

The Effect of Convenience and Security on Users' Trust and Satisfaction of E-commerce in Indonesia (Study on Customers of TOKOPEDIA in Jabodetabek Region)

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ABSTRACT

Nowadays, online transaction is a common economic activity. The vulnerability of e-commerce system is one of the users' consideration for deciding whether or not they use the service. The aim of this research was to analyze the influence of convenience and security on users' trust and satisfaction of e-commerce in Indonesia. Research data were obtained by studying the customers of tokopedia in Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi) region by using questionnaire as research instrument. The design of this research was explanatory research and the data analysis was *Structural Equation Modelling* (SEM). The result showed that convenience of using e-commerce had non-significant effect on the trust of using e-commerce. The variable of security had significant positive effect on the trust of using e-commerce. Meanwhile, the convenience of using e-commerce had significant effect on user satisfaction. The security of e-commerce transaction had non-significant effect on user satisfaction. Finally, the trust of using e-commerce had significant effect on user satisfaction.

Keywords: E-commerce, Convenience and security, User trust, Satisfaction

INTRODUCTION

Electronic commerce (e-commerce) is defined as the dissemination, purchase, sale, and marketing of goods and services through electronic systems such as internet or television, websites (www), or other computer networks. E-commerce involves the transfer of electronic funds, electronic data exchange, automated inventory management systems (AIS), and automated data collection systems (ADC). One type of e-commerce crime is online scam. Online scam is an illegal act done by some irresponsible people by providing false information for personal gain. Online scam problems indicate that e-commerce transactions are risky in many ways. This is especially due to the consumer has an obligation to make advance payment while the quality and validity of the goods ordered are unknown. Convenience of transactions will be felt by the customer when e-commerce transactions successfully done easily and well without any constraints. On the other hand, security is something that must be provided by e-commerce vendors to ensure that data security is guaranteed. Finally, customers will get the trust to conduct e-commerce transactions and eventually get the satisfaction. Based on those issues, the author conducted the research about the influence of convenience and security on users' trust and satisfaction of e-commerce in Indonesia. This study is focused on the customers of tokopedia in Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi) region.

Literature Review

1. Convenience of using e-commerce

In terms of user behavior and attention, the use of new technology takes time for the user to learn about the product before ultimately use it. The indicator of user convenience in using e-commerce is based on Mantel [1] and Bahmanzari [2], which includes (a) portable technology, (b) technology with the latest innovation features, (c) useful technologies for completing works, (d) easy-to-use technology, (e) dynamic technology, and (f) innovative technology.

2. Security of Using e-commerce

Security of using e-commerce includes the confidence and trust of the user that the system can not be accessed by unauthorized parties, and also the network transactions are rarely interrupted. Furthermore, the indicator of security is adopted from Mantel [1] and Malat [3], that includes (a) availability of password and PIN, (b) disruption of the transaction network, (c) availability of transaction documentation records, (d) the official registered website, (e) has an authorized account, (f) 24-hour call center facility, and (g) has an official bank account.

3. Trust of Using e-commerce

Trust represents the evaluation of users' experience in using a system, in which the system has a fast and reliable network traffic capability. This is consistent with the development of the Technology Acceptance Model (TAM) theory by Davis [4]. This is based on psychological theory that describes the behavior of computer in accordance with belief, attitude, intention and user behavior relationships. Moreover, the indicator of the user confidence variable is based on Pikkarainen [5], Wang [6]. The indicators consist of (a) broad cellular operator network of signals, (b) guaranteed success of e-commerce transactions, (c) real-time network traffic system, (d) large number of regular customers, and (e) reviews from trusted vendors.

4. User Satisfaction

User satisfaction is the response and feedback from the user based on the experience in using the service. This describes how satisfied the users are, or how they like the service. An example of combining reflective and formative indicators is MIMIC, such as the satisfaction of bank customer. Customer satisfaction is generated by the quality of facilities, friendliness of the service provided by the teller or security guard, the clarity in providing information, and various facilities offered by the bank. These four indicators are the formative indicators that influence the satisfaction of bank customer.

On the other hand, there is a reflective indicator which is the consequence of high satisfaction felt by the bank customers. The consequence is a reflective indicator since it reflects customers who are satisfied with the bank services. This indicator consists of loyalty, emotional attachment, pride, and authenticity to others through socialization activities [7].

Furthermore, the indicator of user satisfaction is adopted from McGill [8], Wang [6], Tam Tsui Wa [9]. The indicators include (a) The number of complaints, (b) Users are proud to use e-commerce, (c) Users feel e-commerce as an effective online transaction service, (d) Users are happy to use e-commerce, (e) Users are comfortable to use e-commerce, and (f) Compatibility of the e-commerce services with user expectations.

Operational definitions of each variable in this study is described in the following table:

Table 1. Operational definitions of variables

Variable	Indicators	
Convenience of Using e-commerce (X ₁)	X _{1,1}	Portability of the the technology
	X _{1,1}	Technology with the newest innovation
	X _{1,3}	Technology that is helpful for finishing works
	X _{1,4}	Ease-of-use of the technology
	X _{1,5}	Technology that is dynamic
	X _{1,6}	Technology that is innovative
Security of Using e-commerce (X ₂)	X _{2,1}	Availability password and PIN
	X _{2,2}	Disruption of the transaction network
	X _{2,3}	Availability of transaction records
	X _{2,4}	Availability of official website
	X _{2,5}	Availability of authorized account
	X _{2,6}	24-hour call center facility
	X _{2,7}	Availability of official bank account
Trust of Using e-commerce (Y ₁)	Y _{1,1}	Broad cellular operator network of signals
	Y _{1,2}	Guaranteed success of e-commerce transactions
	Y _{1,3}	Real-time network traffic system
	Y _{1,4}	Large number of regular customers
User Satisfaction (Y ₂)	Y _{2,1}	Number of complaints
	Y _{2,2}	Users are proud to use e-commerce
	Y _{2,3}	Users feel e-commerce as an effective online transaction
	Y _{2,4}	Users are happy to use e-commerce
	Y _{2,5}	Users are comfortable to use e-commerce
	Y _{2,6}	Compatibility of the services and user expectations.

METHODS

Research Design

This research is an explanatory research that intends to explain the position of variables and the relationship and influence between variables [10]. Therefore, this research presents the empirical explanation

about the influence of convenience (X_1) and security (X_2) on the trust (Y_1) and satisfaction (Y_2) of e-commerce users, which in this case is Tokopedia.

Research Location

The study was conducted in Jabodetabek (Jakarta, Bogor, Depok, Tangerang, Bekasi) region. The subject of this research is the users of e-commerce application (Tokopedia), whether they are employees or general public that live in Jabodetabek region.

Data Analysis

This research emphasizes the quantitative approach in conducting data analysis. Data analysis is consisted of descriptive statistics and inferential. The causal relationship of research variables requires an analytical method capable of explaining the simultaneous relationship. Hence, the inferential statistical methods used to analyze the relationship of variables is Structural Equation Modelling (SEM).

Hypothesis Test

This section presents the result of Structural Equation Modelling (SEM) analysis toward the variables of convenience (X_1) and security (X_2) on the trust (Y_1) and satisfaction (Y_2) of e-commerce (Tokopedia) users. The summary of the result is described in this following table:

Table 2. Result summary of hypothesis test

Influence	Coefficient	SE	CR	P	Interpretation
$X_1 \rightarrow Y_1$	0.051	0.146	0.447	0.655	Not Significant
$X_2 \rightarrow Y_1$	0.454	0.092	3.551	***	Significant Positive
$X_1 \rightarrow Y_2$	0.284	0.176	2.476	0.013	Significant Positive
$X_2 \rightarrow Y_2$	0.002	0.102	0.021	0.983	Not Significant
$Y_1 \rightarrow Y_2$	0.637	0.193	3.939	***	Significant Positive

Hypothesis H1. Effect of convenience in using e-commerce (X_1) on user trust (Y_1).

The analysis on the variable of convenience (X_1) toward user trust in using e-commerce (Y_1) showed the score of t-statistics 0.447 (< t-table (1,960)). This indicates non-significant relationship or influence between convenience of using e-commerce (X_1) on user trust (Y_1) in the significance level of 5%. The path coefficient (0.051) demonstrated a positive influence, which means that the better the convenience, the higher the trust of the user in using e-commerce transactions (Y_1). This finding is supported by the theory from Adam, et al. [11] that the intensity of the use and interaction between users with the system can also indicate ease of use. Therefore, the user will feel comfortable when doing the transaction if they feel the ease. On the contrary, if the users feel less comfortable due to the transaction process is not convenient, then the user will not fully trust the e-commerce service.

will cause the user less have confidence in the transaction.

Hypothesis H2. Effect of Security in using e-commerce (X_2) on user trust (Y_1)

The result of analysis on the effect of security in using e-commerce (X_2) toward user trust (Y_1) obtained the score of t-statistics 3,551 (> t-table 1,960). Therefore, it can be said that there was a significant effect of the security in using e-commerce (X_2) on user trust (Y_1) within the significance level of 5%. Path coefficient (0.454) showed a positive influence, which means that the better the e-commerce transaction security (X_2), the higher the trust of the user (Y_1). This research is in line with the theory from Warren and Brandies [12], in which privacy is tested on the basis of the truth of information. Therefore, if the users feel free and safe to be themselves and control the flow, as well as the data remains confidential, then the user will feel safe. The security of users' data must be secure from unauthorized parties.

Hypothesis H3. Effect of convenience in using e-commerce (X_1) on user satisfaction (Y_2)

The result of analysis showed that the effect of convenience in using e-commerce (X_1) on user satisfaction (Y_2) had the score of t-statistics 2,476 (> t-table 1,960). This means that there was a significant effect between convenience in using e-commerce (X_1) on user satisfaction (Y_2) within the significance level of 5%. Path coefficient (0.284) showed a positive influence, which means that the better the convenience, the higher the user satisfaction. This result is in accordance with Oliver [13], who stated that satisfaction is defined as 'pleasurable fulfillment'. Consumer feels that the consumption can meet the needs, expectations and so forth, and that fulfillment is a pleasure experience. This represents the user feeling that consumption provides an

outcome in accordance with the standard of pleasure and displeasure. Finally, the convenient experience of using the e-commerce service will lead to satisfaction.

Hypothesis H4. Effect of security in using *e-commerce* (X2) on users satisfaction (Y2)

The result showed that the variable of security in using e-commerce (X2) and user satisfaction (Y2) had the score of t-statistics 0,021 ($< t$ -table 1,960). This means that influence or relationship of both variables was non-significant within the significance level of 5%. Path coefficient (0.002) showed a positive influence which indicates that the better the e-commerce transaction security (X2), the better the user satisfaction (Y2). This is in accordance with the theory from Donaldson and Dunfe [14] which says that the attention of privacy information refers to an individual relationship view in the context of privacy information. Privacy is influenced by external factors, such as industry, culture, and law. However, an individual's perception of external conditions also differs according to the personal characteristics and past experiences. Therefore, people often disagree about the online store and the use of their personal information. The security perceived by the individual depends on the individual experience of each so that security does not necessarily affect the satisfaction felt by the user.

Hypothesis H5. Effect of trust in using e-commerce (Y1) on user satisfaction (Y2)

The result of SEM analysis on the effect of user trust in using e-commerce (Y1) on user satisfaction (Y2) showed the score of t-statistics 3.939 ($> t$ -table 1,960). This means that there was a significant influence between user trust in using e-commerce (Y1) on user satisfaction (Y2) within the significance level of 5%. Path coefficient (0.637) indicated a positive influence, which means that the better the trust, the better the satisfaction of the user in using e-commerce. This finding is supported by the theory from Hoffman et al. [15], which states that trust comes only when those involved are "assured by the other party, willing, and able to oblige". Many consumers do not fully trust online websites to provide their personal information for transactions. Customers will do the transaction if they have trust on the e-commerce vendors, hence e-commerce vendors must have good credibility in order to assure the customers and gain the trust.

CONCLUSIONS AND SUGGESTIONS

Conclusions

The results of this study lead to these following conclusions:

1. The convenience of using e-commerce had non-significant effect on the trust of using e-commerce. This shows that although users feel comfortable when using e-commerce services, but they still have not fully trust the services, especially in some e-commerce vendors.
2. The security of using e-commerce had significant positive effect on the trust of using e-commerce. This means that the better the security, the higher the trust of users in using e-commerce services. If the transaction security is guaranteed, this will build the trust of users to use e-commerce transaction as they are not in doubt with the theft of data.
3. The convenience of using e-commerce had significant effect on user satisfaction. Therefore, the better the transaction convenience, the e-commerce user will be more satisfied. The level of convenience experienced by the user influence the level of satisfaction on the e-commerce service.
4. The security of e-commerce transaction had non-significant effect on user satisfaction. This demonstrated that the security of e-commerce transaction does not necessarily influence the the satisfaction of e-commerce users.
5. Trust of using e-commerce had significant effect on user satisfaction. Hence it can be stated that the better the trust, the better the user satisfaction. This also indicated that the trust owned by e-commerce users will lead to satisfaction on the services.

Suggestions

The future research is kindly suggested to:

1. Not only focused on the e-commerce users, especially Tokopedia, but also review the internet banking user and any other e-commerce.
2. Obtain the study in the other region and enrich the number of respondents.
3. Develop the qualitative methods to determine the answers or actual user opinions through in-depth interview.
4. Obtain the data collection by using qualitative methods to get the deeper review of the satisfaction and loyalty of e-commerce user. Data collection by using the method of in-depth interview is suggested in order to obtain more accurate data.

5. Develop the concept of e-commerce use from the perspective of user and non-user in order to determine the most dominant variable.
6. Study the current issue, such as data security issue from irresponsible acts that can be linked to ethical use of e-commerce as well as the behavior of the users.
7. Study the variable of quality and loyalty as they has important role on user satisfaction.
8. Consider the demographic variables to know the demographical factors of e-commerce users, such as social class and income.
9. Involve the stakeholder perspectives, such as the e-commerce vendor, banking and cellular providers, governments and communities in order to get the holistic analysis and discussion.
10. This study does not test users and not users so it can not measure what variables affect the interest to use e-commerce because this research only focus on actual use.

Meanwhile, several recommendations for *e-commerce* service provider are:

1. Competition in the online business should be considered as the trigger to provide the better service with faster and easier transaction facilities, hence the user expectation can be met.
2. E-commerce is a service that has more value added, therefore, it requires to be equipped with customer education program to help the customers understand the service. This can also improve the convenience in using the e-commerce services, especially in Tokopedia.
3. The provision of facilities should be done professionally in order to solidify the position of Tokopedia as one of the leading, trusted and modern e-commerce.
4. Regarding the vulnerability of e-commerce service, it is crucial to develop the sustainable security system since the hackers also continuously improve their ability to hack the security system.
5. The high growth of e-commerce must be backed up with up-to-date and easy to adopt technology. Research finding indicated that the users were not yet satisfied even though the e-commerce transaction is safe due to the ease of access.

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