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Factors Affecting College Students' Trust in Online Shopping Transactions

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Abstract- Trust is a belief that others will behave in a reliable way in a relationship. Trust is still considered a qualification of consumers in deciding purchases. This study uses a quantitative approach, combining the Technology Acceptance Model with several other variables based on consumer confidence in transacting online. The population in this study were students of a government-owned university who had already traded online shopping. The distribution of questionnaires was carried out online using multi-stage purposeful random sampling technique. Simple random sampling for the first stage and purposive sampling for the second stage. Furthermore, the data analysis process uses the PLS-SEM approach using SmartPLS 3.0. Trust formation models that take advantage of the extension of several variables have proven to be influential in measuring trust in online shopping transactions. This research can be used as a consideration for formulators and policy makers related to online shopping business and as a benchmark for consumers by looking at factors that have influence before conducting online shopping transactions.

Keywords—electronic commerce; trust; online shopping; web; system; transaction; students

I. INTRODUCTION

The development of information technology has become very rapid and provides many benefits to various aspects of life. One of them is the use of the internet as an electronic means that can be used for various activities such as communication, education, transactions, research and others. The internet is a global communication network that connects all computers in the world despite the different operating systems and machines [2]. What's more because the sophistication of smartphones that are increasingly mushrooming in the community and supporting internet services are becoming increasingly accessible anywhere and anytime

The combination of internet and smartphone sophistication opens new markets in cyberspace. The use of the internet for business transaction activities is known as Electronic Commerce (e-commerce) [10],[18]. In a period of 10 years, the number of e-commerce in Indonesia increased by around 17%, the total number of e-commerce businesses reached 26.2 million [1],[19]. Based on studies conducted by IlmuOne Data on the position and growth of e-commerce in Indonesia, calculated from the total digital population at the end of the second quarter of 2017, obtained data from the top 10 rankings consisting of 4 e-commerce and 6 marketplace [13]. In this study the author will analyze online stores globally, focusing on the eminent online stores in Indonesia: Lazada, Blibli and Tokopedia.

Opening business transactions via the internet does not mean avoiding crime by other parties as conventional transactions. Crime potential in the form of fraud, credit card piracy (carding), transfer of illegal funds from certain accounts, and the like is very large if the security system, e-commerce infrastructure is still weak [18],[19],[20]. Indonesia is one of the countries with the largest online fraud victims and other security issues where consumers still consider security is one the biggest things in conducting online transactions [20].

The high rate of crime in cyberspace can reduce consumer confidence in making transactions online. Not only that there are various other factors that can influence consumer confidence in transacting online shopping such as the reputation of the online store itself, ease of use, the benefits of using online shopping [19][20]. According to the Consumer Digital Index of Indonesia in Indonesia is relatively low at 1.8 out of 10, which means that the level of consumer confidence in Indonesia in the digital era is still very low, mainly due to the experience of fraud when using digital services [17].

The purpose of this study was to determine the factors that influence trust in conducting online shopping transactions for students of a government-owned University in Jakarta.

The second part of this article is a literature review that explains the definition of each variable used. The third part consists of research methodology, models, indicators and research hypotheses. The fourth section describes the results and discussion. Finally, we will derive the conclusion of this article.

II. THEORETICAL REVIEW

A. Online Shopping

Online shopping is an activity to purchase products (both goods and services) through internet media [8]. Online shopping is a form of electronic commerce (e-commerce) that allows consumers to buy goods or services directly from sellers through the internet using a web browser. Online shopping activities include business to business (B2B) and business to consumers (B2C) activities. Online shopping

activities are associated with B2C which is intended to be buying activities used by consumers themselves, not resold, while B2B when an online store is set up for business and buying from other businesses, the process is called business to business online shopping [23].

B. Technology Acceptance Model

Perceived ease of use (PEOU) is one of the main constructions of the Technology Acceptance Model (TAM). Many researchers cited in this study have agreed that TAM can be used to study purchase intentions by managing internet shopping centers as technical systems and consumers as technology users. When consumers believe that a website is easy to use and therefore they tend to shop at the website [9]. The easier the execution of such transactions is done for consumers, the more transactions will occur [9]. Perceived usefulness in the context of online shopping, refers to the extent to which consumers perceive that shopping at an online store will improve their shopping experience and transaction performance. In other way, individuals are more likely to intend to continue to use when such use is considered useful [5].

C. Electronic Commerce Knowledge

E-commerce knowledge is the customer's knowledge of e-commerce related technologies and the basic knowledge needed to truly use e-commerce. E-commerce knowledge can also be defined as knowledge about product search through internet shopping centers, purchase methods, payment processes and mall personal information protection policies, etc. [9].

D. Perceived Reputation

The perceived reputation of the internet shopping center provides assurance about the seller's abilities, integrity and goodwill [19]. Reputation is consumer confidence that organizations that sell goods or services honestly and care for their consumers [9].

E. Trust and Perceived Risk

Trust is a willingness to depend on colleagues who can be trusted [15]. Trust may also be defined in the context of an internet shopping center as a consumer's desire to depend on sellers and take action in circumstances where these actions make consumers vulnerable to sellers [19]. Trust in internet shopping centers is completely different from those in offline stores. That is, because there is no management related to the seller seen when buying or selling in an internet shopping center, the subject of consumer confidence becomes the internet shopping center itself [9]. Thus trust plays an important role during transactions in this uncertain and risky situation.

The perceived risk can be defined as the consumer's perception of uncertainty and the adverse consequences of being involved in an activity [9]. In addition, perceived risks may be classified into functional confidence risks, payment method risks, contract-related risks, and related shipments. Therefore, perceived risk can be defined as consumers' perceptions of uncertainty and adverse consequences of being involved in an activity [9].

F. Purchase Intention

Purchase intention is generally used to understand the purpose of consumers in making a purchase decision. The greater the risk perceived to be related to a product, the more likely consumers are involved in problem solving. Risks can be financial, performance, psychological, time, social, or physical [11].

III. RESEARCH METHODOLOGY

A. Proposed Model

This study uses a model adopted in the context of spending on the internet [4]. This model consists of 6 variables, namely e-commerce knowledge, perceived reputation, perceived risk, perceived ease of use, trust, and purchase intention. Then the researcher modified the model by adding one perceived usefulness variable in the context of e-shopping [5]. Most of the variables in the research model were adopted and combined from various previous studies using Technology Acceptance Model (TAM) to measure its relationship with trust [6][9].

We also added the relationship between perceived usefulness directly to purchase intention to measure the direct effect on purchase intention without trust. In addition, this study also modified the relationship from perceived risk to trust [9] to a relationship between trust to perceived risk [7] and added the relationship between perceived risk to purchase intention directly [21]. Based on the description above, the researcher adopts, combines and adapts the model and its relationship into the model used in this study.

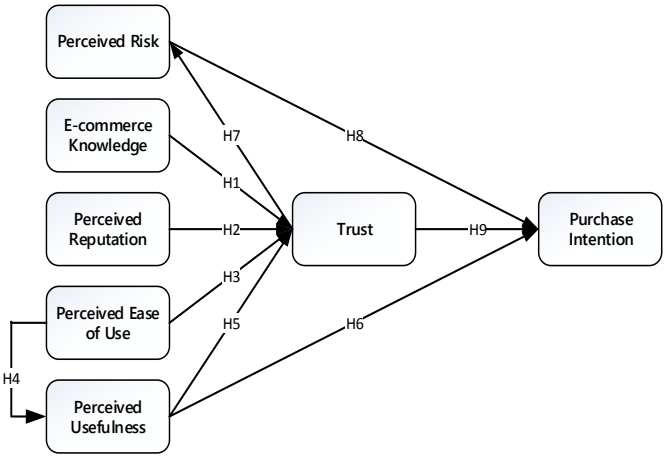

Fig. 1. Proposed model

The hypothesis was developed based on theories from several previous studies [9][22]. Therefore, we developed the hypothesis for each variables described as follows:

H1: E-commerce knowledge will have a positive effect on trust.
H2: Perceived reputation will have a significant effect on trust.
H3: Perceived ease of use will influence trust positively.
H4: Perceived ease of use will influence perceived usefulness positively.
H5: Perceived usefulness will drive a positive effect on trust.
H6: Perceived usefulness will drive a positive effect on one's purchase intention.
H7: Trust will significantly reduce perceived risk of conducting online shopping transactions.
H8: Perceived risk will effectively reduce one's intention to purchase in online shopping.
H9: Trust will influence one's purchase intention positively.

B. Questionnaire Indicators

The instrument in this study uses a questionnaire which is divided into three parts. The first part is the profile of the respondent and the second part is the general question about online shopping. And in the third section contains 25 test questions. The questionnaire was designed in the form of closed-ended question using a Likert scale. To guarantee the validity and reliability of this research instrument, researchers adopted and used several indicator items from previous research:

TABLE I
QUESTIONNAIRE INDICATORS

Variable	Indicator	Reference
E-commerce knowledge	Online shopping process	Li et al. (2007)
	Online shopping payment	
	Online shopping website	Wijoseno & Ariyanti (2015)
	Online shopping terms and conditions	
Perceived reputation	Good reputation	Li et al. (2007)
	Good image	
	Regarded favorably	
Perceived risk	Difference between the purchased product and the product actually delivered	Li et al. (2007)
	Uncertainty associated	
	Monetary loss risk	Wijoseno & Ariyanti (2015)
	Product specific risk	
Perceived ease of use	Convenience of doing Internet shopping	Li et al. (2007)
	Brief and easily remembered URL	
	Concise and quick payment methods	
	Ease to find product and services	
Perceived usefulness	Usage full time	Hajiha et al. (2014)
	Efficiency	
	Saving time	
	Usefulness in improving performance	Wijoseno & Ariyanti (2015)
Trust	Customer satisfaction	Li et al. (2007)
	Trustworthiness	
	Quality service	
Purchase intention	Make online transactions	Wijoseno & Ariyanti (2015)
	Future use intentions	Hajiha et al. (2014)
	Recommending to others	

C. Population and Demography

The population in this study were students of a government-owned university in Indonesia. The survey was conducted online starting on 29 May to 10 June 2018. Sampling was carried out using multi-stage purposeful random sampling technique [14]. The first step is to take a sample that is done randomly without regard to strata, levels, or groups (simple random sampling). This stage is done to select a part of the population. Whereas the second stage where the selected criteria are all active students who are taking the bachelor level and have experience in online shopping transactions, especially in Lazada, Blibli and Tokopedia (purposive sampling) [12],[16].

Researchers succeeded in obtaining 456 questionnaires from online distribution. Of the 456 questionnaires that have been obtained, 32 of them are declared invalid because they do not meet the criteria, incomplete data, and double input on the google forms. So the questionnaire which is declared valid for use is 424 questionnaires.

The results interpretation is done by discussing the results of the respondents' demographic analysis with the actual conditions in the field, and interpreting the results of statistical-quantitative analysis of the model and comparing and considering the previous literature that is still related to this research.

IV. DATA ANALYSIS AND DISCUSSIONS

A. Demographic Analysis

We have successfully collected data with 424 out of 456 respondents. The Demographic data of respondents as shown in the following table:

TABLE II
DEMOGRAPHIC DATA

Category	Item	Frequency	%
Gender	Female	266	62.74
	Male	158	37.26
Age (year)	15-20	261	61.56
	21-25	159	37.50
	26-30	4	0.94
Time to use the internet (year/s)	< 1	1	0.24
	1-3	14	3.30
	4-5	83	19.58
	6-10	248	58.49
	> 10	78	18.40
Frequency of online shopping transactions	< 1	178	41.98
	1-3	201	47.41
	4-6	33	7.78
	7-9	0	0.00
	> 10	12	2.83
Pocket money	< Rp 500.000	128	30.19
	Rp 500.000 – Rp 1.000.000	204	48.11
	Rp 1.000.000 –	55	12.97

	Rp 1.500.000		
	Rp 1.500.000 – Rp 2.000.000	19	4.48
	> Rp 2.000.000	18	4.25
Ownership of a bank account	Have	361	85.14
	Do not have	63	14.86

B. Model Measurement Analysis

This analysis is done by looking at the standardized loading factor, composite reliability, average variance extracted (AVE), and discriminant validity through cross-loading value calculations.

The loading factor value received is 0.7. The value of composite reliability (CR) received is 0.7 while the AVE value received is 0.5. In testing the calculation of the model measurement value, there are three indicators of privacy deleted, because the value of outer loading does not meet 0.7 [4]. At the inspection stage the cross loading value is carried out in two ways. Checking the value of cross loading between indicators is the first way, while cross loading Fornell-Lackers's is the second way.

Cross loading indicators are examined by comparing indicator correlations with their constructs and other block constructs. The construct is predicted to have a block size that is better than the other blocks if the correlation value between the indicators and the construct is higher than the correlation with other block constructs. On cross-checking Fornell-Lacker's cross loading is done by looking at the root value of AVE. The root value of AVE must be higher than the correlation between the extract and other constructs.

On the other hand, coefficient (β) testing, t-test, effect size (f2), and relative impact (q2) are performed. The threshold value received in the path coefficient test (β) is 0.1. That is, the pathway has an influence in the research model. The t-test was carried out using a two-tailed test with a significance level of 5% to be able to test the hypothesis in the study. The hypothesis in this study will be accepted if it has a t-test value greater than 1.96 [4].

Of the nine proposed hypotheses was rejected: perceived risk to purchase intention with a t-test value of 0.926. The purpose of effect size testing (f2), in order to predict the effect of fixed variables on other variables. The threshold value used is around 0.02 with a small effect, 0.15 has an intermediate effect, and 0.35 has a large effect. The relative impact (q2) test is carried out to measure the relative influence of a predictive relationship of a variable with other variables. The threshold used is the same as f2 [4]. Moreover, the testing of model structure can be seen in Table III.

TABLE III
ANALYSIS RESULTS

Hypothesis		β	*t*-value	Result
H1	E-commerce Knowledge → Trust	0.191	4.169	Supported
H2	Perceived Reputation → Trust	0.160	3.290	Supported
H3	Perceived Ease of Use → Trust	0.291	4.584	Supported
H4	Perceived Ease of Use → Perceived Usefulness	0.645	18.435	Supported
H5	Perceived Usefulness → Trust	0.220	3.299	Supported
H6	Perceived Usefulness → Purchase Intention	0.444	9.433	Supported
H7	Trust → Perceived Risk	-0.294	3.724	Supported
H8	Perceived Risk → Purchase Intention	-0.037	0.926	*Rejected*
H9	Trust → Purchase Intention	0.314	7.450	Supported

Based on the results of the inner model testing of the 9 hypotheses proposed in the trust formation model that utilizes extensions of several variables such as e-commerce knowledge, perceived reputation, perceived risk and Technology Acceptance Models (perceived ease of use and perceived usefulness), the results show that the variables this has proven to be influential in measuring trust in online shopping transactions. Whereas for consumer purchase intentions, only the trust and perceived usefulness variables are proven to be influential, not by perceived risk.

The relation between privacy to purchase intention does not have an insignificant effect with the result of the path coefficient (β) -0,037 and a small value based on the calculation of f^2 and q^2. This result is consistent with the study of Belanger & Carter and Wei et al. which states that a higher level of risk does not reduce the intention to use, in this study the intention to make a purchase [3],[21]. This can also be supported by a direct observation by researchers, that with the existing risks it does not reduce the intention to use online shopping, it can be proven by continuing to increase the number of spending on the internet each year. Therefore, it can be concluded that the existing risks do not affect consumers' purchase intentions in conducting online shopping transactions.

V. CONCLUSIONS

Based on the results of 9 hypotheses proposed, almost all hypotheses are accepted and have strong significance, except perceived risk hypothesis which has a negative influence on purchase intention. Eight hypotheses accepted in this study are: e-commerce knowledge, perceived reputation, perceived ease of use and perceived usefulness have a positive effect on trust, and trust has a negative effect on perceived risk. Perceived ease of use has a positive effect on perceived usefulness. Lastly, perceived usefulness and trust have a positive effect on purchase intention.

The results of the research can be used as consideration for formulators and policy makers, related to the trust and intention of consumers to purchase online shopping in Indonesia, such as applying policies regarding photos displayed on e-commerce websites and authenticity of products sold. This research can also be used as a benchmark for consumers before conducting online shopping transactions, by looking at what factors have an influence in conducting online shopping transactions, such as ease of transaction, 24 hours customer care, product descriptions and others.

VI. LIMITATIONS AND FUTURE STUDIES

This study conveys the mechanisms incorporated with the use of a prominent model in Information Systems: Technology Acceptance Model in accommodating users' behaviors in interacting with online transactions services in Indonesia. We also performed a quantitative approach to investigate our research interest.

The sample of respondents limited only to the students of one university in Jakarta so that they cannot be generalized for all online users in general. The sampling technique used was purposive sampling due to the limitations of cross sectional or instantaneous data collection so that the overall results were not the result of causation, but only conditional results that influence each other.

After all, this study uses survey techniques by distributing questionnaires online without any assistance to respondents when filling out the questionnaire so that there can be a misunderstanding of the items in the questionnaire. Moreover, this study limits only 3 online stores, though they are the big players in electronic commerce in Indonesia. Therefore, the results may be less accurate when applied to other online stores.

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SURAT TUGAS

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1. Dasar: Kalender Akademik Ubhara Jaya Tahun Akademik 2019/2020.

2. Dalam rangka mewujudkan Tri Dharma Perguruan Tinggi untuk Dosen di Universitas Bhayangkara Jakarta Raya maka dihimbau untuk melakukan penelitian.

3. Sehubungan dengan hal tersebut diatas, maka Dekan Fakultas Teknik Ubhara Jaya menugaskan:

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4. Demikian penugasan ini agar dapat dilaksanakan dengan penuh rasa tanggung jawab.

Jakarta, 1 November 2019
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