



INTERNATIONAL SCHOOL  
OF ECONOMICS KAZGUU

**Assessment of factors influencing the satisfaction of internet banking customers  
in Kazakhstan**

International School of Economics

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## **Abstract**

Internet banking, as an e-commerce product of banks, has become an important way for major banks to capture the consumer market by combining the characteristics of real financial services and the timeliness of the Internet. As the current trend in progress of banking services shows that the banks should be social and innovative, able to meet the requirements of consumers. As for implementing these features in its activities, the bank needs to determine characteristics that effect on customer satisfaction, be the first on the market and be able to implement innovations qualitatively.

Nowadays customer satisfaction is a key of any organization in a successful long-term relationship with consumers. Customer satisfaction directly depends on the quality of services, how convenient, safe and reliable the services provided are. This research paper mainly focuses on identifying and assessing different factors influencing satisfaction of internet banking customers in Kazakhstan, that would certainly help banks to increase the level of service quality to attract new potential customers and clearly understand expectations of consumers. This paper applied to the SERVQUAL model to analyze customer satisfaction. The main five factors are tangibility, responsiveness, assurance, reliability and empathy. The research methodology primarily focused on gathering data using a questionnaire and applying different hypotheses. We conducted a questionnaire among the clients of Kaspi Bank and came to the result that there is a positive relation between customer satisfaction and specific factors of the SERVQUAL Model.

## **Introduction**

### **(I) Background and significance of the study**

#### **1. Research background**

Today the service industry is increasingly using modern technology and thereby redirecting its work and operations to full automation. Information technology in the banking sector, according to Li et al. (2021), is an outstanding and appropriate instrument for recruiting new bank clients as well as enhancing productivity and efficiency. In most developed countries, electronic banking has become a leader in servicing people, and it never stops developing and being active in its continuous improvement. The main goal is to satisfy the ever-changing needs and lifestyles of modern customers. As Al-Zajali et al. (2015) stated, new innovations and technological advances have enabled banks to develop and expand their customer base and the range of services provided by online banking. Banks and consumers have reaped the benefits of the innovative transformation, which include custom-fit services, purchase security, transaction processing speed, and overall increased service quality (Abdulfattah 2012). According to Saleem, and Rashid (2001), these capabilities are the latest advancement in electronic banking.

Because most banking processes do not require direct human oversight and are reasonably simple to automate, Internet banking and banks without branches appear to be one of the most potential new banking development areas. By allowing clients to execute some procedures independently (for example, make money transfers and get statements), the pressure on bank branches is decreased, allowing for better service or maybe lower costs by decreasing employees. Thus, the advancement of this trend can benefit both parties: ease and remote access for consumers, and cost reductions of various sorts for banks.

The development and modernization of the formation of the credit and financial industry directly depends on IT products. Naturally, now the world does not stand still and everything changes every day. Monetary and financial institutions should invest in the development of technology, otherwise they will simply have to give way to more developed companies or organizations.

To preserve overall competitiveness, banks are creating new models for measuring risk variables and the level of investment attractiveness of projects. To put it another way, banking technologies are a set of procedures that assure the smooth operation of a service that satisfies the demands of customers. Ermakova, Gudkova and Dvoretzkaya (2018) argue that modern information technologies significantly influence business processes in banks, bringing them to a fundamentally new qualitative level.

Scientists from different countries have studied this problem by constructing explanatory models in order to clarify the defining characteristics or expected factors in the adoption of Internet banking. According to Tavasiyev (2017), the most common models are based on the expected benefits of the client, but such an analysis does not always turn out to be valid for different markets. Developing this direction, many scientists add additional criteria that allow separating bank customers, taking into account their attitude to innovations or various services for more accurate forecasting. In addition, Makarov (2014) argues, there are other approaches according to which the influence of factors such as security, loyalty and the influence exerted by related markets is assessed.

In the modern world, almost all aspects of human activity, including doing business, are more or less influenced by developing technologies. One of the most interesting examples of the impact of technology on business methods can be called e-commerce, since it is strikingly different from the usual way of trading. According to Makarov (2014) e-commerce includes online stores, digital distribution, a variety of one-of-a-kind services, as well as Internet

banking, which has proven to be one of the most successful and promising e-commerce applications.

## **2. Research significance**

Despite the potential benefits of innovation, users are not always willing to accept them. Taking into consideration the monetary and time prices of the bank to make and maintain net banking, the matter of indifference or resistance to innovation becomes more significant. Doubts concerning the necessity, profitability, reliability, all of them add up to the ultimate call to refuse or comply with use of the service. As a result, there's a desire to investigate client preferences and aspects that have an influence on customer satisfaction victimization numerous models.

With the development of a service-based economy, the form of competition of traditional banks and their online banks has changed dramatically. New Internet financial service models such as third-party payment, Kaspi Red, Kaspi Gold, Jusan Pay (JPay), BCC Pay, are constantly innovating, and traditional banks and their online banks are facing great challenges in retaining customers and attracting potential consumers. This paper proposes some research solutions on customer satisfaction of online banking and provides some corresponding suggestions for industrial online banking.

## **(II) Research objects and methods**

### **1. Research Subjects**

The subject of this paper is industrial and commercial online banking, which is growing rapidly by virtue of the convenience of the Internet and the advantages of not being limited by time and geography. The emergence of online banking has transformed the

banking industry from a money-centered to a user-centered business, and has removed the limitations of the previous physical banking. In simple terms, Internet banking is an alternative way for consumers to operate physical banking services via the Internet.

Since banks in Kazakhstan have different services and totally different mobile apps, it is not efficient to examine all banks in one survey. The bank of our choice to be used in this research is Kaspi bank. According to Kapital.kz, Kaspi bank is the most popular and rapidly growing bank that has 11 mln. users. In 2021, Kaspi Bank JSC outperformed the rating of the biggest Kazakh banks that have created imaginative administrations and items in the financial area as of late. In November 2014, the Kaspi Store, a web-based aggregator at contrasting costs and purchasing items using a loan, was shut down. That is an ecosystem that connects the government, businesses and citizens of Kazakhstan.

## **2. Research Methodology**

This paper's study topic is industrial and commercial online banking, which incorporates core ideas and data models from marketing, social psychology, finance, and other disciplines, including SERVQUAL Model. The following are the key research approaches that were focused on during the analytical process.

(1) Method of analyzing the literature. This method synthesizes the key topics of this dissertation and constructs a scientific system based on prior research by examining a vast quantity of relevant material collected regarding the study of this issue.

(2) Web survey technique: A web survey method is a way of investigating survey questions over the Internet, which is a means of meeting the features of the Internet in order to acquire information for investigators. The web survey questionnaire approach is used in this work.



## **Literature review**

### **1. Definition of Internet Banking**

Internet banking is a service for providing banking services via the Internet and differs from the traditional method of providing banking services in that the user himself performs all operations using an automated service.

According to Hassan and Farmanesh (2022) online banking is a type of financial service that enables customers to manage their money and open accounts through the Internet. It's commonly used to make payments and transfer funds. Aside from being able to perform various financial transactions, such as transferring money, online banking also allows customers to manage their personal finances.

Due to the increasing number of people using the Internet, banks have started developing online banking platforms that allow their customers to access their financial services without leaving their homes.

### **2. Definition of customer satisfaction**

Customer satisfaction is one of the most important business metrics that affects the development of an enterprise. The value of customer satisfaction is a set of metrics responsible for the expectation and compliance with the expectation from the service or product of the enterprise.

The concept of customer satisfaction was introduced by the American scholar (Cardozo 1965). Howard and Sheth (2004), first defined customer satisfaction in terms of customer comparison and customer evaluation, and the customer's psychological judgment of whether costs and benefits are in balance. Kotler (1995) argued that customer satisfaction is the result of consumers' perceptions of the services or products they buy compared to their expectations. According to Guianluigi Guido (2015), customer satisfaction is the degree of

satisfaction felt by customers after purchasing a product or service, and it is a comprehensive evaluation of the whole process. In a word, customer satisfaction is the feeling and evaluation of the whole process of purchase.

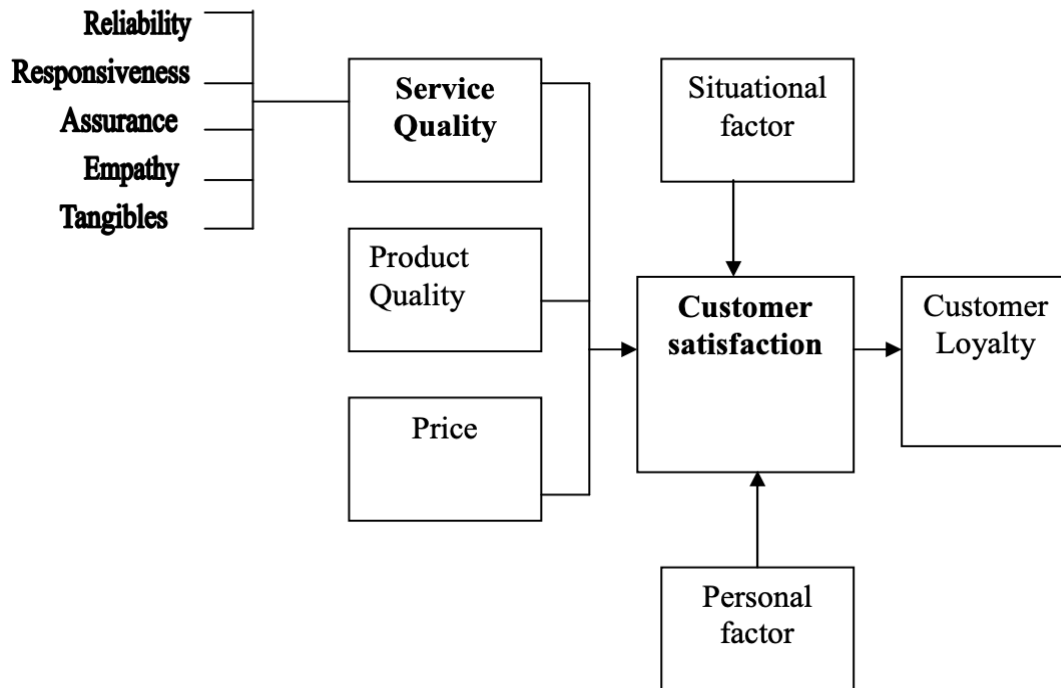
### **3. Customer satisfaction and Service Quality**

It is a well-known fact that customers are stakeholders in the activities of companies and the management of all companies try to make their main focus in developing the satisfaction of their customers. Currently, customer satisfaction is identified in terms of service quality.

First of all, to determine how service quality affects customer satisfaction, you need to compare service performance and customer expectation. According to Agbor (2011), high service quality can be achieved by detecting service problems and developing metrics for service performance and results, as well as customer satisfaction. Furthermore, the gap between what is expected and what is obtained can be utilized to assess service quality.

Customer satisfaction is a consumer's overall post-purchase appraisal, as it occurs after the client has completed all stages of receiving a product or service (Fornell 1992). Customer satisfaction is described as a post-buy and post-consumption cognitive response to a purchasing experience and the product or service (Giese and Cote 2011).

Figure 1: Customer perceptions of quality and customer satisfaction (Agbor, 2011)



In the diagram above, the relationship between customer satisfaction and service quality is depicted. Wilson (2008) defines service quality as a focused evaluation that reflects the customer's perceptions of reliability, assurance, responsiveness, empathy, and tangibility, whereas satisfaction is broader and is influenced not only by perceptions of service quality, product quality, and price, but also by situational and personal factors.

Customer satisfaction increases when perceived service quality is good, according to Parasuraman et al. (1985). Other researchers concurred with Parasuraman et al. (1985), who stated that "consumer contentment is dependent on the level of service quality provided by service providers" (Saravana and Rao 2007). When comparing the perspectives of these studies to figure 1, it is obvious that the definition of customer happiness encompasses both expected and perceived service, as service quality is one of the factors that determines contentment.

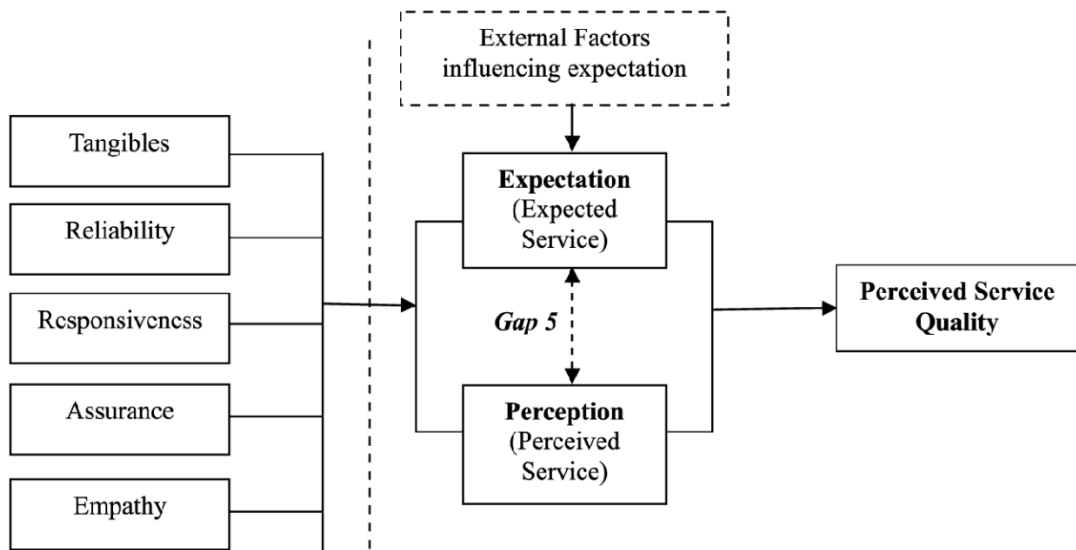
To evaluate the relationship between store experience and respondent satisfaction, Sivadas and Baker-Prewitt (2000) conducted a telephone survey of 542 mall visitors.

Customers' perceptions and happiness with department shops are influenced by the quality of service, according to one of the findings. They observed a relationship between customer satisfaction and service quality. In their study of customer satisfaction and service quality, researchers discovered that the two factors are linked, confirming the definitions of both measures, which have always been linked. Wang & Hing-Po (2002) investigated the relationship between customer satisfaction and service quality in depth, including customer value, in addition to what earlier research had established about consumer pleasure and service quality. The SERVQUAL methodology was used in their study to assess service quality in China's mobile phone market. The study of the dynamic interactions of service quality, customer value, customer satisfaction, and their influences on future behaviors was prioritized when the major determinants of customer value and customer happiness were identified.

#### **4. SERVQUAL Model**

SERVQUAL is a technique for determining the difference between a customer's expectations for a company's service and their perceptions of the service obtained. It asks respondents to answer questions about both service or product expectations as well as post-purchase perceptions (Parasuraman et al. 1988). SERVQUAL focuses on customer satisfaction, but it is not the same as it, because the model relies on subjective perception rather than the actual service and product (Parasuraman et al. 1988). As shown in Figure 2, the gap is the difference between expectations and perceptions, and it is a predictor of consumers' judgments of service quality.

Figure 2. Measuring service quality using SERVQUAL model (Kumar et al, 2009)



The SERVQUAL methodology was designed with service and retail businesses in mind, with the purpose of understanding how customers rate the services they receive (Parasuraman et al. 1988). The SERVQUAL model was used in a study by Kumar et al. (2009) to determine the relative importance of critical components in achieving bank service quality. In this article, the SERVQUAL model was expanded to incorporate six dimensions: tangibility, reliability, responsiveness, assurance, empathy, and convenience. They considered convenience since it is a critical measure of customer satisfaction and influences customers' perceptions of the bank's service quality. On the basis of the statements, the respondents are asked questions about their expectations and experiences. They studied banking consumers regardless of whose bank they used or how they made their transactions, which may be domestic or international. Customers' actual perception and expectation differed significantly across the model's categories, with a minor gap linked with perception and tangibility and the highest disparity with the convenience of the service.

## **Methodology**

The questionnaire is the main source of information collection and was created to study and evaluate the factors affecting the satisfaction of Internet banking customers. In order to explore this topic more deeply and better, it was decided to conduct a survey using Google Forms software. Using a quantitative survey method, more people can be involved and highly advanced analysis can be done. A survey was conducted for male and female bank customers of different age categories and areas of activity in order to get more information about the aspects that influence Kaspi Bank's customer satisfaction.

The questionnaire is mainly focused and designed for Kaspi bank customers, as a great majority of people in Kazakhstan are clients of this bank. The election of respondents was established on non-probability convenience sampling techniques. Total number of respondents is 85 clients of Internet banking services. The survey contains 25 questions that covers five aspects of bank service quality. As to mention over again, those five factors are reliability, tangibility, responsiveness, assurance and empathy. Statistical tools that were used in this analysis were mean and standard deviation with further performance of Z test.

As the most commonly used attitude measurement tool, this paper visualizes the customer's perspective through a Likert scale. The Likert scale only asks the tester to select the options he agrees with, scores are following: 5- highly satisfied, 4 - satisfied, 3 - neutral, 2 - dissatisfied, 1 - highly dissatisfied. The results can be summarized so that the customer's feedback on each evaluation indicator can be obtained, and thus the respondent's attitude toward the evaluation indicator can be known.

## Data collection and analysis

### 1. Issuance and recycling

The questionnaires were mostly filled out using Google forms. A total of 85 questionnaires were collected, and the results will be analyzed and calculated further down the page. The mean and standard deviation of the first combined results of this questionnaire are calculated. Finally, the Z-test is used to analyze the combined results of this questionnaire, and the related hypotheses are tested. Additional calculations are shown below.

### 2. Descriptive information analysis

The responses to the descriptive questions were evaluated in order to figure out who the respondents were in general. As shown in Table 2,

**(1) Gender:** In this survey, 32,9% of respondents were male and 67,1% were female, as shown in Table 2. This survey has more female respondents than male respondents.

**(2) Age:** In accordance with the survey data, the major number of respondent (70,6%) were between the ages of 18 and 29, followed by those between the ages of 30-39. (15,3%). As a result, the poll reveals that the majority of internet banking users are young individuals, with more than half of the respondents being between the ages of 18 and 29.

**(3) Educational level:** predominantly undergraduates (61,2%), master's degree holders (24.7%), and those with a doctorate (24.7%). This is primarily due to rising educational levels and technological advancements, which make consumers more receptive to new and convenient items, resulting in a high proportion of consumption within this group.

**(4) Field of activity:** Information technology (28.6%), finance, accounting, and banks (17.9%), education and science (10.7%), government (7.1%), medicine (2.4%), and others

(33.3%) are the most common areas of activity among our respondents. This predicament has arisen primarily as a result of the advancement of information technology and the development of Industry 4.0.

*Table 1. Basic statistics of users*

Statistical quantities	Options	Frequency	Ratio (%)
Gender	Male	28	32.9
	Female	57	67.1
Age	18-29	60	70.6
	30-39	13	15.3
	40-49	9	10.6
	50 or more	3	3.5
Academic qualifications	College	10	11.8
	Undergraduate	52	61.2
	Master and above	21	24.7
	PHD	2	2.4



### 3. Data analysis methodology

Information from the survey is sorted by Likert scale, which is through exceedingly fulfilled to exceedingly disappointed. Information allotment appears in Table 2.

*Table 2. Different satisfaction levels of specimens*

Satisfaction level	Reliability	Tangibility	Responsiveness	Empathy	Assurance
Highly satisfied	54	50	42	45	56
Satisfied	23	26	25	26	18
Neutral	7	9	16	11	10
Dissatisfied	1	0	2	2	0
Highly dissatisfied	0	0	0	1	1
Specimen size	85	85	85	85	85

Figure 2. Visual representation of data set

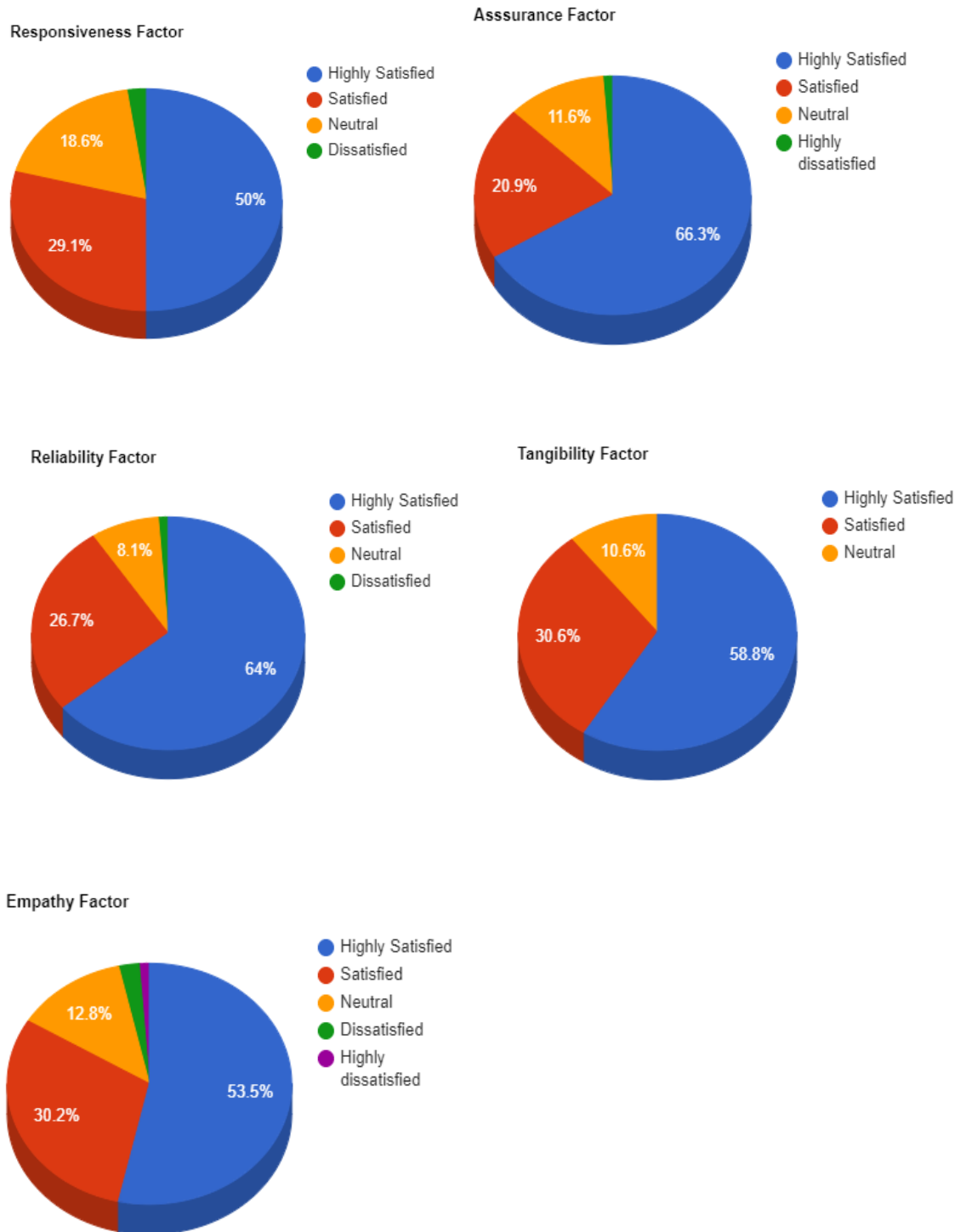


Figure 2 appears the rate of the survey participants' reactions to each calculation. As can be seen from the charts the overwhelming reply is choice “5” on the Likert scale, which suggests that the respondents profoundly concur with the proposed articulation.

*Table 3. Differentiation of mean and standard deviation of specimen*

Factor of satisfaction	Mean value	Standard deviation
Reliability	4,53	0,70
Tangibility	4,48	0,68
Responsiveness	4,26	0,85
Empathy	4,32	0,88
Assurance	4,51	0,80

From Table 3, the average scores for reliability, tangibility, responsiveness, empathy, and safety were determined to be 4.53, 4.48, 4.26, 4.32, and 4.51, respectively. All averages are considered satisfied for the customer. The standard deviations for reliability, tangibility, responsiveness, empathy, and safety of the are 0.70, 0.68, 0.85, 0.88, and 0.80, respectively. This is because the average is affected by the minimum and maximum values. Therefore, these data are not completely reliable. Additional statistical tests are required.

## Statistical test for Kaspi bank

The thesis uses a statistical test that will show the relationship between the level of satisfaction of Internet banking customers and the quality of service of Kaspi Bank. One of the methods of the statistical test is the sampling method, which states that the properties of one unit determine the properties of the whole group. Based on the chosen methodology, we assume that if 90% of the total number of respondents of the questionnaire are satisfied with the Internet banking service quality, then all 100% of respondents are satisfied respectively. This assumption is the null hypothesis. The alternative hypothesis for each factor will be true if the null hypothesis is false. Using the obtained quantitative data, it is necessary to prove whether the proposed hypotheses are true.

### (I) One-Sample Z-test Statistic

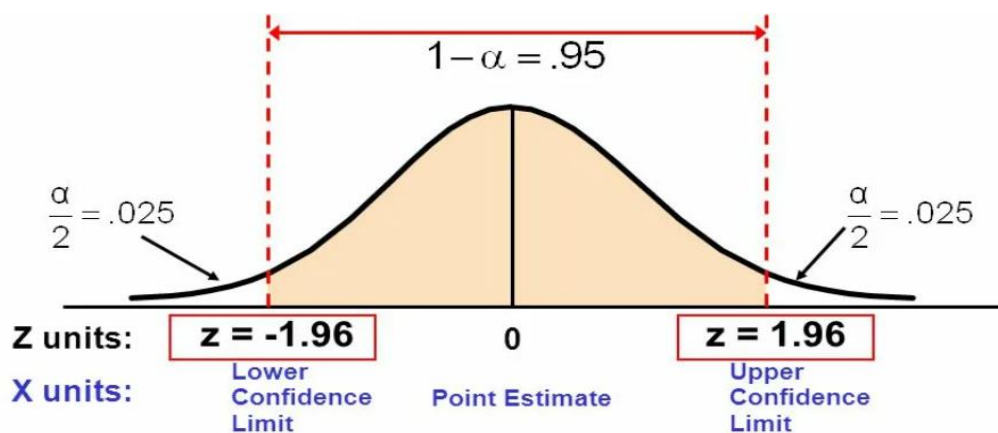


Figure 3.

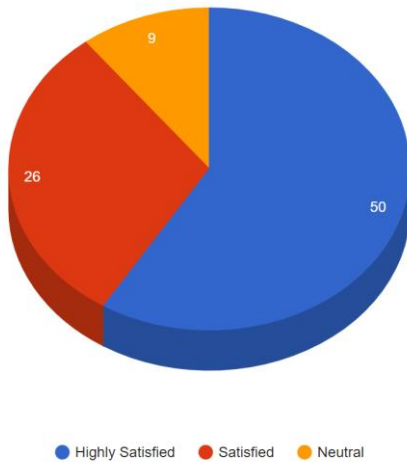
For further calculations one sample Z test statistics is used where there is an area of rejection and an area of acceptance of hypotheses. First of all, it is necessary to determine the null and alternative hypotheses for each factor. Usually, the alternative hypothesis is negative to the null hypothesis and if the null hypothesis is rejected, the alternative hypothesis is accepted. In order to find the area of rejection and acceptance, it is necessary to determine the significance level,  $\alpha = 0.05$  is the most commonly used value in statistics.

Next, we get the value of the lower confidence limit and the upper confidence limit. The area of acceptance of the null hypothesis is the gap between the upper and lower confidence limit, and the area of rejection of the null hypothesis is the zone outside this gap. Having calculated the Z score by the formula for each factor, it is necessary to determine whether it is included in the interval and whether the null hypothesis is true.

The general rule of hypothesis testing is to calculate  $Z_0$  for each factor and identify to reject the null hypothesis if  $-1.96 > Z_0 > 1.96$  or accept the null hypothesis if  $-1.96 < Z_0 < 1.96$ .

## (II) Hypotheses testing

### a) Tangibility Factor



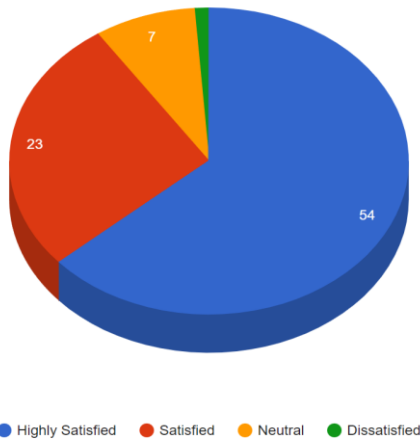
The pie chart shows answers of respondents to the questions regarding tangibility factor, where the Likert scale is used as a measurement tool. As it can be seen from the chart there are no “dissatisfied” answers. We assume that options “5”( highly satisfied), “4”(satisfied), “3”(neutral) belong to the “satisfied” options group. Then the total number of “satisfied” options is 85. Whereas the total number of

“dissatisfied” options is zero.

Null Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of tangibility, then all 100% of respondents are satisfied respectively	$H_0: P=P_0$
Alternative Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of tangibility, then not all 100% of respondents are satisfied respectively	$H_0: P \neq P_0$

Standardized value  $Z_0$  of Tangibility Factor is 0.55 and the area of acceptance of null hypothesis is  $-1.96 < Z_0 < 1.96$ . The null hypothesis is accepted.

b) *Reliability Factor*



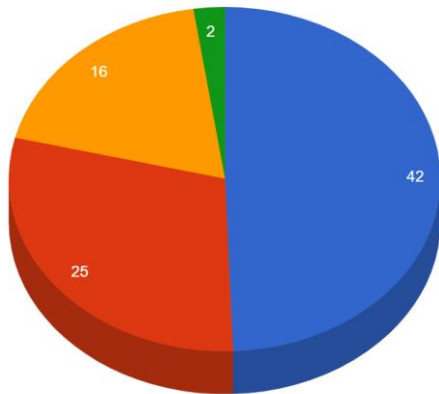
Total number of “satisfied” options - 84.

Total number of “dissatisfied” options - 1.

Null Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of reliability, then all 100% of respondents are satisfied respectively	$H_0: P=P_0$
Alternative Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of reliability, then not all 100% of respondents are satisfied respectively	$H_0: P \neq P_0$

Standardized value  $Z_0$  of Reliability Factor is 0.52 and the area of acceptance of null hypothesis is  $-1.96 < Z_0 < 1.96$ . The null hypothesis is accepted.

c) *Responsiveness Factor*



Total number of “satisfied” options - 83

Total number of “dissatisfied” options - 2

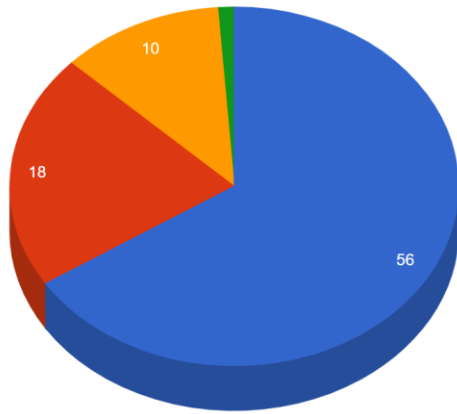
● Highly Satisfied ● Satisfied ● Neutral ● Dissatisfied

Null Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of responsiveness, then all 100% of respondents are satisfied respectively	$H_0: P=P_0$
Alternative Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of responsiveness, then not all 100% of respondents are satisfied respectively	$H_1: P \neq P_0$

Standardized value  $Z_0$  of Responsiveness Factor is 0.59 and the area of acceptance of null hypothesis is  $-1.96 < Z_0 < 1.96$ . The null hypothesis is accepted.



d) Assurance Factor



Total number of “satisfied” options - 84

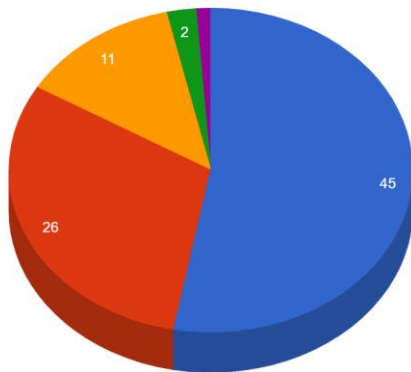
Total number of “dissatisfied” options - 1

● Highly Satisfied ● Satisfied ● Neutral ● Highly Dissatisfied

Null Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of assurance, then all 100% of respondents are satisfied respectively	$H_0: P=P_0$
Alternative Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of assurance, then not all 100% of respondents are satisfied respectively	$H_0: P \neq P_0$

Standardized value  $Z_0$  of Assurance Factor is 0.49 and the area of acceptance of null hypothesis is  $-1.96 < Z_0 < 1.96$ . The null hypothesis is accepted.

e) Empathy Factor



Total number of “satisfied” options - 82

Total number of “dissatisfied” options - 3

● Highly Satisfied ● Satisfied ● Neutral ● Dissatisfied ● Highly Dissatisfied

Null Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of empathy, then all 100% of respondents are satisfied respectively	$H_0: P=P_0$
Alternative Hypothesis	If 90% of the total number of respondents are satisfied with the Internet banking service quality in terms of empathy, then not all 100% of respondents are satisfied respectively	$H_1: P \neq P_0$

Standardized value  $Z_0$  of Empathy Factor is 0.48 and the area of acceptance of null hypothesis is  $-1.96 < Z_0 < 1.96$ . The null hypothesis is accepted.

## **Conclusion**

### **(I) Research findings**

In this paper some conclusions are obtained by analyzing online banking customer satisfaction, mainly including the following points.

First, after analyzing questionnaire results, it was found that the research specimens are mostly in the younger age group, mainly because the mainstream people who use online banking are students and young employers. However, there is a positive tendency of online banking usage in middle aged and elder aged groups of people. It explains the popularity and ease of use of online banking services of Kaspi bank.

Secondly, Customer satisfaction and quality of service are closely interrelated. Based on the conducted questionnaire it can be concluded that a major number of the customers of Kaspi Bank are pleased with the quality of service, namely the interface of application, the security of making online payments, and the convenient usage of the application as a tool for Internet banking services use. It can also be noted that the factors of the SERVQUAL model - tangibility, responsiveness, confidence, reliability and empathy almost equally affect customer satisfaction with Internet banking services. All hypotheses have been confirmed. It is clear that customer requirements are completely met and there is a positive attitude towards the access to the bank, speed and quality of the mobile app, structure of the interface in the app and services that bank provides through the software product.

### **(II) Countermeasure suggestions**

First, the responsiveness of using online banking is one of the important dimensions of the SERVQUAL model. Most of the neutral and satisfied answers from respondents were towards this factor. Respondents in the survey have high expectations about responsiveness

of the bank owing to the fact that online banking is comparingly new rising trend in Kazakhstan. Therefore, Kaspi bank can improve their responsiveness by adding online help assistance in the app.

Second, the suggestion is to continue to increase the promotion efforts for customers with low education level and those who have not opened Kaspi bank to increase the usage rate and market share of Internet Banking. Middle-aged and elderly customers aged 50 and above also have a significant market share, so we should focus on developing this group of people. For products or services, we can design and promote them in a targeted manner.

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