

Determinants Of Customer Participation In Online Shopping

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Abstract: *This research aims to examine and explain the determinants of customer participation in online shopping. The approach of Partial Least Square (PLS) with Smart PLS software is employed in this study to analyze cross section data and prove the hypotheses proposed in the research. The sample of the study includes students of Mulawarman University who used to do online shopping. The participants were recruited through snowball technique. This study shows that only five of the nine hypotheses are supported; the other four are not supported or accept H_a and reject H_0 . The construct of the ability of vendor has a positive effect on trust, but not significant. Furthermore, the ability has a significant negative effect on transaction-perceived risk. The ability to influence vendor participation in online shopping has no significant effect, while experience has a significant positive effect on trust. On the other hand, experience has a significant negative effect on transaction-perceived risk. Experience has a significant positive effect on online shopping participation. Trust has a significant negative effect on transaction-perceived risk; however, it has a positive influence on online shopping participation, yet not significant. Last, perceived-transaction risk has an insignificant positive effect on online shopping participation.*

Keywords: *vendor ability, experience, trust, transaction-perceived risk, online shopping participation*

I. Background

The internet has become important part of the modern society. It brings advantages, such as creating the basis for clients or consumers, product and market analyses, access and distribution of information, fast communication and low-cost delivery of documents, new business opportunities, providing business information to consumers and the wider community, providing online spaces for selling products or conducting transactions, and other advantages which allow us to do activities more efficiently compared to the activities which we do in conventional ways. Indonesia has 30 million internet users, which 1,400% since 2000. As such, Indonesia is the fifth biggest user of internet in the world. The growth of internet users in Indonesia and the trust of the society toward the internet will create market potential. The trust refers to public/individuals' trust in doing online purchase through the internet in online markets. Online shopping has become a popular application in e-commerce, used by various business entities for various purposes and as a means of exchanging information. By using the online shopping application, purchases can be made without being limited by physical places. An individual in one country can purchase goods from other countries easily. In online shopping, information given to sellers can influence the behavior of consumers in making decisions (Kotler, 2012: 123).

A phenomenon related to online markets is the presence of obstacles; one of significant obstacles of the internet as commercial media is the lack of consumer trust. Online customers will consider uncertainty and risks when they conduct online transactions with vendors; they will compare the online transactions to offline/conventional transactions. Customers hardly have an opportunity to know the quality of products and to test the products through websites provided by vendors. When a customer purchases from a website, the customer does not know the quality of products or services offered, whether they are of good quality or not, whether the purchase is reasonable or not. Previous studies (Doney *et al.*, 2003; Eden, 1988; Kim *et al.*, 2004) show that trust is a significant factor in explaining the process of online shopping. Factors which can increase the trust of customers toward online shopping are buyers' knowledge of technology, good quality websites, and good company quality. The knowledge of technology refers to the extent to which an individual believes that he or she can carry out a task or do something specific.

Young and Dan (2005) explain that knowledge of internet technology has a significant effect on results expected by users in online transactions through websites. On the other hand, the research of Bramall, Schoefer and McKechnie (2004) shows that company quality is often seen by customers as an indication of the extent to which the company or the website of the vendor can be trusted, and how much attention the company gives to its customers. Additionally, the quality of a company's website providing online trading is an important factor which can influence customers' decisions.

Identifying and classifying factors of the service providers (vendors) are necessary, including actors which may influence virtual-business interactions. The classification can help marketers identify and better understand the potential of online shopping instruments which will be used. According to Wingfield (2002), featuring a professional website indicates that an e-retailer company is competent in running its operation. The professional look of the website gives customers a sense of comfort; thus, the customers can be more confident and comfortable in making purchases (Chen & Dillon, 2003).

Experience can be defined as anything that individuals do, feel, or live. Ranganathan and Jha (2007) propose that customer online purchases have a strong correlation with online repurchase intention. Trust is an important concept in life, and more specifically in business. Mohmed et al. (2013) mention that trust is an important attribute which should be adopted in the e-commerce application.

Trust implies the belief that the vendor of a website will give what it has promised. Purchasing intention is a type of decision which explores why customers purchase certain products or brands. Furthermore, repurchase intention is the manifestation of individuals' evaluation towards particular products or services which the individuals have used previously. Online repurchase intention refers to customers' intention to purchase products/services which they have previously bought through the internet (online).

Besides the customer trust, product quality can also affect the perceptions of transaction risks. Improving quality means increasing one or more of the eight dimensions of quality. Providing quality which is higher than competitors means exceeding the quality of the competitors in terms of, at least, one of the eight dimensions, although the products may have the same performance.

The level of risk perception has an influence on the level of buyer trust/confidence. Young and And (2005) conducted a study to test the variables of customer trust and perceived risks. It revealed that the higher the level of customer trust, the lower the assumption level of risks. Customer trust is the first/an important aspect to consider in relation to online purchase transactions.

Risks have implications for individuals' attitude and behavior in transactions with other parties. Risk factor is an important factor shaping the attitude and behavior of customers in all kinds of business transactions. High risk factor will make customers uncomfortable in using e-commerce and making re-purchases.

Based on the background and research problem, the primary purpose of this study is to test and analyze the influence of the vendor ability, the experience toward transaction-perceived risks, and participation in online transactions through the variable of trust as the intervening variable.

II. Theoretical Frameworks

This study employs three theories as research frameworks: Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), and Theory of Relationship Marketing.

Theory Of Reasoned Action (TRA)

Theory of Reasoned Action was first coined by Ajzen in 1980 (Jogiyanto, 2007: 42). This theory was developed based on the assumption that humans behave in a way that is conscious and that they consider all available information. Ajzen (1980) states that an individual do or do not do a behavior depending on the intention which the individual has. Furthermore, Ajzen suggests that the intention is affected by two basic determinants, the first is related to attitudes (attitudes toward behavior) and the second is related to social influences (subjective norms).

To determine the effect of attitudes and subjective norms toward individuals' intention to do or not to do certain activities, Ajzen complements TRA with beliefs. He further states that attitudes come from behavioral beliefs, while subjective norms emerge from normative beliefs. TRA can be illustrated as follows:

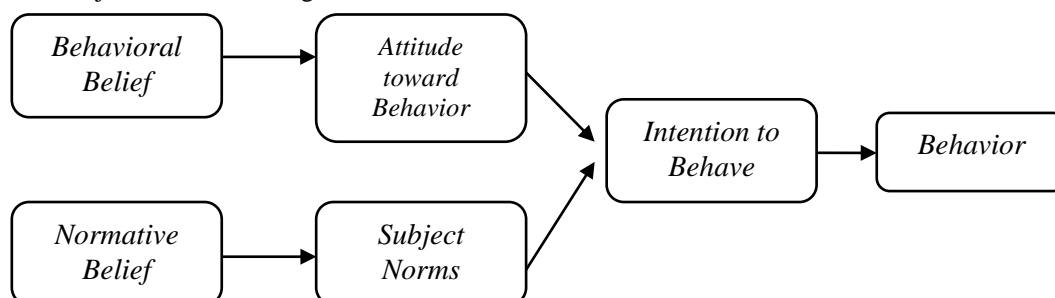


Figure 1. Theory of Reasoned Action (Fishbein & Ajzen, 1990)

Theory Of Planned Behavior (TPB)

Theory of planned behavior is a further development of TRA. Ajzen (1988) added a construct not available in TRA, that is the perceived behavioral control. This construct was added to understand the limitations possessed by individuals in order to perform certain behaviors (Chau &Hu, 2002)

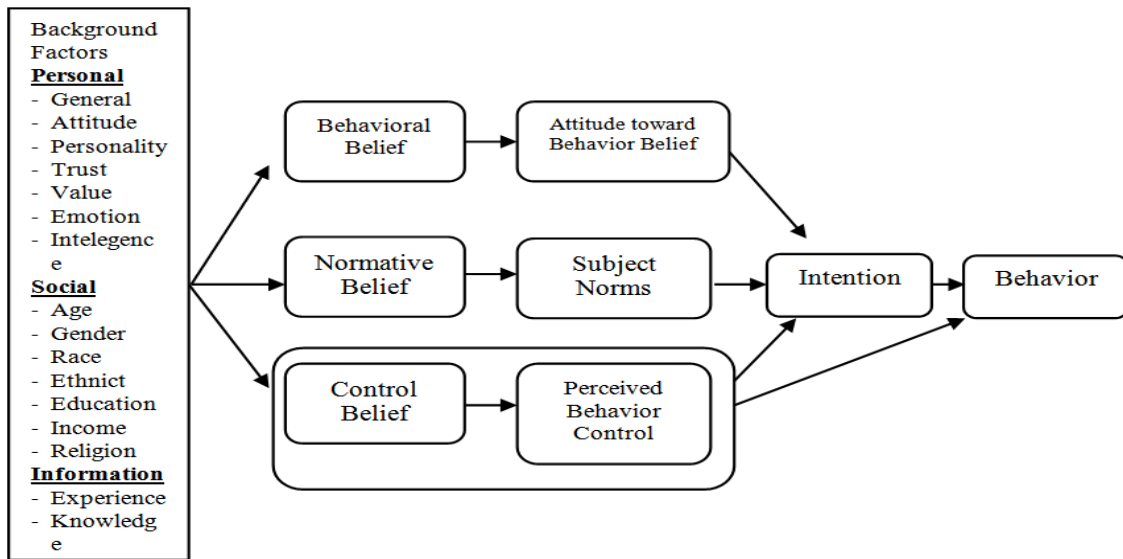


Figure 2. Theory of Planned Behavior (Ajzen, 1991)

Theory Of Relationship Marketing

The key success factor to survive in a market depends on the maintained long-term relationships with stakeholders. Relationship marketing refers to all marketing activities directed toward establishing, developing, and maintaining successful relationships. Relationship marketing is a long-term marketing program which aims to establish, develop, and maintain relationship between companies and customers. Chan and Ndubisi (2003) argue that relation marketing is for building, maintaining, and enhancing the relationships of customers with other parties, aimed for benefits or profits, so that the objectives of the parties involved can be achieved. The main purpose of marketing is to develop relationships with individuals or organizations that directly or indirectly affect the succes of marketing activities of companies. Relationship marketing aims to build long-term relationships to retain business. It develops strong economic, technical, and social relationships among parties involved.

III. Hypothesis Development

Based on the previously discussed literature, the research model developed in this study will consider customer trust factor toward the system of online shopping. Factors that may affect the customer trust are divided into three groups: customer access capability, trust among customers, and experience. The greater the trust factor, the lower the perceived transaction risks; therefore, the desire to make purchases through website can be achieved.

Based on the theoretical frameworks, the concept of this study can be described as follows:

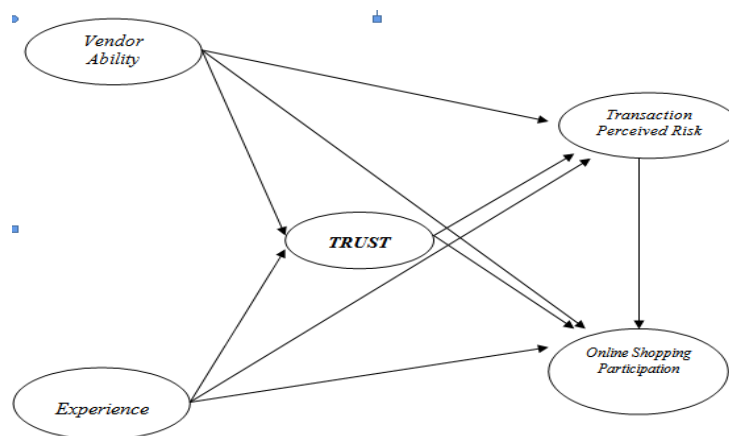


Figure 3. Path Diagram Model

Ability refers to the competence and characteristics of sellers/organizations in influencing and authorizing certain areas. This is how the sellers are able to provide, serve, and secure transactions from the interferences of other parties. It means that consumers received satisfaction and security warranties from the sellers in the transactions. Kim et al. (2003a) state that the ability includes competence, institutional approval, and knowledge competence.

According to Gefen and Straub (2004), the accessibility may influence the ease of use. The easier information can be accessed, the less effort needed to use the system. In relation to online shopping, the accessibility is not only related to the ability to use the system, but also the physical ability. Therefore, the hypotheses of this research are:

H1. Vendor Ability Has A Significant Positive Influence On Trust

Ability is related to knowledge and accessibility of consumers. Knowledge of internet technology significantly influences results expected by users in online transactions. If the knowledge is high, customers will not be hesitant or reluctant to make online purchases, because they have the trust toward what they are going to do.

Huang et al. (2007) propose that trust and risk perceptions are components that affect the intention of consumers. High trust will lead to the intention to make online purchases (Gefen & Straub, 2004). Trust arising from accessibility will decrease transaction risks. Therefore, the following hypotheses can be proposed:

H2. Vendor Ability Has A Significant Negative Influence On Transaction-Perceived Risk

The decrease of transaction risk perceptions as a result of good accessibility will increase the possibility of online transactions. Accessibility will affect the ease of use and participation. The easier a system can be accessed, less effort is needed to use the system; this will create more opportunities to participate in online business.

Although previous research suggests that risk perception contributes insignificantly to online purchases (Jarvenpaa & Todd, 1997), further research identified risk perception of consumers as one of obstacles of online business. According to Li and Zhang (2002), consumers' intention to purchase from the internet is affected by their attitudes toward online shopping. The understanding of attitudes based on affection or evaluative reaction is common among researchers of consumer behavior (Mowen & Minor, 2002). Therefore, the next hypothesis to be tested is:

H3. Vendor Ability Has A Positive Influence On Online Shopping Participation

In this study, experience is defined as first-hand knowledge, which is obtained directly. The knowledge is acquired through customer active participation in purchase processes and online transactions, which contain three elements: experience over time, satisfaction, and communication (Walczuch, et al., 2001).

Some researchers (Ganesan, 1994; McKnight, Cummings, et al., 1998 cited in Walczuch, et al. 2001) propose that trust develops over time when consumers build their knowledge about trust through e-retailing experience. Of course, trust is not only based on experience. Perceived satisfaction of the past is also important (Ganesan, 1994). Individuals who experience online transactions may have positive experiences, which contribute to their positive perceptions of e-retailing.

Therefore, more experiences of browsing the internet may bring more considerations to purchase online. Because the aspects of privacy and security have often been discussed on the internet, online consumers may be affected by such aspects/issues. Thus, they have higher risk perceptions when making transactions on the internet than when making conventional transactions. Experience becomes a consideration why a consumer purchases online or makes an online transaction. Therefore, the hypothesis that will be tested is:

H4. Experience Has A Significant Positive Effect On Trust

Experience can be interpreted as episodic memory; it can receive and store events occurring or experienced by individuals at certain places and moments, which functions as autobiography. The experience of browsing online may bring more considerations to consumers to shop or make online transactions; experience also decrease the risk perceptions of transactions, particularly in online business which is limited by space. Thus, the information-experience stored in the memory of consumers may decrease the perceptions of transaction risks. Therefore, the proposed hypothesis is:

H5. Experience Has A Significant Negative Effect On Transaction-Perceived Risk

Experience is inseparable from the life of humans. It is invaluable and transferable; experience can be used as guidelines for learning. Much experience can lead to two conditions: first, previous mistakes such as risk perceptions can be avoided; second, appropriate decisions can be made, especially related to online shopping.

The experience needed has been stored in the memory of consumers, which can decrease the perceptions of transaction risks; this, in turn, increase the probability to participate in online business. Therefore, the hypothesis that can be formulated is:

H6. Experience Has A Significant Positive Effect On Online Shopping Participation

Risks affect individuals' attitude and behavior in transactions with other parties. The level of risk is an important factor which shapes the attitude and behavior of consumers in various business transactions. A high risk level will make customers uncomfortable in shopping online, even in conducting transactions. Perceived risk is regarded as the level of consumers' perception toward negative results obtained from online transactions (Featherman & Pavlou, 2002). Kathryn and Mary (2002) state that perceived risk reflects individuals' judgements toward the possibilities related to the results of transactions, whether they are positive or negative. Nevertheless, risks are multidimensional; two types of risks have been categorized in the context of online shopping: product risk and financial risk (Bhatnagar; Misra, & Rao, 2000). The assumption is that risks are negatively correlated to willingness to purchase products through online shopping (Jarvenpaa & Tractinsky, 1999). Therefore, the following hypothesis can be proposed:

H7. Trust Has A Significant Negative Effect On Transaction-Perceived Risk

Online shopping has bigger risks than shopping done in conventional ways (Huang et al., 2007). According to Gefen and Straub (2004), consumers try to understand, predict, and control the behavior of other parties so that risks can be reduced. Trust reduces risk perceptions that arise when online stores are physically unknown, the owners are unknown, and the quality of the products cannot be identified directly (Cheung, 2003). Trust is seen as an important factor with regard to uncertainty and risks (Huang et al., 2007). Empirical evidence shows that trust has a negative implication for risk perception, which is related to the intention to purchase via online (Featherman, 2001).

Other studies by Song and Zahedi (2003), Kim et al. (2003a), Kim and Xu (2004), and Kim and Kim (2005) indicate similar results; trust has a significant positive effect on intentions, which is one of indicators of the construct *participation* measured in this study. The research of Kim and Xu (2004) revealed that the variable of trust has a significant influence on purchase intention if compared to other variables. Therefore, the following hypothesis can be proposed:

H8. Trust Has A Significant Positive Effect On Participation In Online Transaction

Risk is a state of uncertainty considered by an individual to make a decision, whether to make online transactions or not. Risk is defined as the individual's subjective estimation to suffer from losses in obtaining the desired outcomes (Pavlou, 2001). With regard to online transactions, individuals tend to consider risks when uncertainty appears over results of the transactions (Stone & Gronhaug, 1993). Pavlou (2003) explains that there are two forms of uncertainty in online transactions: behavioral uncertainty and environmental uncertainty.

Some previous studies have shown that risk perception has a negative influence on individuals' interest toward using e-commerce, such as the research of Pavlou (2003), Lui and Jamieson (2003), Kim et al. (2007) and Tsai and Yeh (2010). Based on such studies, the following hypothesis is proposed:

H9. Transaction-Perceived Risk Has A Significant Negative Influence On Participation In Online Transactions.

IV. Methodology

The sample of this study includes students of Mulawarman University who are used to do online shopping. The students are from three faculties: FEB, Fisipol, and FKIP. The purchased products were goods, not services; the vendors were not limited in order to support the ease of participant recruitment.

In accordance with the required sample, users of online shopping at Mulawarman University who have made online transactions through online shopping in the past five months, the sampling technique employed was snowball sampling. It was done by recruiting respondents through references in a network or business partners.

Because of the number of the participants, the sampling technique used snowballing sampling. The selection was applied to individuals or objects. The advantages of this sampling are inexpensive, fast, and simple/easy. The weakness is that it is less representative (Usman & Purnomo, 1995). As the number of the population was not known, the sampling used Zikmund formula (Kuncoro, 2003: 43):

The amount of samples taken for a large population is not known to use the formula Zikmund (Kuncoro, 2003: 43) as follows:

$$n = \left[\frac{Z^2 S^2}{E} \right]^2$$

Description

n = Number of sample

Z = Standardized value according to the degree of certainty; for t value – unlimited df 1.960 (Kuncoro, 2003:45)

S = Standard deviation of sample or the estimation of standard deviation of population (determined for minimal sample, which is 0.33) (Pratikno, 2006)

E = Tolerable error level

Based on the above formula, with the degree of certainty = 1.640, standard deviation 0.33, and tolerable error level 0.05, the sample size is:

$$n = \left[\frac{(1.640) \cdot (0.33)}{0.05} \right]^2$$

$$n = 10.824^2$$

n = 117.79 rounded to 118

Based on the calculation, the obtained minimal sample is 118. Therefore, participants involved in this study are 118. In accordance with the model of analysis employed in this study, *Structural Equation Model* (SEM), the variables include exogenous variables, indicators (measured/observed variables), and endogenous variables (Ferdinand, 2000: 7). According to Hair et al. (1998: 580) and Ferdinand (2000: 38),

- a) exogenous variables are source variables or independent variables, which are not predicted by other variables in the model;
- b) endogenous variables are outcome variables or dependent variables from at least one causality relationship in the model;
- c) manifest (indicators) are measured variables used to measure concepts (eksogenous and endogenous variables) which cannot be measured directly.

In this study, the exogenous variables are *ability* and *experience*. The endogenous variables are *trust* and *participation*. The operational definitions of the exogenous, endogenous, and indicators are presented in Table Furthermore, to determine whether the results of parameter estimation in the *structural equation models* are significant or not, t test was done. Given that the estimation of model was done by PLS, the acceptance or rejection criteria of the statistical hypotheses are $H_0 : \beta_{ij}, \gamma_{ij} > 0$, or $H_1 : \beta_{ij}, \gamma_{ij} < 0$.

a) H_0 is rejected if the value of t-statistic parameter between the tested variables is greater than 1.640;

b) H_0 is accepted if the value of t-statistic parameter between the tested variables is smaller than 1.640.

The use of 1.640 as the level of significance is based on the view of Hair et al. (2006) who mention that coefficient score of *path* or *inner model* shown by T-statistic must be above 1.960 for two-tailed hypotheses and/or above 1.640 for one-tailed hypotheses at alpha 5%.

The hypotheses in this study are one-tailed hypotheses, which determine positive or negative directions; therefore, the level of significance used is 1.640. Unlike SEM, Smart PLS does not generate P-Value (sig value); the presence is represented by T-statistic, which has the same function, to determine the significance level. However, to show the P-Value, the function of Microsoft Excel - "= TDIST (t-statistic value; degree of freedom; tailed)" – can be used.

Table 1. Derivatives of Research Variables

Construct	Indicators	Code	Source
Ability X_1 (ABL) (Vendor Ability)	Competence	X _{1,1}	Roy et al., 2001; Ridings et al., 2002; Kim et al., 2003; Gefen and Straub, 2004
	Knowledge	X _{1,2}	Kim et al., 2003; Ridings et al., 2002; Gefen and Straub, 2004
	Institutional Endorsement	X _{1,3}	Kim et al., 2003
Experience X_2 (EXP) (Experience)	Experience over time	X _{2,1}	Walczuch et al. 2001
	Satisfaction	X _{2,2}	Walczuch et al. 2001
	Communication	X _{2,3}	Walczuch et al. 2001
	Length	X _{2,4}	Corbitt et al. 2003
	Frequency	X _{2,5}	Corbitt et al. 2003
	Self-perceived level of Internet experience	X _{2,6}	Corbitt et al. 2003
Trust Y_1 (TRS) (Trust)	Comfort	Y _{1,1}	Kim et al., 2003
	Reliability	Y _{1,2}	Lee and Turban, 2001
	Responsibility	Y _{1,3}	Kim et al., 2003; Kim and Xu, 2004
Transaction Perceived Risk Y_2 (TPR) (Transaction Risk)	Financial Risk	Y _{2,1}	Hong - Youl Ha (2002), Corbitt et al. (2003)
	Psychology Risk	Y _{2,2}	Hong - Youl Ha (2002), Corbitt et al. (2003)
	Product Risk	Y _{2,3}	Hong - Youl Ha (2002), Corbitt et al. (2003)

Participation Y_3 (PAR) (Participation in Online Business)	Continuing	$Y_{3,1}$	Corbitet al., 2003; Dodds et al. (1991) in Kim andXu, 2004
	Frequency	$Y_{3,2}$	Tunget al.,2001;Corbit et al.,2003;Doddset al. (1991)inKimandXu,2004
	Recommendation	$Y_{3,3}$	Tunget al.,2001; RatnasinghamandKumar(2004)

V. Structural Equation Analysis

In the analysis using PLS, there are two steps done. First, assessing the *outer model* or *measurement model* – this is the assessment of reliability and validity of each research variable. There are some criteria for assessing the outer model: *convergent validity*, *discriminant validity* and *composite reliability*. Second, assessing *inner model* or structural model – this was conducted to see the relationships between constructs, significance values, and the *R-square* of the research model.

This research examines the influence of *vendor ability* and *experience* toward *participation in online shopping* which is mediated by *trust*. The first test using PLS generated the following *outer loading*:

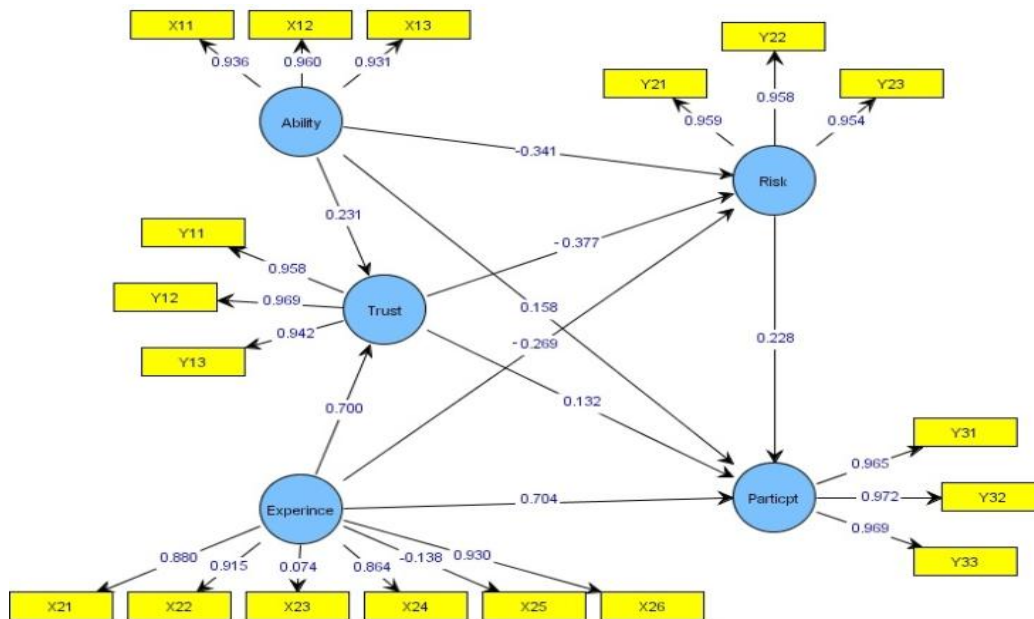


Figure 4. Results of outer model – First test

Based on the results of the *outer loading*, some reflective indicators were excluded from the model as they had *loading* less than 0.50 ($OL < 0.5$). Further, the model was reestimated by excluding indicators which had *loading* less than 0.50 (Chenhall & Morris, 1986). Based on Figure 4, there are two indicators having *loading factor* less than 0.5, which are *communication* (X_{23}) and *Frequency* (X_{25}) on the variable of *Experience* (X_2).

After the elimination of indicators having *loading* less than 0.50 ($OL < 0.5$), the next step done was reestimation toward the new data. The results of the *outer loading* after the elimination are presented in the following figure.

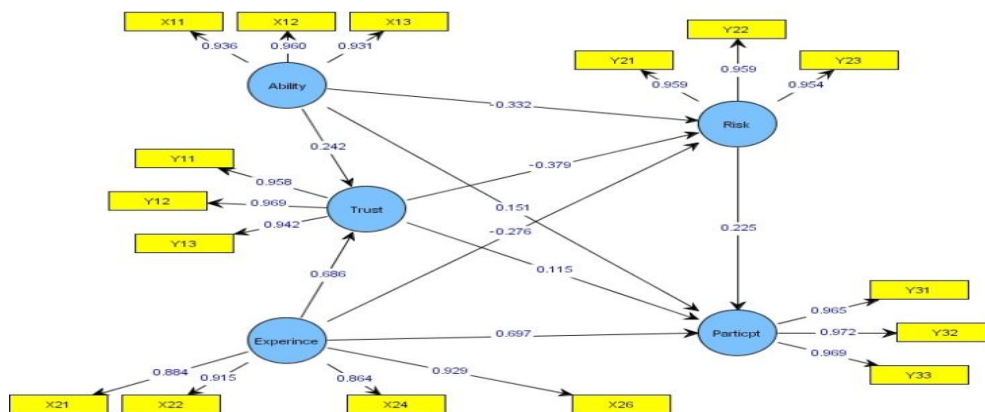


Figure 5. The results of the second phase Model Outer after the elimination of several indicators

The inner model, the specification of the relationship between latent variables (structural model), describes the relationship between the latent variables based on the substance of the research theory, without losing its general characteristics. It is assumed that latent variables and indicators or manifest indicators are on the scale of *zero means* and variant units are similar to each other, so that constant parameters can be excluded from the model. The equation is divided into three parts of analyses:

a. The influence of vendor ability and experience on trust – has the following equation:

$$\text{TRS}(Y_1) = \beta_1 \text{ABL}(X_1) + \beta_2 \text{EXP}(X_2) + Z_1$$

$$\text{TRS}(Y_1) = 0.242 \text{ABL}(X_1) + 0.686 \text{EXP}(X_2)$$

b. The influence of vendor ability, experience, and trust on transaction-perceived risk – has the following equation:

$$\text{TPR}(Y_2) = \beta_4 \text{ABL}(X_1) + \beta_5 \text{EXP}(X_2) + \beta_6 \text{TRS}(Y_1) + Z_2$$

$$\text{TPR}(Y_2) = -0.332 \text{ABL}(X_1) - 0.276 \text{EXP}(X_2) - 0.379 \text{TRS}(Y_1)$$

c. The influence of vendor ability, experience, trust, and transaction-perceived risk on participation – has the following equation:

$$\text{PRT}(Y_3) = \beta_8 \text{ABL}(X_1) + \beta_9 \text{EXP}(X_2) + \beta_{10} \text{TRS}(Y_1) + \beta_{12} \text{TPR}(Y_2) + Z_3$$

$$\text{PRT}(Y_3) = 0.151 \text{ABL}(X_1) + 0.697 \text{EXP}(X_2) + 0.115 \text{TRS}(Y_1) + 0.225 \text{TPR}(Y_2)$$

The Testing Of Outer Model (Measurement Model)

The testing of *outer model* or *measurement model* is an assessment toward the reliability and validity of research variables. There are three criteria for testing *outer model*: *convergent validity*, *discriminant validity* and *composite reliability*. The following table presents the results of the testing:

Table 3. The results of composite reliability, Average Variance Extracted (AVE), and R-Square

Constructs	Composite Reliability	Average Variance Extracted (AVE)	R-Square
Vendor Ability(X ₁)	0.960	0.888	
Experience (X ₂)	0.943	0.807	
Trust(Y ₁)	0.970	0.915	0.837
Transaction-Perceived Risk(Y ₂)	0.970	0.916	0.910
Participation(Y ₃)	0.979	0.938	0.898

Source: primary data analysis, processed 2015 (SmartPLS)

A variable is considered *reliable* if the correlation value is above 0.60 (Ghozali, 2004). The results of *outer loading* test for *composite reliability* on the above table show that all *loading factors* are above 0.60. Therefore, it can be stated that all variables are reliable and meet the standard of validity because all *outer loadings* for AVE are above 0.60 (Ghozali 2006).

Based on the analysis, the value of *R-square* (R²) for the endogenous variable of *Trust* is obtained, which is 0.837. It can be interpreted that *vendor ability* and *experience* can explain the variance of *trust*, which is 83.7%, while the rest is (100%–83.7%) 16.3% affected by other variables not included in the model.

The value of *R-square* (R²) for the endogenous variable of *transaction-perceived risk* (Y₂) is 0.910. Therefore, it can be interpreted that *vendor ability*, *experience*, and *trust* can explain the variance of *transaction-perceived risk*, which is 91%, while the rest is (100%-91%) 9% affected by other variables not included in the model of the research.

The value of *R-square* (R²) the the endogeneous variable of *Participation* (Y₃) is 0.898. Thus, it can be interpreted that *vendor ability*, *experience*, *trust* and *transaction-perceived risk* can explain the variance of *participation*, which is 89.8%, while the rest (100%-89.9%) 10.2% affected by other variables not included in the model.

Meanwhile, to test the feasibility of the model, *total determination coefficient* (Q²) was used; *Q-square* measured how good the observed values generated by the model are and also the estimated parameters (Ghozali, 2006: 26). The value, *Q-square* which is greater than 0 (zero), indicates that the model has *predictive relevance*, while *Q-square* less than 0 (zero) shows that the model lacks *predictive relevance*. To determine the value of *Q-square*, the following formula is used.

$$Q^2 = 1 - (\sqrt{1 - R_1^2}) * (\sqrt{1 - R_2^2}) * (\sqrt{1 - R_3^2})$$

The calculation of *Q-square* with the data of *R-square* in the three models can be done as follows:

$$Q^2 = 1 - (\sqrt{1 - 0,837}) * (\sqrt{1 - 0,910}) * (\sqrt{1 - 0,898})$$

$$Q^2 = 1 - (0,403) * (0,300) * (0,319)$$

$$Q^2 = 0,961$$

Based on the calculation, the value of *Q-square* (Q^2) is obtained, which is 0.961. It can be interpreted that the research model can explain 96.1% of participation in online business or the contribution of the influence of exogeneous variables (*vendor ability, experience, trust, and transaction-perceived risk*) on the endogenous variable (*participation in online business*), which is 96.1%. Thus, the model has the value of *predictive relevance* or an accurate prediction level.

The Testing Of Inner Model

The testing of *inner model* or structural model was done to see the relationship between constructs and the value of significance of the research model. The following table presents the regression weight of the relationships between the constructs, the significance value, and *R-square* of the research model.

Table 4. The regression weight of the relationships between the constructs, the statistic significance value (t_statistic), and P-Value

	Original Estimate	Sample Mean of Subsamples	Standard Deviation	T-Statistic	P-Value
Ability -> Trust	0.242	0.218	0.163	1.484	0.070
Experince -> Trust	0.686	0.709	0.155	4.425*)	0.000*)
Ability -> Risk	-0.332	-0.361	0.132	2.514*)	0.006*)
Experince -> Risk	-0.276	-0.241	0.147	1.880*)	0.031*)
Trust -> Risk	-0.379	-0.385	0.129	2.939*)	0.002*)
Ability ->Particpt	0.151	0.139	0.131	1.151	0.126
Experince ->Particpt	0.697	0.726	0.142	4.903*)	0.000*)
Trust ->Particpt	0.115	0.131	0.132	0.870	0.193
Risk ->Particpt	0.225	0.220	0.175	1.287	0.100

Source: primary data analysis, processed 2015 (SmartPLS)

Descriptions: * significance at t-statistic level 1.640 (Jogiyanto and Abdillah, 2009: 63)

* significance at P-value level 5%, calculated using MS Excel with the function of "=TDIST"

PLS analysis generated *regression weight* values of the relationships between constructs; five relationships between constructs are influential, while four relationships do not have significant influences.

- a. *Vendor ability* does not have an effect on *trust*, with a coefficient value of 0.242, supported by the t-statistic of 1.484 (less than 1.640) and P-Value of 0.070 (more than 0.05).
- b. *Experience* has a significant positive effect on *trust*, with a coefficient value of 0.686, supported by the t-statistic of 4.425 (greater than 1.640) and P-Value of 0.000 (less than 0.05).
- c. *Vendor ability* has a significant negative effect on *transaction-perceived risk*, with a coefficient value of 0.332, supported by the t-statistic of 2.514 (greater than 1.640) and P-Value of 0.006 (less than 0.05).
- d. *Experience* has a significant negative effect on *transaction-perceived risk*, with a coefficient value of 0.276, supported by t-statistic of 1.880 (greater than 1.640) and P-Value of 0.031 (less than 0.05).
- e. *Trust* has a significant negative effect on *transaction-perceived risk*, with a coefficient value of 0.379, supported by t-statistic of 2.939 (greater than 1.640) and P-Value of 0.002 (less than 0.05).
- f. *Vendor ability* does not influence *participation in online shopping*, with a coefficient value of 0.151, supported by t-statistic of 1.151 (less than 1.640) and P-Value of 0.126 (greater than 0.05).
- g. *Experience* has a significant positive effect on *participation in online shopping*, with a coefficient value of 0.697, supported by t-statistic of 4.903 (greater than 1.640) and P-Value of 0.000 (less than 0.05).
- h. *Trust* does not affect *participation in online shopping*, with a coefficient value of 0.115, supported by t-statistic of 0.870 (less than 1.640) and P-Value of 0.193 (greater than 0.05).
- i. *Transaction-perceived risk* does not influence the variable of *participation in online shopping*, with a coefficient value of 0.225, supported by t-statistic of 1.287 (less than 1.640) and P-Value of 1.287 (greater than 0.05).

VI. Discussions

The results of structural equation analysis show that of the nine hypotheses, five of them are supported and the rest is not supported, or H_a is accepted while H_0 is rejected. The influence of each variable is discussed in the following sections.

The results of interference statistic analysis using structural equation with PLS approach indicate that *vendor ability* has a positive effect on *trust*; yet, it is not significant. Therefore, H1 which states that *vendor ability* has a significant positive effect on *trust* cannot be supported. This can be caused by several things, such as:

- a. customers prioritize the quality of products than the reputation of providers; thus, *vendor ability* becomes less noticed by the customers;
- b. currently, providers of online products are diverse, making it difficult to recognize/identify good providers and those without good reputations;

- c. the absence of *track records* of online providers, making the preferences of consumers for providers without reputations low.

The Influence Of Vendor Ability On Transaction-Perceived Risk

Vendor ability has a significant negative effect on transaction-perceived risk, with a coefficient value of 0.332, supported by t-statistic of 2.514 (greater than 1.640). Therefore, H2 which states that vendor ability has a significant negative effect on transaction-perceived risk can be supported. It can be interpreted that the higher the ability of the vendors, the lower the transaction risks.

According to Featherman and Pavlov (2003), perceived risk is considered as the level of customer perception of negative results obtained from online transactions. This is related to the vendor ability in the form of knowledge, including (1) vendors control online business in terms of product specifications, (2) vendors control online business network, and (3) vendors control the security system of product shipments. Extensive knowledge means that sellers control the distribution system and business network, which allows distributions of products/goods to customers; it is expected to reduce transaction risks of customers.

The Influence Of Vendor Ability On Online Shopping Participation

Vendor ability does not significantly affect participation in online shopping, with a coefficient level of 0.151, supported by t-statistic of 1.151 (less than 1.640); therefore, H3 which states that the ability has a positive influence on online shopping participation cannot be supported. Nevertheless, the influence of vendor ability has a positive coefficient toward online shopping participation.

This research reveals that vendor ability has a positive effect, both directly and indirectly, on the participation level of e-commerce customers in Indonesia; yet, the influence is not significant. This finding aligns with the research of Gefen and Straub (2004) which indicates that ability has a positive effect on purchase intentions, which is an indicator of the construct *participation* measured in this study; however, the influence is not significant. Based on the finding, the variable of vendor ability is not an important variable to be considered in increasing the participation of e-commerce customers in Indonesia.

The Influence Of Experience On Trust

Experience has a significant positive effect on trust, with a coefficient value of 0.686, supported by t-statistic of 4.425 (greater than 1.640). Therefore, H4 which states that experience has a significant positive effect on trust can be supported. This means that the higher the experience of customers, the higher their trust. This finding is line with the study of Ling et al. (2010) which indicates that experience in using the internet and websites will improve the trust of customers in making online purchases repeatedly.

Experience is a learning process, which improves attitudes, from both formal and informal institutions; experience can also be understood as a process which brings individuals to higher behaviors (Balady, 2011). Web shopping consumers greatly depend on the quality of their experiences; the experiences are obtained through prior purchase experience (Ling et al, 2010).

The Influence Of Experience On Transaction-Perceived Risk

Experience has a significant negative effect on transaction-perceive risk, with a coefficient value of 0.276, supported by t-statistic of 1.880 (greater than 1.640). Therefore, H5 stating that experience has a significant negative effect on transaction-perceived risk can be supported. This finding shows that the higher the experience of customers in making online purchases, the lower the transaction-perceived risk. Risk perception is related to the personal experience of consumers who feel that they have transaction risks. It is important to understand consumers who have various personalities in selecting products that suit their preferences. This finding is consistent with the findings of Giantari (2013) which indicate that consumers' previous purchases have a significant influence on trust, which decreases risk transaction for consumers. The experience of consumers in finding information and making purchases through websites establishes trust toward vendors of the websites.

The Influence Of Experience On Online Shopping Participation

Experience has a significant positive effect on online shopping participation, with a coefficient value of 0.697, supported by t-statistic of 4.903 (greater than 1.640); therefore, H6 which states that experience has a significant positive effect on online shopping participation can be supported. This can be interpreted that the more experienced a customer is, the higher the intention to participate in online shopping.

This finding is consistent with the research of Weisberg (2013) and Ling et al. (2011) which show that online repurchase intention is not only affected by trust and social behavior, but also by prior online purchase experience. The study of Weisberg indicates that subgroups with previous purchasing experience have significant differences from other subgroups which do not have previous purchasing experience. This suggests that purchasing experience through the internet has a substantial effect on future purchases.

The Influence Of Trust On Transaction-Perceived Risk

The construct of trust has a significant negative effect on transaction-perceived risk, with a coefficient value of 0.379, supported by t-statistic of 2.939 (greater than 1.640); thus, H7 which states that trust has a significant negative effect on transaction-perceived risk can be supported. It can be interpreted that the higher the customer trust, the lower the transaction-perceived risk in online business.

Risk has been an object of research since 1990s. Risk is believed to be a crucial factor in decision making and attitudes (Sjoberg, 2004). Risk refers to consumer perceptions of uncertainty and adverse consequences of a particular action. Although previous researchers state that risk perception contributes insignificantly to online shopping (Jarvenpaa & Todd, 1997), the research identifies consumer risk perception as the main obstacle of the development of online business in the future.

The Influence Of Trust On Online Shopping Participation

Trust has a positive effect on online shopping participation, but not significant, with a coefficient value of 0.115, supported by t-statistic of 0.870 (less than 1.640). Therefore, H8 which states that trust has a significant positive effect on online shopping participation cannot be supported. This shows that trust has a direct positive effect on customer online shopping participation. The effect is not significant, but not positive. This finding supports the research of Tung et al. (2001), which indicates that trust developed by vendors gives positive motivations to members of online communities to give recommendations to members of other communities not to worry in make purchases through e-commerce.

This finding is in line with the study of Ling et al. (2010) which shows that trust has a significant effect on the intention to make online purchases; the more consumers trust the vendors of particular websites, the warranty of personal data security, and online payment processes, the higher the consumer intention to make online purchases.

The Influence Of Transaction-Perceived Risk On Online Shopping Participation

The construct of transaction-perceived risk has a positive effect on online shopping participation, but not significant, with a coefficient value of 0.225, supported by t-statistic of 1.287 (less than 1.640). Therefore, H9 which states that transaction-perceived risk has a significant negative effect on online shopping participation cannot be supported. This means that the higher the transaction risks, the more efforts for participating in online purchases done by customers.

Online shopping is considered more risky for consumers. There are several definitions of online shopping. First, according to Bhatnagar et al., online shopping is a new channel to purchase products or services on the internet; on the other hand, Tan proposes that online shopping is a form of non-store purchases on the internet (Li & Huang, 2009). The advantages of online shopping are consumers do not need to shop around to compare prices, they do not need to stand in rows to pay, and online shopping allows consumers to make payments based on their needs. On the other hand, online shopping also has disadvantages; consumers cannot directly see the products; there are internet problems and security of online store where they purchase products (Cohen, 2008).

New Research Findings

The findings of this research are divided into two: findings based in result analysis and findings based on the exploration of phenomenon by conducting some observations and interviews with the respondents. The findings of this study based on result analysis include:

1. Vendor ability has a positive effect on trust, but not significant; this might be because:
 - a. consumers prioritize the quality of products, rather than the reputation of vendors; thus, vendor ability becomes less noticed by consumers;
 - b. currently, there are various online vendors; it is difficult to identify good vendors or those without reputation;
 - c. there are no track record data on online vendors; therefore, consumer preferences toward vendors without reputation become low.
2. Vendor ability does not have a significant effect on participation in online shopping; this might be caused by:
 - a. an online businessman no longer see the reputation of vendors in online transactions, but he or she focuses on the quality of products and transaction security;
 - b. The better the reputation of vendors, the more competitors of the vendors; consequently, new vendors with good reputations appear; thus, consumers are no longer concerned about the reputation of vendors.
3. Trust has a positive effect on online shopping participation, but not significant. This can be related to the various product choices. Different from common theories which state that the higher the trust of consumers, the higher their participation in e-commerce; it is possible that customers consider searching for new

products, although they obtain the products from vendors whom they have not trusted. This can possibly happen as the growth of online business is high.

4. Transaction-perceived risk has a positive effect on online shopping participation, but not significant; this might be because risks can be decreased by the factor of transaction security. Another factor which becomes a consideration is the ease of use; this is related to the operational of online transactions, which means that the transactions are not risky.

Findings based on the exploration of the phenomenon occurred in the field related to online business include three aspects:

1. the low customer trust toward online vendors, indicated by the number of fraud; this leads to customer low trust;
2. there are problems related to high-risk transactions; payments have been made, but buyers never receive the products;
3. there are problems related to the delivery of products and payment system, leading to late delivery or lost products/goods.

In relation to such a phenomenon, based on the observations and interviews with the respondents, the efforts which can be done to improve the system of online business are:

1. consumers want a third-party which becomes a mediator in transaction processes;
2. the establishment of an account system managed by the third party;
3. the transaction system prioritize the delivery of products rather than receiving money from consumers.

Such a system is effective if it is implemented; the third party is an institution which plays its role in becoming a media for promotion and for facilitating online transactions.

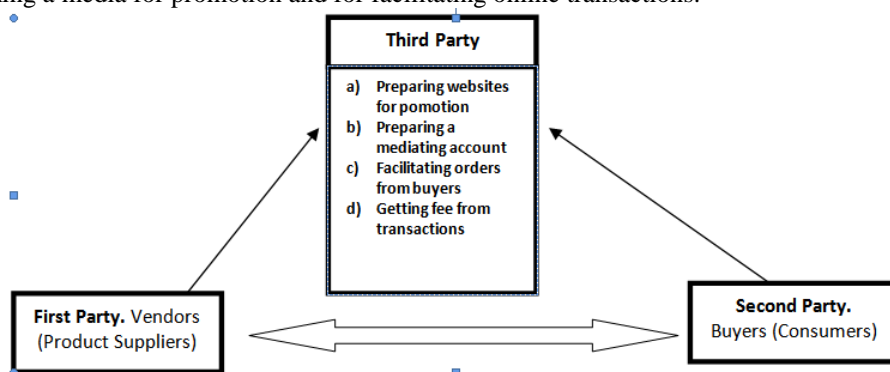


Figure 6. Expected safe transaction process

Based on Figure 6, the following safe transaction cycle can be made:

1. The first party provide products and promote them on the website provided by the third party by creating an account on the website of the third party;
2. The second party, obtaining references of products from the first party on the website of the third party, make orders to the third party;
3. The second party creates an account on the website of the third party as transparent business objects;
4. The third party asks the second party to transfer an amount of fund agreed by the three parties, including insurance and delivery cost, to the mediating bank account of the third party;
5. After the second party transfers the fund, the third party validates the transfer. Then, the third party obligates the first party to deliver the products to the second party;
6. After the products are delivered, the third party requires the second party to confirm whether products have or have not been received. If there are no complaints, the third party transfers the fund to the first party;
7. If the second party does not receive the products due to fraud committed by the first party, the fund is transferred back to the second party;
8. If the products received by the second party do not meet the second party's expectation or the quality does not meet the expectation, the second party can return the products and the third party transfers the fund back to the second party;
9. The transaction is completed.

Such a system is effective and safe; therefore, it can address the doubts of consumers, particularly those still having risk perceptions in shopping. Therefore, the system can improve trust, decrease risk perceptions, and increase participation in online business, both participation in selling and buying products.

VII. Conclusion

The construct of vendor ability has a positive effect on trust, but not significant; therefore H1 which states that ability has a significant positive effect on trust cannot be supported. The construct of vendor ability has a significant negative effect on transaction-perceived risk; therefore, H2 which states that vendor ability has a significant negative effect on transaction-perceived risk can be supported; the higher the vendor ability, the lower the transaction risk. The construct vendor ability does not have a significant effect on participation in online shopping; therefore, H3 which states that vendor ability has a positive effect on online shopping participation cannot be supported, although the effect has positive coefficient.

The construct of experience has a significant positive effect on trust; thus, H4 which states that experience has a significant positive effect on trust can be supported. This means that the higher the experience of consumers, the higher their trust. The construct of experience has a significant negative effect on transaction-perceived risk; therefore, H5 which states that experience has a significant negative effect on transaction-perceived risk can be supported. The findings of this study show that the higher the experience of consumers in online transactions, the lower the transaction risks.

The construct experience has a significant positive effect on online shopping participation; thus, H6 which states that experience has a significant positive effect on online shopping participation can be supported. It can be interpreted that the more experience consumers have, the higher their intention to participate in online shopping. The construct of trust has a significant negative effect on transaction-perceived risk; therefore, H7 which states that trust has a significant negative effect on transaction-perceived risk can be supported. This means that the higher the customer trust, the lower the risk perception in online shopping. The construct of trust has a positive effect on online shopping participation, but not significant. Thus, H8 which states that trust has a significant positive effect on online shopping participation cannot be supported. Further, the construct of transaction-perceived risk has an insignificant positive effect on online shopping participation; therefore, H9 which states that transaction-perceived risk has a significant negative effect on online shopping participation cannot be supported.

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