# Intention to Use Electronic Payment System During Covid 19 Pandemic Era: Implementation of Health Belief Model and Technology Acceptance Model in Consumer Research

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**Abstract:- The aim of this study is to examine the impact of perceived susceptibility, perceived severity, of using electronic transaction and behavior during COVID 19 Pandemic in Indonesia. This study conducted in confirmatory approach with survey method. This study used 150 respondent with purposive sampling method. This research found that perceived susceptibility, perceived seriousness, perceived of usefulness had positive and significant impact to customer intention of using electronic transaction during COVID 19 Pandemic. While the perceived of ease of use had no impact on customer intention of using electronic transaction. This study can be a reference for the next studies about health belief model, customer intention, and consumer behavior especially in use electronic payment.**

*Keyword:- Consumer Behavior, Health Belief Model, Technology Acceptance Model, Covid 19 Pandemic, Electronic Payment.*

## I. INTRODUCTION

Along with the times, buying and selling activities have been not only carried out offline but have also penetrated the online platform. Marketing activities in online media are called e-marketing (Strauss & Frost, 2009). In e-marketing, activities regarding marketing or sales promotion are carried out online (using internet networks). Marketing activities through social media are often referred to as social media marketing (Ahrenz et al., 2011). Many people choose to take advantage of social media marketing because the internet and social media operate 24 hours per 7 days. In other words, those online media never sleep. This proves that the internet is very instrumental in human life, not only used for communication and information retrieval but also very useful in various activities, especially for business activities. It means that the internet has a positive impact on the progress of business activities, specifically in terms of transactions in any form.

It should also be noted that the emergence of the COVID-19 pandemic also plays an important role in encouraging the growth of electronic transactions in all parts of the world, including Indonesia. A study from Bank Indonesia (2020) shows that the growth of online transactions in Indonesia increased by 180.47 trillion IDR during the pandemic. The

study includes variables related to health care and self-protection. It is because the increase in online transactions is not only driven by the growth of technology but also public awareness of self-protection and concern for families related to the COVID-19 pandemic (Orinaldi, 2020). In this study, the examined variables are perceived severity, perceived susceptibility, perceived benefits, perceived ease of use, and intention to use e-payment systems. Davinson & Sillence (2014) state that people who are in a threatening condition will tend to use existing technology in conducting financial transactions in an effort to protect themselves. This study aims at examining and analyzing the effect of perceived severity, perceived susceptibility, perceived benefits, and perceived ease of use on intentions to use e-payment systems.

## II. LITERATURE REVIEW

Davis et al. (1989) and Venkatesh & Morris (2005) argue that behavioral intention is the main determinant in measuring technology use behavior. The severity perceived by people occurs when they believe that the condition has serious consequences (Rosenstock, 1988). Rosenstock (1988) states that a person will seek treatment and prevention of disease driven by the seriousness of the disease to the individual or society. In the current condition, it can be considered that people will tend to be more concerned about preventing the transmission of COVID-19 to themselves and preventing themselves from becoming virus carriers.

Perceived susceptibility occurs when people believe that they are susceptible to the health condition (Rosenstock, 1988). The Health Belief Model is a conceptual model which states that a person or individual will take an action to prevent, fight, and treat the disease. This health-seeking behavior is manipulated by the individual's perception of the threat that occurs as a result of the health problem. The perception of a person or individual regarding their susceptibility to disease and the effectiveness of medical treatment is a factor that determines whether a person must seek treatment or not (Sulat et al., 2018). The severity perceived by people occurs when they believe that the condition has serious consequences (Rosenstock, 1988). In this case, they will look for ways to prevent disease based on the seriousness of the disease in certain individuals or societies (Jones et al., 2014).

Perceived susceptibility is a preventive action against a disease that can arise when people already feel that they or their family is susceptible to the disease. In this context, if consumers feel susceptible to infection, they tend to take preventive action on themselves.

Apart from that, perceived benefit is a state in which people believe that the use of a particular technology will improve their performance. According to Hartono (2007), the perceived benefit is a condition where people believe that using technology will improve their performance in working. Perceived benefit is defined as the extent to which a person believes that the use of a particular information system will improve his or her performance. If a person feels confident that the system is useful, then she/he will use it. Conversely, if the person believes that the information system is less useful, then she/he will not use it. This concept also describes the benefits of the system for users related to productivity, task performance or effectiveness, the importance of the task, and overall usefulness (Suhartini & Handayani, 2010). Ease of use is defined as a condition in which a person believes that using technology will make him/her free from effort (Hartono, 2007). Perceived ease of use is a measurement of a person's level of confidence in the use of a particular system without requiring a hard effort. Although the effort can be different for each person, the way of using the system continues to be developed. Therefore, sooner or later, the system can be easily used. The ease of use of an information system depends on a condition in which a person believes that using the information system is not difficult and does not require a lot of effort. The concept includes the clarity of the purpose of using the information system so that it is easy to use, making users more interested in using the information system.

## III. RESEARCH METHODS

This study was confirmatory research, conducted using a quantitative approach. In this study, the researchers applied the survey method, in which the researchers employed the quantitative method using a survey method with a non-probability sampling technique. This technique was chosen because the actual number of the study population is not known (Cooper & Schindler, 2011). Respondents or samples of this study were selected based on several criteria. In other words, the researchers used a purposive sampling technique (Malhotra, 2012). The population of this study was all individuals or customers who understood the mechanisms of the online shopping and payment facilities for goods or services, both male and female, having at least 16 years old. Data collection is one of the aspects that play a vital role in the success of a study. In this study, for the data collection, the researchers obtained the data directly from the respondents through the distribution of questionnaires either through the internet or by asking them face-to-face. The questionnaire was a list of systematic questions equipped with a Likert scale. Each question had 5 answers, consisting of strongly agree, agree, neutral, disagree, and strongly disagree. In this study, data collection was carried out using a survey method connected to the google form and distributed by utilizing social media, such as Facebook, WhatsApp, and email. However, the researchers also conducted a survey by distributing questionnaires directly

to respondents. Apart from that, the secondary data of this study were obtained from related books, magazines, journals, online sites, and others. The operational variables of this study were perceived severity and perceived susceptibility. Meanwhile, the variable of intention to use e-payment systems became the mediating variable. The dependent variable in this study was the behavior of using e-payment systems. Furthermore, the conceptual framework of this study can be seen in the following figure.
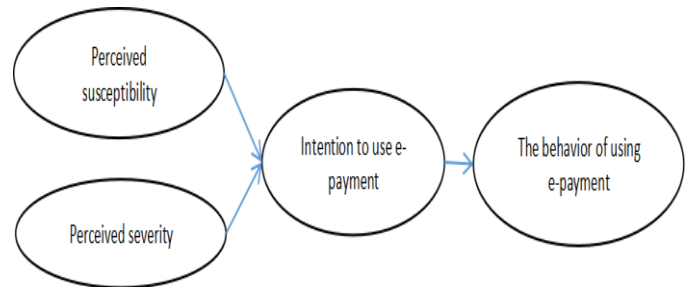


Fig 1

The analytical model in this study was divided into 2 stages of analysis. The first was to analyze the effect of perceived susceptibility and perceived severity on the intention to use the e-payment system or to examine hypotheses 1 and 2 using the multiple linear regression analysis. The second was to test the effect of the intention to use the e-payment system on the behavior of using the e-payment system or to examine hypothesis 3 using the single regression analysis.

## IV. RESULTS AND DISCUSSION

For finding out the quality of the data, researchers used the Kaiser-Meyer-Olkin – Measure of Sampling Adequacy (KMO-MSA) to examine the adequacy of the data variance, the validity test with a loading factor of > 0.4, and the reliability test by considering the Cronbach's alpha. The results of the data quality testing can be seen in Table 1.

| Variables | KMO-MSA | Items | Loading Factor (> 0.4) | Cronbach's Alpha (> 0.5) |
|---|---|---|---|---|
| Perceived Severity | .731 | PRH 1 | .780 | 0.826 |
| | | PRH 2 | .843 | |
| | *The adequacy of data variance is fulfilled (KMO-MSA is > 0.5).* | PRH 3 | .678 | |
| Perceived Susceptibility | | RTN 1 | .871 | 0.760 |
| | | RTN 2 | .743 | |
| | | RTN 3 | .765 | |
| | | RTN 4 | .830 | |
| | | RTN 5 | .720 | |
| Intention to Use E-Payment | | NT 1 | .743 | 0.743 |
| | | NT 2 | .877 | |
| | | NT 3 | .784 | |
| | | NT 4 | .920 | |
| The Behavior of Using E-Payment | | PRL 1 | .780 | 0.638 |
| | | PRL 2 | .865 | |
| | | PRL 3 | .672 | |

Table 1. Results of Data Quality Testing

Hair *et al.* (2010) state that one of the methods that can be used to estimate the convergent validity is by considering the value of the loading factor. The minimum limit of the loading factor for each item is 0.35 – 0.40 (Hair *et al.*, 2010).

Before carrying out factor analysis, some requirements must be met, namely conducting the KMO-MSA test and Barlett's Test of Sphericity and having no cross-loading.

The required KMO-MSA value is above 0.5. Besides, the obtained value from Barlett's Test of Sphericity must be statistically significant with a significance value of less than 0.05 (Hair *et al.*, 2010). The obtained KMO-MSA value in this study was 0.731 (> 0.50). Based on this result, the adequacy of the sample can be considered in the satisfactory category. In other words, prediction and further analysis on research variables can be continued.

The hypotheses in this study were examined using a correlation test with the multiple linear regression analysis. The results of hypothesis testing can be seen in Table 2.

| Independent Variables | $R^2$ | Adjusted $R^2$ | F | Dependent Variable: *Intention to Use E-Payment* | | |
|---|---|---|---|---|---|---|
| | | | | β | t | Sig. |
| Perceived Severity | 0.476 | 0.458 | 35.072 (0.000) | 0.293 | 5.032 | 0.018 |
| Perceived Susceptibility | | | | 0.310 | 4.740 | 0.000 |

Table 2. Hypotheses Testing for Model 1

From the table above, statistically, it can be seen that the ability of the independent variables (perceived severity and perceived susceptibility) in predicting the dependent variable (intention to use e-payment) shows an adjusted R-squared of 0.458. This means that the ability of the independent variable as a predictor of the dependent variable is 45.8 percent, in which the remaining 54.2 percent can be influenced by other variables besides the variables examined in this study.

In addition, the ability of this model in explaining the real situation is indicated by the Goodness of Fit index. In this study, it is signified by the F value. The obtained F value is 35.072 (> 1) and a significance is 0.000 (0.05), meaning that this model is able to explain the real situation in the field.

Based on the results of the hypothesis testing that has been carried out, it can be seen that the perceived severity has a positive effect on the intention to use e-payment (β = 0.293; sig. = 0.018). Therefore, these results support hypothesis 1.

Furthermore, the perceived susceptibility also has a positive effect on the intention to use e-payment (β = 0.310; sig. = 0.000). Therefore, these results also support hypothesis 2.

The results of testing hypotheses 1 and 2 confirm the findings of Davinson & Sillence (2014) that people who feel threatened will tend to take advantage of the existing technology to meet their security needs. This is also in line with the context of this study. When people feel the COVID-19 pandemic is a threat and they are susceptible to infection, they will tend to make electronic transactions (e-payment) as a form of preventive action from the worst possibility, namely being infected with COVID-19.

The second model in this study aimed at finding out the answer to hypothesis 3, namely the effect of the intention to use e-payment on the behavior of using e-payment. The results of the test on hypothesis 3 can be seen in the following table.

| Independent Variable | $R^2$ | Adjusted $R^2$ | F | Dependent Variable: *Behavior of Using E-Payment* | | |
|---|---|---|---|---|---|---|
| | | | | β | t | Sig. |
| Intention to Use E-Payment | 0.439 | 0.425 | 46.204 (0.000) | 0.375 | 7.236 | 0.007 |

Table 3. Hypotheses Testing for Model 2

Based on the results of hypothesis testing that has been carried out, it can be seen that the intention to use e-payment has a positive effect on the behavior of using e-payment (β = 0.375; sig. = 0.007). Therefore, these results support hypothesis 3.

This finding confirms the results of studies conducted by zahan et al. (2020) and dabbous et al. (2020) that intentions will be a behavior if the situation and conditions can support it. It is also affected by social influence factors and consumer subjective values.

## V. LIMITATIONS AND CONCLUSIONS

From the results and discussion presented in the previous section, it can be concluded that perceived severity and perceived susceptibility have a positive effect on the intention to use e-payment during the COVID-19 pandemic. This is because people will tend to take preventive action in threatening conditions. Behavioral intentions also encourage the behavior of using e-payment because convenience will encourage people to utilize e-payment.

The results of this study are expected to contribute as a reference in further research concerning behavior, especially related to the Health Belief Model on the marketing aspect. The study may include psychological factors in health prevention during the COVID-19 pandemic.

Furthermore, the suggestion for further research is to compare the intention to transact electronically during and after the pandemic.

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