ANALYSIS OF DIGITAL WALLET SERVICE QUALITY DURING THE COVID-19 PANDEMIC TO MEASURE CUSTOMER SATISFACTION USING THE KANO MODEL (CASE STUDY ON GOPAY AND DANA DIGITAL WALLETS)

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ABSTRACT

Since the COVID-19 pandemic broke out in Indonesia in early March 2020, the Indonesian government has made efforts to limit the social activities of the community to break the chain of the spread of COVID-19. With this restriction, there has been a change in transaction behavior in the community to digital payments.

The number of financial technology innovations during the pandemic is also increasingly attracting public interest. The type of financial technology that is often used is a digital wallet. The object of this research is GoPay and DANA because they have the most users and dominate the digital wallet market in Indonesia. The service quality factor has a high impact on customer perception to value digital wallets. Digital wallet companies must understand the wants and needs of their customers, and pay attention to customer satisfaction because it is very important to develop products.

The research objectives are to describe the quality of GoPay and DANA services from customer perceptions, to find out the description of GoPay and DANA customer satisfaction, and to determine the effect of digital wallet service quality on customer satisfaction during the COVID-19 pandemic using the Kano Model method, then described through customer satisfaction mapping.

Based on the research results, GoPay and DANA features are divided into "indifference", "must be" and "one-dimensional" categories. Features that are in the "indifference" quadrant mean that they cannot meet customer expectations. GoPay and DANA must improve features that have low customer satisfaction coefficient values, and need to maintain features that have high customer satisfaction coefficient values, then later feature improvements can be made to achieve a higher level of customer satisfaction.

The results of this study can be used as an overview, input, and additional information related to customer satisfaction. GoPay and DANA can identify customer wants and needs and can make decisions to improve, develop, improve and enhance their service features.

Keywords: Digital Wallet, the Kano Model, Pandemic COVID-19

1.0 INTRODUCTION

The COVID-19 pandemic began to spread in Indonesia in early March 2020. The Indonesian government implemented Large-Scale Social Restrictions (PSBB) to break the chain of transmission of COVID-19 (Nurhanisah, 2020). In addition, the Head of the Payment System Policy Department of Bank Indonesia (BI), FilianingsihHendarta, explained, with the rise of regional restrictions and activity restrictions in order to prevent the spread of the COVID-19 virus, there has been a change in transaction behavior in society, the majority of people have switched to payment. digital (Hidayat, 2020). Executive Director Head of the Bank Indonesia (BI) Communication Department, Erwin Haryono, said it was the COVID-19 pandemic that accelerated the development of digital transformation in Indonesia. According to him, the coronavirus makes people avoid physical contact, so people carry out various activities through digital platforms (Iskandar, 2021).

The many innovations developed by financial technology during the pandemic have also increasingly attracted public interest in digital transactions (Hidayah&Alvionita, 2020). The phenomenon of shifting people's behavior is also supported by increasingly intense online shopping (Samora, 2020). Based on a MarkPlus Inc. survey, during the COVID-19 pandemic, digital wallets were the people's top choice for online transactions, with a percentage of 44% (Santia, 2020).

DS Research survey data in 2020, shows that GoPay is the digital wallet with the highest presentation in terms of awareness and used platforms. Then from the top-of-mind perspective, the highest presentation was won by DANA (Rahardyan, 2020). The Kadence International Indonesia survey revealed the five most popular digital wallets in Indonesia in 2021, namely OVO, GoPay, ShopeePay, DANA, and LinkAja. Based on brand awareness, only OVO, GoPay and DANA can touch the hearts of more than 90% of respondents. However, from active users, OVO, GoPay, and ShopeePay are used by more than half of the total respondents (Rahardyan, 2021).

Based on the survey and the facts on the number of digital wallet users mentioned earlier, the authors conducted a pilot study in February 2022 with 30 respondents, predominantly female (66.7%), aged 21-25 years (73.3%), domicile on Java Island (86.7%) and a student (70%). The results of the pilot study show that respondents use digital wallets to order food, shop online, send money and pay bills, with a dominant frequency of 6-10 times and 21-25 times a month. GoPay is the first most frequently used digital wallet (56.7%), followed by DANA (43.4%), ShopeePay (40%), OVO (33.3%) and LinkAja (10%). Based on surveys, facts and a pilot study, the authors chose GoPay and DANA digital wallets as research objects, because these two digital wallets dominantly have the most users and are used most often.

Based on research by Shamsher Singh and Ravish Rana, customer perception has a significant influence on the use of digital payments. The main factor in using a digital wallet as a digital payment method is based on platform services, such as the convenience of buying products online, convenience, security, trust, affordability, cashback, and no transaction fees (Singh & Rana, 2017). The ease of use factor is a key component in designing digital payment systems and developing online applications. Users experience the ease of use and benefit from the convenience and are satisfied with digital payments because performance

expectations are met. Users feel that digital payments are simple, easy to use, and faster (Kladkleeb&Vongurai, 2019). Privacy and security are prerequisite dimensions that must be emphasized by digital wallet providers to create a positive impression on the customer side. Without proper privacy and security protections, customers will think twice about using digital wallets (Haque et al., 2020).

In order to meet customer satisfaction, companies must know the shifting needs and desires of customers who often change. Customers will move after forming a perception of the value of the offer. Customer satisfaction depends on the performance of the offer compared to expectations (Daga, 2017). To improve service quality and not lose out in competition between digital wallets, digital wallet companies must understand the needs of their customers to get their satisfaction (Budiarani et al., 2021).

This study uses the Kano Model to identify the needs, levels of customer satisfaction, and dissatisfaction with the quality of GoPay and DANA services. The Kano model was chosen because it can measure customer satisfaction based on their wants and needs by assessing and analyzing the quality of service features. The purpose of the research is to describe the quality of GoPay and DANA services from customer perceptions, to know the description of GoPay and DANA customer satisfaction, and to find out the service features that need to be improved and enhanced by GoPay and DANA digital wallets during COVID-19.

Research (Budiarani et al., 2021) entitled "THE KANO MODEL: HOW THE PANDEMIC INFLUENCES CUSTOMER SATISFACTION WITH DIGITAL WALLET SERVICES IN INDONESIA" is similar to this research, because this research aims to measure customer satisfaction with digital wallets connected to e-commerce using the Kano Model. In contrast to previous research, in this study, the authors are oriented toward the service of all digital wallets in Indonesia.

2.0 LITERATURE REVIEW

2.1 Service Quality

Quality is the totality of product features and characteristics capable of meeting customer requirements, either implied or implied. Companies that prioritize the quality of their products or services are companies that can meet and exceed customer expectations. Product quality, customer satisfaction, and company profitability are closely related matters. Higher levels of quality result in higher levels of customer satisfaction, as well as higher revenues. When companies provide high-quality services, they can provide greater value and establish closer relationships with their customers (Kotler & Keller, 2016).

In marketing, service quality plays an important role in determining market share. If a company provides services that do not match customer needs, it can have an impact on high costs without an appropriate increase in customer value (Hawkins &Mothersbaugh, 2010). Delivering quality to customers is the goal of every successful service provider company. Customer satisfaction is one indicator to assess whether the company is successful or not. Developing an effective marketing strategy is something that needs to be done by marketers to maximize the possibility of customer satisfaction. Customers will later choose this service and become loyal customers (Solomon et al., 2018).

2.2 Customer Satisfaction

According to Kotler and Keller (2016) customer satisfaction will also depend on the product and service quality of a brand. The opinion of customers about items or indexes to measure their satisfaction depends on how they assess the trade-off between simplicity and complexity of product quality. Satisfaction reflects a person's assessment of perceived product performance with their expectations. If the performance falls short of expectations, the customer is disappointed, if the performance matches expectations, the customer is satisfied and if the performance exceeds expectations, the customer is happy.

Hawkins and Mothersbaugh (2010) said that the result of the buying process is the final level of customer satisfaction. At this stage, the company can see customers who are loyal and committed to its brand and customers who are not. The impact of this customer satisfaction and dissatisfaction is that customers are willing to repurchase, or customers switch to other brands and also customers stop using the product in question. Information that comes from customers after a purchase is one form of their satisfaction with the product they just purchased. This also plays a vital role for marketers to make efforts to increase marketing and future sales and to build customer trust in choosing their brand.

2. The Kano Model

The Kano model is a method for exploring the effect of the quality attributes of a product or service on customer satisfaction so that later an effort can be made to increase customer satisfaction (Lin et al., 2017). The Kano model is an appropriate method for industry and academia to analyze product quality attributes based on their level of importance in order to increase customer satisfaction and make better decisions to compete in the market. Products are evaluated by customers through quality as represented by functional features or attributes. Customers expect their satisfaction to be met with product quality attributes so this can influence their reaction and attitude toward their satisfaction (Akmal et al., 2020). Customer satisfaction tests need to be carried out to obtain complete information regarding customer preferences for an application service so that they will be more interested and more comfortable using the application service (Putra &Priyanto, 2021).

The Kano model was developed by Prof. Noriaki Kano in 1984 which classifies the quality attributes of a product or service into five categories, namely the categories of must-be quality, one-dimensional quality, attractive quality, indifference quality, and reverse quality. Must-be quality is an important attribute category of a product. If these attributes are not present, the customer will be dissatisfied, which will eventually lead to the rejection of the offer. Then one-dimensional quality is an attribute category that is responsible for a lot of satisfaction because of its availability and creates a lot of dissatisfaction because it doesn't exist or isn't fulfilled by marketers (Dash, 2021).

Attractive quality is an attribute category that generally pleases customers. The availability of this attribute creates a lot of satisfaction but the unavailability of this attribute does not create customer dissatisfaction. These are attributes used to differentiate products from competitors and create a competitive advantage for marketers. Then in indifferent quality, the availability or unavailability of this attribute will not have an impact on customer satisfaction and dissatisfaction. Customers are indifferent to this attribute and marketers should avoid this

attribute. And reverse quality, namely the category of attributes that the lower the fulfillment of these attributes, the higher the satisfaction and vice versa (Dash, 2021). These explanations are seen in Figure 2.1 below.

Figure 2.1 Category Product Quality Attributes in The Kano Model
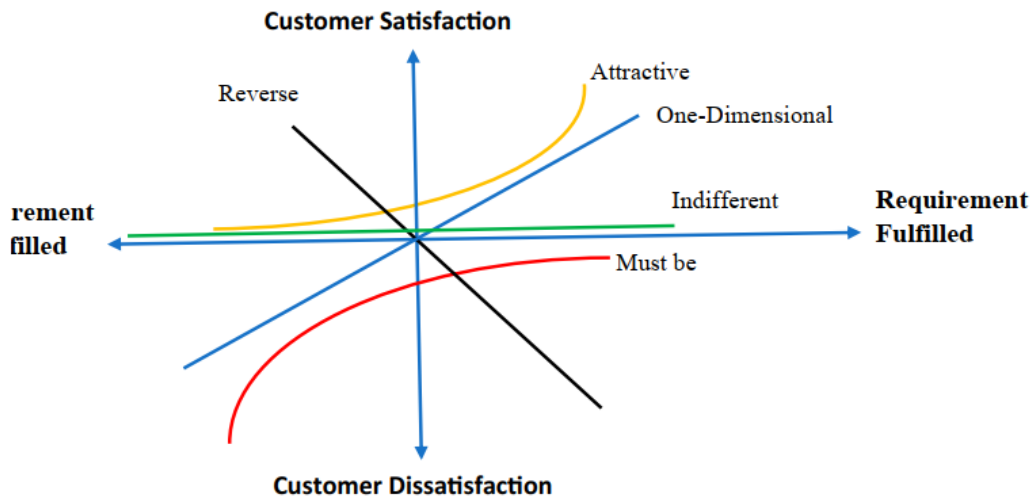
3.0 METHOD AND RESULT

3.1 Operational Variable

Variable refers to the characteristics of a thing, which vary, then are observed and measured (J. Creswell, 2014). In this study, the variable used is digital wallet service quality, with six sub-variables, namely ease of use, aesthetics, connectedness, perceived control, perceived risk, and trust. These variables were adapted from research (Budiarani et al., 2021).

Variable measurement is done by reducing abstract concepts into characteristics that can be observed and measured in a real way, this is called operationalizing the variable concept. Operationalization is done by looking at the dimensions of behavior or traits symbolized by the concept, then observing and measuring, so as to develop a concept measurement index. The first step to operationalize the variable is to define the construct to be measured. Then, it is necessary to present the contents of the measure, in the form of a question instrument that actually measures the related concept. Next, provide a response format in the form of a rating scale. And finally, conducting validity and reliability tests (Sekaran&Bougie, 2016). The operationalization of this research variable can be seen in Table 3.1

Table 3.1Operational Variable

Variable	Sub Variable	Operational Definition (Indicator)	Item Number	Scale
	Ease of Use	Navigation	EOU1	Ordinal
		Flexibility (all features)	EOU2	Ordinal
		Flexibility of Digital Wallet	EOU3	Ordinal
		Display Quality	A1	Ordinal

Digital Wallet Service Quality	**Aesthetics**	**Display Representation Toward Brand**	A2	Ordinal
		Display Importance	A3	Ordinal
	Connectedness	Connection with The Other Users	C1	Ordinal
		Product Recommendation Features	C2	Ordinal
		Review Features	C3	Ordinal
	Perceived Control	Control Over The Use of Personal Information	PC1	Ordinal
		Information Features	PC2	Ordinal
		Control Over Information Features	PC3	Ordinal
		Control Over Online Shopping Transaction	PC4	Ordinal
	Perceived Risk	User Trusts to Overall Features	PR1	Ordinal
		Personal Information Safety	PR2	Ordinal
		Transaction Safety	PR3	Ordinal
		User Trust Toward Transaction	PR4	Ordinal
	Trust	Transaction Trust	T1	Ordinal
		Digital Wallet Reliability	T2	Ordinal

3.2 Research Stages

In this research, the first step is to identify the research problem. The phenomenon that is the background of this research is the occurrence of the COVID-19 pandemic in Indonesia, then there is a change in transaction behavior in society who have switched to digital payments. Digital wallets are people's main choice for online transactions during the COVID-19 pandemic based on a MarkPlus Inc. survey. Digital wallet companies must know and understand the needs and wants of their customers, so they continue to use these digital wallets. In addition, with increasing competition between digital wallets, digital wallet companies must ensure that their customers are satisfied with the services offered.

After identifying the research problem, the next step is to determine the research objectives. The research objective was determined to answer the formulation of the research problem, namely to describe the quality of GoPay and DANA digital wallet services from customer perceptions, then to find out the description of customer satisfaction when using GoPay and DANA digital wallets and to find out the service features that need to be improved and enhanced by digital wallets. GoPay and DANA during the COVID-19 pandemic.

The next stage of research is the presentation of research theories cited in journals and books from various experts. The theory used is a theory that is related and related to this research. After the presentation of the research theory, the next stage is the formulation of the research hypothesis. The research hypothesis is a conjecture or temporary answer to the formulation of the research problem that must be tested for truth. Then next the data collection stage, this research is a quantitative study using the online self-administered survey questionnaire method via Google Forms as the primary data source whose questionnaire questions were adapted from research (Budiarani et al., 2021). At this stage, before distributing the questionnaires, validity and reliability tests must be carried out to find out whether the questionnaire items are valid or not. Then for secondary data, data comes from journals, books and online articles that the authors use as complementary information.

3.3 Population and Sample

This research uses purposive sampling method from non-probability sampling technique. Porpovsive sampling is referred to as a sampling method with certain criteria that can meet the research sample criteria (Cooper & Schindler, 2013). This study uses a non-probability sampling technique with a purposive sampling method, namely because the sample is considered sufficient to represent the population to be studied, with the sample criteria in the study, namely customers who have used at least one of the GoPay and DANA digital wallets or both and GoPay and DANA customers who have conduct online transactions through the digital wallet during the COVID-19 pandemic, starting from the beginning of March 2020, until the research was conducted, namely January 2022. Because the number of research population cannot be known with certainty, namely GoPay and DANA digital wallet customers in Indonesia, it is necessary to determine sample size, namely by using the Bernoulli formula as follows:

$$n = \frac{\left(Z\frac{\alpha}{2}\right)^2 p \cdot q}{e^2} \quad (1)$$

Description:

n = Total samples   Z = Normal distribution standard values   α = Accuracy level

p = Success proportion   d = Failure proportion   e = Error rate

In this study, the degree of confidence value chosen was 95% and the level of accuracy was 5%, so that the Z value was 1.96. Then the error rate used is 5%. Based on these calculations, the number of samples obtained was 384.16 and rounded up to 385, so the number of samples in this study was 385 samples, as respondents to fill out the research questionnaire.

3.4 Validity and Reliability Test

This research is a quantitative study using the online self-administered survey questionnaire method via Google Forms as the primary data source whose questionnaire questions were adapted from research (Budiarani et al., 2021). Validity test is needed to determine the accuracy of the question items in certain variable being studied (Kurniawan & Puspitaningtyas, 2016). Validity test can be done by using product moment correlation, which is correlating the score of each item with the total score. The total score is the score obtained from the sum of the item scores for the instrument. How to determine validity using the formula is as follows:

$$r_{xy} = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{[n\sum X^2 - (\sum X)^2][n\sum Y^2 - (\sum Y)^2]}} \quad (2)$$

Information:

r_xy= Correlation coefficient between variable X and variable Y

n   = Number of trial respondents
X   = Score each item
Y   = Scores of all test respondent items

The validity test performed on each question item has the following criteria:

Valid   = Calculated r Value > r Table

Invalid   = Calculated r Value ≤ r Table

The significance level (α) used is 5%, and the number of respondents is 30, so the result of r table is 0.361. All question items were adapted from research (Kurniawan&Puspitaningtyas, 2016), then based on tests conducted on 30 respondents using SPSS software version 28, there was one question item each from item number A4 which was invalid, with an r count of 0.352 from functional questions and 0.140 of the dysfunctional questions, thus, invalid items were removed. More specifically, the results of the validity test can be seen in Table 3.2

Table 3.2Validity Test Result in Functional Question

Variable	Sub Variable	Item Number	r Value	r Table	Description
Digital Wallet Service Quality	Easy Of Use	EOU1	0,403	0,361	Valid
		EOU2	0,379	0,361	Valid
		EOU3	0,598	0,361	Valid
	Aesthetics	A1	0,735	0,361	Valid
		A2	0,590	0,361	Valid
		A3	0,559	0,361	Valid
	Connectedness	C1	0,453	0,361	Valid
		C2	0,410	0,361	Valid
		C3	0,635	0,361	Valid
	Perceived Control	PC1	0,386	0,361	Valid
		PC2	0,576	0,361	Valid
		PC3	0,623	0,361	Valid
		PC4	0,481	0,361	Valid
	Perceived Risk	PR1	0,613	0,361	Valid
		PR2	0,619	0,361	Valid
		PR3	0,511	0,361	Valid
		PR4	0,516	0,361	Valid
	Trust	T1	0,602	0,361	Valid
		T2	0,580	0,361	Valid

Table 3.3Validity Test Result Disfunctional Question

Variable	Sub Variable	Item Number	r Value	r Table	Description
Digital Wallet Service Quality	Easy Of Use	EOU1	0,665	0,361	Valid
		EOU2	0,697	0,361	Valid
		EOU3	0,707	0,361	Valid
	Aesthetics	A1	0,673	0,361	Valid
		A2	0,495	0,361	Valid
		A3	0,645	0,361	Valid
	Connectedness	C1	0,654	0,361	Valid
		C2	0,469	0,361	Valid
		C3	0,531	0,361	Valid
	Perceived Control	PC1	0,511	0,361	Valid
		PC2	0,645	0,361	Valid
		PC3	0,686	0,361	Valid

		PC4	0,723	0,361	Valid
	Perceived Risk	PR1	0,825	0,361	Valid
		PR2	0,691	0,361	Valid
		PR3	0,783	0,361	Valid
		PR4	0,831	0,361	Valid
	Trust	T1	0,558	0,361	Valid
		T2	0,534	0,361	Valid

Based on the results of the validity test of functional questions and dysfunctional questions in table 3.2 and table 3.3, it can be stated that all items listed are valid. All of these items show the results of r calculations which are greater than the results of r tables, which are 0.361, so that the question items are declared valid.

Kurniawan&Puspitaningtyas (2016) explained that the reliability test is a test that aims to determine the reliability (level of confidence) of a question item in measuring related variable. If the test results are relatively consistent, then the research instrument has a high level of confidence. Thus, the problem of instrument reliability is related to the problem of the accuracy of the results. The reliability test was carried out to determine the level of stability or consistency of a measuring instrument, and was carried out with an internal consistency reliability approach using Cronbach's alpha to identify how good the relationship between items in a research instrument was. The criteria for reliability testing are as follows:

1. If the reliability coefficient value is > 0.6, then the instrument being tested has reliable reliability

2. If the reliability coefficient value is <0.6, then the instrument being tested has poor reliability

Cronbach's Alpha:

$$r = \left[\frac{k}{(k-1)}\right]\left[1 - \frac{\sum \sigma^2 b}{\sigma^2 t}\right](3)$$

Description:

r = Reliability coefficient   k = The number of questions

$\sum \sigma^2 b$ = Number of item variances $\sigma^2 t$ = Total variance

Reliability testing in this study used SPSS software version 28. The results of the reliability test can be seen in table 3.4 as follows:

Table 3.4 Reliability Test Result

Variable	Question Type	N of Items	Cronbach's Alpha	r Table	Description
Service Quality Digital Wallet	Functional	19	0,846	0,6	Reliable
	Disfunctional		0,920	0,6	Reliable

Based on the reliability test results in table 3.4 above, the functional questions and dysfunctional questions in this study were declared reliable, because the Cronbach's Alpha

results for each type of question exceeded the criterion score of 0.60, with each Cronbach's Alpha value of 0.833 for functional questions and 0.907 for dysfunctional questions.

3.5 Data Analysis

After completing the data collection, the next step is to analyze the data. The data that has been collected will be tested using the SPSS statistical software version 28. This research conducts descriptive analysis to describe the data based on the results of the respondents' answers, and analysis of the Kano model to describe customer satisfaction when using digital wallet services GoPay and DANA and to find out the service features needed repaired and enhanced by GoPay and DANA digital wallets during the COVID-19 pandemic. Then afterwards, the author makes a summary of the research that has been done, then attaches suggestions for future researchers and also for related companies.

Descriptive analysis is the basic analysis of statistical calculations that aims to find out certain values, such as the mean, median, mode, sum, standard deviation, variance, range, minimum, maximum and others. Descriptive data can be interpreted to provide general as well as specific information in order to facilitate statistical analysis and draw conclusions (Hatmawan&Riyanto, 2020). This study used a questionnaire with five different answer choices. Each respondent chose an answer and filled out the research questionnaire. After obtaining the answers, then an analysis was carried out to find out the assessment criteria for each questionnaire question based on percentage. After that, the results are entered into a continuum line to clarify the classification of variable categories.

The next data analysis technique is the Kano Model. The Kano Model is a method of classifying product quality attributes to build customer satisfaction as measured from a customer perspective (Zhao et al., 2021). The steps taken to use the Kano Model are identifying customer wants and needs, creating questionnaires, distributing questionnaires to respondents and evaluating the results of the questionnaires. After being evaluated and classified into certain categories, customer satisfaction can be measured by the customer satisfaction coefficient (Budiarani et al., 2021).

The first step is to determine a list of functional and dysfunctional questions for each attribute. Budiarani et al. (2021) said that in filling out the questionnaire, respondents determined the level of importance of each attribute item using the Kano Model on a scale of 1 (dislike), 2 (tolerant), 3 (neutral), 4 (hope) to 5 (like). After receiving the respondents' answers, each question item was tested for validity and reliability. If these items pass the validity and reliability tests, then each response is processed into the Kano Model evaluation table to determine the category of each item, then the customer satisfaction coefficient is measured (Budiarani et al., 2021).

Table 3.5Kano Evaluation Table

Customer Requirements			Disfunctional				
			5	4	3	2	1
			Like	Must Be	Neutral	Live WIth	Dislike
	5	Like	Q	A	A	A	O
	4	Must Be	R	I	I	I	M

Functional	3	Neutral	R	I	I	I	M
	2	Live With	R	I	I	I	M
	1	Dislike	R	R	R	R	Q

Customer Requirements:

A: Attractive   O: One Dimensional   M: Must Be

R: Reverse   I: Indefference   Q: Questionable Result

Budiarani et al. (2021) said that after the respondents' answers were analyzed into one of the Kano Model categories, an analysis would then be carried out for each digital wallet quality attribute in the questionnaire using Blauth's formula, which is detailed as follows:

- If total (one dimensional + attractive + must be) > total (indifference + reverse + questionable), then the attribute will be categorized into one of the maximum number of categories, namely one dimensional, attractive or must be.

- If total (one dimensional + attractive + must be) < total (indifference + reverse + questionable), then the attribute will be categorized into one of the maximum number of categories, namely indifference, reverse or questionable.

The next step is to measure customer satisfaction with the customer satisfaction coefficient. The customer satisfaction coefficient states whether satisfaction can be increased by meeting customer product requirements which only prevents customer dissatisfaction. The customer satisfaction coefficient shows how product or service features affect customer satisfaction or dissatisfaction. To calculate the magnitude of the coefficients of satisfaction and dissatisfaction, the following formula is used (Budiarani et al., 2021):

- Customer Satisfaction Rate:

$$= [(Attractive+One\ Dimensional)/(Attractive+OneDimensional+MustBe+Indifference)]\ (2)$$

- Customer Dissatisfaction Rate:

$$= [(One\ Dimensional+Must\ Be)/((Attractive+OneDimensional+MustBe+Indifference)\ \times\ (-1))]\ (3)$$

The positive customer satisfaction coefficient ranges from 0 to 1. The closer the value is to 1, the higher the effect on customer satisfaction. The negative customer dissatisfaction coefficient ranges from 0 to -1. The closer to the value -1, the higher the effect on customer dissatisfaction (Budiarani et al., 2021).

Figure 3.1Customer Satisfaction Mapping
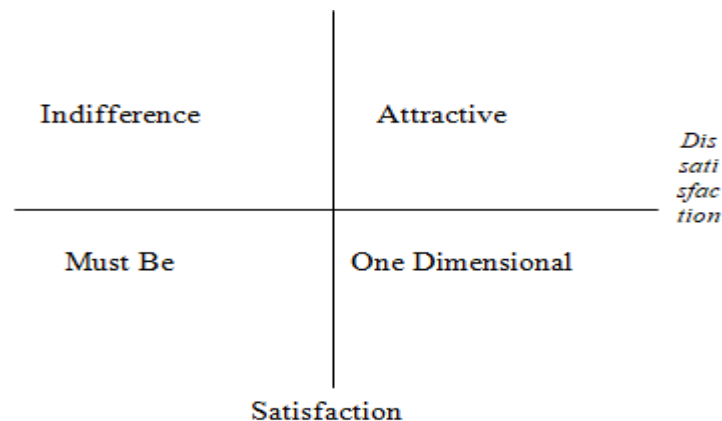
3.6 Result

The research questionnaire was distributed to 385 respondents. Respondent data was obtained from the results of distributing questionnaires online through Google Forms. The results showed that most of the respondents were women with a percentage of 57.1% or as many as 220 people and the percentage of men was 42.9% or as many as 165 people. Then based on age, the percentage for ages 15-20 years was 13% or as many as 50 people, then those aged 21-25 years were 66.5% or as many as 256 people, then the percentage aged 26-30 years was 16.9% or as many as 65 people, and the percentage of >30 years of age was 3.6% or as many as 14 people. Then the results of the work of respondents were obtained with a student percentage of 53% or as many as 204 people, then the percentage of private employees was 32.5% or as many as 125 people, then the percentage of entrepreneurs was 6% or as many as 23 people, then the percentage of students was 3.6% or as many as 14 people, the other percentage is 5% or as many as 19 people.

In addition, the results obtained were the domicile of respondents with a percentage of Java Island of 97.9% or as many as 377 people, then the percentage of Sumatra Island was 1.03% or as many as 4 people, then the percentage of Sulawesi Island was 0.51% or as many as 2 people and the percentage Kalimantan Island by 0.51% or as many as 2 people. Furthermore, the results of digital wallets used by respondents with a percentage of GoPay and DANA were 47% or as many as 181 people, then the percentage of GoPay was 35.8% or as many as 138 people and the percentage of DANA was 17.1% or as many as 66 people. As well as the results of the frequency of using the respondent's digital wallet during the COVID-19 pandemic with a percentage of 1-5 times of 8.3% or as many as 32 people, then a percentage of 6-10 times of 11.7% or as many as 45 people, then a percentage of 11-15 times by 9.6% or as many as 37 people, then the percentage of 16-20 times is 4.4% or as many as 17 people and the percentage > 20 times is 66% or as many as 254 people.

Then do a descriptive analysis based on the results of the respondents' answers. Respondents' answers regarding the digital wallet service quality variable were divided into two, namely answers to functional questions and answers to dysfunctional questions because this study used the Kano Model. Based on the results of the calculation of the respondents' answers, it is known that the digital wallet service quality variable as a whole gets a percentage of 88.62% with a total score of 32412 out of 36575 an ideal score for functional questions, and a percentage of 30.49% with a total score of 10576 out of 36575 an ideal score for

dysfunctional question. Then there is also a descriptive analysis based on the GoPay and DANA digital wallets. Based on the calculation results of the respondents' answers, it is known that the GoPay digital wallet as a whole gets a percentage of 99.28% with a total score of 34400 out of 36575 ideal score, and the DANA digital wallet as a whole gets a percentage of 76.59% with a total score of 26556 out of 36575 ideal score. The results of the average percentage of respondents' answers are entered into the continuum line.

The next step is to carry out an analysis using the Kano Model, starting from the Kano Model weighting, the Kano Model classification, calculating the customer satisfaction coefficient to the customer satisfaction map. The weighting of the scores of respondents' answers is the result of calculating the Kano Model evaluation table from functional questions and dysfunctional questions. From these results, the Kano Model category was obtained for each question item, which included One Dimensional (O), Attractive (A), Must Be (M), Indifferent (I), Reverse (R) and Questionable (Q). Then an analysis of the Kano Model classification was carried out for each sub-variable using Blauth's formula.

Table 3.6 Category of Each Items Dimensions for GoPay

Sub Variable	Indicator	A	M	R	O	Q	I	A+O+M	I+R+Q	Category
Easy Of Use	Navigation	56	73	0	99	1	90	228	91	One Dimensional
	Flexibility (all features)	69	72	0	113	1	64	254	65	One Dimensional
	Flexibility of Digital Wallet	81	56	1	105	0	76	242	77	One Dimensional
Aesthetics	Display Quality	78	63	0	105	1	72	246	73	One Dimensional
	Display Representation Toward Brand	46	63	0	40	0	170	149	170	Indifference
	Display Importance	61	84	0	82	1	91	227	92	Must Be
Connectedness	Connection with The Other Users	62	49	1	139	0	68	250	69	One Dimensional
	Product Recommendation Features	32	25	2	21	1	238	78	241	Indifference
	Review Features	43	37	1	35	1	202	115	204	Indifference
Perceived Control	Control Over The Use of Personal Information	39	86	9	69	2	114	194	125	Must Be
	Information Features	50	81	2	67	1	118	198	121	Must Be
	Control Over Information	41	82	4	75	0	117	198	121	Must Be

Sub Variable	Indicator									
	Features									
	Control Over Online Shopping Transaction	37	84	2	84	0	112	205	114	Must Be
Perceived Risk	User Trusts to Overall Features	43	81	1	145	2	47	269	50	One Dimensional
	Personal Information Safety	34	41	0	232	1	11	307	12	One Dimensional
	Transaction Safety	32	35	0	237	0	15	304	15	One Dimensional
	User Trust Toward Transaction	39	63	1	187	0	29	289	30	One Dimensional
Trust	Transaction Trust	32	56	0	212	0	19	300	19	One Dimensional
	Digital Wallet Reliability	40	51	1	204	0	23	295	24	One Dimensional

Table 3.7 Category of Each Items Dimensions for DANA

Sub Variable	Indicator	A	M	R	O	Q	I	A+O+M	I+R+Q	Category
Easy Of Use	Navigation	36	74	0	74	1	62	184	63	Must Be
	Flexibility (all features)	47	64	0	88	1	47	199	48	One Dimensional
	Flexibility of Digital Wallet	57	48	1	82	0	59	187	60	One Dimensional
Aesthetics	Display Quality	56	57	0	84	1	49	197	50	One Dimensional
	Display Representation Toward Brand	31	54	0	32	0	130	117	130	Indifference
	Display Importance	46	70	0	64	1	66	180	67	Must Be
Connectedness	Connection with The Other Users	40	40	0	109	0	58	189	58	One Dimensional
	Product Recommendation Features	26	19	1	17	1	183	62	185	Indifference
	Review Features	29	36	1	26	1	154	91	156	Indifference
Perceived	Control Over The Use of	25	65	5	50	2	100	140	107	Must Be

Control	Personal Information									
	Information Features	36	65	1	48	1	96	149	98	Must Be
	Control Over Information Features	29	64	2	52	0	100	145	102	Must Be
	Control Over Online Shopping Transaction	31	60	1	57	1	97	148	99	Must Be
Perceived Risk	User Trusts to Overall Features	33	70	0	113	2	29	216	31	One Dimensional
	Personal Information Safety	26	31	0	178	0	12	235	12	One Dimensional
	Transaction Safety	27	23	0	185	0	12	235	12	One Dimensional
	User Trust Toward Transaction	31	54	1	144	0	17	229	18	One Dimensional
Trust	Transaction Trust	29	49	0	156	0	13	234	13	One Dimensional
	Digital Wallet Reliability	29	48	1	156	0	13	233	14	One Dimensional

Based on the Kano Model classification results attached in table 3.6 and table 3.7, there are three digital wallet service features that fall into the indifference category, then there are five digital wallet service features that fall into the must be category, and there are eleven digital wallet service features that enter into the one dimensional category for GoPay digital wallet in table 3.6. Then there are three digital wallet service features that fall into the indifference category, then there are six digital wallet service features that fall into the must be category, and there are ten digital wallet service features which fall into the one-dimensional category for the DANA digital wallet in table 3.7.

Next is to calculate the customer satisfaction coefficient to identify customer satisfaction based on the Kano Model weighting data. The positive customer satisfaction coefficient ranges from 0 to 1, the closer to 1, the higher the effect on customer satisfaction. Meanwhile, the negative customer dissatisfaction coefficient ranges from 0 to -1, the closer to -1 the value, the higher the effect on customer dissatisfaction (Budiarani et al., 2021). The calculation of the customer satisfaction coefficient consists of the customer satisfaction (S) coefficient and customer dissatisfaction (DS) presented in the customer satisfaction map in Figure 3.2 and Figure 3.3 below.

Figure 3.2 Customer Satisfactions Mapping for GoPay Features
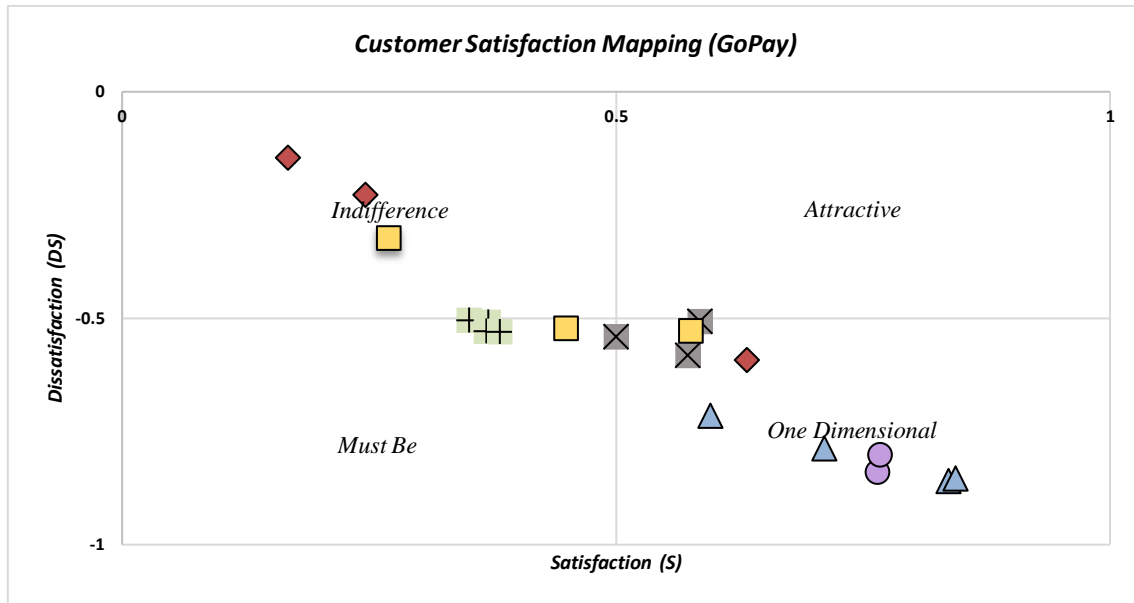
Description:

⊠ : Easy Of Use ☐ : Aesthetics ◆ : Connectedness

✚ : Perceived Control △ : Perceived Risk ○ : Trust

Based on the results of the customer satisfaction map for the GoPay digital wallet in Figure 3.2, all easy of use features consisting of navigation, flexibility (all features), and flexibility of digital wallet, are in the one-dimensional quadrant. Navigation and flexibility (all features) have a higher value of customer dissatisfaction than customer satisfaction. Then the flexibility of digital wallet has a higher customer satisfaction value than customer dissatisfaction.
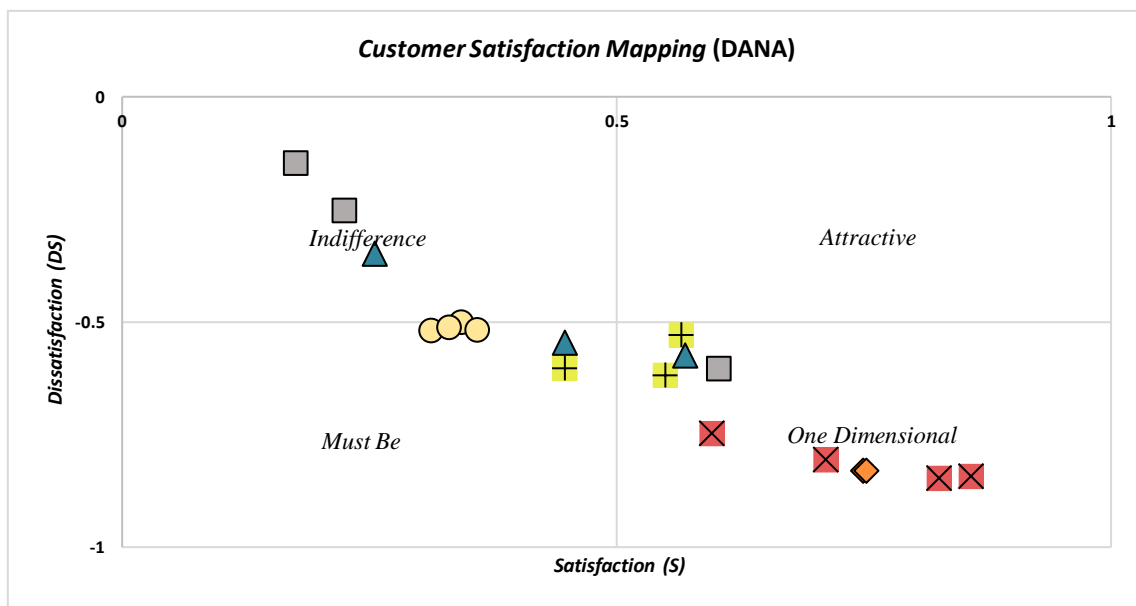
Furthermore, the aesthetic features consist of display quality which is in the one dimensional quadrant, then display representation toward the brand which is in the indifference quadrant, and display importance which is in the must be quadrant. Display quality has a higher customer satisfaction value than customer dissatisfaction. Meanwhile, display representation toward brand and display importance have higher customer dissatisfaction scores than customer satisfaction scores.

Then the connectedness feature consists of connection with the other users, which is in the one dimensional quadrant, then product recommendation features and review features are in the indifference quadrant. Connection with other users, product recommendation features and review features have a higher customer satisfaction score than customer dissatisfaction. Then all the perceived control features which consist of control over the use of personal information, information features, control over information features, control over online shopping transactions are in the must be quadrant and have a higher value of customer dissatisfaction than customer satisfaction.

Next, all perceived risk features, which consist of user trusts to overall features, personal information safety, transaction safety, user trust toward transactions, and transaction trust, digital wallet reliability, are in the one-dimensional quadrant and have a higher customer dissatisfaction value than satisfaction values customer. And finally, the trust feature which consists of transaction trust and digital wallet reliability which is in the one-dimensional quadrant and has a higher customer dissatisfaction score than customer satisfaction.

Based on the results previously mentioned, when a feature has a higher customer satisfaction value than a customer dissatisfaction score, GoPay is expected to be able to maintain a higher customer satisfaction score and reduce its customer dissatisfaction value through that feature, as well as prioritizing the development and refinement of features to achieve higher levels of customer satisfaction. And when a feature has a higher customer dissatisfaction score than customer satisfaction, GoPay is expected to be able to analyze the causes of customer dissatisfaction, improve features, and reduce customer dissatisfaction by increasing the feature. The sequence of features that must be corrected first is starting from the features that are in the "indifference" quadrant, then "must be", and "one dimensional".

Figure 3.3 Customer Satisfaction Mapping for DANA Features

Description:

+ : Easy Of Use   ▲ : Aesthetics   ▪ : Connectedness

○ : Perceived Control   ✗ : Perceived Risk   ◆ : Trust

Based on the results of the customer satisfaction map for the DANA digital wallet in Figure 3.3, the ease of use feature consists of navigation in the must-be quadrant, and flexibility (all features), the flexibility of the digital wallet is in the one-dimensional quadrant. Navigation and flexibility (all features) have a higher value on customer dissatisfaction than on customer

satisfaction. Then the flexibility of digital wallet has a higher customer satisfaction value than customer dissatisfaction

Furthermore, the aesthetic features consist of display quality which is in the one-dimensional quadrant, then display representation toward the brand which is in the indifference quadrant, and display importance which is in the must-be quadrant. Display quality, display representation toward the brand, and display importance have higher customer dissatisfaction scores than customer satisfaction scores.

Then the connectedness feature consists of connection with the other users, which is in the one-dimensional quadrant, then product recommendation features and review features are in the indifference quadrant. Connection with other users and product recommendation features have a higher customer satisfaction score than customer dissatisfaction. Meanwhile, the review features have a higher value of customer dissatisfaction than customer satisfaction.

Then all the perceived control features which consist of control over the use of personal information, information features, control over information features, control over online shopping transactions are in the must-be quadrant and have a higher value of customer dissatisfaction than customer satisfaction.

Next, all of the perceived risk features, which consist of user trust to overall features, personal information safety, transaction safety, user trust toward transactions, are in the one-dimensional quadrant. User trusts to overall features, personal information safety, user trust toward transaction has a higher value of customer dissatisfaction than customer satisfaction. Meanwhile, transaction safety has a higher customer satisfaction value than customer dissatisfaction.And finally, the trust feature which consists of transaction trust and digital wallet reliability which is in the one-dimensional quadrant and has a higher customer dissatisfaction score than customer satisfaction.

Based on the results previously described, when a feature has a higher customer satisfaction score than a customer dissatisfaction score, DANA is expected to prioritize the development and improvement of features to achieve an even higher level of customer satisfaction, so that customers do not reject the services provided. offered. And when a feature has a higher value of customer dissatisfaction than the value of customer satisfaction, DANA is expected to be able to analyze the causes of customer dissatisfaction, make efforts to correct and update service features to increase the value of customer satisfaction, so that the value of customer dissatisfaction will be reduced and there will be no customer dissatisfaction with services offered, as well as evaluating all of these features by prioritizing features in the indifference quadrant first, then sorting the features in the must be quadrant and features in the one-dimensional quadrant.

Based on the calculation of the GoPay and DANA customer satisfaction coefficient values that have been carried out above, different results are obtained, this is because the features of the two digital wallets vary in various ways, such as in design, system, usability, and others, resulting in different customer satisfaction. More details, can be seen in table 3.8 below.

Table 3.8Difference of Costumer Satisfaction Coefficient GoPayand DANA

Sub Variable	Indicator	GoPay		DANA		Description
		S	DS	S	DS	
Easy Of Use	Navigation	0.50	-0.541	0.447	-0.602	GoPay is superior to DANA (in this feature)
	Flexibility (all features)	0.572	-0.582	0.549	-0.618	GoPay is superior to DANA (in this feature)
	Flexibility of Digital Wallet	0.585	-0.506	0.565	-0.528	GoPay is superior to DANA (in this feature)
Aesthetics	Display Quality	0.575	-0.528	0.569	-0.573	GoPay is superior to DANA (in this feature)
	Display Representation Toward Brand	0.27	-0.323	0.255	-0.348	GoPay is superior to DANA (in this feature)
	Display Importance	0.45	-0.522	0.447	-0.545	GoPay is superior to DANA (in this feature)
Connectedness	Connection with The Other Users	0.632	-0.591	0.603	-0.603	GoPay is superior to DANA (in this feature)
	Product Recommendation Features	0.168	-0.146	0.176	-0.147	GoPay is superior to DANA (in this feature)
	Review Features	0.246	-0.227	0.224	-0.253	GoPay is superior to DANA (in this feature)
Perceived Control	Control Over The Use of Personal Information	0.351	-0.503	0.313	-0.519	GoPay is superior to DANA (in this feature)
	Information Features	0.37	-0.508	0.343	-0.501	GoPay is superior to DANA based on customer satisfaction, but not superior to DANA based on customer dissatisfaction (in this feature)
	Control Over Information Features	0.368	-0.528	0.331	-0.513	GoPay is superior to DANA based on customer satisfaction, but not superior to DANA based on customer dissatisfaction (in this feature)
	Control Over Online Shopping Transaction	0.382	-0.53	0.359	-0.518	GoPay is superior to DANA based on customer satisfaction, but not superior to DANA based on customer dissatisfaction (in this feature)

Perceived Risk	User Trusts to Overall Features	0.595	-0.715	0.596	-0.747	DANA is superior to GoPay (in this feature)
	Personal Information Safety	0.836	-0.858	0.826	-0.846	GoPay is superior to DANA based on customer satisfaction, but not superior to DANA based on customer dissatisfaction (in this feature)
	Transaction Safety	0.843	-0.853	0.858	-0.842	DANA is superior to GoPay (in this feature)
	User Trust Toward Transaction	0.711	-0.786	0.711	-0.805	GoPay is as superior as DANA based on customer satisfaction, and superior to DANA based on customer dissatisfaction (in this feature)
Trust	Transaction Trust	0.765	-0.84	0.749	-0.83	GoPay is superior to DANA based on customer satisfaction, but not superior to DANA based on customer dissatisfaction (in this feature)
	Digital Wallet Reliability	0.767	-0.802	0.752	-0.829	GoPay is superior to DANA (in this feature)

Then if you look at the research (Budiarani et al., 2021) entitled "THE KANO MODEL: HOW THE PANDEMIC INFLUENCES CUSTOMER SATISFACTION WITH DIGITAL WALLET SERVICES IN INDONESIA", there is an overview of the quality of digital wallet services and features that need to be improved to increase customer satisfaction. The objects of this research are OVO and ShopeePay, because they aim to measure customer satisfaction for digital wallets connected to e-commerce in 2020. The results show that service features are spread across all quadrants, namely the indifference, must be and one dimensional quadrants (features must be improved), as well as attractive (features must be maintained). In this case, service features that are in the attractive quadrant are able to exceed customer needs and desires, namely the easy of use feature.

Meanwhile, when compared to this research, the easy of use feature is in the must be and one dimensional quadrant, which means that the feature still needs to be improved. In this case, digital wallet companies GoPay and DANA must make decisions to improve and improve the quality of their service features based on customer needs and desires, this is done to create customer satisfaction and also build customer trust in choosing a service brand. In addition, with increasing competition between digital wallets, digital wallet companies must ensure that their customers are satisfied with the services offered, in order to win over the competition. A comparison of the four digital wallets can be seen in table 3.9.

Table 3.9 Comparison of Customer Satisfaction Mapping GoPay, DANA, ShopeePayand OVO

Sub Variabel	Indikator	Indifference	Must Be	One Dimensional	Attractive
Easy Of Use	Navigation		■	■ ■	■

Category	Item	Col 1	Col 2	Col 3	Col 4
	Flexibility (all features)			Go Pay, DANA, ShopeePay	OVO
	Flexibility of Digital Wallet			Go Pay, DANA, ShopeePay, OVO	
Aesthetics	Display Quality		OVO	Go Pay, DANA, ShopeePay	
	Display Representation Toward Brand	Go Pay, DANA			ShopeePay, OVO
	Display Importance		Go Pay, DANA	ShopeePay, OVO	
Connectedness	Connection with The Other Users		ShopeePay, OVO	Go Pay, DANA	
	Product Recommendation Features	Go Pay, DANA	ShopeePay		OVO
	Review Features	Go Pay, DANA	OVO	ShopeePay	
Perceived Control	Control Over The Use of Personal Information		Go Pay, DANA, ShopeePay	OVO	
	Information Features		Go Pay, DANA	ShopeePay, OVO	
	Control Over Information Features		Go Pay, DANA, OVO		ShopeePay
	Control Over Online Shopping Transaction		Go Pay, DANA	ShopeePay, OVO	
Perceived Risk	User Trusts to Overall Features			Go Pay, DANA	ShopeePay
	Personal Information Safety		ShopeePay, OVO	Go Pay, DANA	
	Transaction Safety		ShopeePay, OVO	Go Pay, DANA	
	User Trust Toward Transaction		ShopeePay, OVO	Go Pay, DANA	
Trust	Transaction Trust		ShopeePay	Go Pay, DANA, OVO	
	Digital Wallet Reliability			Go Pay, DANA, ShopeePay	OVO

Description:

■ Go Pay   ■ : DANA   ■ : Shope ePay   ■ : OVO

4.0 CONCLUSION

This study aims to describe the quality of GoPay and DANA digital wallet services from customer perceptions, to describe customer satisfaction when using GoPay and DANA digital wallets, and to find out the service features that need to be improved and improved by GoPay and DANA digital wallets during the COVID-19 pandemic. 19. Furthermore, several conclusions can be drawn from the research results, namely based on the results of an analysis related to the variable quality of digital wallet services GoPay and DANA during the

COVID-19 pandemic from customer perceptions, an overview of respondents' answers shows that functional questions fall into the like category with a percentage of 88, 62% and dysfunctional questions fall into the dislike category with a percentage of 30.49%, GoPay digital wallets fall into the likes category with a percentage of 99.28%, and DANA digital wallets fall into the hope category with a percentage of 76.59 %.

Then, based on the results of the Kano Model classification calculation analysis carried out to describe customer satisfaction when using GoPay and DANA digital wallets, there are three digital wallet service features that fall into the indifference category, then there are five digital wallet service features that fall into the must be category, and there are eleven digital wallet service features that fall into the one-dimensional category for GoPay digital wallets. Then there are three digital wallet service features that fall into the indifference category, then there are six digital wallet service features that fall into the must be category, and there are ten digital wallet service features that fall into the one-dimensional category for the DANA digital wallet.

And based on the results of the analysis of coefficient calculations and customer satisfaction maps carried out to find out the service features that need to be improved and improved by GoPay and DANA digital wallets during the COVID-19 pandemic, the results show that the features in the "indifference" quadrant are features that must be fixed by these two digital wallets, as well as features that are in the "must be" and "one dimensional" quadrants are features that GoPay and DANA must improve, taking into account the results of the customer coefficient values. The sequence of features that must be corrected first is starting from the features that are in the "indifference" quadrant, then "must be", and "one dimensional".

As for suggestions that can be used as material for evaluation and consideration for related companies and future researchers, namely future researchers are expected to conduct research with different research objects and can take other phenomena to be used as research background with the aim of measuring customer satisfaction from a product using the Kano Model.

GoPay and DANA digital wallet companies can make decisions to analyze, improve, evaluate, develop, improve and perfect the quality of their service features based on customer needs and desires, this is done to increase usage and future marketing and to create customer satisfaction and also build customer trust in choose a service brand. More detailed suggestions can be seen in Tables 4.1 and 4.2 below.

Table 4.1Suggestion for GoPay Digital Wallet

GoPay		
Quadrant	**Feature**	**Suggestion**
Indifference	Display Representation Toward Brand	GoPay needs to improve the appearance of the brand (logo) in the application
	Product Recommendation Features	GoPay needs to improve the product recommendation feature in its application
	Review Feature	GoPay needs to improve the user review feature in its application
	Display Importance	GoPay needs to develop a display of important

Must Be		information on its application
	Control Over The Use Of Personal Information	GoPay needs to develop control over its users' personal data in its application
	Information Features	GoPay needs to develop information features in its application
	Control Over Information Features	GoPay needs to develop control over its information features in its application
	Control Over Online Shopping Transaction	GoPay needs to develop online transaction controls for its application
One Dimensional	Navigation	GoPay needs to improve the ease of use of its application
	Flexibility (All Features)	GoPay needs to improve the effectiveness of all the features in its application
	Flexibility Of Digital Wallet	GoPay needs to improve the effectiveness of the e-wallet feature
	Connection With The Other Users	GoPay needs to improve user connectivity with other users of the application
	Display Quality	GoPay needs to improve the display quality of its e-wallet
	User Trusts To Overall Features	GoPay needs to increase user trust in the e-wallet feature
	Personal Information Safety	GoPay needs to improve the security of users' personal information in their application
	Transaction Safety	GoPay needs to improve transaction security in its application
	User Trust Toward Transaction	GoPay needs to increase user trust in transactions made
	Transaction Trust	GoPay needs to increase user trust in e-wallet transactions
	Digital Wallet Reliability	GoPay needs to improve the high level of reliability of its application

Table 4.2 Suggestion for DANA Digital Wallet

DANA		
Quadrant	**Feature**	**Suggestion**
Indifference	Display Representation Toward Brand	DANA needs to improve the appearance of the brand (logo) in its application
	Product Recommendation Features	DANA needs to improve the product recommendation feature in its application
	Review Feature	DANA needs to improve the user review feature in its application
Must Be	Navigation	DANA needs to improve the ease of use of its application
	Display Importance	DANA needs to develop a display of important information on its application
	Control Over The Use Of Personal Information	DANA needs to develop control over its users' personal data in its application
	Information Features	DANA needs to develop information features in its application

	Control Over Information Features	DANA needs to develop control over its information features in its application
	Control Over Online Shopping Transaction	DANA needs to develop online transaction controls for its application
One Dimensional	Flexibility (All Features)	DANA needs to improve the effectiveness of all the features in its application
	Flexibility Of Digital Wallet	DANA needs to improve the effectiveness of the e-wallet feature
	Connection With The Other Users	DANA needs to improve user connectivity with other users in its application
	Display Quality	DANA needs to improve the display quality of its e-wallet
	User Trusts To Overall Features	DANA needs to increase user trust in the e-wallet feature
	Personal Information Safety	DANA needs to improve the security of users' personal information in their applications
	Transaction Safety	DANA needs to improve transaction security in its application
	User Trust Toward Transaction	DANA needs to increase user trust in the transactions made
	Transaction Trust	DANA needs to increase user trust in e-wallet transactions
	Digital Wallet Reliability	DANA needs to improve the high level of reliability of its application

GoPay and DANA must consider customer satisfaction, because there are impacts from customer satisfaction and dissatisfaction, namely customers continue to use the service (repeat), or customers switch to other brands and also customers stop using the service. In addition, with increasing competition between digital wallets, digital wallet companies must ensure that their customers are satisfied with the services offered, in order to win over the competition.

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