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Comparison of Intention to Transact Use E-Commerce Reviewed from Perceived Usefulness, Perceived Ease of Use, Perceived Risk and Attitude Toward Use (Survey of Students in Jember)

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Abstract: *This study aims to examine the influence of perceived usefulness, perceived ease of use, perceived risk and attitude toward use on intention to transact on 5 e-commerce models. This research is a descriptive and comparative study with 350 research samples consisting of 70 samples in each e-commerce model obtained from students in Jember who are experienced in using e-commerce. The data analysis method used is Partial Least Square (PLS). The results showed that: (a) perceived usefulness has an influence on attitude toward use in all e-commerce models, (b) perceived ease of use has an influence on attitude toward use on 4 e-commerce models and has no influence on 1 e-commerce model, (c) perceived usefulness has an influence on intention to transact on 4 e-commerce models and has no influence on 1 e-commerce model, (d) perceived risk has an influence on intention to transact on 1 e-commerce model and has no influence on 4 models e-commerce, (e) the attitude toward use has an influence on intention to transact in 4 e-commerce models and has no influence in 1 e-commerce model.*

Keywords: *e-commerce, perceived usefulness, perceived ease of use, perceived risk, attitude toward use, intention to transact.*

1. Introduction

Transactions via internet are becoming a new business phenomenon in Indonesia, with more and more sites offering goods and services via the internet, such as Tokopedia, Zalora, OLX, Shopee and others. Social media such as Instagram, Facebook and Whatsapp have also become platforms for business or selling. Consumers in Indonesia are now beginning to shift from conventional shopping to online shopping.

Online transactions or better known as e-commerce according to Wong (2010) are the buying, selling and marketing of goods and services through an electronic system that includes electronic funds transfers, exchanges and data collection, all arranged in an automatic system. The internet is the most economical media to be used as a basis for information systems. Interpersonal relationships through the internet are done using an application system, so that direct or face to face relationships are reduced. Software for developing internet-based information systems is also obtained cheaply and even for free. Therefore in general the internet makes it much easier to communicate. Based on a review made by Lukman (2014), there are five e-commerce models carried by e-commerce actors in Indonesia based on their interactions: (1) Classifieds, (2) Marketplace, (3) Shopping mall, (4) Online shop and (5) Social media online shop.

Olsen, et al (2015) stated that in 2013 e-commerce in Southeast Asia was still underdeveloped. E-commerce in this region accounts for less than one percent of the world's e-commerce market. At that time, markets in 6 ASEAN countries were valued at around USD 7 billion. Indonesia had around 39 million internet users in 2013, the number of online shoppers is still small compared to other countries. Indonesia only has around five million online shoppers, which is only around 12 percent of the total internet users in the country.

In 2014 there were 88 million internet users in Indonesia and in 2016 there were 132.7 million people connected to the internet (APJII, 2016). Over time, based on Internet World Stats for the period of December 2017, Indonesia is ranked 5th as the largest internet user. Whereas based on internet user statistical data from APJII (2017), the development of internet in Indonesia with a population of around 262 million, has internet users reaching 143.26 million or around 54.68% of the total population in Indonesia. And in 2018, the above proves that e-commerce in Indonesia is experiencing significant growth.

The results of a survey conducted by APJII (2018) can be seen that the largest internet users in Indonesia are between the ages of 15-19 years and 20-24 years, which in that range are those classified as young people or can be said to belong to the Millennial generation. From that age, if the average is around the age of 20 years, and when viewed in terms of work and or education, the average age is a student. In the 2018 APJII survey based on education level, internet users with "currently studying" education reached 92.6%.

Jember is one of the regions with the highest number of tertiary institutions with both public and private status and the largest number of students in East Java, especially in the eastern region with a total of 71,891 students (PDDIKTI, 2019). The chosen Instagram account "mahasiswajember" as the object of research is because "mahasiswajember" account is one of the largest virtual community forums in the scope of students in Jember with more than 24,000 followers. The "mahasiswajember" account is an efficient means of communication and information exchange among students in Jember, especially the internet user community. Therefore the "mahasiswajember" account as one of the Jember Student community accounts with the most followers can be used as a forum to gather and filter information.

This study uses one model to analyze the use of information technology, namely the Technology Accepted Model (TAM) which can be a grand theory in predicting and analyzing related intentions in using e-commerce. Davis (1989) developed TAM to explain the user's perception of an information system and determine their behavior in the use of a technology or information system including perceived usefulness and perceived ease of use. In this model, the perceived usefulness and ease of use of perception have an influence on attitudes and behavior, so the information assessed on the factor of usability and ease of use will influence the attitude and intention in the tendency to continue to use the information system or technology.

Davis (1989) assumes that TAM when a user will use a new information system, there are two factors that influence it, namely perceived ease of use and perceived usefulness. The results of the

study show that perceived ease of use can explain the user's attitude to use the system and can explain if the new system can be accepted by the user. Likewise, the perceived usefulness forms an attitude for decision making whether to use the information system or not. The results of this study are supported by other studies such as Al-Somali et al. (2008), Rahmatsyah (2011), Juniwati (2014) and Adhiputra (2015) which stated perceived usefulness influence on attitudes. Likewise with the influence of perceived ease of use on attitudes in line with research conducted by Al Somali et al. (2008), Rahmatsyah (2011), Sartika and Baridwan (2012), Juniwati (2014) and Adhiputra (2015). But these results are different from the research of Sartika and Baridwan (2012), Juniwati (2014) that the perceived usefulness has no effect on attitude. Even the research conducted and Galib et al (2018) the perceived usefulness and perceived ease of use have no effect on attitude.

Davis (1989), perceived usefulness as a level where someone believes that the use of a particular technology will be able to improve the work performance of that person. The usefulness of perception forms a trust for decision making whether to use the information system or not. So the better the usefulness of perception, the higher the intention in using information technology. This statement was supported by research by Sin et al (2012), Hardanti and Saraswati (2013), Anggraeni (2015), Cho Y.C., et al (2015). This is different from the results of research conducted by Aghdaie et al (2011), Juniwati (2014) and Galib et al (2018) which shows that the usefulness of perception does not significantly influence the intention in shopping online.

Davis (1989) conceptualizes the attitude factor as a response to the use of a system in the form of acceptance or rejection as an impact if someone uses an information technology system in their work. The response of acceptance or rejection then affects the person's decision. This statement was supported by research by Devi Juwaheer et al (2012), Kurniawan et al (2013), Juniwati (2014), Glavee-Geo et al (2017). Different research results were conducted by Hardanti and Saraswati (2013) which showed that attitude had no significant effect on behavioral intention in using e-commerce.

Kim et al (2008) in their study stated that the perceived risk for consumers is consumer confidence about the potential negative results of uncertainty in making purchases online. A form of consumer concern when providing personal information to online shopping sites and there is the possibility of misuse by irresponsible parties (Ganguly et al., 2009). The results of the study were supported by Crespo and Bosque (2010), Leeraphong and Mardjo. (2013) Masoud (2013), Juniwati (2014). Different research results by Gurung (2006) and Rahayu (2012) concluded that perceived risk does not significantly influence the intention and intensity of purchases by consumers.

The results of some of the studies above about TAM in analyzing the acceptance of information technology in the scope of e-commerce show that there are inconsistencies in the results of research or research gap. Some studies reveal that the main variable of TAM is the usability and ease of use factor does not guarantee a person to use an information technology. Based on the study of the theory above, the following hypothesis is formulated:

- H1a: perceived usefulness has a positive influence on attitude toward use e-commerce on classifieds model.
- H1b: perceived usefulness has a positive influence on attitude toward use e-commerce on marketplace model.
- H1c: perceived usefulness has a positive influence on attitude toward use e-commerce on shopping mall model.
- H1d: perceived usefulness has a positive influence on attitude toward use e-commerce on online shop model.
- H1e: perceived usefulness has a positive influence on attitude toward use e-commerce on social media model.
- H2a: perceived ease of use has a positive influence on attitude toward use e-commerce on classifieds model.
- H2b: perceived ease of use has a positive influence on attitude toward use e-commerce on marketplace model.
- H3c: perceived ease of use has a positive influence on attitude toward use e-commerce on shopping mall model.
- H4d: perceived ease of use has a positive influence on attitude toward use e-commerce on online shop model.

- H5e: perceived ease of use has a positive influence on attitude toward use e-commerce on social media model.
- H3a: perceived usefulness has a positive influence on intention to transact use e-commerce on classifieds model.
- H3b: perceived usefulness has a positive influence on intention to transact use e-commerce on marketplace model.
- H3c: perceived usefulness has a positive influence on intention to transact use e-commerce on shopping mall model.
- H3d: perceived usefulness has a positive influence on intention to transact use e-commerce on online shop model.
- H3e: perceived usefulness has a positive influence on intention to transact use e-commerce on social media model.
- H4a: perceived risk has a positive influence on intention to transact use e-commerce on classifieds model.
- H4b: perceived risk has a positive influence on intention to transact use e-commerce on marketplace model.
- H4c: perceived risk has a positive influence on intention to transact use e-commerce on shopping mall model.
- H4d: perceived risk has a positive influence on intention to transact use e-commerce on online shop model.
- H4e: perceived risk has a positive influence on intention to transact use e-commerce on social media model.
- H5a: attitude toward use has a positive influence on intention to transact use e-commerce on classifieds model.
- H5b: attitude toward use has a positive influence on intention to transact use e-commerce on marketplace model.
- H5c: attitude toward use has a positive influence on intention to transact use e-commerce on shopping mall model.
- H5d: attitude toward use has a positive influence on intention to transact use e-commerce on online shop model.
- H5e: attitude toward use has a positive influence on intention to transact use e-commerce on social media model.

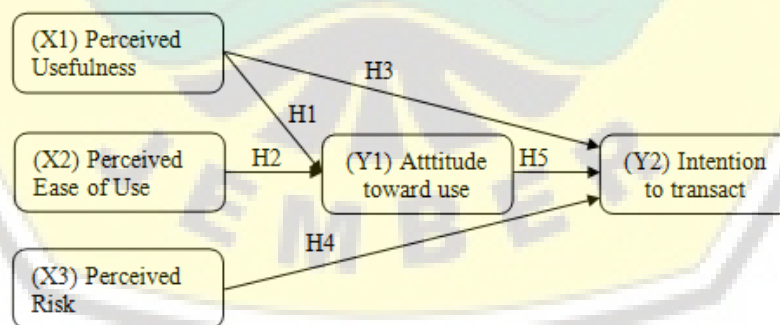


Figure 1: Conceptual Framework

2. Research Methods

The research method chosen was quantitative descriptive and comparative with primary data sources. The object of this study was students in Jember while the population in this study were students who follow of Instagram account "mahasiswajember ". The sampling method used is non-probability with the sampling technique is purposive sampling by making students in Jember who follow of Instagram account "mahasiswajember" and have e-commerce transactions experience according to their model as indicators. Data Collection Method in this research uses Survey Method with a questionnaire distributed through of instagram account "mahasiwajember" and then measured using a Likert scale with criteria for positive statements: strongly agree (5), agree (4), doubt (3), disagree (2), strongly disagree (1) and for

negative statements: strongly disagree (5), disagree (4), doubt (3), agree (2), strongly agree (1). The total sample in this study was 350 samples consisting of 70 samples in each e-commerce model. data analysis in this research is Structural Equation Modeling or commonly called SEM and uses the PLS (Partial Least Squares) approach by using the Smart PLS application.

3. Discussion

3.1 The influence of perceived usefulness on attitude toward use

The empirical results of this study are for all e-commerce models supporting Davis (1989) statement that perceived usefulness has a positive influence on attitude of use. For students in Jember, all e-commerce models have been considered as a good, fun and interesting system so that they can respond and receive positively. It is also felt to affect each individual by feeling the impact of increased influenceiveness and productivity of perceived usefulness when transacting with all e-commerce models. The results of this empirical study are also in line with other studies such as Al Somali et al. (2008), Rahmatsyah (2011) and Adhiputra (2015) which support the perceived usefulness relationship have a positive influence on attitude toward use in TAM concept. But disagree with Sartika and Baridwan (2012), Juniwati (2014) and Galib et al (2018) that perceived usefulness has no influence on attitude toward use.

3.2 The influence of perceived ease of use on attitude toward use

The empirical results of this study there are four e-commerce models that support Davis (1989) statement that perceived ease of use has a positive influence on attitude toward use. The four e-commerce models are Classifieds model (H2a), Marketplace model (H2b), Online Shop model (H2d) and Social Media model (H2e). This shows that the students in Jember attitude to accept an e-commerce model that is used for transactions is driven by the ease of use factor of the e-commerce model platform. These results are in line with research from Al Somali et al. (2008), Rahmatsyah (2011), Sartika and Baridwan (2012), Juniwati (2014) and Adhiputra (2015) show that perceived ease of use has a positive influence on attitude toward use.

There are also results in this study that reject Davis's (1989) statement that the relationship of perceived ease of use on attitude toward use e-commerce has no influence on e-commerce Shoppingmall model (H2c). This shows that in e-commerce student users Shoppingmall model in Jember, the attitude to accept an e-commerce model used for transactions is not driven by ease of use factors and is more influenced by other factors such as the usability of an e-commerce model platform. This result is in line with research from Galib et al (2018) that ease of use of perception has no influence on attitude. It can be concluded that in the study attitude factor is not a determinant of someone's interest, there are other variables that influence, both the direct influence of the usability and ease factor itself on interests and other variables such as trust and risk

3.3 The influence of perceived usefulness on intention to transact

The empirical results of this study there are four e-commerce models that support Davis (1989) statement that perceived usefulness has a positive influence on behavioral intention. Behavioral intention in this study is intention to transact using e-commerce. The four e-commerce models are Classifieds model (H3a), Marketplace model (H3b), Shopping Mall model (H3c) and Online Shop model (H3d). This shows that the students in Jember, intention to transact use e-commerce model is driven by the usability factor or benefits gained from an e-commerce model platform. the higher the perceived usefulness, the higher the intention to transact with e-commerce. These results are in line with research from Sin et al (2012), Hardanti and Saraswati (2013), Anggraeni (2015), Cho Y.C., et al (2015) showing that perceived usefulness has a positive influence on intention.

There are also results in this study that reject Davis's (1989) statement that the relationship of perceived usefulness on intention to transact has no influence on e-commerce Social Media model (H3e). This shows that in e-commerce student users Social Media model in Jember, intention to transact using an e-commerce model is not driven by usability factors and is more influenced by other factors such as ease of use and reputation of an e-commerce model platform. These results are in line with research from Aghdaie et al (2011), Juniwati (2014) and Galib et al (2018) that perceived usefulness has no influence on intention. It can be concluded that the function or usefulness of the

information technology system offered on the e-commerce model does not guarantee someone to conduct transactions.

3.4 The influence of perceived risk on intention to transact

The empirical results of this study there is only one e-commerce model that supports the statement of Kim et al (2008) that perceived risk has a negative influence on intention to transact, namely e-commerce Online Shop model (H4d). This shows that in e-commerce student users Online Shop model in Jember, intention to transact use e-commerce model is driven by the low risk factor obtained from an e-commerce model platform. So the higher the perceived risk, the LOWER the intention to transact using e-commerce. This result is also in line with research from Crespo and Bosque (2010), Leeraphong and Mardjo. (2013) Masoud (2013), Juniwati (2014) which shows that perceived risk has a negative influence on intention.

There are also different results of this study that contradict the hypothesis. The relationship of perceived risk on intention to transact has not influence on e-commerce Classifieds model (H4a), Marketplace model (H4b), Shoppingmall model (H4c) and Social Media model (H4e). This shows that in e-commerce student users, intention to transact using an e-commerce model is not driven by risk factors and is more influenced by other factors such as usability, ease of use and reputation of an e-commerce model platform. These results are in line with the research of Gurung (2006) and Rahayu (2012) that perceived risk does not influence on intention.

3.5 The influence of attitude toward use on intention to transact

The empirical results of this study there are four e-commerce models that support Davis (1989) statement that the relationship between attitude toward use and intention to transact has a positive influence on e-commerce model Classifieds (H5a), Marketplace model (H5b), Shoppingmall model (H5c) and Media models Social (H5e). This shows that the students in Jember, intention to transact using an e-commerce model is driven by a positive attitude towards use of an e-commerce model platform. These results are in line with research from Devi Juwaheer et al (2012), Kurniawan et al (2013), Juniwati (2014), Glavee-Geo et al (2017) which show that attitudes toward use has a positive influence on intention.

There are also results in this study that reject the hypothesis. The relationship between attitude toward use to intention to transact has not influence e-commerce model of the Online Store (H5d). This shows that in e-commerce student users Social Media model in Jember, intention to transact using an e-commerce model is not driven by positive attitude factors and is more influenced by other factors such as the direct influence of risk factors and usability factors of an e-commerce. These results are in line with research from Hardanti and Saraswati (2013) that attitude toward use has no influence on intention.

4. Conclusion

The conclusions of this research include : perceived usefulness has an influence on attitude toward use in all e-commerce models. Perceived ease of use has an influence on attitude toward use on e-commerce Classifieds model, Marketplace model, Online Shop model, Social Media model and has no influence on Shopping Mall model. Perceived usefulness has an influence on intention to transact on e-commerce Classifieds model, Marketplace model, Shopping Mall model, Online Shop model and has no influence on e-commerce Social Media model. Perceived risk has an influence on intention to transact on e-commerce Online Shop model and has no influence on e-commerce Classifieds model, Marketplace model, Shopping Mall model, Social Media model. Attitude toward use has an influence on intention to transact on e-commerce Classifieds model, Marketplace model, Shopping Mall model, Social Media model and has no influence on e-commerce Online Shop model.

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