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Quality Analysis of DANA Application on the Customer Satisfaction using MS-Qual

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Abstrak - E-wallet adalah dompet elektronik yang dapat digunakan sebagai alat pembayaran yang terintegrasi dengan berbagai sistem. Trend yang baru ini membuat masyarakat jadi jarang menggunakan uang tunai dalam bertransaksi dan kemudian menggantinya dengan e-wallet. Aplikasi DANA merupakan salah satu platform dompet terdepan di Indonesia. Penelitian ini bertujuan untuk mengetahui faktor-faktor apa saja yang mempengaruhi kepuasan masyarakat di kota Manado terhadap penggunanya. Dengan metode M-S-Qual, data di ambil melalui kuesioner kepada masyarakat kota Manado dan mengukurnya dengan sembilan variabel yaitu efisiensi, ketersediaan sistem, konten, privasi, pemenuhan, daya tanggap, kontak, kompensasi, dan pembayaran. Dengan mengambil sampel sebanyak 135 responden dalam pengisian kuesioner dan menggunakan rumus analisis regresi berganda dengan p-value 0,05, penelitian ini menggunakan pendekatan kuantitatif. Hasil perhitungan uji hipotesis dengan menggunakan software SPSS 26.0 ternyata kompensasi, kontak, pembayaran memiliki angka > 0,05 untuk p-value sehingga hipotesis ditolak. Dan untuk dimensi efisiensi, ketersediaan sistem, konten, privasi, kepatuhan, daya tanggap memiliki pengaruh dengan angka < 0,05 untuk p-value sehingga hipotesis diterima.

Kata Kunci: e-wallet, DANA Application, M-S-Qual, aplikasi seluler

Abstract - E-wallet is an electronic wallet that can be used as an integrated payment instrument. In addition, because of the development of this technology, many people have become experts in a cashless society, which means that people rarely use cash in making transactions and then replace it with an e-wallet. DANA application is a platform in the form of a digital wallet that is created to facilitate every transaction that will be carried out by the community. For this reason, this study aims to determine what factors affect people's satisfaction in the city of Manado for users who used it. The method used by researchers to obtain data in the measurement is by distributing questionnaires to the people of the city of Manado. And measure it with the M-S-Qual method which consists of nine variables, namely efficiency, system availability, content, privacy, fulfillment, responsiveness, contact, compensation, and payment. By taking a sample of 135 respondents in filling out the questionnaire and using the multiple regression analysis formula with a p-value of 0.05, the research uses a quantitative approach. The results of the calculation of the hypothesis test using SPSS 26.0 software, it turns out that compensation, contact, payment has a number > 0.05 for the p-value so that the hypothesis is rejected. And for the dimensions of efficiency, system availability, content, privacy, compliance, responsiveness has an influence with a number < 0.05 for the p-value so that the hypothesis is accepted.

Keywords: e-wallet, DANA Application, MS-Qual, mobile application

INTRODUCTION

1.1. Background

Nowadays, technology has been developing rapidly. It is quite unavoidable that the improvement in technology will goes hand in hand with the improvement in knowledge. Innovations that have been invented are usually very helpful in our life, making it easier for us to find updated information wherever and whenever needed. With the developing

technology our society has been doing various activities simply by using smartphone that we never able to do before (Ngaini, 2019).

With the existence of online-based service, a lot of people starting to choose to use the service provided online instead of its conventional counterparts (Silaen & Prabawani, 2019). Sama goes when they need food, or a service that can take them from one place to another. Even more due to the recent pandemic, a lot

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of customers prefer to stay at home, make the transaction from there and buy what's needed from the touch of a hand. Besides, social distancing also causes some business activities to be conducted remotely causing a lot of workers need to work from home (Fatoni et al., 2020).

E-wallet is an electronic wallet that can be used as an integrated payment instrument. Generally, the app is made to simplify its users to make transaction. With tons of features, E-wallet maybe used as payment instrument such as payment instrument(Abrilia, 2020). DANA is one of the e-wallet apps which successfully rank third in terms of the most used app in Indonesian. DANA itself was a merge of Ant Financial and Emtek Group and was released in 2018. DANA makes things easier for the society because it's more practical, fast, and has guaranteed safety (Arthur, 2018).

However, the quality of the app may be depending on the perception of its users. This research was conducted to serve as measuring tool to know how important the quality of this DANA application service is to the community in Manado, North Sulawesi, Indonesia. The approach used to measure service quality is the M-S-Qual method. M-S-Qual itself was a measurement tool that can evaluate specifically mobile applications performance for its users. The method itself consists of 9 dimensions of Efficiency, System Availability, Content, Privacy, Fulfillment, Responsiveness, Compensation, Contact, Billing (Huang et al., 2015).

With that problem, research is conducted with title: "Quality Analysis of DANA Application on the Satisfaction of Manado Community using M-S-Qual." The result of this research is aimed to fulfill the goal of measuring tool stated above.

1.2. Developing the Hypothesis

In managing and maintaining quality services of a service app, the e-commerce companies must pay attention to their ability to maintain the quality and continuity of the service. Quality is something that needs to be considered because it has a very important role in the achievement of a company. M-commerce will be a thing that will increase in the future (Japarianto et al., 2007). Therefore, the quality offered by a product must have high standards, at least to meet the needs of consumers. From this, the following hypothesis is formulated (Ariyanto, 2019):

H1: Efficiency has a significant effect on the service quality of the DANA application to the people in Manado city.

H2: The availability of the system has a significant effect on the quality of the DANA application to the people in Manado city.

H3: Content has a significant effect on the service quality of the DANA application to the people in Manado city.

H4: Privacy has a significant effect on the service quality of the DANA application to the people in Manado city.

H5: Fulfillment has a significant effect on the quality of DANA application to the people in Manado city.

H6: Responsiveness has a significant effect on the service quality of the DANA application to the people in Manado city.

H7: Compensation has a significant effect on the quality of DANA application to the people in Manado city.

H8: Contacts have a significant effect on the quality of DANA application to the people in Manado city.

H9: Payment has a significant effect on the quality of DANA application to the people in Manado city.

RESEARCH METHODOLOGY

2.1. Related Studies

A study by Eugenia Y. Huang, Sheng-wei Lin, and Ya-cu Van conducted in Taiwan was the actually the basis of the M-S-Qual methodology. Initially this research was conducted because there was no measuring instrument in measuring the quality of a mobile service, so the researcher created and conceptualized the M-S-Qual method which would assess the shopping satisfaction of every consumer who uses a smartphone. In their initial study, the sample they collected was 578 respondents to see the quality of service from a mobile application. The data they took was done through questionnaires using 9 variables, namely efficiency, privacy, contact, responsiveness, system compliance, compliance, system availability, compensation, and billing for the services provided. The software they use is SPSS 18 and AMOS18 and uses data analysis of scale purification, confirmatory factor analysis (CFA), exploratory factor analysis (EFA) as well as rehabilitation and validity tests from several studies to be a measuring tool in future studies (Huang et al., 2015).

Another related study was entitled "Analysis of the Quality of E-commerce Services on Shopee Indonesia's Consumer Satisfaction on Students of the Faculty of Economics UII Shopee Users". The research collects 196 respondents and aims to determine Shopee consumer satisfaction with the quality of services provided. By using multiple linear

analysis method and using variables such as efficiency, fulfillment, reliability, privacy, responsiveness, compensation, and contact. And have not used variable billing because it is not yet available (Darmawan et al., 2020).

2.1. Research Design

The research design below is to explain about how to do the research. The method used in this research is quantitative method which is a method that will answer all the research questions related to statistic program or numbers in data (Hermawan, 2019). The following is a figure from the research design:

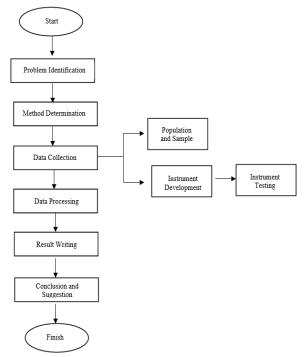


Figure 1. Research Design (Hermawan, 2019)

According to the figure above, the following are the steps in this research:

- 1. Problem Identification: The first step where the researcher identifies problem which the customers face on the service provided by DANA app.
- 2. Method Determination: At this step researcher will determine the research method used while doing the research.
- 3. Data Collection: From here the researcher will do data collection with distributing questionnaire to the society residing in Manado.
- 4. Data Processing: Researcher then will process the data according to the data collected from the questionnaire distributed to the society of Manado city, and to process the data researcher is using software SPSS 26.0.
- 5. Result Writing: At this step researcher will write

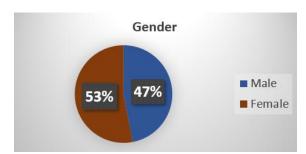
- the result acquired from data processing result to know whether nine variables are affecting the satisfaction provided by DANA app.
- 6. Conclusion and Suggestion: At this last step researcher will write conclusion and suggestion obtained from the result.

As for the location of the study it was done in Manado city, Sulawesi Utara while the population and sample would be people who uses DANA app (Morrisan, 2012). To get the population we use Joseph F. Hair (Hair et al., 2007) method as following: 15 or 20 x independent variables (independent variables), then 15 x 9 (independent variables) = 135. So according to the formula used, the number of samples obtained is 135 respondents. Sample was taken by direct contact but using an online questionnaire on Google Form on our smartphone and asking people that is randomly selected in the downtown city.

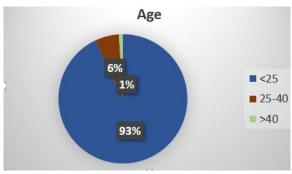
RESULTS AND DISCUSSION

3.1. Respondent Descriptive Analysis

From the questionnaire which has been distributed there's data of gender, age and occupation of the respondents that are presented in the following pie charts (Figure 2, 3 and 4) below.



Source: (Mambu et al., 2022) Figure 2. Sample by Gender



Source: (Mambu et al., 2022) Figure 3. Sample by Age



Source: (Mambu et al., 2022)

Figure 4. Sample by Occupation

It can be seen that most of the respondents are below 25 years of age and many are students. While more research may be conducted, a simple suggestion is that this may be a proof that DANA users are mainly students. It means that even though the respondent is randomly chosen, however, not everyone uses DANA thus many respondents are dropped, and the remainder respondent are unintentionally mostly students and below the age of 25. Therefore, it may not be accurate to try to make a diverse sample while the actual sample is not diverse at all. It is also important to understand that the e-wallet competition have ever-growing and ever-changing marketshare. Therefore, by the time this paper is published DANA users reflected here may not the same as the current.

While it is not part of the research but according to several respondent, they use DANA to buy online products such as items in games (skins, items), buy internet packages (internet quota, chat, social media, movies and music) as well as their business such as product endorsement, freelance design, and some questionable activities such as "game joki", "joki tugas/skripsi".

3.2. Variable Reliability Test

A test using SPSS 26.0 app with Cronbach Alpha as the reliability indicator where the determining indicator is if the value of Cronbach Alpha >0.6 (moderate reliability) then it can be said reliable, in the opposite when Cronbach Alpha <0.6 then the value of overall item is not reliable. The result of reliability testing presented in the Table 1.

Table 1. Reliability Test

No	Variable	0 - 0 0 0 0 0 0	Conclusion
		Alpha	
		Value	
1	MS-Qual	0.960	Valid
2	Dana App	0.879	Valid
	Service		
	Quality		

Source: (Mambu et al., 2022)

Reliability test from overall question item MS-Qual which consists of Efficiency, System Availability, Content, Privacy, Fulfilment, Responsiveness, Compensation, and Billing has value of Cronbach 0.960 > 0.9 which means the reliability is very high. As for the variable Dana app service quality has the result of Cronbach Alpha value 0.879 > 0.8 which means the value of overall item is very reliable. Therefore, it can be concluded that questionnaire questions made have good reliability level that every question instrument can be used for the next research at different time and situation.

3.3. Descriptive Analysis of each Variable

Descriptive analysis has purpose of summarizing the primary data into clearer, simpler data that is easier to be understood. Below is the descriptive analysis result from each variable:

Table 2. Descriptive Analysis					
No	No Variable Question		Result		
	of virtual product	age			
1	DANA app website	4.28	Strongly		
	enables me to access		Agree		
	and process webpage				
	quickly				
2	DANA app website	4.16	Agree		
	enables me to adapt				
	information that I				
	want quickly				
3	Suggestion given by	4.04	Agree		
	DANA customer				
	service is very				
	consistent and				
	relevant with the case				
	faced by customer				
4	DANA webpage may	4.27	Strongly		
	protect privacy and		Agree		
	customer personal				
	data from the other				
	irresponsible				
	webpage				
5	DANA webpage or	4.24	Strongly		
	application protect its		Agree		
	user credit card				
	identity and customer				
	behavior				

Source: (Mambu et al., 2022)

From the table above it can be concluded that the dependent variable (tied) which is the service quality of Mobile Service Quality of DANA app has the highest rank on the question "DANA app website enables me to access and process webpage quickly" with value of 4.28 which means highly satisfied. As for the lowest rank is obtained from the question "Suggestion given by DANA customer service is very

consistent and relevant with the case faced by customer" with value of 4.04 in the category of agree. Average obtained from variable question (Y) gives the result conclusion in general to the respondent "Strongly Agree" on the content of questions for service quality of Mobile Service Quality of DANA app.

3.4. Descriptive analysis Variable MS-Qual

It is known from the above table that MS-Qual variable included Efficiency, System Availability, variable Content, Privacy, Fulfilment, Responsiveness, Compensation, Contact, and Billing has average result in interval scale (5) with value between 4.20-5.00 which conclude that the result number of questions in the variable is where the respondent "strongly agree" or respondent may clearly understand the meaning of the questions. The result can be seen on Table 4.

3.5. Multiple Linear Analysis

This case is to analyze or significantly the effect between variable M-S-Qual (Efficiency, System Availability, Content, Privacy, Fulfilment, Responsiveness, Compensation and Billing) towards Service Quality of DANA app. Result of multiple linear analysis obtained from program SPSS 26.0 is on the Table 3 below.

Table 3. Multiple Linear Analysis

Model	Unstandardized B	t	Sig.
1 (Constant)	2.283	2.015	0.046
X1	0.394	2.280	0.024
X2	0.591	2.736	0.007
X3	-0.194	-1.128	0.262
X4	0.281	1.705	0.091
X5	0.432	1.942	0.054
X6	0.179	0.898	0.371
X7	0.267	1.428	0.156
X8	0.059	0.321	0.748
X9	0.219	1.029	0.305
6 0.5 1			

Source: (Mambu et al., 2022)

- a. Dependent Variable:Service Quality of DANA
- b. Predictors: (Constant):

X1 = E = Efficiency

X2 = KS = System Availability

X3 = KN = Content

X4 = PS = Privacy

X5 = PN = Fulfillment

X6 = RP = Responsiveness

X7 = KP = Compensation

X8 = KT = Contact

X9 = PBY = Billing

Table 4. Hasil Analisis Deskriptif Variabel MS-Qual

NO	Variable Question MS-Qual	Average	Result			
Efficiency Variable Question						
1	DANA gives convenience in accessing something needed in one application.	4.42	Strongly Agree			
2	DANA app is so easy to use and able to give expected service quickly to the customers	4.40	Strongly Agree			
	System Availability Variable Q	Question				
1	DANA app is able to work and process well.	4.33	Strongly Agree			
2	Mobile web DANA app is always available for	4.12	Agree			
	business					
Content Variable Question						
1	Mobile web DANA provides important and complete	4.05	Agree			
	content in fashionable way					
2	DANA app provides content that are regularly updated	4.12	Agree			
Privacy Variable Question						
1	Mobile web DANA protects user personal information	4.20	Strongly Agree			
2	DANA app doesn't spread my personal information	4.20	Strongly Agree			
	to another mobile online website					
Fulfillment Variable Question						
1	DANA app delivers order according to what's promised	4.30	Strongly Agree			

2	DANA app responds quickly to delivery when there's	4.30	Strongly Agree				
order and deliver according to the order Responsiveness Variable Question							
1	1		Ctuonaly, Aguas				
1	DANA app informs what needs to be done when order	4.21	Strongly Agree				
	is not processed and provides help center contact to						
	its users	4.00					
2	DANA app has online customer representative with	4.00	Agree				
	live chat provided about the problem faced by users						
	Compensation Variable Que	stion					
1	DANA app gives compensation service when	4.00	Agree				
	transaction is not completed on time						
2	DANA app returns transaction that has been done	4.11	Agree				
	when it's not going according to what's expected		C				
	Contact Variable Questio	n					
1	Call center of DANA app can assist to solve problem	4.00	Agree				
	accurately						
2	Provided customer service agent of DANA is kind in	4.00	Agree				
	solving problem faced by customers in real time		6				
	Billing Variable Question						
1	Convenience in understanding and problem solving	4.24	Strongly Agree				
•	about billing problem is provided by DANA app	1.21	Strongly rigice				
	quickly and accurately						
2	* · ·	4.10	A omo o				
2	Product price of service/product provided by DANA	4.19	Agree				
	is affordable						

Source: (Mambu et al., 2022)

From table 4 multiple regression results can be formulated to Model similar regression obtained as the following:

$$\begin{split} Y &= 2.283 + 0.393E + 0.591KS + \text{-}0.193KN \\ &+ 0.280\,PS + 0.431PN + 0.178RP + 0.266KP \\ &+ 0.058KT + 0.218PBY \end{split}$$

Where: Y = service quality of DANA app towards community in Manado city.

3.6. T Testing

It can be seen on the Table 4 for t value where:

T table =
$$t (\alpha/2 ; n-k-1) = t (0.05/2 ; 135-9-1)$$

T table = $t (0.025 ; 125) = 1.979$

H0 = Fulfilment does not affect service quality from provided product by DANA app at Manado.

H1 = Fulfilment affects service quality from provided product by DANA app at Manado.

For X1 to X4: It can be seen in the table above that T-count (P-value) = 2.280 > Test level (T-table) = 1.979. Therefore, H0 is declined, it can be concluded that Efficiency affects partially towards service quality of DANA app in Manado.

As for T-count (P-value) = 2.736 > Test level (T-table) = 1.979. Therefore, H0 is declined, it can be

concluded that System Availability affects partially towards service quality of DANA app in Manado. Meanwhile, T-count (P-value) = -1.128 < Test level (T-table) = 1.979 therefore, H0 is accepted, it can be concluded that Content does not affect partially towards service quality of DANA app in Manado. Also, T-count (P-value) = 1.705 < Test level (T-table) = 1.979. Therefore, H0 is accepted, it can be concluded that Privacy does not affect partially towards service quality of e-wallet DANA app in Manado.

For X5 to X9: T-count (P-value) = 1.942 < Test level(T-table) = 1.979 therefore, H0 is accepted, it can be concluded that Fulfilment does not affect partially towards service quality of DANA app in Manado. And for T-count (P-value) = 0.898 > Test level (Ttable) = 1.979. Therefore, H0 is accepted, it can be concluded that Responsiveness does not affect partially towards service quality of DANA app in Manado. On the other hand, T-count (P-value) = 1.428 < Test level (T-table) = 1.979 therefore, H0 is accepted, it can be concluded that Compensation does not affect partially towards service quality of DANA app in Manado. And then for T-count (P-value) = 0.321 > Test level (T-table) = 1.979 therefore, H0 isaccepted, it can be concluded that Contact does not affect partially towards service quality of DANA app in Manado. T-count (P-value) = 1.029 < Test level (Ttable) = 1.979 therefore, H0 is accepted, it can be concluded that Billing does not affect partially towards service quality of DANA app in Manado.

3.7. F Testing

To find out the F-value, the F table is used which is projected with degrees of freedom in the denominator or degrees of freedom in the numerator with a level of 5%. The following equation is used:

F table = F (k; n-k) = F (28; 135 - 9) F table = F (9; 126) = 1.95

Table 5. F-Value

Model		Sum of Squares	ofdf	Mean Square	F	Sig.
1	Regression	993.872	9	110.430	34.6 51	.000
	Residual	395.180	124			
	Total	1389.052	2 133			

Source: (Mambu et al., 2022)

Value 34.651 > 1.95 (F-count > F-table) value of sig 0.000 < 0.005, therefore H0 is declined and H1 is accepted which means together with variable X affecting towards variable Y. Therefore, the quality of mobile service (MS-Qual) able to explain behavior in general affecting service quality DANA app towards Manado society simultaneously. This is shown on Table 5.

3.8. Coefficient Determination

Coefficient determination is used to find out ability of independent variable able to explain dependent variable. Value of coefficient determination from calculation of multiple linear analysis on table model summary is 0.716 or 71.6% which means variable from MS-Qual such as Efficiency, System Availability, Content, Privacy, Fulfilment, Responsiveness, Compensation, and Billing can explain service quality of DANA app towards community in Manado city 71.6% and there's 28.4% that is explained by another variable. This is shown on Table 6 below.

Table 6. Model Summary

				Std. Error
		R	Adjusted R	of the
Model	R	Square	Square	Estimate
1	.846a	.716	.695	1.785

Source: (Mambu et al., 2022)

CONCLUSION

4.1 Findings

Result from respondent feedback index which shows satisfaction level of DANA app user towards society of Manado city in general is "strongly agree" and this becomes an appreciation in service Quality of DANA app that can perform well in helping and providing convenience for society in fulfilling their needs.

Result of regression analysis shows that Mobile Service Quality (M-S-Qual) gives positive effect significantly on the service quality of DANA app towards society of Manado city with significant result 0.000 < 5% and result of F count 35.651 > 1.95 which means variable MS-Qual included variable Efficiency, System Availability, Content, Privacy, Fulfilment, Responsiveness, Compensation, and Billing has significant effect simultaneously for service Quality of Dana app towards society of Manado city.

According to result of regression analysis that has been conducted, it is concluded that:

- 1. Efficiency, System Availability, Content and Responsiveness have significant positive effect partially towards service quality of DANA app for society of Manado city.
- Privacy, Fulfilment, Compensation, Contact and Billing does not have significant effect towards service quality of DANA app for society of Manado city.

4.2 Suggestions

From the result of regression analysis, Content variable is the variable with lowest service quality rank according to theuser feedback. This issue needs to be followed up by DANA app team to maintain good quality of service with giving content like promotion in with more interesting pictures or videos, more variative content, and able to make user understand the content more easily. On the other hand, Service quality of DANA app has reached the stage where user can feel quite convenient with features provided in the application which can be seen from the user feedback on questionnaire.

DANA must maintain its stability and content update regularly because this is something significant and has big effect on the quality provided.

The next research may add more measuring instruments on the existing variables and may have other objects or to apply in wider population.

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