Analysis of E-Service Quality on Website E-Commerce on E-Customer Satisfaction

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Abstract—**E-commerce has been positively accepted by the community in business to reach customers Easily. E-commerce system must meet all criteria that the community needed to improve the service quality in order to increase of customer satisfaction in online shopping, and at the end it will be affected to an e-commerce website sales. The level of satisfaction is necessarily to be measured to find out how far the quality of services could create customers satisfaction. The purpose of the research is to give empirical contribution about the effect of e-service quality through an e-commerce system to customer e-satisfaction. The sample of the research was the student majoring in business management all varsities in Batam with a survey method. This research used PLS-SEM (Partial Least Square-Structural Equation Model). The result is consistent with previous research stated that e-service quality has a positive effect on customer e-satisfaction in the online system. The conclusion of the research is information quality, e-service quality, usefulness and e-trust have effect on e-satisfaction variable.**

Keywords—e-satisfaction; e-service quality; information quality; usefulness; e-trust; e-commerce

I. INTRODUCTION

The era of globalization, as now, the technology is closely associated with the Internet. The development of technology over the years seemed to participate and support development of the Internet, one in Indonesia, internet users in Indonesia has increased every year. This is due to the ease of accessing the internet that can be done anytime, anywhere and by anyone. In fact, this technology can be enjoyed by almost all elements of society without any restrictions and difficulties. The existence of the internet today, anything could be done, including the development of business knowledge that usually people do business must meet or face to face, but this time has been facilitated by the Internet is e-commerce or commonly referred to as electronic commerce. E-commerce is the spread of purchasing, sales, marketing goods and services over electronic systems such as the Internet, television, and other computer networks. E-commerce can involve electronic funds transfer, electronic data interchange, automated inventory management systems, and automated data collection systems. Doing business online, the seller needs to provide quality service to customers. The definition of service quality is the extent to which the difference between expectations and reality of the customer for the services they receive.

Quality of service can be determined by comparing the customer perception of the service they receive. Therefore, providing a good service to the customers is an online business site efforts in creating customer satisfaction. When provided with good service, customers will be satisfied and will generate buying interest back. Measuring the level of satisfaction is necessary to know how far the quality of services provided are able to create customer satisfaction. The traditional model SERVQUAL [1], successfully developed five main dimensions of quality of service, into seven dimensions SERVQUAL covering efficiency, reliability, assurance, privacy, responsiveness, compensation and contacts. SERVQUAL has been one of the most widely used scale to measure the quality of service.

II. LITERATURE REVIEW

A. Critical Theory

According Lijuan [2], this study used critical theory (critical theory). This theory is used as a school of thought that emphasizes reflective judgments and criticism of society and culture by applying knowledge of social sciences and humanities or the study of how to create a more humane and cultured man. So, with the critical theory is to find out how the emphasis reflective assessment and critique student / i highly influential in determining the benefits of e-commerce, especially students who have been buying or selling online.

B. E-service Quality

According to Lin [3], and Vida [4], the quality of website services defined by consumer feelings about our service levels while browsing on the web site, place an order, make a payment or interact with the online store. The quality of service provided to consumers can influence the buying interest back to the customers. If the quality of services provided to customers well, then customers will be satisfied and the purchase will increase, and if the customer is satisfied with the services provided, the customer will provide information to relatives of mouth, this can increase the purchase regularly and the information will continue to spread to all walks of society.

C. Information Quality

The quality of online information from an e-commerce website can be viewed from several perspectives, such as product quality, product system, the quality of service providers, the quality of software products, system design, the quality of human interaction with computers and so on. When assessing

and evaluating the use of the website, the website is viewed as a measure of the quality required for success [5]. When the quality of the information given very clearly, it can be easy for customers to judge whether a website is trustworthy or not, and of the quality of the information we can also see whether the goods sold is appropriate or not for our use.

D. Usefulness

According Lijuan [2], the operator of the e-commerce website should not only focus on the pricing strategy of competitiveness. It is more important to maintain the level of quality and usefulness. Quality includes website addresses that are relatively easy to remember, well-organized, structured, and catalogs are easy to follow, site navigation, and content and concise terms so that the condition is easily understood. The usefulness of e-commerce is very helpful in terms of finding stuff online. Customers see that the content provided to them will make customers feel the ease to get information clearly. It can also make customers feel comfortable to use the website e-comerce.

E. E-trust

Trust is the basis for forging a relationship satisfaction and maintain long-term e-commerce [6]. If consumers feel that the risks to the security, privacy, fraud, or the reliability is low, then their perception of the benefits that are expected to increase, thus increasing their desire to buy back from the web site of e-commerce that provide customer satisfaction [7]. If the trust is established, people would rather buy or repeat purchases of the e-commerce website.The importance of building confidence to the customers in order to cultivate loyalty. In connection with the level of customer confidence in e-commerce website as collateral goods reach the hands of customers, the security of users' personal information. Shopee e-commerce website using a system or procedure in which the money will not be liquid if the user does not press the "goods received". It makes Shopee can be trusted by customers.

F. Customer satisfaction

According to Parasuraman [8], quality of service is a picture of customers' perception of service received by the customer at any given time. Quality of service is very important for the company as a good service to the customers can produce good customer satisfaction as well.

According to Kotler [9], customer satisfaction is the level of perception of one's feelings after comparing the expectations with the results obtained, he also stated that customer behavior shows a direct action in getting the receipt, consumption and use of the product. Thus, customer satisfaction is a very important thing in business, the increasing number of customers are satisfied with the services provided by the company, the more loyal customers to the company anyway.

Kotler [9], also stressed that customer satisfaction lies in the attitude shown by the customer after the transaction with the company, then the customer will respond with pleasure or feeling disappointed, if the customer is happy then considered satisfied customers. Customers will be satisfied if the products and services purchased by him in accordance with the expectations and the reality. Factors customer service is also very influential on customer satisfaction, customer satisfaction

can be a reflection of customer service. The explanation can be seen that companies that provide good service will make customers feel satisfied, it should be maintained so that the level of customer satisfaction can increase sales and will positively affect the interest to buy back.

G. Development of Hypothesis

H1: Information quality have had a positive impact on the level of e-satisfaction customers in the online system.

H2: E-service quality have had a positive impact on the level of e-satisfaction customers in the online system.

H3: usefulness of e-commerce website has had a positive impact on the level of e-satisfaction customers in the online system.

H4: E-trust have had a positive impact on the level of e-satisfaction customers in the online system.

Based on the formulation hypothesis that mentioned above, then model research can be described in research is as follows:
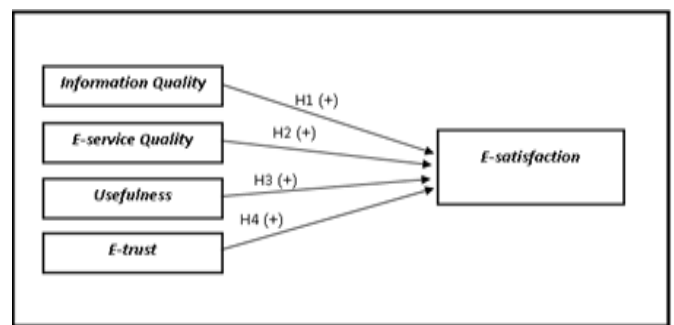

Fig. 1. The research model.

III. METHODS

A. Types of Data and Research Samples

The method used in this study is a quantitative approach. The data used is ordinal data, because it uses a categorization of answers by using numbers. Sources of data in this study using primary data obtained through questionnaires distributed to respondents based on the location and objects that have been defined in this study is to some students / i departments / study programs within the scope of business management in the city of Batam. Student population totaled 5,474 students, the data obtained from the site forlab Higher Education. The number of samples in this study using a slovin formula according Sugiyono [10]. Research using Slovin formula to determine the sample is:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{5474}{1 + 5474\,(0,1)^2}$$

$$n = \frac{5474}{55,74}$$

$$n = 98 \tag{1}$$

Thus, the minimum number of samples that can be used in this study was about 98 majors / study business management.

B. Data Analysis Technique

The data analysis technique used to test the hypothesis is the analysis of PLS-SEM (Partial Least Squares-Structural Equation Modeling).

IV. FINDING AND DISCUSSION

A. Outer Model

1) Construct validity test:

TABLE I. LOADING INDICATOR FACTOR

Construct	N	Item	Loading Factors
E-Satisfaction (ST)	4	ST1	0.884
		ST2	0.929
		ST3	0.893
		ST4	0.892
E-Service Quality (SQ)	22	EF1	0.683
		EF2	0.660
		EF3	0.717
		EF4	0.605
		EF5	0.714
		EF6	0.770
		EF7	0.734
		EF8	0.755
		SA1	0.803
		SA2	0.741
		SA3	0.736
		SA4	0.680
		FF1	0.690
		FF2	0.796
		FF3	0.747
		FF4	0.748
		FF5	0.714
		FF6	0.750
		FF7	0.705
		PV1	0.685
		PV2	0.637
		PV3	0.638
E-Trust (TR)	5	TR1	0.904
		TR2	0.798
		TR3	0.888
		TR4	0.886
		TR5	0.869
Usefulness (US)	4	US1	0.900
		US2	0.904
		US3	0.893
		US4	0.877

Source: Data Processing by Smart PLS.

Based on Table 1, it appears that the overall indicator is above 0.5. which means a significant indicator so can be concluded that overall items are stated valid

2) Convergent validity test:
Convergent validity test parameters can be seen from the score value AVE and Communality, each of which must be a value above 0.5. Here is the score value AVE and Communality for each construct.

TABLE II. SCORE AVE VALUE AND COMMUNALITY

Construct	AVE	Communality
E-Satisfaction	0,809	0,809
E-Service Quality	0,512	0,512
E-Trust	0,678	0,678
Quality Information	0,757	0,757
Usefulness	0,798	0,798

Source: Data processing by Smart PLS.

Can be seen in Table 2 that score AVE and Communality have a value above 0.5. Thus, it can be concluded that the construct has good convergent validity.

3) Discriminant validity test:
The following is an overview of the test discriminant validity were assessed based on a comparison roots AVE for each construct to the correlation between the construct with other constructs.

TABLE III. COMPARISON OF ROOT AVE LATENT VARIABLES AND CORRELATION

Construct	AKAR AVE	E-Satisfaction (ST)	E-Service Quality (SQ)	E-Trust (TR)	Information Quality (IQ)	Usefulness (US)
E-Satisfaction	0.889	1.000				
E-Service Quality	0.715	0.540	1.000			
E-Trust	0.823	0.565	0.550	1.000		
Information Quality	0.870	0.496	0.612	0.403	1.000	
Usefulness	0.893	0.553	0.567	0.590	0.556	1.000

Source: Data processing by Smart PLS.

Based on table 3 it can be concluded that the value of the root of AVE is higher than the value of the correlation between the construct with other constructs, this means that all constructs had met the criteria discriminant validity. Usefulness AVE value of the variable (US) in Table 6 was 0.798 so the value of its roots 0.893. This value is higher than the correlation between variables Usefulness (US) is E-satisfaction at 0.533, E-service Quality 0.567, 0.590 E-trust and Information Quality 0,556. The model is good, as well as other root AVE.

4) Reliability test:
Reliability test can be seen from the value of Cronbach 'Alpha and the value of Composite Reliability. Value Cronbach 'Alpha and the value of Composite Reliability.

TABLE IV. COMPARISON OF CRONBACH 'ALPHA AND COMPOSITE RELIABILITY

Construct	Cronbach's Alpha	Composite Reliability
E-Satisfaction	0,921	0,944
E-Service Quality	0,954	0,958
E-Trust	0,881	0,913
Quality Information	0,919	0,939
Usefulness	0,916	0,940

Source: Data processing by Smart PLS.

B. Inner Model

1) R Square:

TABLE V. RATED R SQUARE

Construct	*R-Square*
E-Satisfaction (St)	0,445

Table 5 shows the results of that R-square value of variable E-satisfaction (ES) is equal to 0,445. It shows that 44% can be affected by variables E-Service Quality (ESQ), E-trust (TR), Information Quality (IQ), and Usefulness (US) while the remaining 56% is influenced by other variables outside studied.

C. Hypothesis Testing Results

The basis used to test the hypothesis is the value of T-Statistics.

TABLE VI. RESULTS COEFFICIENT LINE AND T-STATISTICS

Information			T-statistics
Quality Information (IQ)	->	Satisfaction (ST)	1,973
E-Service Quality (SQ)	->	Satisfaction (ST)	2,080
Usefulness (US)	->	Satisfaction (ST)	1,901
E-Trust (TR)	->	Satisfaction (ST)	3,034

Based on table 6, it can be concluded that the first hypothesis is supported by the value of T-Statistics is 1,973 above the value of the T-Table by 1,64. Meaning Information Quality (IQ) positively affect the E-satisfaction (ST). A second hypothesis is supported by the value of T-Statistics is 2,080 above the value of the T-Table which means E-Service Quality (ESQ) positively affect the E-satisfaction (ST). The third hypothesis is supported by T-Statistics value amounted to 1,901 on top of the value of the T-Table which means Usefulness (US) positively affect the E-satisfaction (ST). And the fourth hypothesis is supported by the value of T-Statistics is 3,034 above the value of the T-Table, which means E-trust*(TR),* positively affect the E-satisfaction (ST).

TABLE VII. SUMMARY OF RESULTS OF TESTING HYPOTHESES

	Hypotheses	T-Statistics	Results
H1:	Information quality positive effect on e-satisfaction level of customer in the system online	1.973	Supported
H2:	E-service quality positive effect on e-satisfaction level of customer in the system online	2.080	Supported
H3:	The usefullness of e-commerce website in a positive effect on customer satisfaction in the online system	1.901	Supported
H4:	E-trust positively affect the customer's e-satisfaction in the online system	3.934	Supported

1) Information Quality positive effect on e-satisfaction level of customers in the online system:
Based on the results of hypothesis testing is done on the first hypothesis (H1), showed that H1 is supported. This means that the better prove H1 Quality Information provided to the customer on the quality of e-services, the level of e-increasing customer satisfaction. E-satisfaction level e-commerce website Shopee can be increased when the information perceived by the customer can demonstrate how the information provided in accordance with what is available on the website such as product quality, price, and service provided by the website to users. If the quality of information provided by the website is accurate, then the trust and customer satisfaction can be increased in accordance with the opinion of Eid [11]. This has led to a positive effect on e-satisfaction level e-commerce website Shopee. These results are consistent with the results of research conducted by Parasuraman [8] and Lijuan [12] which states that the Information Quality in e-service quality has a positive effect on the level of customer e-satisfaction in the online system.

2) E-service Quality positive effect on e-satisfaction level of customers in the online system:
Based on the results of hypothesis testing is done on the second hypothesis (H2), showed that H2 is supported. This means more efficient H2 proves that the quality of e-services provided by the company, the level of e-increasing customer satisfaction. E-satisfaction level on e-commerce website Shopee can be increased when the quality of service provided to the customer company can be felt and can describe how the customer convenience in using the website appropriately and how the website is accessible to users. This has led to a positive effect on e-satisfaction level e-commerce website Shopee, according to Parasuraman [8] which indicates that e-service quality has a strong effect in influencing factor of e-satisfaction. These results are consistent with the results of research conducted by Parasuraman [8] and Lijuan [12] which states that the e-service quality on the quality of e-service has a positive effect on the level of customer e-satisfaction in the online system.

3) Usefulness positive effect on e-satisfaction level of customers in the system online:
Based on the results of tests performed on the third hypothesis (H3), showed that H3 supported. That is, H3 proved that the better the usability of the website on the quality of e-services, the level of customer e-satisfaction will increase. The level of e-satisfaction ecommerce website Shopee can be increased when the website usability perceived by customers to describe how the ease of use and can lead to ease of use of e-commerce website and can lead to customer satisfaction and subsequently affect the behavior of customer satisfaction with e-commerce website in accordance the opinions [11]. This factor contains high levels of customer satisfaction, if customers want something to buy the product and on its use can be done easily. This has led to a positive effect on e-satisfaction level e-commerce website Shopee. These results are consistent with the results of research conducted by Parasuraman [8] and Lijuan [12] which states that the usefulness (utility) on the quality of e-service has a positive effect on the level of customer e-satisfaction in the online system.

4) E-trust positive effect on e-satisfaction level of customers in the online system. Based on the results of tests performed in the fourth hypothesis (H4), showed that the H4 is supported. That is, prove that the better H4 credence given to the customers on the quality of e-services, the level of customer e-satisfaction will increase. E-satisfaction level e-commerce website can be increased when the trust Shopee perceived by the customer can show how the collateral goods and the information passed on to customers is accurate and reliable, and can be well received in accordance with the opinion [13]. This factor implies a degree of confidence the customer, if the customer wants a product and paid it to the company, the company must meet the wishes of customers by providing products accurately, This has led to a positive effect on e-satisfaction level e-commerce website Shopee. These results are consistent with the results of research conducted by Parasuraman [8] and Lijuan [12] which states that E-trust in e-service quality has a positive effect on the level of customer e-satisfaction in the online system.

V. CONCLUSION

This study aims to provide evidence of how big influence on the quality of e-service e-commerce website to e-satisfaction of customers who shopped at the e-commerce website Shopee. Samples from this study is the student / i departments / study programs within the scope of business management from various colleges and universities in the city of Batam. Results from this study showed that of the fourth hypothesis, all the research hypothesis is supported. This study showed that the quality of information that is perceived by customers shopping at an e-commerce website Shopee have a positive impact on e-satisfaction level of the customers in the online system. The quality of service perceived by customers shopping at an e-commerce website Shopee have a positive impact on e-satisfaction level of the customers in the online system. The perceived usefulness of the customers shopping at an e-commerce website Shopee have a positive impact on e-satisfaction level of the customers in the online system. confidence felt by customers shopping at an e-commerce website Shopee have a positive impact on e-satisfaction level of the customers in the online system.

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