

AN ANALYSIS OF SECURITY AND SERVICE QUALITY TOWARD PURCHASE DECISION ON E-COMMERCE AND ITS IMPLICATIONS OF CONSUMER LOYALTY

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ABSTRACT

In the marketing world, especially through internet marketing or what is known as e-commerce, an e-marketer cannot ignore the role of the online shop as a medium for their marketing communications, where marketing activities via e-commerce is currently being favorable by the people in Indonesia. However transaction through e-commerce has the fairly high riskpotential. Therefore the factor of security and service quality become a benchmark on purchasing decisions through e-commerce. The purpose of this study is to analyze whether security factor directly influences purchasing decisions through e-commerce, service quality factor directly influences purchasing decisions through e-commerce, security and service quality factor directly influences purchasing decisions through e-commerce, as well as security and service quality factor gives significant effect on e-commerce consumer loyalty. This research was conducted by taking samples of e-commerce users in Indonesia which were most active to purchase online products or services in 2014.

KEYWORDS: E-commerce, Security, Service Quality, Purchasing Decisions, Loyalty

1. Introduction

According to market research agency, e-marketer.com, the population of Internet users (netter) in the country reached 83.7 million at the end of 2014. The figure applies to every person who accesses the internet at least once a month. It makes Indonesia is ranked 6th after Japan in terms of the

largest number of Internet users in the world. But the majority of the total number of Internet users in Indonesia who are using the facility to send and receive electronic mail and who are interested in doing online transactions and purchases are only about 6% , that is, 5.0220.000 of total Internet users there. This was due to the absence of security guarantees from the government of Indonesia in the activities of buying and selling via the Internet or e-commerce for businesses and internet users. Things which are considered by consumer in conducting transactions through e-commerce are the lack of payment guarantee through money transfer system and the confidentiality guarantee of data and consumer information (Security).

Aside from the security factor, qualified Service Quality has not been developed by some e-commerce businesses because businesses have not provided timeliness guarantee in receiving product or service booked by the consumers and certainty that goods will be accepted by consumers, so that consumers are reluctant to make transactions through e-commerce. Many consumers prefer to purchase offline to online purchase transaction because in e-commerce transaction it is often happened that the product received is not as what has been described on the online store sites

In addition to the above information, it is explained also that to conduct trading transactions and purchases through the Internet, or e-commerce, has the high riskpotential. In this regard, it turns out that a consumer's purchase

decision in e-commerce transaction related directly to security and service quality which can create loyal customers in e-commerce. Consumer's loyalty cannot be built within one day or a few days, yet should be cultivated gradually. Smooth first transaction will determine a consumer to make online purchases in the future or not. If this transaction runs as expected by consumer, it is not impossible that he will become a loyal customer at a particular shop online

2. THEORETICAL BASIS

2.1. E-commerce

According to Abdul Kadir (2014: 315), e-commerce is the activity of purchasing, selling, and marketing products or services with the provision of information via the internet. In line with CitaYulisia (2013: 9) e-commerce or electronic commerce is the buying and selling goods or services over the Internet or other electronic media which include communication, transaction and settlement of a payment mechanism in accordance with the basic principles that apply to the trading, where the buyer and seller exchange goods or services to the media in form of cash payments.

In electronic purchasing or e-commerce there are 8 major characteristics, namely: (1) Using the internet as the main media in the trading process, (2) Most use of electronic transactions as a means of transaction, (3) There is the exchange of products (goods or services) and electronic information, (4) Sellers and buyers do not need to meet in person, (5) Payments are made online (transfer account, payment by credit card, payment by using internet banking, etc.), (6) Delivery of products can be made online (non physical / digital tangible products) or via freight (tangible products), (7) Products sold can be either physical or non-physical, (8) the target consumers are mostly teenagers and adults who are literate to technology.

2.2. Security

Raman Arasu and Viswanathan (2011), through a study conducted on online consumers in Malaysia, found that the safety factor has a positive and significant influence to the purchasing decisions of consumers on a product or service that is done online, which we are familiar with as e-commerce. Security policy is a set of rules established in all the security activities in every segments, such as domain security (security of online shop website address) which aims to provide security to the absence of spurious or similar domain, the data security of each customer's personal information in an online shop which is aimed to give a sense of security to the consumer so that the confidentiality of personal data information is not leaked and misused by irresponsible parties, and security made aiming to give consumers confidence to make purchases via e-commerce. The indicators of security or safety in an online shop on e-commerce consist of the confidentiality/privacy, personal data management, and confidence/security guarantee.

Indicators of security above can be explained that:

1. Confidentiality / Privacy

Confidentiality / Privacy means that e-commerce actors act in a manner guaranteeing whether the information sent by a consumer on the personal data cannot be opened or known by others who do not have the authority to know.

2. Management of Personal Data

There is guarantee of the data consistency which is still intact in accordance with the original or not, so the efforts of people who are not responsible to duplicate and destruct the data can be avoided.

3. Providing Security Guarantee

Providing security on e-commerce transaction process, from the confidentiality of each customer's personal data, ensures only the relevant consumers that can change and access their personal data, giving security guarantees in the process of payment transfer, *mastercard*, internet banking or other transaction system.

2.3. Service Quality

Service quality is very important to business sales of products and services either done directly through online system since the quality of service is directly related to customer satisfaction and loyalty. Lovelock in Abdurrahman AdiSukma (2012) suggested that service quality is the level of good or bad servings provided by the seller in order to satisfy consumer to give or convey or express a desire or consumer demand higher than what consumers expect. Raja Arcana and Vandana in their research (2012) state that the current price and promotion are no longer able to determine the purchase decision for consumers. According to them, this time consumers also make an assessment on the quality of service when making online purchases of products or services. Raje Arcana and Vandana (2012) mention that the quality of online services can be assessed by the three indicators, namely: reliability, responsiveness and empathy. Indicators of service quality can be conducted online, consisting of three main indicators, namely, reliability, responsiveness, and empathy.

Indicators of service quality above can be explained as the following:

1. Reliability

Reliability refers to how businesses conduct their good and right services to consumers so that they can be trusted and relied upon by consumers. It is very important to note because by giving a true service impression it can give you the confidence of consumers in making purchasing decisions of the products or services. In e-commerce the form of reliability can be implemented by seeing *quest and answer* feature on the features provided by each online shop.

2. Responsiveness

Responsiveness refers to the speed of the company in giving response to problems experienced by consumers by providing clear and complete information on products and services. In e-commerce consumers can choose *chat us* or

call us to interact directly as the consumer and the online shop.

3. Empathy

Empathy here refers to how the companies concern and give attention to each consumer to make consumers feel extra appreciated and how online businesses apply empathy by providing services such as chat or customer service to help individual consumers who have difficulties in making online purchases of products or services can usually be accessed by consumers during 24/7.

2.4. Buying Decision

According to Kolter (2009) it is the act of consumers' purchasing decisions to buy or not to buy the product or the service. Based on the definition presented by Kolter it can be concluded that the purchase decision is an act done for the consumer to purchase a product or service. Therefore, the customer purchase decision is a process of selecting one of several alternatives of problemsolvings with the real follow-up.

The indicators used for this variable are:

- Introduction: customer perception that e-commerce vendor that the search for information on products or services through e-commerce is available
- Search: customer perception that e-commerce vendor that conducts transactions through e-commerce is easy to do.
- Evaluation of purchase: customer perception that e-commerce vendor that provides good security and quality of service.

2.5. Consumer Loyalty

In e-commerce creating a close and strong relationship between the company and its customers is the key to invite the consumers who are willing to purchase products or services in a long term. According to Oliver in Etta MamangSangadji and Sopiah (2013: 104) customer loyalty is the last in-depth commitment to re-subscribe or re-purchase of products or services which are consistently

selected in the future, although the influence of the situation and marketing efforts have the potential to cause changes in behavior. Griffin in Etta MamangSangadji and Sopiah (2013: 104) states "loyalty is defined as non random purchase expressed over time by some decision making unit" which means that loyalty rather refers to a form of behavior of decision-making units to perform continuous purchase of goods or services of a company that is chosen.

The indicators used for this variable are:

- Loyalty (Y4): customer perception that he has a preference taste to purchase products or services through e-commerce compared to conventional purchases.
- Resilience (Y5): customer perception that he cannot be affected by the supply of products or goods in conventional trade.
- Recommendation (Y6): customer perception that he willingly promote to make purchases through the medium of e-commerce.

2.6. Framework

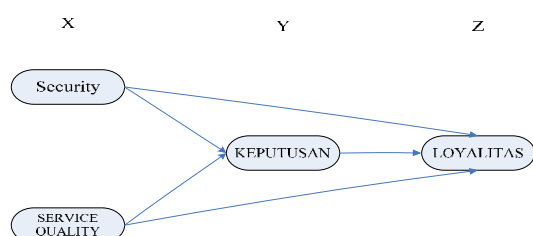


Figure 1 Conceptual Framework Research

HYPOTHESIS

H1: Security factor influences on purchasing decisions through e-commerce.

H2: Service quality factor influences the purchase decision through e-commerce.

H3: Security factor affects on customer loyalty.

H4: Service quality factor affects customer loyalty.

H5: the purchase decision through e-commerce affects on customer loyalty.

3. Methodology

According Sugiyono (2009: 01), research method is basically a scientific way to get data with a specific purpose and usefulness, which means a scientific manner research activities are based on the characteristics of science which are rational, empirical, and systematic. Meanwhile, according to WiratnaSujarweni (2014: 05) the research methodology is a scientific way (rational, empirical and systematic) used by the perpetrators of a discipline to do research. The research method is closely related to the research procedures, techniques, tools, and design used. In the design it is described that the research methods include procedures or steps that must be taken, time studies, data sources, and in what way the data are obtained and processed or analyzed.

So far there has been no accurate data that can put the number of users of e-commerce in Indonesia. Therefore, the size of the population in this study is unknown, so the sampling technique used is the category of non-probability sampling. In this study, the sample size was adjusted to the analysis model used, that is Structural Equation Model (SEM). In connection with this sample size for SEM using model of maximum likelihood estimation (MLE) is in the range of 100-200 samples.

As for the types of variables used in this study are as follows:

a. Exogenous variables (Free) is a variable that affects or causes the change or the emergence of the dependent variables. The independent variable is given the symbol (X).

The independent variables in this study are:

- Security Variable
- Service Quality Variable

b. Endogenous variables (Bound) are variables that influence or effect, because of the existence of independent variables. The dependent variable is given symbol (Y).

The dependent variables in this study are: Variable of customer's decision in making transactions by using e-

commerce and loyalty variable of customer that makes transactions using e-commerce (Y).

Table 1 Operational Definition and Research Variables

Variables	Indicators	Code	Source
Security	Confidentiality	X1	Raman Arasu and Viswanathan (2012)
	The management of personal data	X2	
	Security guarantees	X3	
Service Quality	Reliability	X4	Raje Archana and Vandana (2012)
	Responsiveness	X5	
	Empathy	X6	
Purchase decision	Introduction	Y1	Kolter and Keller (2009)
	Search	Y2	
	Purchase evaluation	Y3	
Loyalty	Loyalty	Y4	Kolter and Keller (2009) and Etta Mamang Sangadi and Sopiha (2013)
	Resilience	Y5	
	Recommendation	Y6	

4. Results and Discussion

Normality test aims to determine whether data distribution is normal or not. To that end, done by using Liliefors test, normality testing of each variable was done with a view to determine whether the distribution of the data of each variable does not deviate from the characteristics of the data that are normally distributed. Normality Tests conducted on the estimated regression errors on X1 Y2, Y2 on X2, Y1 on X1, X2 and Y2 Y1 on top of Y1, which can be shown by the following table.

Table 2 Summary of Estimated YX Normality Test Errors

No	Estimation	Lo	Llabel(0.05)	Decision	Notes
1	Y2 on X1	0,036	0,047	Accept H0	Normal
2	Y2 on X2	0,044	0,047	Accept H0	Normal
3	Y1 on X1	0,038	0,047	Accept H0	Normal
4	Y1 on X2	0,046	0,047	Accept H0	Normal
5	Y2 on Y1	0,028	0,047	Accept H0	Normal

Measurement model is a model that connects the latent variables with manifest variables. In this study, there are four latent variables with 12 manifest variables. Analysis of the measurement models is used to test the validity and reliability of each indicator that form latent variables. According to Haryadi Sarjono in his book Structural Equation Model (SEM) variable it is mentioned that good validity of the constructs or latent variables is if the value of t loading factor is greater than the critical value of t or t count and loading factor default value has construct reliability (CR) which is greater than 0.07 and the value of variance extracted (VE) is greater than 0.05.

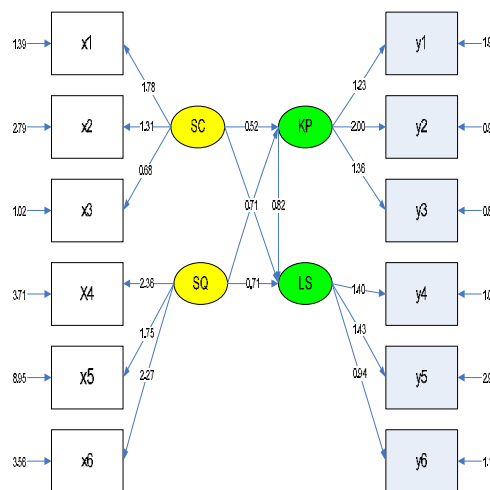


Figure 2 Structural Model T -Value Re – Estimation

Table 3 Loading factor value per indicator after re-estimation

Constructs	Indicators	Code	Loading Factor
Security	Confidentiality	X1	1,39
	The management of personal data	X2	2,79
	Security guarantees	X3	1,02
Service Quality	Reliability	X4	3,71
	Responsiveness	X5	8,95
	Empathy	X6	3,56
Purchase decision	Introduction	Y1	1,91
	Search	Y2	0,96
	Purchase evaluation	Y3	0,83
Loyalty	Loyalty	Y4	1,09
	Resilience	Y5	2,93
	Recommendation	Y6	1,17

Based on the re-estimation result as shown in table 4.30, the loading factor of every indicator is not less than 0,50. Thus, all indicators are considered valid and model evaluation process can be continued.

Based on estimation method of satorra-bentler robust maximum likelihood which has been previously explained, linear structural relational (LISREL) produces output index to be the basis in doing fit test of goodness of fit-GFTI as a whole. This test was done to find out whether the model is already appropriate in portraying the relation of each variable being studied so it can be categorized as having good fit.

Table 4 Goodness of fit Index Calculation Result

Criteria	Model result	Critical Value	Conclusion
Chi-Square	217,23	high	Good
Probability	0,31	≥0,05	Good
RMSEA	0,13	≤ 0,08	Good
GFI	0,95	≥0,90	Good
AGFI	0,93	≥0,90	Good
CMIN/DF	1,48	≤ 2,00	Good
TLI	0,98	≥0,95	Good
CFI	0,96	≥0,95	Good

In line with the table above, it can be seen that all testing criteria show good result, where the chi-square model shows low critical value, probability model result, GFI, AGFI, TLI and CFI show higher result than the critical value, and the model result of RMSEA and CMIN/DF show lower result than the critical value. Model testing done produces good confirmation on every factor dimension and causal relation between the factors. Thus, the model can be accepted.

4.1. Hypothesis testing

In order to prove whether Security and Service Quality variables give direct and positive impacts on customer’s purchase decision and loyalty, hypothesis testing should be done.

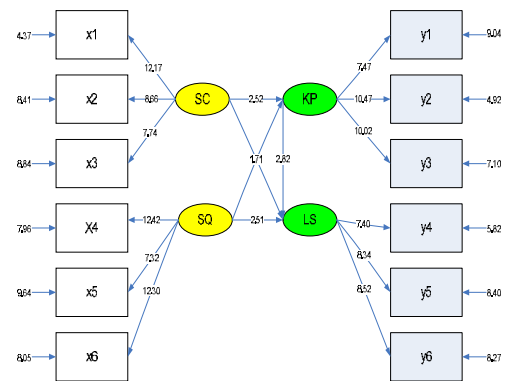


Figure 3 Re-estimation of structural Model of T-Value

The image above shows T-Value Purchase Decision (KP) on Security (SC) is 2.52 , Purchase Decision (KP) on Service Quality (SQ) is 1.71, Loyalty (LS) on Security (SC) is 1.71 , Loyalty (LS) on Service Quality is 2.51 and Loyalty (LS) on Purchase Decision (KP) is 2.62 .

Table 6 Hypothesis Testing Result

Hypothesis	Variable 1	Variable 2	Tvalue	PV	Notes
H1	Security	Purchase decision	2,52	0,00	Significant
H2	Service Quality	Purchase decision	1,71	0,00	Significant
H3	Security	Loyalty	1,71	0,00	Significant
H4	Service Quality	Loyalty	2,51	0,00	Significant
H5	Purchase decision	Loyalty	2,62	0,00	Significant

4.2. Security Influence on Purchasing Decisions

The results showed that there is partially a direct effect between security factors on purchase decisions through e-commerce. This happens because every vendor of e-commerce has been aware that the security of its online shop becomes a determiner of e-commerce customer who will make the purchase decision. This is in line with the articles written by Muhammad Firman and Muhammad Chandrataruna (2009) revealing that an online shop security from hacker attacks and data stealing that converts each of its customer have enormous influence to give a sense of trust and security in transactions through e-

commerce. Other than that the transfer payment system is also a benchmark in determining customer purchases through e-commerce. It is necessary for the confidentiality of data for each e-commerce customer not to be known by others on behalf of the vendor who later transfers amount of money into the wrong account. From the description it can be concluded that the safety factor is an important consideration for customers when making decisions in the purchase of products or services through e-commerce. It supports the research done by Raman Arasuard Viswanathan (2011) who found that the security has a direct influence on consumer decisions in purchasing through e-commerce.

4.3. Influence of Service Quality on Buying Decision

The results showed that partially there is a direct influence of service quality factor on e-commerce customer purchasing decisions. The magnitude of the effect caused by service quality shows that currently the majority of the people in Indonesia begin to reveal the charges against the prime ministry, where they no longer require a qualified product at an affordable price, but also happy to enjoy the services provided. Besides good service quality will give a strong boost to e-commerce customers to make decisions in purchasing. It supports the research conducted by RajeArchana and Vandana (2012) about the influence of e-service quality towards online shopping behavior, where the research states that the customer of e-commerce is no longer just considers the price and promotion when deciding on a purchase over the internet, but more importantly is considering the quality of services provided.

4.4. Security Influences Loyalty

The results showed that partially there is a direct influence between the customer loyalty and security of e-commerce. This happens because every vendor of e-commerce has been aware that the security of its online shop can increase the loyalty of e-commerce customer. When e-commerce customers feel secure in the confidentiality of their

personal data from people who do not have the rights to know and payment transactions through transfer system (not by direct system), it is most likely that he will make transactions back. It supports the research by Raman Arasuard Viswanathan (2011) who found that the security has a direct influence on customer loyalty in purchasing through e-commerce.

4.5. Loyalty Effect on Service Quality

The results showed that partially there is a direct influence between service quality and customer loyalty in e-commerce. As we know that the purpose of a business selling products or services is to satisfy the needs of its customers, but today the community in Indonesia prefer not the quality of products or services alone but rather want the quality of services provided, since it is the quality of services excellence which becomes the key to induce customer loyalty attitude. It supports the research conducted by RajeArchana and Vandana (2012) that the customer of e-commerce is no longer just consider the price and promotion when deciding to purchase via the Internet, but the more important consideration is the quality of services provided.

4.6. Influence Purchase Decision Consumer Loyalty

The results showed that partially there is direct influence between the purchase decision and the customer loyalty in e-commerce. As we know the attitude of customer loyalty would arise when he has never made a purchase products or services, when a customer makes a purchase the product or service and get a positive impression then it is not impossible that he will make a purchase products or services on other days, as well as vice versa, when a customer who is in the purchase of products or services gets bad impression, then it is most likely that the next time he will not make purchases of products or services in the same place. From this analysis it is proven that purchasing decisions will determine the level of customer loyalty. The results of this study are consistent

withTjjiptonotheory(2011) that there is relation between the first impressions experienced by customers with a level of loyalty.

5. Conclusions and Recommendations

Conclusion about the research problem refers to the statements of research and hypotheses proposed. In this study it can be drawn the following conclusions:

1. Security in a transaction through e-commerce has a direct influence on the purchasing decisions of e-commerce customers in Indonesia.
2. Service quality in a transaction through e-commerce has a direct influence on the purchasing decisions of e-commerce customers in Indonesia.
3. Security in a transaction through e-commerce has a direct influence on customer loyalty of e-commerce in Indonesia.
4. service quality in a transaction through e-commerce has a direct influence on customer loyalty of e-commerce in Indonesia.
5. Decision purchases made by customers through e-commerce has a direct influence on customer loyalty of e-commerce in Indonesia.

SuggestionsFor Business World

1. Security in e-commerce gives direct positive influence on the purchasing decisions made by prospective buyers of a product or service e-commerce, which means that if any e-commerce vendor provide security in its online shop it will have an impact on the increase in purchase and customer's loyalty and vice versa. If any e-commerce vendor ignores security in its e-commerce it will have an impact on the attitude of trust and decreasing purchases of products or services and e-commerce customer loyalty.
2. Service quality provided in e-commerce gives direct positive influence on purchasing decisions made by prospective buyers of a product or service in e-commerce, which means that if any e-commerce vendor provides the best quality services in its online shop it will have an

impact on the increase in purchases and the emergence of customer loyalty and vice versa. If any e-commerce vendor ignores it, it will have an impact on the decrease in customer loyalty. In this regard it is recommended to every e-commerce vendor increase the customer's loyalty through increasing reliability, responsiveness and empathy.

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