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E-Transportation Effectiveness in Terms of User Satisfaction

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ABSTRACT

The high mobility of people in Indonesia encourages innovation in the transportation sector. Innovation in the transportation sector, namely online transportation applications, transportation applications aim to simplify and expedite all user activities from the application. Previous research has not discussed the effectiveness of E-transportation based on user satisfaction by testing and assessing the effect of self-efficacy, Perceived Risk and Attitude on E-transportation usage intention using the TAM method. The use of the TAM method to find out about user behavior in accepting new technology (Lestariningsih, Tri, Budi Artono, 2020). The results of the study stated that the perceived usefulness variable was the most dominant variable in influencing the use intention of the go-jek application, which was 0.513 and the least dominant variable was perceived risk, namely with a small original sample estimate of 0.046.

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INTRODUCTION

From an economic perspective, e-transportation is more economical than conventional transportation. The use of transportation is easy so it can be done by people of all ages. the current conditions in Indonesia are that the use of online transportation has mushroomed, encouraging online transportation application vendors to update the existing services in the online transportation application by adding features to the online transportation application. Previous research showed that users of online transportation applications have increased every year, this is evident from the number of online transportation applications downloaded on Google Play, there are more than 15 million times.

Attitudes and intentions of users of an application have an influence on the level of user satisfaction. The quality of services provided is one of the reasons for achieving satisfaction in using online applications. (Yosi Afandi, 2019). E-transportation applications that are developing are applications that can fulfill what consumers need, so that the use of online applications is also influenced by the experience of both consumers and vendors. It can be concluded that experience has an influence on users of an e-transportation service.

An application can be accepted by consumers if the representation of the application is attractive. The research conducted by the author is different from previous research because it focuses more on the influence of self-efficacy and trust and the impact that will be obtained from using e-transportation applications.

THEORETICAL REVIEW

Selt-efficacy

Self-efficacy is when consumers believe in their ability to perform behaviors to perform better in certain situations. while according to Sharp Self-efficacy is how users feel their ability to use a technology. So the authors conclude that the notion of self-efficacy is consumer confidence in their ability to use the application in this study, namely the go-jek application.

Trust

Trust as the customer's willingness to make online transactions and hope that the seller will fulfill his obligations, regardless of monitoring or controlling the actions of the seller (Yousafzai, S. Y., Pallister, J. G., & Foxall, 2005). Trust is a subjective probability, that is, customers believe that transactions occur in a way that is consistent with their trust expectations (Koksal, 2016). so it is concluded that trust is the willingness of online transactions by consumers with the hope that Application service providers fulfill their obligations in accordance with consumer expectations.

Perceived Risk

Im *et al.* Perceived risk as uncertainty in a buying situation. This condition raises risks because users do not know the significant difference between purchases by face to face compared to interfaces through the use of information technology, where if information technology fails to deliver the

expected outcome, it will result in user losses (financial, psychological, physical or social). Perceived risk according to Schiffman & Kanuk is a situation where the decision maker has the knowledge to predict adverse consequences and their likelihood of occurrence (Schiffman, L. G., & Leslie, 2010). The author concludes that the notion of Perceived Risk is an unexpected consequence and wants to be avoided by generation Z when using Application services.

Perceived Usefulness

Gefen et al., explained that the perceived benefits result from the user's assessment of the external characteristics of information technology, including task orientation, results (how information technology helps users meet their goals, timely examples of task performance) (Gefen, D., Karahanna, E., & Straub, n.d.). Perceived usefulness is the degree to which individuals believe that using an information system or information technology will improve their performance (Chen, S., Li, S., & Li, 2011). Perceived usefulness can be concluded as the consumer's perception that using e-transportation makes it easier to achieve goals, such as the ease of carrying out tasks.

Hypothesis

From the results of the study conducted by the author, to prove the effectiveness of the e-transportation in Indonesia, the authors take the following hypothesis:

1. Perceived risk has a positive influence on intention to use.
2. Perceived usefulness has a positive influence on the intention to use E-transportation.
3. self-efficacy has a positive influence on perceived risk.
4. self-efficacy has a positive influence on perceived usefulness.
5. Trust has a positive influence on risk perception.
6. Trust has a positive influence on perceived usefulness.

METHODOLOGY

Explanatory research in this study tested a number of 6 (six) hypotheses that would be tested using the Technology Acceptance Model (TAM) method. The respondents used to test the research hypothesis were 290 respondents and were tested using the smart Partial Least Square (PLS).

RESULTS

Structural Model Testing

This model is carried out to examine changes in latent constructs that affect changes in indicators. In this study using indicators that are consistent and valid to measure constructs. The equation model in this study is described as follows:

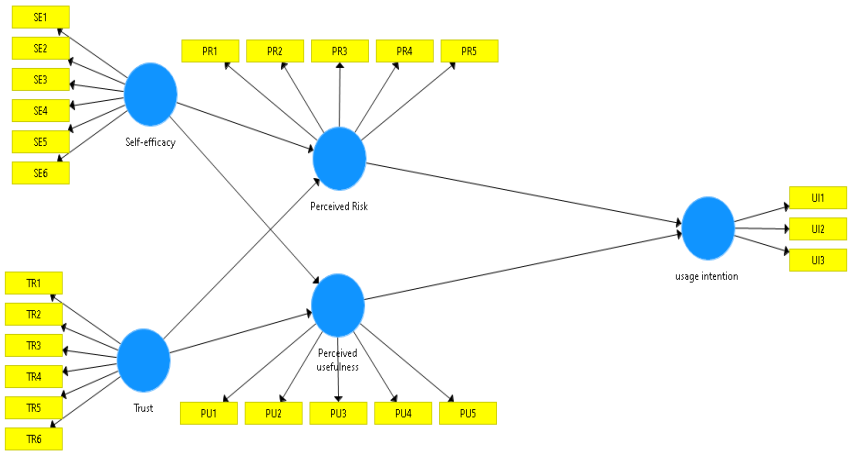

Figure 1 Model Testing

Figure 1 states that the self-efficacy construct measures 6 indicators, perceived risk measures 5 indicators, the trust construct uses 6 indicators, the Perceived usefulness construct uses 5 indicators and the construct intention to use online e-transportation applications is measured by 3 indicators. The direction of the arrow on the indicator with the latent construct is a research hypothesis. After the analysis, the loading factor values are obtained as follows:

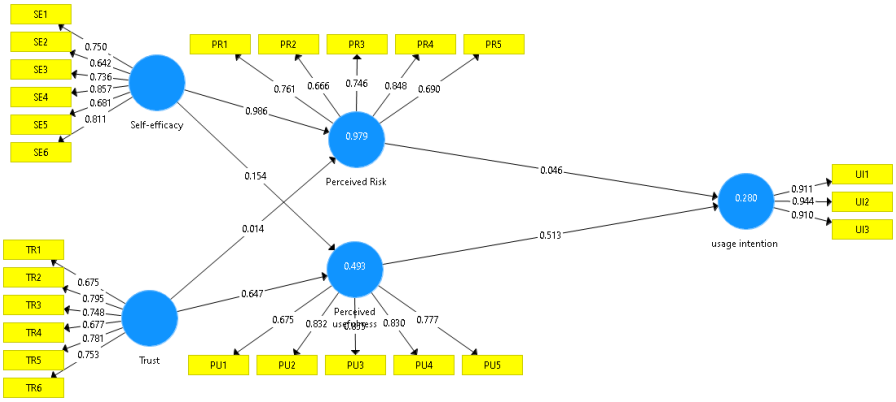

Figure 2 Construct on the diagram

From the results of the analysis of Figure 2, the results are as follows:

1. Testing Reliability

The two criteria for measuring reliability are the composite value and Cronbach's alpha. Composite value and Cronbach alpha above 0.7. then reliable. The reliability test is presented in table 1.

Table 1 Reliability Test Results

Variabel Laten	*Cronbach alpha*	*composite reability*
self-efficacy	0,841	0,884
perceived risk	0,797	0,861
trust	0,835	0,878
Perceived usefulness	0,854	0,896
usage intention E-transportation	0,912	0,944

Table 1 states that the value is above 0.7 with the lowest composite value of 0.861 which means that all latent variables are reliable. The Cronbach test for all constructs is above 0.6 with the lowest value of 0.797 being on perceived risk, so that all constructs used for measurement in this study are consistent.

2. **Structural Model Testing**

The structural model in this research produces the R-Square values as follows:

Table 2 Nilai R-Square

Variabel Laten	**R Square**
self-efficacy	
perceived risk	0,976
Perceived usefulness	0,493
Trust	
usage intention E-transportation	0,280

From table 2 it means that the perceived risk construct gives a value of 0.976 which means that self-efficacy and trust can provide an explanation for the perceived risk variance of 97.6%. Self-efficacy, perceived risk and trust have an effect on the perceived usefulness construct of 0.493 and self-efficacy, perceived risk, perceived usefulness and trust have an effect on the intention to use E-transportation of 0.280.

DISCUSSION

The t-test statistical test is shown in table 3.

Table 3. Coefficient Testing

	Original Sample (O)	**T Statistics (|O/STERR|)**
perceived risk -> usage intention E-transportation	0,046	0,462
perceived usefulness ->usage intention E-transportation	0,513	6,234
self-efficacy -> perceived risk	0,986	213,177
self-efficacy -> perceived usefulness	0,154	1,744
trust -> perceived risk	0,014	0,956
trust -> perceived usefulness	0,647	9,933

From table 2 above it can be concluded as follows:

1. The effect of perceived risk on the intention to use E-transportation is 0.462 (<1.96) with an original sample value of 0.046 which means that perceived risk has a negative effect on the intention to use E-transportation. Hypothesis H1 of this research is "Rejected".
2. Perceived usefulness has an influence on the intention to use E-transportation of 6.234 (> 1.96) with perceived usefulness having a positive relationship with the use of E-transportation with an Original Sample value of 0.513. So that the H2 hypothesis is "Accepted".
3. Self-efficacy has an effect of 213.177 (> 1.96) on perceived risk and has a positive direction of 0.986. So that the H3 hypothesis is "accepted".
4. Self-efficacy has an effect of 1.744 (<1.96) on perceived usefulness with a negative relationship of 0.154. So that the H4 hypothesis is "accepted".
5. Trust has an effect of 0.956 (<1.96) on perception and an Original Value of 0.143 means that trust has a negative relationship with perceived risk. So that the hypothesis H5 "Reject".

6. Trust has an effect on perceived usefulness of 9.933 (> 1.96). The Original Sample value of 0.647 means that trust with perceived usefulness has a positive relationship. So that hypothesis H6 is "accepted".

The results of the intention to use E-transportation have the highest influence on perceived usefulness because the original sample estimate value is 0.513. Shows that the intention to use E-transportation is influenced by perceived benefits higher than the perceived risk effect of 0.046. It means that the received usefulness variable has the most dominant influence on the intention to use E-transportation. Meanwhile, the perceived risk variable does not have a dominant influence of 0.046.

CONCLUSIONS AND RECOMMENDATIONS

The results of the research conducted show that:

1. The dominant variable influencing interest in using E-transportation is perceived usefulness compared to perceived risk.
2. The variable perceived risk is a variable that is not dominant in influencing e-transportation usage intention.

FURTHER STUDY

Future research is expected to add research variables so that this research can be perfected.

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