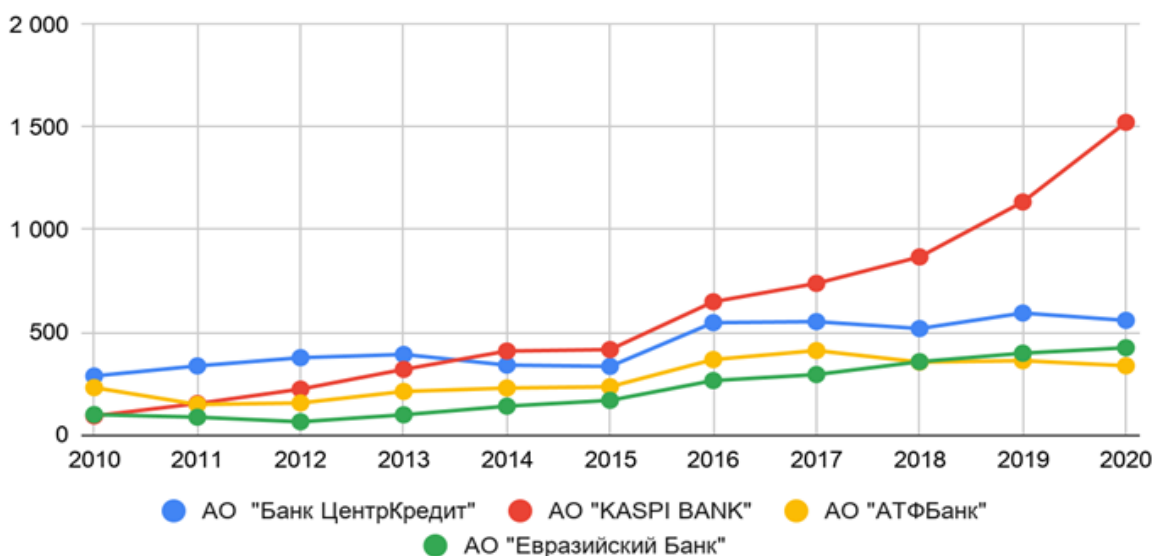
Growth of household deposits of some banks compared to 2015



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Exhibit 13

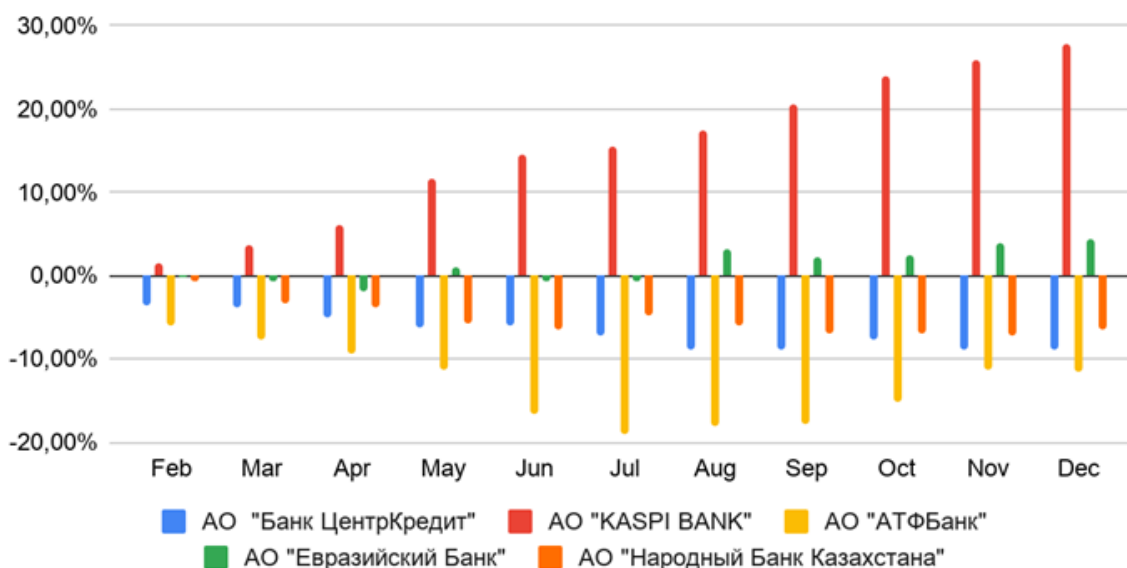
Deposits of physical divisions of second-tier banks of the RK, since 2010



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Exhibit 14

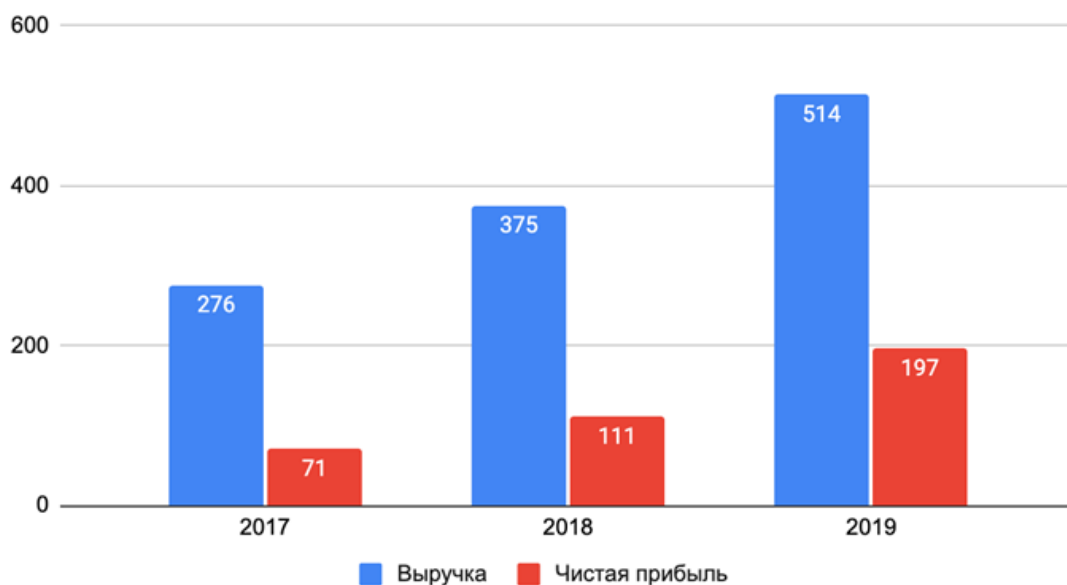
Growth of deposits of the population of banks of the Republic of Kazakhstan in 2019, against January 2019, %



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Exhibit 15

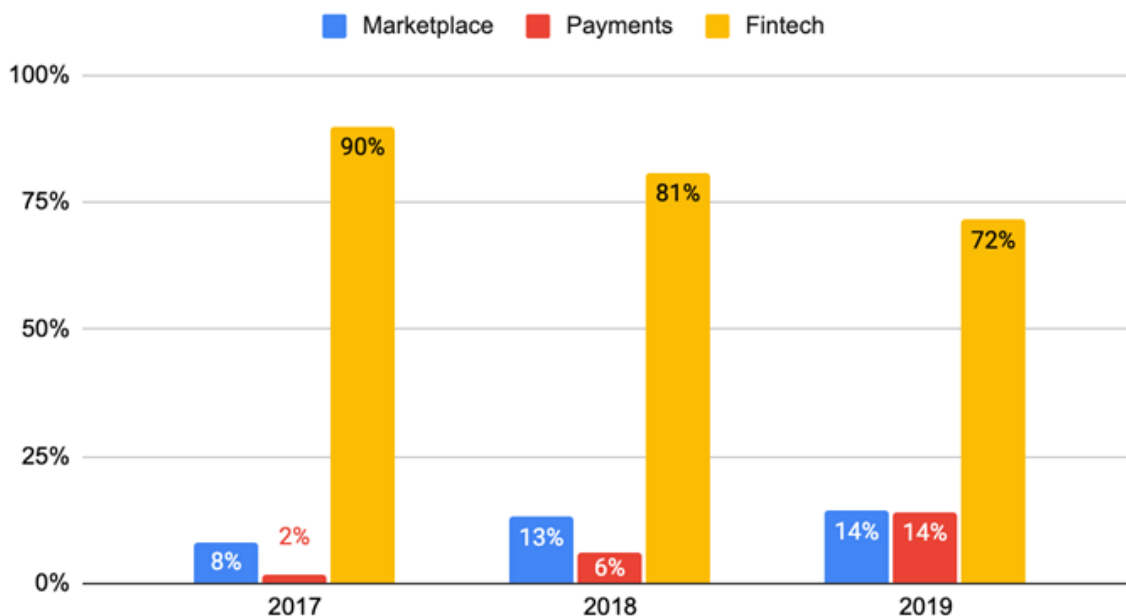
Financial results of Kaspi Bank, KZT bln



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Exhibit 16

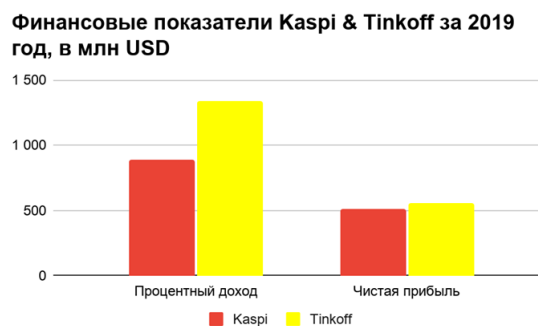
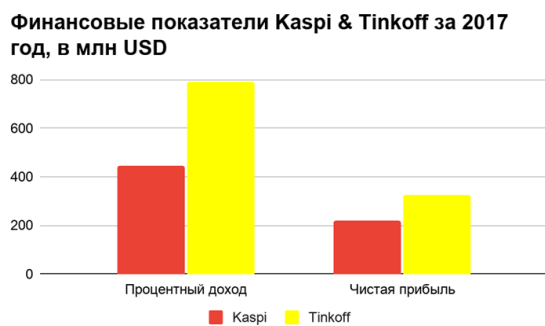
Net profit of three platforms of Kaspi.kz



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Exhibit 17

Financial performance of Kaspi and Tinkoff banks for 2017 and 2019



Note. Bostanov, E., & Mazorenko, D. (2020). Transformation of Kaspi Bank into an IT company. Vlast.kz. Retrieved 5 March 2021, from <https://vlast.kz/biznes/42146-iz-banka-v-platformu-cem-kaspi-obespecil-sebe-uspesnoe-ipo.html>.

Appendix B

Survey questions

1. Your age
 - 16-18
 - 19-22
 - 23-25
 - 26-35
 - 36-45
 - 45+

2. Your occupation:
 - Studying at school
 - Student
 - Study at the university and work part-time
 - Work in the company
 - Entrepreneur
 - I am neither studying nor working

3. How many banks do you use?
 - One bank
 - Two banks
 - More than two banks

4. If you are a client of several banks, why?
 - One bank for business, one for personal use
 - One bank for deposit, another for everyday use
 - One bank for foreign currency accounts, another for everyday use
 - Salary card (card for scholarships) in one bank, but in everyday life I use another
 - I am a client of one bank
 - Other _____

5. Which bank do you use on a daily basis?

- Halyk Bank
- Kaspi Bank
- Bank Center Credit
- Jýsan Bank
- ATFBank
- Other _____

6. How long have you been a client of this bank?

- Less than 1 year
- 1-3 years
- More than 3 years

7. Why did you choose this particular bank?

- Convenient mobile application
- Personalized offers
- The ability to open a foreign currency account
- Favorable loan offers
- Convenient money transfer procedure
- Loyalty program
- Cashback
- Special offers
- Recommended by friends / family / acquaintances
- Other _____

8. Would you like to receive “tips” from the bank's application?

Example: After analyzing your purchases for the last month, the app reminds you what to buy in the store.

- Yes, it's very convenient
- No, it scares me that the application will use my personal data
- No, I want to use the bank application only for banking operations
- Difficult to answer

9. Have you installed your bank's mobile application?

- Yes
- No

10. How often do you visit your bank's mobile application?

- Several times a day
- Every 2-3 days
- Less than once every 3 days

11. Have you started buying online more often during the pandemic?

- Yes, it has become
- I've done my purchases mostly online before
- No, nothing has changed

12. The approximate ratio of your online and offline purchases:

- 90% online, 10% offline
- 70% online, 30% offline
- 50% online, 50% offline
- 30% online, 70% offline
- 10% online, 90% offline

13. If you have your own business, what is the most common customer payment method you use?

- Kaspi online transactions
- Credit card
- Cash
- QR code
- Other _____

14. Do you like to use the bank's application, which combines both banking services and other ones (shop, buying tickets, etc.)?

- Yes. I like that all the necessary services are collected in one place
- I prefer to use applications as intended. The bank app is aimed for banking services and the store app is for purchases.

- It's difficult to understand, but I think this is a good idea
- It's difficult to answer

15. How often do you make purchases through the bank's website / application?

- Almost always when there is such an opportunity
- I prefer to buy directly from the seller
- My bank does not provide this service

- Evaluate on a 10-point scale the influence of each factor on your decision to make purchases through the bank's app
- Confidence in the quality of the product and the integrity of the seller
- Cashback, bonuses
- The ability to place a purchase without leaving home
- Simple payment and delivery procedure
- Other _____

16. How has the ratio of your card funds to cash changed over the last year?

- I almost stopped to use cash
- I don't use cash at all
- I keep some cash in my wallet “just in case”, but I only use my card
- I pay cash for travel
- I pay cash for small purchases in stores where cards are not accepted
- I need cash only for savings. In everyday life I usually use a credit card

17. How often do you cash out at ATMs?

- 1-2 times a month
- Every week
- Daily

18. Why do you visit bank offices?

- Open an account
- To reissue a card
- To make an international transfer

- Get a loan / mortgage
- Other _____

19. Would you visit a bank branch if any of the above services could be ordered online?

- Yes, I would, because it's safer and quieter this way
- Yes, it's easier for me to do it with a bank manager than to deal with it myself
- Yes, because I am not sure that I can correctly carry out a complex online transaction in my bank
- No, online registration is much faster and more convenient
- Yes, because (your answer) _____
- No, because (your answer) _____

20. Rate it on a 10-point scale, how often do you make rash purchases that you later regret?

- 1-never, 10-very often

21. Do you keep track of your money?

- Yes
- No, but I'm going to start
- I tried, but failed
- No

22. What tools do you use for keeping records?

- The special application
- Writing in notes
- I keep a table in Excel
- I write it down in a notebook
- Other _____
- I do not keep records

23. If you don't keep records, why?

- I get bored / forget to record every expense
- It takes too long

- I don't understand how to interpret the results
- I don't understand why this is needed

24. If your bank offered you the services of a virtual assistant that would help you plan and track your finances, would you use them?

- Yes, I think it's very convenient
- It's difficult to answer, but this is an interesting idea.
- No, I'm used to using a separate accounting application
- No, I don't trust my bank
- No, I don't want to keep records