HRMS
Human Resources Management Studies

Human Resources Management Studies 4(1) 2024: 49-59

Human Resource Management Studies

http://jkmsdm.ppj.unp.ac.id/index.php/hrms
ISSN: 2798-4400; e-ISSN: 2798-4419

Analysis of Mobile Banking Service Quality to Improve Customer Satisfaction using the Kano Method based in E-Servqual

Azizah Koto[1],Firman[2]
[1] Department of Management, [2]Faculty of Economics and Business, [3] Padang State University, Indonesia

ARTICLE INFO

Received 13 Fenruary 2024
Accepted 25 february 2024
Published 30 Maret 2024

Keywords:
Service Quality, Mobile Banking, E-Servqual, dan Kano

DOI:10.24036/jkmb.xxxxxxxx

Kata Kunci:
Kualitas Pelayanan, Mobile Banking, E-Servqual, dan Kano

ABSTRACT

The development of increasingly sophisticated banking technology has made the most of growth, therefore the study aims to analyze and identify service attributes in Nagari Mobile Banking, using the E-Servqual dimension and the Kano model is used to determine improvement priorities. Sampling uses non-probability sampling techniques and the method used is purposive sampling, the sample used is 100 respondents who are Nagari Mobile Bankink users. The results of research using E-Servqual show that there are 9 service attributes that have a negative value, so these attributes need to be improved and developed, in order to fulfill customer desires. While the results of the CS-Soefficient calculation show the highest better value of 0.66 with the Efficiency dimension, namely Mobile banking has a high level of data encryption, while the highest worse value of - 0.58 whith the Fulfillment dimension is that mobile banking can be trusted.

ABSTRAK

Perkembangan teknologi yang semakin canggih, maka perbankan telah memanfaatkan pertumbuhan dengan maksimal, oleh Karena itu penelitian bertujuan untuk menganalisis dan mengidentifikasi atribut pelayanan pada Nagari Mobile Banking, dengan menggunakan dimensi E-Servqual dan model Kano digunakan untuk menentukan prioritas perbaikan. Pengambilan sampel menggunaka teknik non probability sampling dan metode yang digunakan yaitu purposive sampling, sampel yang digunakan sebanyak 100 responden pengguna Nagari Mobile Bankink. Hasil penelitian menggunakan E-Servqual nenunjukan terdapat 9 atrbut pelayanan yang bernilai negative, maka atribut tersebut perlu diperbaiki dan dikembangkan, agar dapat memenuhi keinginan pelanggan. Sementara hasil perhitunngan CS-Soefficient menunjukan nilai better tertinggi yaitu 0.66 dengan dimensi Efficiency yaitu Mobile banking memiliki tingkat enskripsi data yang tinggi, Sedangkan nilai worse tertinggi yaitu sebesar -0.58 dengan dimensi Fullfillment yaitu mobile banking dapat dipercaya.

How to cite: Koto Azizah 1., Firman 2. (2024). Analysis of Mobile Manking Service Quality to Improve Customer Satisfaction using the Kano Method based in E-Servqual. *Human Resource Management Studies*, *1* (2), xx-xx. DOI: https://doi. org/10.24036/hrms.xxxxxxxx

* *Corresponding author: e-mail: azizahkotto7@gmail.com*

INTRODUCTION

Technological innovation is experiencing a very rapid development which uses digital technology, with this innovation, the banking industry is facing a revolution in reaching its customers. With the growth in the number of smart phones and current technological advances, banks are taking advantage of these developments, where banks launch information technology-based transaction media, namely Mobile Banking.

Mobile banking is a form of electronic banking where customers can take advantage of banking services such as making transactions, bill payments without having to come to an ATM. With the mobile banking service, it is hoped that it can provide convenience and benefits for customers in accessing the bank without having to come directly to the bank (Kurniawati et al., 2017). Service quality can affect a company when viewed by the public or customers to determine whether or not the company meets the needs of its consumers so that the quality of support needs to be improved in order to meet consumer needs and achieve better service goals for the future. In addition, according to a survey conducted by the Top Brand Award, m-BCA is the most popular mobile banking application in Indonesia in 2022, the research is based on a survey of 8,500 respondents spread across 15 major cities in Indonesia (Annur C.M., 2022).

PT Bank Nagari is a bank owned by the West Sumatra regional government which aims to improve the economy of the people of West Sumatra. PT Bank Nagari does not miss the opportunity to keep up with the development of digital-based technology called Nagari Mobile banking. Therefore, this study aims to identify service attributes in Nagari Mobile Banking using the E-Servqual dimension and determine the priority of improving the quality of Nagari Mobile banking. The quality dimensions used in E-Servqual are Fulfillment, Responsiveness, Compensation, Efficiency, System Availability, Privacy, and Contact. Which is measured by two methods, namely the integration of the E-Servqual concept which is continued with Kano.

LITERATURE REVIEW

Mobile Banking

Mobile banking or called M-banking is a banking facility or service that uses a communication device in the form of a smartphone, by providing facilities for transactions through applications on smartphones (Wulandari et al., 2017). Mobile banking allows customers to obtain information, communicate and conduct banking transactions using the internet network, according to (Istiarni & Hadiprajitno, 2014) mobile banking provides benefits for its customers, namely 1) Practical in transactions, customers can carry out banking activities with just internet capital without having to visit a bank office 2) has no time limit, customers can access accounts 24 hours a day to make transactions, check balances or view account mutations, outside of bank service operating hours. 3) Global coverage, customers can conduct banking transactions from anywhere in the world as long as they have internet access. 4) Extensive service features, the services offered from mobile banking are various for customers. 5) Economical, customers do not need to pay for transport to the bank office 6) Layered protection system, mobile banking has a layered security system and uses tokens and pins.

According to Ranganathan and Ganapathy (2002), banks that provide better quality to their customers will achieve competitive differentiation. Because, the attributes used in intener banking can attract customers with the quality it provides (Liao and Cheung, 2008). According to Josehp and Stone (2003) the availability of banking services and user friendliness will be related to customer satisfaction.

E-Servqual Method

E-Servqual (Electronic Service Quality) is defined as an overall customer assessment evaluation tool regarding excellence and quality in virtual markets (Santos, 2003). Meanwhile, according to Rowley 2006 defines E-Servqual as an action, effort, or performance whose delivery is mediated by information technology. E-Servqual method is carried out to find out the value of the perception gap and customer expectations. If the results show a negative gap then the company is not fully fulfilling the service quality dimensions, on the other hand, if the results show a positive gap then the expectations of the customer are fulfilled.

(Parasuramanl et al., 2005) identified seven dimensions of online service quality as:

1. Efficienlsy, it is the ability of the user to access the website, search for the desired product and information related to the product, and leave the website with minimum effort.
2. Fulfilment, is the accuracy of service delivery, product stock availability and product delivery in accordance with the promised time.

3. Sysytem Availablility, system availablility refers to the technical functionality of the website. In E-S Qual availability makes the customer always access the services offered by the company.
4. Privacy, is a guarantee that the data will not be shared with any other party and that the information is guaranteed to be safe. This dimension is the most important dimension in E-Service.
5. Responsiveness, is the ability of online retailers to provide the right information to customers when problems arise, have mechanisms to handle product returns, and provide online warranties.
6. Compensation, including refunds, delivery charges, and product replacement charges.
7. Contact, is the need for customers to be able to talk to online customer service staff either through chat or over the phone.

METODE KANO

The Kano Method was developed by Prof Noriaki Kano (1979). The kano method is a that aims to categorise the attributes of a product/service based on how well the product/service is able to satisfy customers. Kano et al (1984) proposed a two-way model of quality based on customer perception and experience. The horizontal axis shows the amount of quality and the vertical axis shows the satisfaction (Figure 1).

Figure 1. Kano

The selection of the Kano in research can provide an opportunity to understand the impact of mobile tyres on service delivery and identify behavioural factors to be managed (Aliyu et al., 2013). According to Kano et al (1984) in (Kuo, 2004) quality is divided into several categories as below:

1. Must-be, if this category is not fulfilled, then the consumer will feel dissatisfied, because the fulfilment of this category will not increase the satisfaction of the consumer.
2. One-dimensional, in this category, customer satisfaction is linear with attribute performance, which means that the higher the attribute performance, the higher the customer satisfaction.
3. Attractive, in this category is the one that has the most significant influence on the breadth of customers, then the fulfilment of this category will result in a very high increase in customer satisfaction, but will not result in a decrease in customer satisfaction.
4. Indifferent, which means that this category does not have an impact on the extent of consumption.
5. Reversed, which means that the degree of satisfaction with the service is higher if the service is provided not as expected, when compared with the satisfaction with the service that is provided well.

The steps to classify attributes based on the kano method are as follows:

1. Answer the functional and dysfunctional questions in the kano evaluation table in table 1.

Table 1. Kano Evaluation

Customer Needs		Dysfunctional Question				
		Like	Must be	Neutral	Live with	Dislike
Functional	Like	Q	A	A	A	O
	Must be	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

2. Count the number of categories in each attribute. According to Matzer (1996) in (Yanti & Murni, 2019) to classify attributes using bllauth's formula (Walden, 1993)
   - If the sum of (*One Dimensional + Attractive + Must Be*) > sum of values(*Indeferent + Reverse + Questionable*) then the maximum grade is (*One Dimensional, Attractive, Must Be*).
   - If the sum of the score (*One Dimenstional + Attractive + Must Be*) < the sum of the score (*Indifferent + Reverse + Questionable*) then the maximum selection grade is (*Indifferent, Reverse, Questionable)*.
   - If the sum of the values (*One Dimenstional + Attractive + Must Be*) = the sum of the value (*Indifferent + Reverse + Questionable*) the the grade is obtained the most maximum among all the categories of Kano.
3. Calculating the Customer Satisfaction Coefficient (CSC) by assessing if better than (IBT), i.e. if the result exceeds 1, then the presence of product/service characteristics has an increasingly significant impact on consumer satisfaction.

$$\mathrm{IBT} = \frac{\mathrm{A} + \mathrm{O}}{\mathrm{A} + \mathrm{O} + \mathrm{M} + \mathrm{I}}$$

4. Assessing if worse than (IWT) i.e. the effect of the absence of a product characteristic on consumer dissatisfaction is more significant if it exceeds the value of -1 by the formula:

$$\mathrm{IWT} = -\frac{\mathrm{M} + \mathrm{O}}{\mathrm{A} + \mathrm{O} + \mathrm{M} + \mathrm{I}}$$

METHOD

Sampling in this study used a non-probability sampling technique, using a purposive sampling model with a sample size of 100 respondents. The data used in the research is data collected from the results of the questionnaire to customers who use Nagari Mobile banking, with ages 17-55 years, with backgrounds, students, employees, self-employed, labourers, and unemployed. Data collection was conducted through a questionnaire referenced from a study (Safi'i, 2018) which presents two types of queries, namely referring to the E-Selrvqual model which is based on 7 dimensions of service attributes, namely fulfilment, responsiveness, compensation, efficiency, system availability, privacy, and contact. Next, data collection was carried out using the Kanlo model questionnaire, in which this model was used to identify the extent of pellanlgganisation through two types of questionnaires, namely functional and dysfunctional questions. The second questionnaire uses a Likert scale, then the questionnaire is addressed to customers who use Nagari Mobile Banking.

RESULT AND DISCUSSION

E-Servqual Result

The results of the gap analysis were calculated as the difference between the average values of absorption and elicitation as a whole. Tablell 2. The following is a deltail of the gap values for each service attribute.

Table 2. Nagari Mobile Banking Service Gap Score

Dimensions	No	Statement	Performance	Hope	Gap
fulfillment	1	Mobile Banking services have an attractive appearanceand are easy to understand	3.80	4.29	-0.49
	2	Mobile Banking service has a service procedurewhich is eas	4.06	4.23	-0.17
	3	Mobile Banking service has system disruption information	4.02	4.08	-0.06
	4	Mobile Banking services are trustworthy	3.96	3.84	0.12
	5	Mobile banking services have proof of transactions	4.07	4.17	-0.10
Responsiveness	6	Mobile banking services have service informationlatest mutation	3.99	4.12	-0.13
	7	Customers can use mobile banking witheasy	4.22	4.16	0.06
Compensation	8	Mobile banking services have transaction procedures that can reduce information input errors	4.14	4.06	0.08
	9	Mobile banking service provides status notification fast transaction	4.24	4.22	0.02
	10	Mobile banking services have information product offerings	4.32	4.08	0.24
Efficiency	11	mobile banking has a reactivation service apps on the fly	4.26	4.22	0.04
	12	Mobile banking has transaction verification that practical	4.41	4.11	0.30
	13	Mobile banking has an identity verification service interbank account hilders with ease	4.07	4.31	-0.24
	14	Mobile banking has a bill payment feature (credit card. electricity/PLN, water/PDAM, BPJS, Tax etc)	4.72	4.18	0.54
	15	Mobile banking features payment of necessities daily (credit and data, phone voucers, voucer Telepon, etc)	4.34	4.28	0.06
	16	Mobile banking has investment features in application	4.17	4.22	-0.05
	17	Mobile banking has a cash withdrawal feature via ATM	4.48	4.03	0.45
	18	Mobile banking has a high level of data encryption high	4.20	4.16	0.04
System Vailabilit y	19	Mobile banking has a system that can work well for 24 hours	4.04	4.15	-0.11
	20	Mobile banking has a guaranteed transaction data safe	4.12	4.30	-0.18
Privacy	21	Mobile banking has a login id before using transaction	4.45	4.23	0.22
	22	Mobile banking has information if there is a disruption intruders from other parties	4.13	4.09	0.04

Dimensions	No	Statement	Performance	Hope	Gap
Contact	23	Mobile banking features chat or messaging services	4.25	4.01	0.24
	24	Mobile banking features a telephone service for talk to customer service	4.12	4.04	0.08

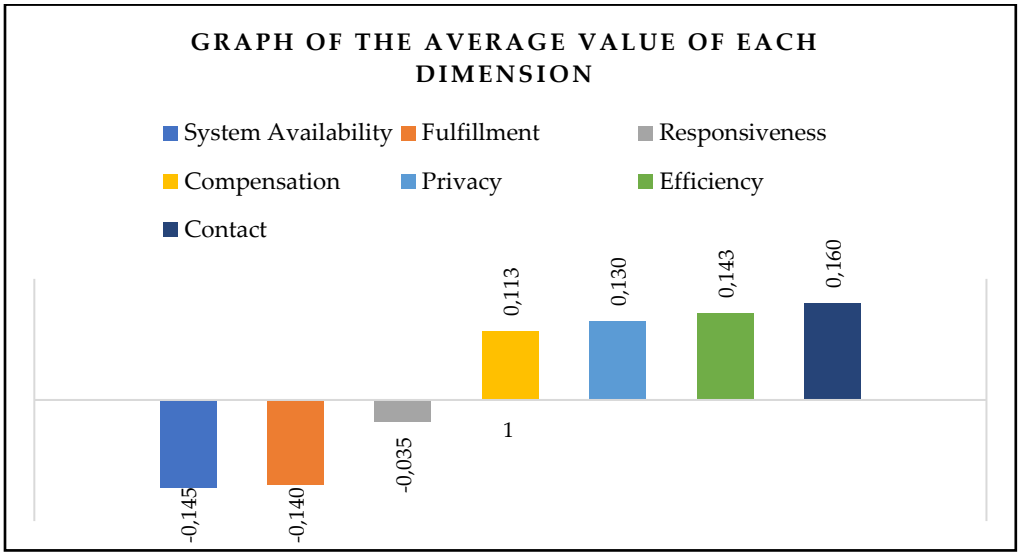

Figure 2. Graph of the Average Value of Each Dimension

with the results of the gap analysis in this research, then the service attributes that need to be improved by PT. Bank Nagari are service attributes that have a low gap (negative gap). It is known from 24 service attributes that get 9 negative gap values, namely displays that are attractive and easy to understand with a gap scorel (- 0.49), Verification of the identity of interbank account holders with easy gap scorel (- 0.24). Secure transaction data assurance gap scorel, Easy service procedure gap scorel (- 0.17), Latest mutation service information gap scorel (- 0.13), System that can work well for 24 hours gap scorel (- 0.11). Gap Scorel transaction proof (- 0.10), Gap Scorel system usage information (- 0.06), Have investment feature in gap scorel application (- 0.05). The negative results indicate that service users' expectations have not been met. This shows that nagari mobile banking has not fully met user expectations, especially in attributes with negative values.

E-Servqual Result

Based on the data collection in the Kano model, which is carried out by questionnaires in which each attribute is measured using two categories, namely the category if the service is provided (functional) and the category if the service is not provided (dysfunctional). Table 4 is the result of the tableau categories. After categorising the canonical categories, the Customer satisfaction coefficient (CSC) was calculated to determine the effect of the presence or absence of the attributes of the mobile service on the satisfaction of the customers. From the CSC results, the highest blelttelr value is 0. 66 is in the Efficiency dimension, namely Mobile banking has a high level of data encryption, which indicates that the breadth of customers will increase on the mobile service because it shows a high better value compared to other service attributes. While the highest carousel value of -0.58 is that mobile banking can be trusted, this indicates that customer satisfaction will decrease with mobile banking services that can be trusted.

Table 3. Result Kano Category

Dimension	No	Kano Category						Total	Kano Category	CSC	
		Q	R	I	A	O	M			Better	Worse
fulfillment	1	0	1	36	28	22	13	100	A	0.51	- 0.35
	2	0	1	36	32	24	7	100	A	0.57	- 0.31
	3	0	1	36	16	27	20	100	O	0.43	- 0.47
	4	0	0	32	10	41	17	100	O	0.51	- 0.58
	5	1	1	32	21	30	15	100	O	0.52	- 0.46
Responsiveness	6	2	0	40	18	17	23	100	M	0.36	- 0.41
	7	0	0	35	30	22	13	100	A	0.52	- 0.35
Compensation	8	0	1	35	16	22	26	100	M	0.38	- 0.48
	9	2	1	33	32	19	13	100	A	0.53	- 0.33
	10	2	1	26	30	26	15	100	A	0.58	- 0.42
Efficiency	11	1	1	33	23	21	21	100	A	0.45	- 0.43
	12	0	0	44	28	10	18	100	A	0.38	- 0.28
	13	3	1	30	14	31	21	100	O	0.47	- 0.54
	14	1	0	38	27	17	17	100	A	0.44	- 0.34
	15	2	2	37	17	20	22	100	M	0.39	- 0.44
	16	1	0	38	20	22	19	100	O	0.42	- 0.41
	17	1	2	33	16	29	19	100	O	0.46	- 0.49
	18	1	0	21	36	29	13	100	A	0.66	- 0.42
System Vailability	19	1	2	34	18	27	18	100	O	0.46	- 0.46
	20	1	0	30	21	24	24	100	O	0.45	- 0.48
Privacy	21	1	1	21	31	27	19	100	A	0.59	- 0.47
	22	1	0	32	21	26	20	100	O	0.47	- 0.46
Contact	23	2	0	46	24	12	16	100	A	0.37	- 0.29
	24	2	1	45	20	13	19	100	A	0.34	- 0.33

The results of the Kano categorisation are 12 attributes in the attractive category, which means that the service performance will increase the value of customer satisfaction, otherwise if the service performance decreases, it will not decrease the value of customer satisfaction. For the One dimensional category, there are 9 attributes, in which if the company does the right repair, the more the breadth of the company will be achieved. And the results obtained atriblut with the Must-blel category as many as 3 categories which indicate that these attributes must always be present in the services provided by nagari mobile banking.

CONCLUSSION

Based on the results of the research, the average of each dimension of the gap analysis between the expectations and the perceived perceptions of the respondents towards the Nagari Mobile Banking service attributes identified, there are 24 service attributes which are grouped into 7 dimensions of service quality attributes, namely, System Availablility dimension with average gap (-0. 145), Fulfillment dimension with an average gap score (-0.14), Responsiveness dimension with an average gap score (-0.035), Compensation

dimension with a gap score (0.113), Privacy dimension with a gap score (0.13), Efficeency dimension with an average gap score (0.143) and Contact dimension with an average gap score (0.16).

From the results of the gap analysis, the service attributes that need to be improved are the performance attributes that have a gap that has a negative value in order from the highest, namely, (1) Display that is attractive and easy to understand with a gap scorel (- 0. 49), (2) Verification of account holder's identity between banks is easy gap score (- 0.24). (3) Secure transaction data gap score (- 0.18), (4) Easy service procedure gap score (- 0.17), (5) Latest mutation service information gap score (- 0.13), (6) System that can work well for 24 hours gap score (- 0.11). (7) Transaction proof gap score (- 0.10), (8) System fault information with gap score (- 0.06), (9) Having investment feature in the application gap score (- 0.05).

From the results of data processing using the kano model, 12 attributes are obtained in the attractive category, 9 attributes enter One dimensional, 3 attributes enter the Must be category. Attributes with category A need to get attention by PT Bank Nagari, then with category O, because the category is linear, the user will not be satisfied if the attribute is not fulfilled, but the user will feel satisfied if the attribute is fulfilled. And M attributes must be maintained to the level that the customer requires.

REFERENCES

Aliyu, A. A., Lame, S. M., & Gafar, M. (2013). *Application of Kano's Model Approach in Mobile Banking and Customer Service*. *9*(8), 4527-4534.

Annur, C. M. (2022, June 22). *Top Brand Award*. Retrieved from databoks.katadata.co.id: https://www.topbrand-award.com/top-brand-index/& https://www.topbrandaward.com/metodologi-survei/ (June 20, 2023)

Cohen, Lou. (1995). *Quality function deployment, how to make QFD work for you*. Addison-Wesley Publishing Company, New York.

Dharmawan, A., & Wurjaningrum, F. (2016). Service Quality Improvement Design with Servqual Method, Importance Performance Analysis, and Quality Function Deployment at Plasa Telkom Dinoyo Surabaya Branch. *Journal of Theory and Applied Management*, *7*(3), 207-224.

Istiarni, P. R. D., & Hadiprajitno, P. B. (2014). Analysis of the Effect of Perceived Benefits, Ease of Use and Credibility on Interest in Internet Banking Repeat Use with Attitude of Use as an Intervening Variable (Empirical Study: Internet Banking Service Customers in Indonesia). *Diponegoro Journal of Accounting*, *3*(2), 1-10. http://ejournal-s1.undip.ac.id/index.php/accounting

Joseph, M. and Stone, G. (2003), "An empirical evaluation of US bank customer perceptions of theimpact of technology on service delivery in the banking sector", International Journal of Retail and Distribution Management, Vol. 31 No. 4, pp. 190-202.

Kano, N. (1979) On M-H property of quality. Nippon QC Gakka, 9th Annual Presentation Meeting, Japan,pp. 21-26

Kano, N., Seraku, N., Takahashi, F. & Tsuji, S. (1984) Attractive quality and must-be quality, *Journal of Japanese Society for Quality Control*, 14, pp. 39-48.

Kuo, Y. F. (2004). Integrating Kano's model into web-community service quality. *Total Quality Management and Business Excellence*, *15*(7), 925-939. https://doi.org/10.1080/14783360410001681854

Kurniawati, H. A., Arif, A., & Winarno, W. A. (2017). Analysis of Interest in Using Mobile Banking with a Modified Technology Acceptance Model (TAM) Approach. *E-Journal of Business Economics and Accounting*, *4*(1), 24. https://doi.org/10.19184/ejeba.v4i1.4563

Liao, Z. and Cheung, M.T. (2008), "Measuring consumer satisfaction in internet banking: a core framework", Communications of the ACM, Vol. 51 No. 4, pp. 47-51.

Matzler, K., Bailom, F., Hinterhuber, H.H., Sauerwein, E. (1996). *The kano model: How to delight your customers*. Proceedings of Austria: International Working Seminar on Production Economics. Vol. I. 313- 327.

P. S. Levy and S. Lemeshow, *Sampling of populations: methods and applications*. John Wiley & Sons,2013

Parasuraman, A. and Zinkhan, G.M. (2002), "Marketing to and serving customers through the Internet: an overview and research agenda", Journal of the Academy of Marketing Science, Vol.30 No. 4,pp. 286-295.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, *7*(3), 213-233.

Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and itsimplications for future research", Journal of Marketing, Vol. 49 No. 4, pp. 41-50.

Ranganathan, C. and Ganapathy, S. (2002), "Key dimensions of business-to-consumer web sites", Information and Management, Vol. 39 No. 6, pp. 457-465.

Safi'i, I. (2018). Klasifikasi Atribut Pelayanan Mobile Banking dengan Kano Model Berdasarkan Dimensi E-Servqual. *Jurnal Sistem Dan Manajemen Industri*, *2*(2), 77. https://doi.org/10.30656/jsmi.v2i2.696

Walden, D. (1993). Kano Introduction. *Cent. Qual. Manag J*, Vol. 2, No. 4, pp. 3-7.

Wijaya, T. (2011). *Servqual, QFD, and Kano Design Service Quality Management with Application Examples in Research Cases.* Kembangan-West Jakarata: PT INDEX.

Wulandari, N. P., Novandriani, N., & Moeliono, K. (2017). Analysis of Factors that influence trust in the Use of Mobile Banking Services in Bandung. *Business and Science and Technology*, *Vol.10* (2), p.139-149.

Yanti, F., & Murni, T. (2019). Integration of Servqual and Kano Models into Qfd on Measuring the Quality of Postal Package Services at Pt. Pos Indonesia Bengkulu Branch. *Scientific Journal of Business Economics*, *24*(3), 262-.273. https://doi.org/10.35760/eb 2019.v24i3.2277