

The Effect of Security, Information Availability, Delivery, Quality, Price and Time on Online Shopping Consumer Satisfaction

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Keywords: Security, Information Availability, Delivery, Quality Price, Time, Customers Satisfaction in Online Shopping.

Abstract: Technology that is increasingly developing now is able to increase various kinds of influences for its users. The technology used today is not only focused on communication and information technology, but also is used as a means to conduct trade transactions with a variety of unlimited marketplaces. This study aims to determine the selected factors that influence online shopping consumer satisfaction conducted in Batam. There are six factors that will be used as independent variables in this study, security, information availability, delivery, price and time. This study uses primary data in the form of a survey with a questionnaire as a research instrument measured using a 1-5point Likert scale. The sampling technique in this study used the convenience sampling. The sample used in this study was 200 respondents. The analytical tool used in this study is multiple regression and t-test. The results of this study are the quality, price and time have a significant effect on online shopping consumer satisfaction, while security, information availability and delivery have no significant effect on online shopping consumer satisfaction. The limitation of this study is that it only uses the population in Batam. Suggestions for further research are expected to be able to increase the population with a wider area and add other variables that affect consumer satisfaction online shopping.

1 INTRODUCTION

Technology that is increasingly developing now is able to increase various kinds of influences for its users. People who are spoiled by technology are required to be able to utilize technology in accordance with their functions. The internet is one form of technology that is currently a major need for the community.

The technology used today is not only focused on communication and information technology, but also can be used as a means to conduct trade transactions with a new market place that is not limited by time and space. The development of technology is increasingly increasing to provide special space for the business world without any limitations.

According to data released by the Menkominfo that the e-commerce transactions or online trade in 2016 reached 25 billion US dollars. The amount has increased up to 40% compared to 2015 which reached 13 billion US dollars. The growth of e-commerce transactions was driven by the strong socialization and promotion carried out by the online trade, as well as the internet penetration that continues to increase.

Online shopping is one factor that contributes directly to the economy of a country. According to data released by the Institute for Development of Economics and Finance (INDEF), the contribution of the digital economy to Indonesia's GDP in 2018 reached Rp 814 trillion (US \$ 56.4 billion) or 5.5% of GDP. This contribution becomes very important to maintain and increase Indonesia's GDP.

Other data released by EcommerceIQ stated the conditions of the e-commerce landscape and online marketplace in Indonesia. EcommerceIQ uses the top 6 platforms based on the level of frequency of visits and application ratings in the Play Store namely blibli.com, Bukalapak, JD.ID, Lazada, Shopee and Tokopedia. When viewed from the best reputation, blibli.com is the leading online marketplace compared to others with 14.8%. The product with the lowest price is Bukalapak with the highest percentage of 14.6%. Lazada excels with the fastest shipping data at a percentage of 10%. Shopee which offers free shipping becomes the highest marketplace with a percentage of 18.4%.

One of the things that can increase online shopping transactions is consumer satisfaction for what they have got. Consumer satisfaction illustrates

an important thing especially for the existence, sustainability and growth of every business including e-commerce. Today many companies have understood the importance of customer satisfaction and always improve the company's strategy in meeting customer satisfaction. Consumers who are satisfied with the services or products offered are able to build harmonious relationships between companies and consumers. Not only that, if consumers are satisfied, the company can make consumers make repeat purchases which indirectly creates consumer loyalty.

Consumer survey data released by the Daily Social in collaboration with JakPat states that consumer satisfaction consists of several factors. These factors are the percentage of 31.03% in terms of affordable prices, 26% of discount promos, 19% variation in product choices and 15% of the availability of free shipping products. The availability of the survey results can be utilized for e-commerce to compete in maintaining and increasing customer satisfaction.

The formulation of the problem in this study is whether security has a significant effect on customer satisfaction, whether the availability of information has a significant effect on customer satisfaction whether delivery has a significant effect on customer satisfaction. whether quality in terms of service has a significant effect on customer satisfaction. whether the price has a significant effect on customer satisfaction. whether time has a significant effect on customer satisfaction.

The purpose of this study is to examine the selected factors that influence consumer satisfaction in the marketplace in Indonesia, especially in the city of Batam. The importance of a marketplace to know these influences and understand these factors in maintaining customer satisfaction so as not to choose another marketplace. If the company is able to keep consumers satisfied with the services provided by the company, customer loyalty is increasing.

This study is a replication of the study of Vasic, Kilibarda & Kaurin (2019), in this study there were differences in time, place and population from previous studies. If previous research uses consumers from online markets in Serbia, this study selects consumers from online markets in the city of Batam. Researchers chose a sample of online market consumers because they wanted to find out whether there was a significant influence from previous studies (Vasic, Kilibarda, & Kaurin, 2019).

2 LITERATURE REVIEW

2.1 Technology Acceptance Model (TAM)

TAM is a theory put forward by Davis in 1986. Davis (1986) explains that TAM is used to see the understanding of individuals who are continuously using information technology in their activities. Davis (1986) states that this model states that information system users will be affected by the usefulness variable which supports that the availability of information and the price of a product offered by the seller can provide benefits for consumers in choosing products where this can affect consumer satisfaction. The time savings in shopping online provide benefits that greatly benefit consumers, this can indirectly increase customer satisfaction. Davis (1986) explains in TAM theory that the theory has another variable, ease of use. The convenience can be felt by consumers through timely and expected delivery, thereby increasing customer satisfaction.

2.2 Motivation Theory

Motivation theory is a theory that was coined by Abraham in 1943, the theory is quoted in the book Management of human resources by Bangun (2012). Abraham states that this theory divides the 5 needs of human life based on a hierarchy of needs, starting from the basic needs to the highest needs. The fifth hierarchy of needs include the first, physiological needs, namely basic human needs. Second, security needs, namely the need for a sense of security against various threats. Third, social needs, namely the need for family and friends. Fourth, the need for appreciation that can be interpreted as a sense of wanting to be appreciated by others. The five needs for self-actualization are the needs to fulfill self-ambition. Abraham also mentioned that security needs are very necessary for consumers, which is directly able to influence consumer satisfaction.

2.3 Expectation Disconfirmation Theory (EDT)

Expectation disconfirmation theory (EDT) is a theory put forward by Oliver (2015). This theory Oliver (2015) states that consumer satisfaction and dissatisfaction is the result of a comparison between expectations and pre-purchase or selection and decision making (pre purchase expectation). This theory explains that one way to encourage customer

satisfaction is in terms of quality. One feature of customer satisfaction can be seen from consumer loyalty to the products produced by the company. Based on these theories the company can increase customer satisfaction by growing the quality of products and services in accordance with consumer expectations.

2.4 Security

Security according to Vasic, Kilibarda, & Kaurin (2019) can be interpreted as the ability of an e-commerce to protect the personal data of its consumers from the threat of information theft when transacting online. Security is considered an important factor for online consumers. E-commerce that is able to maintain consumer security and privacy can foster consumer satisfaction with e-commerce. Security needed by consumers is in line with one of the five hierarchies of needs according to motivation theory, namely security needs. These needs are related to the safety variables of this study which are able to influence customer satisfaction. Irantaj & Huseynov (2018) stated in his research that the security and privacy of e-commerce has a positive effect on consumer satisfaction in Digikala Iran. Research conducted by Noori (2019) also states that security and privacy have a significant effect on consumer trust and satisfaction. Based on this explanation, the following hypotheses can be developed:

H1: Security has a significant effect on online shopping consumer satisfaction

2.5 Information Availability

Online trading therein requires the availability of information on the products offered. The availability of accurate information can be very beneficial for online shopping consumers, because if shopping online, consumers cannot directly touch the product without making a purchase first. The perceived benefits are in line with the TAM theory which explains that users of information systems will be influenced by the usefulness variable. The benefits of the information provided by the marketplace make consumers feel helped to choose the desired product. It encourages consumers to shop again and feel satisfied with the marketplace. The research of Vasic, Kilibarda & Kaurin (2019) revealed that the availability of information has a positive effect on customer satisfaction. Based on this explanation, the following hypotheses can be developed:

H2: The availability of information has a significant effect on online shopping consumer satisfaction

2.6 Shipping

Shipping is a link that directly influences and triggers customer satisfaction. In shopping online, reliable, safe and timely delivery is the main thing that drives consumer satisfaction. Shipping is able to provide convenience for consumers to get the product they want. The simplicity is in line with the TAM theory which explains that users of information systems will be influenced by the ease of use variable or ease of use. Research conducted by Yuen & Thai (2015) in which shipping is represented by reliability and speed has a significant effect on customer satisfaction. Delivery service is stated to be positively related to the satisfaction of consumers who have shopped online in China and Taiwan Cao, Ajjan & Hong (2018). Based on these arguments, the hypothesis can be developed as follows:

H3: Shipping has a significant effect on online shopping consumer satisfaction

2.7 Quality

Quality of service describes a consumer's assessment of the overall superiority of a given service. Therefore, it is very important to manage quality in business to ensure the best quality service for consumers. Maximum quality can drive consumer satisfaction in shopping. In accordance with EDT theory which explains that customer satisfaction is obtained when the products obtained by consumers in accordance with the desired expectations, including in terms of product quality. Previous research that examined Foster (2016) states that quality has a positive effect on customer satisfaction. Quality has a positive effect on consumer satisfaction also examined by Vasic, Kilibarda & Kaurin (2019) in Serbia. Based on these arguments, the hypothesis can be developed as follows:

H4: Quality has a significant effect on online shopping consumer satisfaction

2.8 Price

Price becomes the main concern of consumers when assessing the products or services offered. From a consumer perspective, price is what has been given to get a product or service. Price is one of the factors

that influence customer satisfaction. The price of a product from an online store is considered to be cheaper than the price of a product in an offline store. The price difference provides benefits that are felt by consumers online, because if shopping at a cheaper price, then consumers can buy other products in accordance with what is desired. These benefits are in line with the TAM theory which explains that users of information systems will be influenced by the usefulness variable. Research conducted to examine the impact of prices on consumer satisfaction in Mutiara hotels in Bandung. Research conducted by (Foster, 2016) states that prices have a positive impact on consumer satisfaction. Other research conducted by (Usmana & Rehmanb, 2017) states that price has a significant effect on customer satisfaction. Based on these arguments, the hypothesis can be developed as follows:

H5: Price has a significant effect on online shopping consumer satisfaction

2.9 Time

Shopping online is considered able to save in terms of time. Consumers who choose to shop online can make transactions on time. Consumers do not need to go to the store to see the products needed, only through mobile phones consumers can meet their needs in a practical way so that it can trigger consumer satisfaction in shopping. The benefits are felt when consumers have to shop but do not require a long time. These benefits are in line with the TAM theory which states that users of information systems will be influenced by the usefulness variable. Research conducted by Vasic, Kilibarda, & Kaurin (2019) explains that time has a significant relationship to customer satisfaction. Based on these arguments, the hypothesis can be developed as follows:

H6: Time has a significant effect on online shopping consumer satisfaction

Based on the hypotheses that have been presented, the research model is obtained as follows:

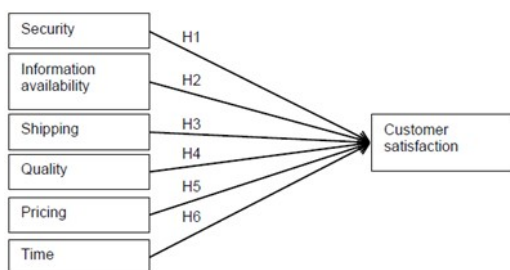


Figure 1: Research Model.

3 RESEARCH METHOD

The method approach used in this study is the hypothesis test, where there are data analyzed in the form of numbers and this study there is an influence test that requires quantitative approach in processing the data.

This type of research is descriptive using quantitative data. The object of this research is online shopping consumers in Batam. The sampling technique in this study is to use convenience sampling. Criteria in this research is online shopping consumers of marketplace in Batam.

4 RESULTS AND DISCUSSION

4.1 Characteristic of Respondents

The characteristics of the respondents in this study explain the information on the sample of respondents who use online shopping. Questionnaire was distributed by 200 and returned at the same level. Based on 200 samples, there were 75 males (37,5%) and 125 females (62,5%). From the number of samples of research respondents, it can be explained that males use e-commerce products less than female. Based on age, the range of age were in 39-54 (3,5%), 25-38 (30%), 19-24 (61,5) and under 19 (5%), it can explain that young people with range age 19-24 years old are the biggest users of online shopping.

Based on last education, respondents were senior high school (15,5%), diploma (80%), and master (4,5%), it can be explained that online shopping user have diploma background. Base on time internet usage under 1 hour (1,5%), 1-2 hours (6,5%), 3-4 hours (14%), over 4 hours (78%), it can be explained that online shopping users use the internet for more than four hours to shopping. Base on maximum estimates issued for online shopping, under Rp100.000 (14%), Rp100.000-300.000 (46,5%), Rp300.000-500.000 (24,5), Rp 500.000-1.000.000 (10%), and over Rp 1.000.000 (5%), it can be explained that many online shopping user set an estimated maximum for shopping between Rp100.000 until Rp 300.000.

Based on the type of marketplace that is often used, shopee (81%), tokopedia (35,5%), Lazada (19%), bukalapak (16%), and zalora (13%), it can be explained that shopee the most popular marketplace. Based on how consumers choose shipping costs in online purchases, free shipping (65%), Reducing freight costs (26%), Paying the total cost of shipping

goods so that the price of the product is reduce (9%), it can be explained that online shopping user choose the free shipping method when shopping. Based on the Delivery Period Until the Goods Arrived in the Consumer's Hand, 3 days (37%), 4 days (26%), 1 week (18%), and over 1 week (20%), it can be explained that delivery period until the good arrive in the consumer within three days.

4.2 Research Instrument Test

The research instrument test was conducted to understand whether the questionnaire used was valid and reliable. Validity test was done to test how valid the distributed questionnaire to research respondents.

An instrument can be described valid if the validity value is high, vice versa. If the result was obtained $r_{count} > r_{table}$, then the questionnaire was valid. If the result was $r_{count} < r_{table}$, then the questionnaire was not valid.

Table 1: Validity Test Result.

Variabel	Item	r Count	r Table	Information
Security (X1)	1	0,832	0,1166	Valid
	2	0,920		Valid
	3	0,833		Valid
Information Availability (X2)	1	0,846	0,1166	Valid
	2	0,738		Valid
	3	0,645		Valid
Shipping (X3)	1	0,28	0,1166	Valid
	2	0,846		Valid
	3	0,825		Valid
	4	0,821		Valid
	5	0,656		Valid
	6	0,581		Valid
Quality (X4)	1	0,892	0,1166	Valid
	2	0,867		Valid
	3	0,537		Valid
Price (X5)	1	0,735	0,1166	Valid
	2	0,944		Valid
	3	0,826		Valid
Time (X6)	1	0,698	0,1166	Valid
	2	0,507		Valid
	3	0,693		Valid
	1	0,502	0,1166	Valid
	2	0,824		Valid

Consumers Satisfaction (Y)	3	0,917		Valid
	4	0,853		Valid
	5	0,612		Valid

Reliability test referred on reliability instrument level, if the data tested is in accordance with reality then if it will be retaken the data the result would be the same. Reliability test used Alpha Cronbach formula. If the value of Cronbach's Alpha $> 0,70$ then data was reliable, if the value of Cronbach's Alpha $< 0,70$ then data was not reliable. Based on table 2, it can be concluded that questionnaire research questions were reliable.

Table 2: Reliability Test Result.

	Item	Cronbach Alpha
1	Security	0,849
2	Information Availability	0,799
3	Shipping	0,771
4	Quality	0,811
5	Price	0,842
6	Time	0,702

Table 3: Hypothesis Test.

Variables	B	T	Sig
(Constant)	5,764	4,456	.000
Security	-0,144	-1,808	0,072
Information Availability	0,141	1,673	0,096
Shipping	0,069	1,443	0,151
Quality	0,226	2,758	0,006
Price	0,278	4,493	0
Time	0,57	7,007	0

From table 3, obtained the multiple linear regression equation is as follows.

$$Y = 5,764 + -0,144X_1 + 0,141X_2 + 0,069X_3 + 0,226X_4 + 0,278X_5 + 0,570X_6 \quad (1)$$

The multiple regression explained that a constant value of 5.764 which means that if security (X1), information availability (X2), delivery (X3), quality (X4), price (X5) and time (X6) have a zero value, then the level of customer satisfaction (Y) is the value 5,764. The regression coefficient for the security variable (X1) is -0.144, the availability of information

(X2) is 0.141, delivery (X3) is 0.069, quality (X4) is 0.226, price (X5) is 0.278 and time (X6) is 0.570.

Based on the equation model above, it can be explained that consumer satisfaction in doing online shopping will still increase by 5,764. If customer satisfaction increases by 1 value, then the security in doing online shopping will decrease by 0.144. Based on the table above, it can be explained that the significance value of the security variable is 0.072, which means that there is no significant effect because the value is greater than 0.05, it can be concluded that **H1 not supported**.

Based on table 3, it can be explained that consumer satisfaction in doing online shopping will still increase by 5,764. If customer satisfaction increases by 1 value, the availability of information in online shopping will increase by 0.141. Based on the table above, it can be explained that the significance value of the information availability variable is 0.096, which means that there is no significant effect because the value is greater than 0.05, it can be concluded that **H2 not supported**.

Based on table 3, it can be explained that consumer satisfaction in doing online shopping will still increase by 5,764. If customer satisfaction increases by 1 value, then online shopping delivery will increase by 0.069. Based on the table above, it can be explained that the significance value of the shipping variable is 0.151 which means that there is no significant effect because the value is greater than 0.05, it can be concluded that **H3 not supported**.

Based on table 3, it can be explained that consumer satisfaction in doing online shopping will still increase by 5,764. If customer satisfaction increases by 1 value, then the quality of online shopping will increase by 0.226. Based on the table above, it can be explained that the significance value of the quality variable is 0.006, which means that there is a significant influence and has a positive relationship to online shopping consumer satisfaction. It can be concluded that **H4 is supported**.

Based on table 3, it can explain that consumer satisfaction in doing online shopping will continue to increase 5,764. If customer satisfaction increases by 1 value, then the price of online shopping will increase by 0.278. Based on the table above, it can be explained that the significance value of the price variable is 0,000, which means that there is a significant influence and has a positive relationship to online shopping customer satisfaction. It can be concluded that **H5 is supported**.

Based on table 3, it can be explained that consumer satisfaction in doing online shopping will

still increase by 5,764. If customer satisfaction increases by 1 value, then the time to do online shopping will increase by 0.570. Based on the table above, it can be explained that the significance value of the time variable is 0,000, which means that there is a significant influence and has a positive relationship to online shopping customer satisfaction. It can be concluded that **H6 is supported**.

5 CONCLUSIONS

The main objective of this study is to determine the selected factors that affect customer satisfaction online shopping conducted in Batam. There are six factors used as independent variables in this study, namely security, information availability, delivery, quality, price and time. Further research is recommended to increase the number of samples in the study. In addition, further research is expected to add other characteristics to be used as research samples. And further research should involve other factors that can affect customer satisfaction in using online shopping. The data of this study were obtained from the results of distributing questionnaires distributed to online shopping consumers directly and through Google forms. The conclusions obtained in this study are:

1. Security has no significant effect on online shopping consumer satisfaction. That is, security is not one of the factors that can affect consumer satisfaction when doing online shopping.
2. The availability of information has no significant effect on online shopping consumer satisfaction. That is, the availability of information provided by online sellers does not make consumers feel satisfied. The information provided by online sellers is considered less able to encourage consumers to feel satisfied because the information is sometimes only in the form of seller's opinion where consumers cannot see and touch the product directly.
3. Shipping has no significant effect on online shopping consumer satisfaction. That is, shipping does not have the influence that is able to encourage consumers to feel satisfied when doing online shopping.
4. Quality has a significant effect on online shopping consumer satisfaction. That is, the better the quality of a product can increase customer satisfaction when doing online shopping.
5. Prices have a significant effect on online shopping consumer satisfaction. That is, the price given by online sellers is better and cheaper than the

prices given by traditional sellers (offline) so that consumers feel more satisfied when shopping online.

6. Time has a significant effect on online shopping consumer satisfaction. That is, shopping online can make consumers more efficient and effective in using time to shop. Traditional shopping is felt to be more time consuming because consumers have to come directly to the store to shop.

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