

Consumer Satisfaction of Sorabel Applications Using the Delone and Mclean Method

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Abstract

The rapid development of information technology influences on all fields of the economy. One form of the development of information technology is about how consumers shop through online stores. Researchers need to do this research, because nowadays there are many online stores that have developed in Indonesia. Researchers want to know how much influence the quality of information and service quality on customer satisfaction and make a positive contribution and make continuous purchases at the online store. This study uses the Delone and Mclean methods and with AMOS software. The purpose of this study is to analyze a number of hypotheses, which are: H1: System Quality has positive effect on Use; H2: Use has positive impact on net benefits; H3: System Quality has a positive impact on User Satisfaction; H4: User Satisfaction has a positive effect on Use; H5: Information Quality has a positive effect on Use; H6: Information Quality has a positive effect on User Satisfaction; H7: User Satisfaction has a positive effect on Net benefits; H8: System Quality has a positive effect on Information Quality; H9: Information Quality has a positive effect on System Quality. The test results can be seen that Quality System has positif effect on User Satisfaction, this can be seen from the estimated value of 0.529, User Satisfaction has positive effect on the Net benefits that can be seen from the estimated value of 1,146, and User Satisfaction has positive effect on Use with estimated value of 1,352. From the test results with the final research model that supports the hypothesis (H0) said that there is a relationship between variables with the level of satisfaction of the Sorabel Application to the Sorabel Application user as a medium for online purchases.

Keywords: Consumer Satisfaction, Delone and Mclean Method, E-Commerce.

1. Introduction

The internet creates a new economic paradigm. With another technology, i.e. the information and communication technology (ICT), they produce many economic models. Progress in the field of information technology, makes no boundaries communication. Our society now depends on the internet as a tool to meet their needs, such as online buying, selling and service activities, etc.

E-Commerce, stands for electronic commerce, uses computers and communication networks to conduct business processes. A popular view of e-commerce is the use of the internet and computers with web browsers to buy and sell products (McLeod, Raymond, Jr & Schell 2008). E-commerce applications has greatly affected the quality of information, service quality and system quality. Service quality is the expected level of excellence and control over the level of excellence to meet customer desires. Service excellence can be formed through the integration of four pillars of service excellence that are closely interrelated, namely: speed, accuracy, friendliness and comfort of service (Tjiptono 2014).

Many online applications in Indonesia that apply an e-commerce or online shopping concept. In this study, the Sorabel application will be studied. This online shopping application provides a variety of product information that is marketed through virtual markets and is used to

transact online through mobile applications. Sorabel application is a mobile marketplace that is present in Indonesia with a new shopping experience that is able to try first, then pay. This application also facilitates sellers to sell easily with integrated logistics arrangements and equip buyers with a secure payment process. The Sorabel application is now available for devices using the iOS and Android operating systems.

Satisfaction is a level of feeling happy or disappointed of someone who compares the performance or perceived results with the performance of the product/service or expected results. If performance is below expectations, then the customer is not satisfied. In the contrary, If performance meets expectations, the customer is satisfied. Whereas if the performance exceeds expectations, the customer is very satisfied or happy (Shadiq J 2018) and similar to other studies (Herlawati 2007; Yuliandari, Handayanto, and Herlawati 2010).

Previous study by (Sastika 2018) state that the expectation value of Shopee application users is very high at 86.92%, while the perception value is only 68.78%. The Shopee application Customer Satisfaction Index (CSI) value is 68.62%. The analysis used in this study is by using the Importance Performance Analysis (IPA) Matrix, this matrix is used to determine the priority attributes which are in quadrant A consisting of 11 attributes, quadrant B consists of 4 attributes, quadrant C consists of 2 attributes and quadrant D consists of 2 attributes.

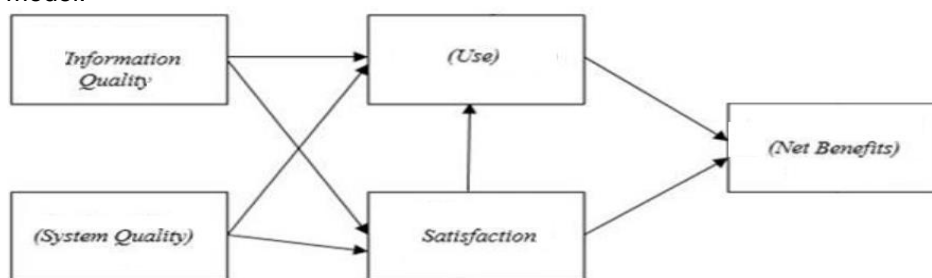
Insight from the previous study above, this study made a comparison of measurements of customer satisfaction with the Sorabel application using the Delone & McLean method. This method has been widely used to measure variables that can provide a positive and significant influence on the success of the Sorabel application. The variables used include: System Quality, Information Quality, Use, User Satisfaction, and Net benefitss.

The current study is aimed to analyze some hypothesis, namely: 1). H1: System Quality has a positive effect on Use; 2). H2: Use has a positive effect on Net benefitss; 3). H3: System Quality has a positive effect on User Satisfaction; 4). H4: User Satisfaction has a positive effect on Use; 5). H5: Information Quality has a positive effect on Use; 6). H6: Information Quality has a positive effect on User Satisfaction; 7). H7: User Satisfaction has a positive effect on Net benefitss; 8). H8: System Quality has a positive effect on Information Quality; 9). H9: Information Quality has a positive effect on System Quality.

2. Research Methods

2.1 Research Methods, Variables and Indicators

This study used the Delone and Mclean methods in analysis. This method includes two important contributions in understanding the success of information systems, i.e. providing a scheme to classify the stages of success that have been used in various studies and showing these models are interdependent (DeLone, W; & McLean 2003). Figure 1 shows a Delone and Mclean model.



Source: (DeLone, W; & McLean 2003)

Figure 1. Information Systems Success Model for E-Commerce

Delone and Mclean model, the variables used are: 1). System Quality: the quality of information systems is a characteristic of information inherent about itself. The quality of the system is used to measure the benefits or usefulness of the system, the response of the system, security and also the length of time to load the system; 2). Information Quality: The quality of information can be seen from the output of an information system used. Measuring the success of information quality is based on relevant completeness and accuracy; 3). Use: The use of extensive information systems and measured from various perspectives is the success of achieving information systems. Measures of success can be obtained from purchase orders, receipt of payments, information search and the number of completed purchases; 4). User

Satisfaction: User satisfaction is the way users perceive and use information systems in a tangible manner. User satisfaction is closely related to the attitude of the user towards the use of an information system; and 5). Net benefits: Net benefits can be measured by improving services, reducing search time, increasing knowledge and improving user experience.

The AMOS version 21 software was used in this study. This is the most popular statistical software that everyone can easily use for statistical analysis (Santoso 2015).

Data collection are the most important step in the process and success of this study. Therefore, this study used data collection methods which have been widely used, namely: 1). Observation: Researchers make observations to consumers who make purchases using the Sorabel application. 2). Questionnaire: At the stage of preparing the questionnaire that is done by starting the identification of latent variables, identification of manifest variables and the connectedness of each variable. 3). Literature Study: In the initial stages of research that is by reviewing several scientific articles relating to previous research and sources from books, journals and other reference sources related to the research conducted.

In the Delone and Mclean method, latent variables used are System Quality, Information Quality, Use, User Satisfaction, and Net benefits. The variables used are presented in Table 1.

Table 1. Research Variables

No	Variable	acronym	Kind of Variabel
1	<i>System Quality</i>	SQ	Laten
2	<i>Information Quality</i>	IQ	Laten
3	<i>Use</i>	IU	Laten
4	<i>User Satisfaction</i>	US	Laten
5	<i>Net benefitss</i>	NB	Laten

Source: Research Result (2019)

The followings are the indicators used for each variable.

1. Indicator for System Quality Variable (SQ)

Indicators for the System Quality variable are presented in Table 2.

Table 2. System Quality Indicator (SQ)

Indicator	Acronym	Question
Accuracy	SQ1	The content presented in the Sorabel application is exactly in accordance with the purpose of making the e-commerce application
<i>Up do date</i>	SQ2	The appearance of every page in the Sorabel application always change, following to the number of stores and items sold
Understandable	SQ3	The steps in placing an order on the Sorabel application are easy to understand
Page reading	SQ4	The appearance of the page reading on the Sorabel application can help in knowing the order of the ordering transaction

Source: Research Result (2019)

2. Indicators for Information Quality (IQ) Variable

The Information Quality variable are presented in Table 3.

Table 3. Indikator Information Quality (IQ)

Indicator	Acronym	Question
Relevance	IQ1	The appearance of every page in the Sorabel application always change, following to the number of stores and items sold
System Accuracy	IQ2	The Sorabel application has an accurate ordering procedure
Visual Display	IQ3	The display on each page of the Sorabel Application is interesting
Response time	IQ4	Access speed on every page of the Sorabel Application

Source: Research Result (2019)

3. Indicators for Indicator of *Use* (IU) Variable
IU variables are shown in Table 4.

Table 4. Indicator of *Use* (IU)

Indicator	Acronym	Question
Customer Service Requests	IU1	Sorabel application provides facilities for selecting orders to many shipping places
Ease of Information Searching	IU2	Information search in the Sorabel Application is very easy
Acceptance of Customer Orders	IU3	In placing an order through the Sorabel Application there is a proof of booking
Information Search	IU4	Sorabel application provides a facility to search for information that customers need

Source: Research Result (2019)

4. Indicator for User Satisfaction (US) Variable
User Satisfaction variable are shown in Table 5.

Table 5. Indikator *User Satisfaction* (US)

Indicator	Acronym	Question
Nice experience accessing time	US1	Using the Sorabel Application makes customers feel happy
Have no complaints	US2	Customers are satisfied using the Sorabel Application
Invite other friends to make purchases through the application	US3	Customers invite other friends to make purchases through the Sorabel Application
Buy back through the application	US4	The customer will make a purchase again through the Sorabel Application

Source: Research Result (2019)

5. Indicators for Net benefitss (NB) variables
The Net benefitss variables are shown in Table 6.

Table 6. Net benefitss (NB) Indicators

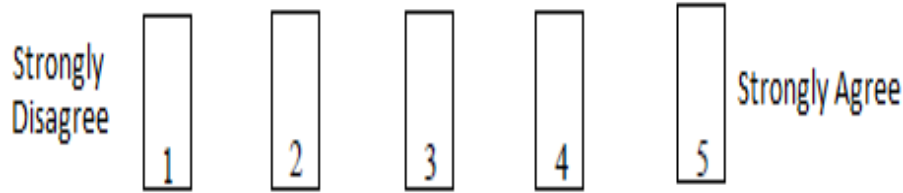
Indicator	Acronym	Question
Increase customer knowledge	NB1	Information store on the Sorabel Application can increase customer knowledge
Improve support and service	NB2	The Sorabel application includes product reviews and discussions to improve support and service
Improve customer experience	NB3	A comparison between stores on the Sorabel Application can improve the customer experience
Reducing information search time	NB4	The existence of searches and categories can reduce the length of information search

Source: Research Result (2019)

2.2 Population and Sample

This study used primary data for analysis. The data was obtained by some surveys about the opinions from users who have used Sorabel application for online purchase orders. In this study, a questionnaire with a Likert Scale was used. The questions in the questionnaire were made using the values of grades 1 through 5 to represent the opinions of respondents, the Likert scale can be seen in Figure 2. The meaning of the value scale of grades 1 to 5 of each question, as follows: 1). The value 1 is at the far left of the scale, reacting with the response

"Strongly disagree"; 2). The value of 2 ends to the left after the scale of value 1, scale related to the response "Disagree"; 3). The value of 3 ends in the middle between scale 2 and scale 4, reacting with the response "Neutral"; 4). A value of 4 ends to the right after the scale of 5, scale related to the response "Agree"; 5). A value of 5 at the right end of the scale line is related to the "Strongly agree" response.



Source: Research Result (2019)

Figure 2. Likert Scale

The population of this study is the user of Sorabel application who works at the Papanggo Kelurahan, located at North Jakarta City. By distributing questionnaires as a sample of 300 sheets and distributed to 300 respondents, while the questionnaires returned to researchers were 267 questionnaires. Therefore, these 267 questionnaire results were used as primary data in this study. Profiles of respondents for the research material are presented in Table 7.

Table 7. Profile of Respondents

RespondentsQualifications	Percentage	Number of Respondent
Jenis Kelamin:		
Female	72.3%	193
Male	27.7%	74
Total	100%	267
Duration of Use:		
> 2 years	36%	96
<= 2 years	64%	171
Total	100%	267
Media Access:		
Handphone	68.2%	182
Computer	31.8%	85
Total	100%	267

Source: Research Result (2019)

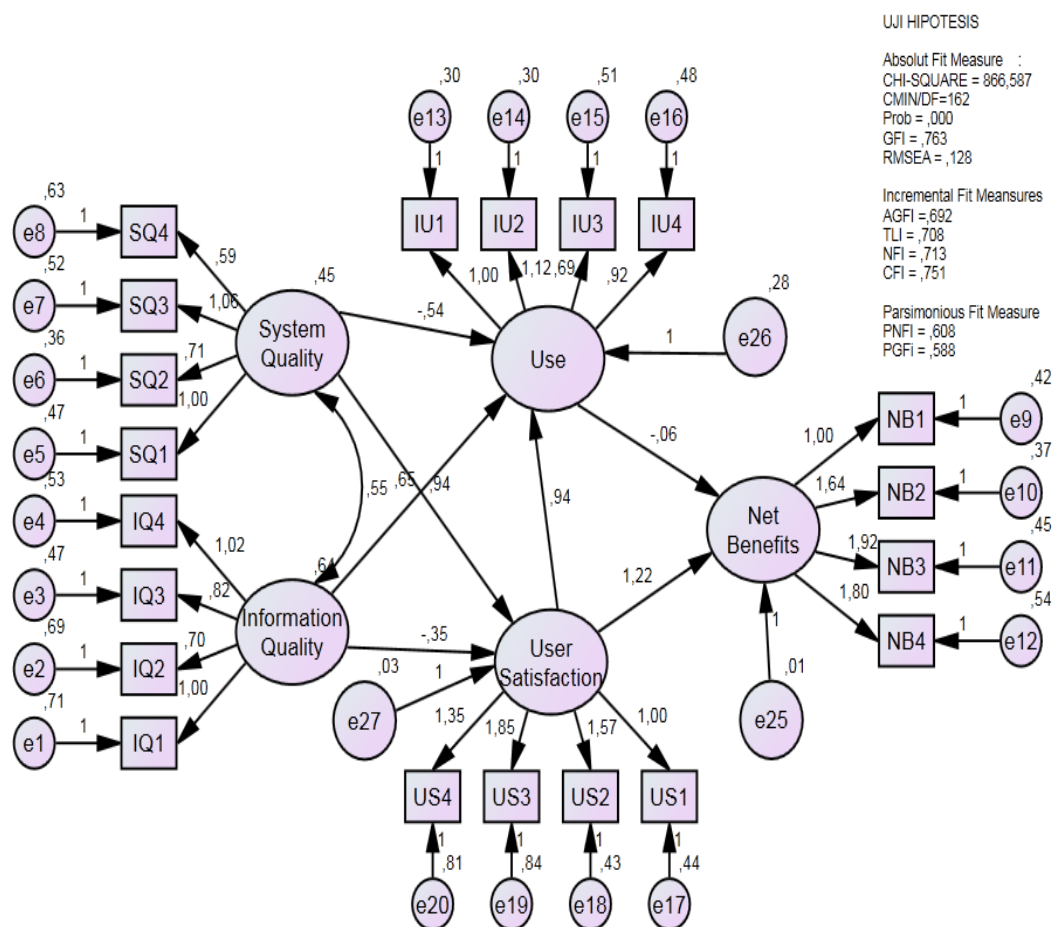
Based on Table 7. Regarding the profile of respondents, it appears that the majority of users of the Sorabel Application are female (72.3%), whereas for men are only 27.7% of the total 267 respondents. And if seen based on the long time using the application that is the most application users, amounting to 171 respondents are respondents who have just used this Sorabel application for about <= 2 years. It turns out that Sorabel application users are more interested in using mobile media in accessing rather than using a computer, based on the number of respondents who access this application which is as much as 68.2%.

3. Results and Discussion

After conducting a theoretical study, the next step is to make a flow diagram of causality relationships between constructs and their indicators.

3.1. Preliminary Research Model

The preliminary model of the study can be seen in Figure 3.



Source: Research Result (2019)

Figure 3. First Model

Based on Figure 3, it can be explained that the large chi-square value (866,587) and the probability value (0,000) smaller than 0.05 indicate a significant difference between the covariance of predictions and observational data, and the value of AGFI (0.692) and GFI (0.763). Therefore, it can be considered that the model is not fit. The validity test results can be seen in Figure 4., as follows:

		Estimate	S.E.	C.R.	P	Label
User_Satisfaction	<--- System_Quality	,942	,913	1,033	,302	par_16
User_Satisfaction	<--- Information_Quality	-,348	,767	-,454	,650	par_22
Use	<--- User_Satisfaction	,939	,872	1,077	,282	par_18
Use	<--- System_Quality	-,544	,668	-,814	,416	par_20
Use	<--- Information_Quality	,646	,731	,885	,376	par_21
Net_Benefits	<--- User_Satisfaction	1,224	,201	6,092	***	par_17
Net_Benefits	<--- Use	-,064	,068	-,935	,350	par_23

Source: Research Result (2019)

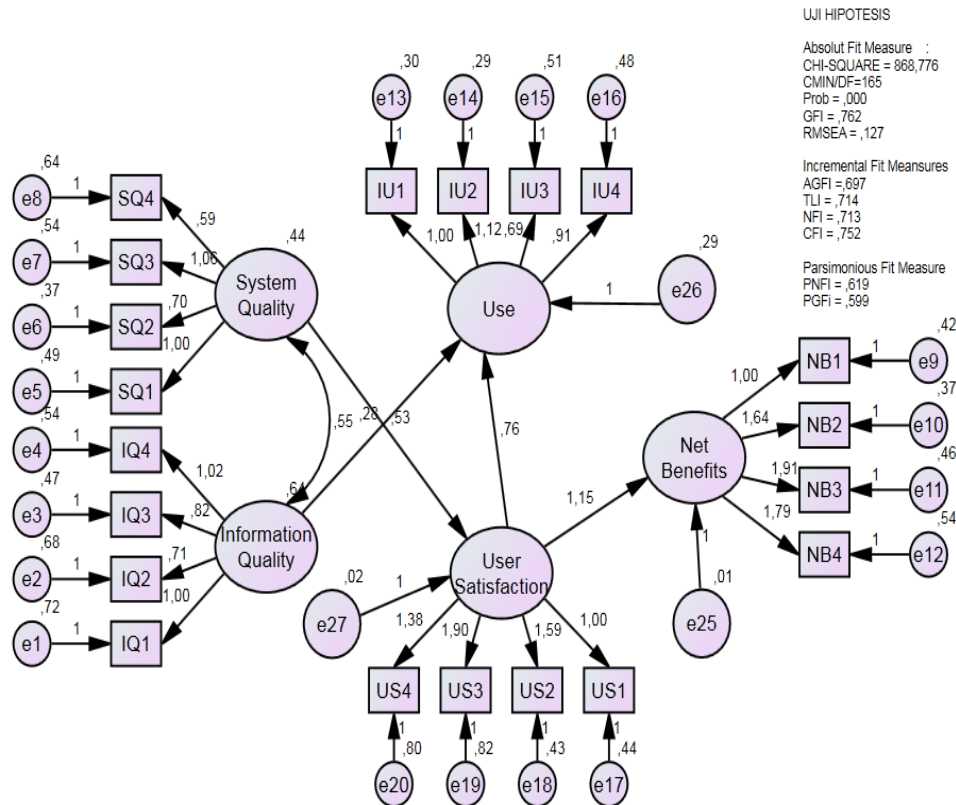
Figure 4. The Validity Test Results of the Initial Research Model

Figure 4. indicates that the estimated number on these results shows the presence or absence of the relationship of each variable. For the estimate value > 0.5, it indicates a positive relationship between variables, whereas If the estimate is <0.5, it indicates no positive relationship between variables. Since the estimated value between the User Satisfaction variable and Net benefitss is 1,224, it can be interpreted that between these variables have a positive relationship. From the validity test, the estimated value of Information Quality for User

Satisfaction is -0.384, System Quality for Use is -0.544 and the Use of Net benefits is -0.064; it can be concluded that the relationship between these variables cannot have a positive relationship. Therefore, to get the appropriate results, the relationship between variables with an estimated value of less than 0.5 will be eliminated.

3.2. Second Research Model

In the preliminary research model some relationships between variables and indicators must be removed to get the second research model as shown in Figure 5.



Source: Research Result (2019)

Figure 5. Second Research Model

Based on Figure 5, it can be explained that the large chi-square value (868,776) and the probability value (0,000) smaller than 0.05 which indicate a significant difference between the prediction covariance and observation data. The AGFI value (0.697) and GFI (0.762) concluded that the model is not fit. The validity test results can be seen in Figure 6.

		Estimate	S.E.	C.R.	P	Label
User_Satisfaction	<--- System_Quality	,525	,073	7,204	***	par_16
Net_Benefits	<--- User_Satisfaction	1,152	,173	6,650	***	par_17
Use	<--- User_Satisfaction	,764	,578	1,321	,187	par_18
Use	<--- Information_Quality	,281	,268	1,048	,295	par_20

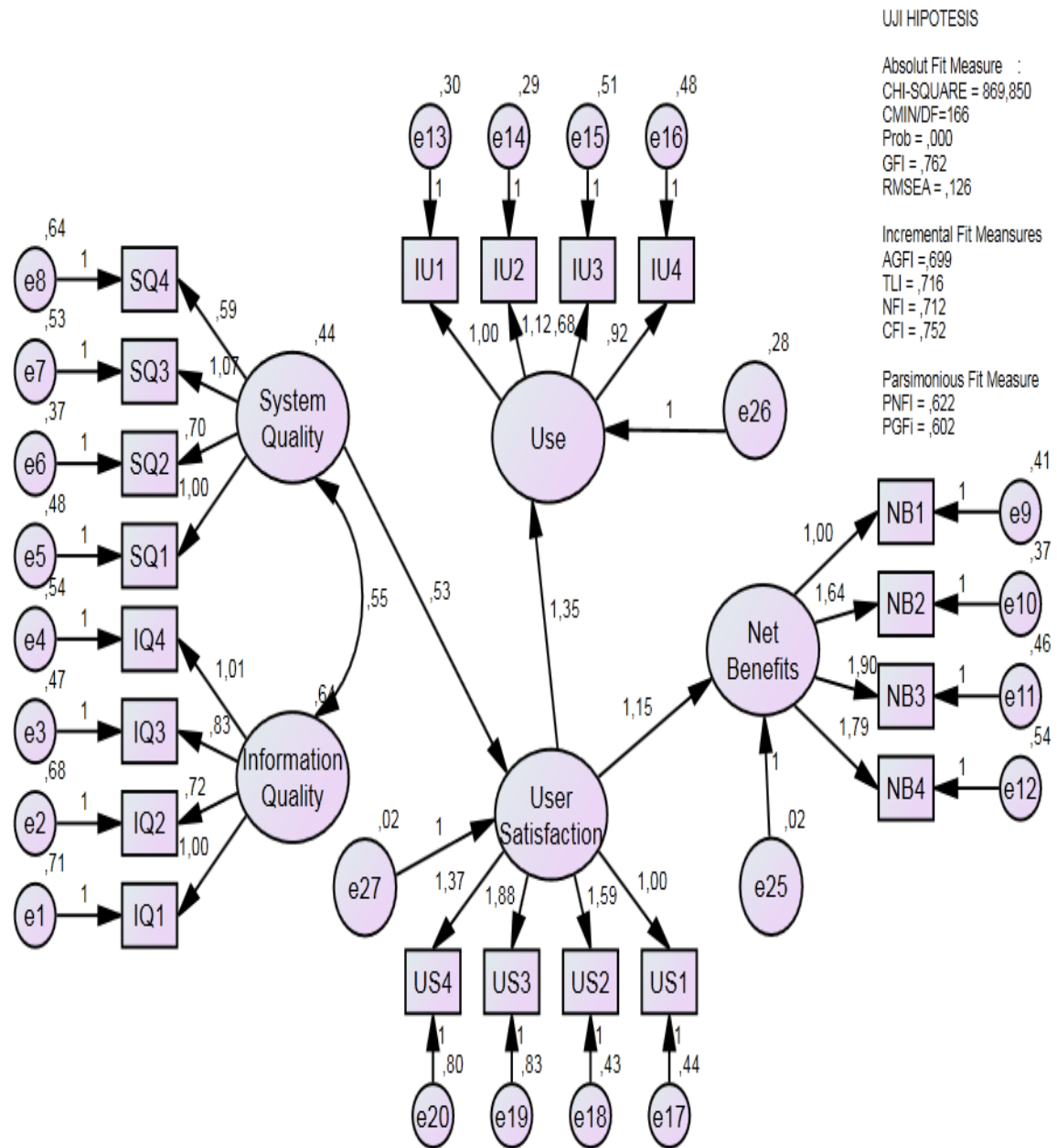
Source: Research Result (2019)

Figure 6. The Validity Test Results of the Second Research Model

Validity test of the second research test showed that there was still an estimate value of less than 0.5, so that in this second study it was still considered not fit. Therefore, the relationship between these variables must be eliminated. The estimated value that indicates the absence of a positive relationship was the Infomation Quality variable to Use with an estimated value of 0.281.

3.3. Final Research Model

Because the second research model is still considered not fit, the next model was proposed as shown in Figure 7.



Source: Research Result (2019)

Figure 7. Final Research Model

Figure 7 explains that a large chi-square value (869,850) and a probability value (0,000) smaller than 0.05 indicate a significant difference between the covariance of predictions and observational data. The value of AGFI (0.699) and GFI (0.762) indicated that the model was fit. The results of the validity test can be seen in Figure 6.

		Estimate	S.E.	C.R.	P	Label
User_Satisfaction <---	System_Quality	,529	,073	7,270	***	par_19
Net_Benefits <---	User_Satisfaction	1,146	,171	6,686	***	par_16
Use <---	User_Satisfaction	1,352	,193	7,021	***	par_17

Source: Research Result (2019)

Figure 8. The Validity Test Results of the Final Research Model

Validity test of the final research model showed the estimated value between the variables was less than 0.5. It indicated the positive relationship of each of these variables. Based on the validity test of the final research model, the hypothesis results are shown in Table 8.

Table 8. Hypothesis Results

Hypothesis	Description	Result
System Quality(1)	System Quality has a positive effect on Use	H ₀ Rejected H ₁ Accepted (Signifikan)
Use	Use has a positive effect on Net benefits	H ₀ Rejected H ₁ Accepted (Signifikan)
System Quality(2)	System Quality has a positive effect on User Satisfaction	H ₀ Accepted H ₁ Rejected (Non Signifikan)
User Satisfaction(1)	User Satisfaction has a positive effect on Use	H ₀ Accepted H ₁ Rejected (Non Signifikan)
Information Quality(1)	Information Quality has a positive effect on Use	H ₀ Rejected H ₁ Accepted (Signifikan)
Information Quality(2)	Information Quality has a positive effect on User Satisfaction	H ₀ Rejected H ₁ Accepted (Signifikan)
User Satisfaction(2)	User Satisfaction has a positive effect on Net benefitss	H ₀ Accepted H ₁ Rejected (Non Signifikan)
System Quality(3)	System Quality has a positive effect on Information Quality	H ₀ Accepted H ₁ Rejected (Non Signifikan)
Information Quality(3)	Information Quality has a positive effect on System Quality	H ₀ Accepted H ₁ Rejected (Non Signifikan)

Source: Research Result (2019)

4. Conclusion

The study concludes that there are 20 indicators which are grouped into 5 variables, including 4 indicators of System Quality, 4 indicators of Use, 4 indicators of Net benefits, 4 indicators of User Satisfaction, 4 indicators of Information Quality. The test results showed that the System Quality has a positive effect on User Satisfaction, this can be seen from the estimated value of 0.529, User Satisfaction has a positive effect on Net benefitss. This can be seen from the estimated value of 1,146, and User Satisfaction has a positive effect on Use, with an estimated value of 1,352. Testing results of the final research model supports the hypothesis (H₀) says that there is a relationship between variables with the level of satisfaction of the Sorabel Application to Sorabel application users as a medium for online shop.

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