

## THE USE OF TECHNOLOGY ACCEPTANCE MODEL TO EVALUATE MSME PERSPECTIVES ON E-PAYMENT SYSTEM

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PAPER INFO	ABSTRACT
<p><b>Received:</b> May 2023</p> <p><b>Revised:</b> May 2023</p> <p><b>Approved:</b> May 2023</p>	<p><b>Background:</b> Payment system changes in transaction patterns need to be followed by business actors to survive and develop in facing the New Normal era. It is important for Micro, Small, Medium Enterprises (MSMEs) to be able to adapt and transform by utilizing digital technology. Considering to Indonesia's large number of e-payment users, MSME players are heavily utilizing the payment option to construct a more effective and efficient payment system. However, not all MSME's owner have the intention about using digital payments. This causes economic lagging, due to the shift in social transaction behavior from the physical economy to the virtual economy.</p> <p><b>Aim:</b> The research would like to measure the use of technology acceptance model to evaluate MSME perspectives on e-payment system.</p> <p><b>Method:</b> Concurrent mixed methodology, which is an analytical technique used in this study that integrates or affiliates qualitative and quantitative forms by providing a variety of sources of evidence, quantitative and qualitative data combined can contribute to enhancing the validity and reliability of the research findings. It can help to reduce the risk of bias or error that may arise from using only one method. As an outcome, we want to provide a thorough overview of the research problem. The population is MSMEs registered with Asosiasi Gula Rafinasi Indonesia (AGRI) of 980 MSMEs. With a target sample of 90 SMEs.</p> <p><b>Findings:</b> The results of the Jaccard's coefficient test show that all the variables tested have an influence on the MSME intends to use electronic payments as a way to make purchases.</p>
<b>KEYWORDS</b>	<i>mixed method, MSME, TAM, transaction, intention</i>
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### INTRODUCTION

Utilizing information from the Otoritas Jasa Keuangan (OJK & BCG, 2020), as the pillars of the Indonesian economy, Micro, Small and Medium-Sized Businesses (MSMEs) have shown to be vulnerable to the financial crisis brought on by the COVID-19 pandemic. People's transactional behavior have shifted from the real economy to the virtual market as a result of the Large-Scale Social Restrictions (PSBB) policy's deployment in an effort to reduce the effects of the pandemic (OJK & BCG, 2020). Changes in transaction patterns need to be followed by MSME actors so that MSMEs can survive and develop in facing this New Normal era (OJK & BCG, 2020). The findings of a research carried out by the Boston Consulting Group found that there was an increase in consumer preference for buying products through digital channels when comparing the period before and when the pandemic occurred (OJK & BCG,

2020). During the COVID-19 pandemic, it is very important for MSMEs to be able to adapt and transform their businesses by utilizing digital technology. One of the digital technologies that can be utilized is by using digital payments in conducting transactions.

Since the government has targeted business actors or MSMEs to dominate Southeast Asia's digital economy and move it forward, the government of Indonesia has encouraged digitalization in the payment system, according to the Ministry of Communication and Informatics (Dinna, 2017), as well as one of the encouragements so that MSMEs throughout Indonesia can be digitally literate and using a digital payment system. Based on a report by Bank Indonesia (BI), the percentage of transactions via e-payment grew by 42.06% year on year in the first quarter of 2022 with a transaction value of Rp. 295 trillion. In addition, according to data from the Ministry of Cooperatives and SMEs, it has an existing population of 64.2 million and it will contribute 60.51% or Rp. 9,580 trillion to the GDP in 2020. out of around 64 million more MSMEs, only 17.25 million or approximately 26.5% of MSMEs are connected to the digital ecosystem. According to trends in people's acceptance of and desire for online buying, which requires e-payment as a payment method, this number unquestionably needs to be raised. Nevertheless, not all business actors are able to immediately accept their intention to utilize digital payments. Due to the transition of social transaction behavior from the physical economy to the virtual economy. One of the digitization efforts that can be carried out by MSMEs at this time is their intention is to perform payments via E-Payment. The intention utilise electronic payments as a payment method for MSMEs in Indonesia is carried out to attract more customers and also implement a more effective and efficient payment system. In addition to the convenience that MSMEs and consumers get in using e-payments, changes in Indonesian people's behavior and consumer confidence also influence MSMEs' intention to adopt e-payments as a method of payment.

Meanwhile, the commercial sector is starting to shift toward online stores that offer products and use digital payments for purchasing and selling transactions. Moreover, apparently, online shopping is more accessible and flexible for everyone (Gleason et al., 2020; Moodley et al., 2021). The competitiveness of MSMEs, particularly in emerging nations like Indonesia, is significantly influenced by how successfully people will apply new technology in an environment of business that is becoming more and more competitive. Many studies regarding technology adoption have been conducted in developed countries, But, in developing nations like Indonesia, this research is still infrequent (Najib & Fahma, 2020). In addition, These occur at different a societal change towards a virtual economy where e-payment is a trend that society must follow. It can be seen from 2018, many developed countries are using electronic money as a substitute for paper money (Najib & Fahma, 2020).

With the development of business towards digital, it is very clear that in order to achieve constant growth and compete globally, MSMEs in Indonesia need to start their intention to use e-payments in their payment systems so as to reduce financial and also non-financial costs such as time and effort. However, it has been found that apart from exponential growth, e-payment systems are also considered as part of the global business model (Bezhovski, 2016).

The level of intention to use e-payment for MSMEs in Indonesia is still unclear. This implies that MSMEs in Indonesia are currently in the early stages of starting their intention to use electronic payment (Najib & Fahma, 2020). Apart from that, the intention to use the e-payment system must also be supported by other technologies such as mobile phones or

computers as well as the internet. We are aware that not all regions of Indonesia have a quality internet network. And not all Indonesian people are aware of and have the ability about the technology that is currently developing. It is true, the intention for using electronic payment requires a variety of resources in a new form and situation. This also shows the need for further research regarding the readiness of Indonesian MSMEs in their intention is to perform payments through electronically.

This study uses one of the primary theories for creating a conceptual model is the TAM model that explains the intention to use electronic payments as a way to make purchase for MSMEs in Indonesia. TAM is a straightforward paradigm that is simple to comprehend and use. Only two constructs—perceived utility and perceived ease of use—make up this metric and has been shown to provide good predictive power in many contexts. Depending on the specific research context, TAM may be a more appropriate model to use than TAM2 or UTAUT. TAM2 and UTAUT are evolutions of TAM. TAM2 develops a TAM model by adding two factors: quality of information systems and social factors. Although TAM2 and UTAUT have improved and extended the TAM model, TAM residue a popular choice among researchers due to its proven usefulness and ease of use. Several research have also discovered that TAM implement as well as or better than TAM2 and UTAUT. Venkatesh and Bala (2008) found that TAM and TAM2 are equally acceptable at predicting adoption of electronic health information systems. A study conducted by Lee in 2009 found that TAM outperforms UTAUT in predicting the intentions of users using e-learning systems. The TAM3 model is the most recent iteration of the TAM model which was introduced in 2012 by Venkatesh and colleagues. TAM3 extends the original TAM model by incorporating additional factors that influence technology acceptance, such as cognitive instrumental processes and social influences.

Venkatesh first presented the Unified Theory of Acceptance and Use of Technology (UTAUT) in 2003 and has since been updated with the UTAUT2 model in 2012. UTAUT2 includes additional factors such as hedonic motivation and habit, and emphasizes the significance of moderating factors like age, gender, and experience. In this research, TAM is used to investigate the variables that affect acceptance of electronic payment systems by MSMEs, elements that influence acceptance include perceived usefulness, perceived ease of use, and external factors. The researchers used the TAM framework to analyze the factors that impact MSMEs' intentions utilise electronic payment systems.

This study is studying the adoption of a relatively simple technology, TAM may be sufficient to capture the key factors that drive user acceptance. As an outcome, this study provides knowledge concerning societal influences on business intent to utilize electronic payment especially to access online goods and services. The findings of previous research prove that user intentions are Influenced by Trust, Attitude, Usefulness, and Ease of Use (Najib & Fahma, 2020). The findings of other studies have shown that intention is influenced by social influence and perception of risk. Therefore, in this study, it is proposed that internal factors influence the intention of MSME actors by testing Attitude, Perceived Ease of Use, Perceived Usefulness, and Trust. Then we also adopt Social Influence as one of the external factors that will be tested for its effect on Intention. This is because according to Khairul Ikhsan and Deni Sunarnyo in their research, they argue that Social Influence emphasizes social information from the closest people who depend on the beliefs of other people's opinions to motivate individuals in using a technology. These variables will be examined to analyze the factors that can

influence the willingness of Indonesian MSMEs to use electronic payments as a method of payment. Perceived usefulness (PU) relates to the measure toward which Indonesian MSMEs consider e-payment as a suitable payment option. Meanwhile, perceived ease-of-use (PEOU) is considered the level at which customers feel the convenience of making transactions at Indonesian MSMEs. Trust has also been considered to be a significant determinant in assessing the acceptability of new technologies. Customer trust in new technology is defined as users' confidence in the services that new technology is capable of providing (Najib & Fahma, 2020). The intention to utilize electronic payments as a method of payment will increase as confidence in the security of processes and technological infrastructure grows with regard to digital payment systems. According to Ikhsan and Sunaryo (2020), Social Influence is a description of a condition that determines individual intentions and technology use that is influenced by the people who were close to someone, including family and friends (Venkatesh et al., 2003). Researchers need to determine the elements that influence perceived usefulness (PU) and perceived ease of use in order to construct a model (Benbasat & Barki, 2007).

This research is intended to enhance and provide additional information for policy makers and financial institutions to develop a digital payment system in Indonesia. The research contribution indirectly makes efforts for MSMEs to participate in digital transformation through the development of payment methods so that it can make it easier for people to make payments using e-payments. The updating of the research carried out refers to the research conducted by Najib and Fahma (2020). The utilization of e-payments as a method of payment for MSME actors was examined by researchers utilizing the PEOU, PU, Trust, Attitude and Social Influence variables on the intention to use e-payments using the TAM method. This research places more emphasis on e-payment users as a medium that can help payment transactions in MSMEs.

The distribution of MSMEs in Indonesia can be separated by island, including the Java Island and other island. Up to 60% of MSMEs are found in Java, and just 40% are found outside of Java. Of these figures, only 30-40% of MSMEs can utilize digital technology to develop their business (Najib & Fahma, 2020). There are several studies showing the implementation of electronic payments in a few of developed nations, for example the United States, Britain, Denmark, Australia, Spain, Italy and Canada. Meanwhile, in developing countries like Indonesia, there is still insufficient research on the use of e-payments and even research on the intention to use e-payments for MSMEs is almost non-existent. Meanwhile, the difference between the diffusion of digital technology from developing countries and developed countries is very significant. The use of digital systems in all aspects of daily life is gaining popularity in the Saudi Arabian Kingdom, there is a survey by Statista published in 2018 indicates that 53% of respondents are interested in using online banking services. In the case of Ghana, manufacturing MSMEs compensate over 92% of all enterprises there and generate more than 70% of the country's GDP. More than 85% of jobs in the manufacturing sector are supported by manufacturing MSMEs, which also contribute about 90% of the GDP (Afum et al., 2020). Of the many studies on the use of e-payments in other countries, so far research on the intention to use e-payments as a payment method for MSMEs in Indonesia is still rare (Najib & Fahma, 2020).

According to Phuong et al. (2020), in their research on examining the introduction of mobile wallet continuation intentions in Vietnam, they discovered that perceived usefulness

and perceived ease-of-use can have a significant impact on mobile applications and their users' behavior. Also, perceived ease-of-use and perceived usefulness have a positive correlation with satisfaction based on research findings. Another study on ongoing intention to use mobile fintech payment services in Vietnam was conducted by Phuong et al. (2020). In addition, it has been found that perceived security (BSS) has a beneficial impact on confirmation (CON), perceived usefulness, and satisfaction (SES), but has no immediate influence on the choice to continue using e-payments. Both of these studies focus their research on the intention of buyers to use e-payments. Meanwhile, buyers can only use the e-payment method if MSMEs provide e-payment options for their payment methods. Therefore, we need to study further the intention to utilize electronic payments as a method of payment from the MSMEs perspective.

This research was conducted so that it becomes a benchmark and reference for digital payment service provider companies to develop their products in encouraging digital transformation for MSMEs Cooperative Members of Refined Crystal Sugar distributors in Indonesia. The research would like to discover the use of TAM in evaluating MSME perspectives on e-payment. This research is intended to enhance and provide additional information for policy makers and financial institutions to develop a digital payment system in Indonesia. This research is also expected to be a reference for digital payment development companies in order to develop their business. In addition, this research is also expected to identify the readiness of a community/society in applying computer-based technology to their work activities. The research contribution indirectly makes efforts for MSMEs to participate in digital transformation through the development of payment methods so that it can make it easier for people to make payments using e-payments.

## **METHOD**

This study use a descriptive design with a mixed approach to gather data about the current circumstances and characterize phenomena related to the interrelationship of variables and the influence of the intention of Indonesian MSMEs to use e-payment as a method of payment. The data collection involved conducting interviews and administering a survey to a sample of MSME actors in various locations in Indonesia.

This study uses a mixed technique with a concurrent mixed methods strategy. The research collects data in two stages: The first stage is conducting interviews and analyzing qualitative data using open-end questions, and the second stage is distributing scale questionnaires and analyzing quantitative data using close-end questions. The study also uses a non-probability sampling method that is more practical and cost-effective than other methods, specifically using purposive sampling, where researcher chooses sample units that meet specific criteria and do not have equal opportunity to be selected as a sample unit.

Based on data gathered from the Ministry of Cooperatives and Small and Medium Enterprises, the number of MSME population who are Members of the Asosiasi Gula Rafinasi Indonesia (AGRI) until the end of September 2022 is 91 MSME business actors. Determine the number of samples using the Slovin formula (2019) below:

$$n = \frac{N}{1 + Ne^2}$$
$$n = \frac{980}{1 + 980 \times 0,10^2}$$

$$n = 91$$

Description:

n = Total of sample

N = Population

e = Error level (10%, because  $N < 1000$ )

Partial least squares structural equation modeling is going to be utilized to test this research (SEM-PLS). Because SEM-PLS is the best analytical instrument for testing hypotheses, it's going to be utilized in this investigation, which emphasizes that this research is analyzing determinant factors between variables (Leguina, 2015). The PLS model mainly consists of a structural model and a measurement model. Structural model analysis was carried out using internal reliability and validity measures. The reliability test aims to determine the consistency of the measuring instrument used by looking at the Cronbach alpha value so that the data obtained from research instruments has a consistency value in research (Sari et al., 2020). The PLS algorithm uses the t-test and path values for hypothesis testing after analyzing the structural model (Leguina, 2015; Richter et al., 2016). Based on the suggested research approach, this investigation additionally uses the use of PLS to examine the variables that affect MSMEs' intentions to adopt electronic payments as a form of payment in Indonesia.

## RESULTS AND DISCUSSION



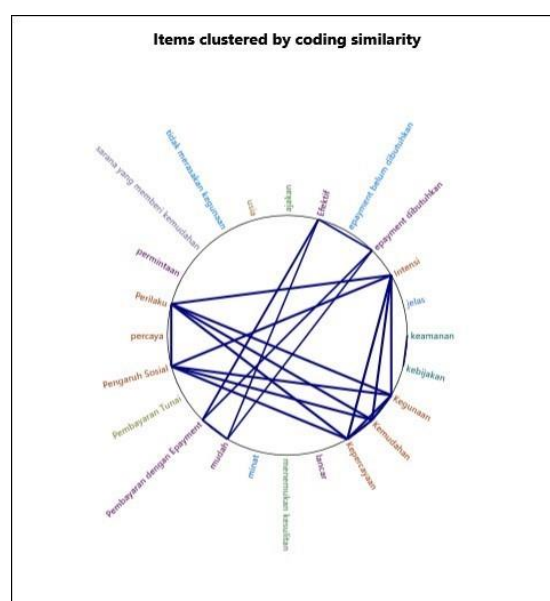
**Figure 1.** MSMEs Insight of E-Payment Intentions

This study is looking at the intentions of MSME entrepreneurs in Indonesia to use e-payments. The research uses a mixed technique with a concurrent mixed methods strategy and the non-probability sampling method. The results of interviews with informants indicate that respondents have mostly positive views of e-payments, citing benefits such as ease of use and convenience. The data is analyzed using Nvivo 12pro software, as shown in Figure 1.

The study uses a concurrent mixed methods strategy to evaluate the perspective of MSMEs on electronic payment systems using a sample of 90 business actors registered with the Indonesian Refined Sugar Association. The results of the data processing show that perceived usefulness, ease of use, trust, and social influence all have a positive effect on the intention to use electronic payment systems. The study concludes that these factors are moderated by the attitude of business actors towards electronic payments in 2022.

The following conclusions are explained in this study:

- 1) Considering the analysis' findings carried out qualitatively in the first stage of the concurrent mix method procedure which showed the results of the Jaccard coefficient on the relationship between Perceived Usefulness and Intention to Use of 0.77778, 1, 0.5, 0.714 and 1. Based on these results it can be concluded that Perceive Usefulness affects Intention to Use by being moderated by the attitude of business actors made from refined sugar registered with Asosiasi Gula Rafinasi Indonesia (AGRI) in 2022.
- 2) Considering the analysis' findings carried out qualitatively in the first stage of the concurrent mix method procedure which shows the results of the Jaccard coefficient on the relationship between Perceived Ease of Use and Intention to Use of 1, 0.7222, 0.5, 1 and 0.8333. Based on these results, it can be concluded that Perceived ease of use influences Intention to Use moderated by the attitude of business actors made from refined sugar registered with Asosiasi Gula Rafinasi Indonesia (AGRI) in 2022.
- 3) Considering the analysis' findings carried out qualitatively in the first stage of the concurrent mix method procedure it illustrates the Jaccard coefficient's findings on the correlation between perceived usefulness, trusr and intention to use of 1, 0.555, 1 and 0.5. Based on these results, it can be concluded that Trust Influences Intention to Use by being moderated by the attitude of business actors made from refined sugar registered with *Asosiasi Gula Rafinasi Indonesia (AGRI)* in 2022.
- 4) Considering the analysis' findings carried out qualitatively in the first stage of the concurrent mix method procedure which shows the results of the Jaccard coefficient on the correlation between Social Influence and Intention to Use of 1. Considering these outcomes, it can be concluded that social influence can influence the Intention to Use of sugar-based business actors refined which is registered with Asosiasi Gula Rafinasi Indonesia (AGRI) in 2022.



**Figure 2.** Related Themes Clustered

Figure 2 shows that trust is a theme and is the most prominent among other themes. This means that e-payment really needs the trust of its users. In contrast to management, policy, and

other themes, we think we can establish several important and relevant nodes with the research theme. Informant data nodes can be grouped into eight interrelated themes: Convenience, usability, trust, social influence, behavior to intention.

In the figure, 31 related themes. Lines depict the relationship between one theme and another, written on the side of the circle. While usability, ease of use, trustworthiness is related to attitudes and intentions. The closeness and interrelationship of the existing themes can also be seen from the Jaccard coefficient, namely the coefficient indicating the similarity and diversity of the sample groups, 0.50 and 1.00, as stated in Table 1. Normatively, the Jaccard coefficient measures the closeness or similarity of qualitative data, for example words. Coefficient values range from 0.00 to 1.00. The closer the number is to one, the more similar or close the data is. The results of data processing from the formed nodes obtained Jaccard coefficients of 0.5 and 1.00. This table illustrates that the nodes in the form of words that are identified have the strength of the relationship and similarities.

**Table 1.** Jaccard's Coefficient Result

No	Code A	Code B	Jaccard's Coefficient
1	Intention	Usefulness	0,777778
2	Intention	Intention	0,058824
3	Usefulness	Intention	1
4	Usefulness	Intention	0,5
5	Ease of Use	Intention	1
6	Ease of Use	Usefulness	1
7	Ease of Use	Usefulness	0,722222
8	Ease of Use	Intention	0,722222
9	Ease of Use	Trust	0,5
10	Ease of Use	Social Influence	0,294118
11	Ease of Use	Intention	0,5
12	Trust	Intention	1
13	Trust	Usefulness	1
14	Trust	Ease of Use	1
15	Trust	Attitude	0,555556
16	Trust	Usefulness	0,529412
17	Social Influence	Intention	1
18	Social Influence	Usefulness	1
19	Social Influence	Ease of Use	1
20	Social Influence	Trust	1
21	Social Influence	Usefulness	0,714286
22	Attitude	Intention	1
23	Attitude	Usefulness	1
24	Attitude	Ease of Use	1
25	Attitude	Trust	1
26	Attitude	Pengaruh Sosial	1



27	Attitude	Usefulness	0,888889
28	Attitude	Ease of Use	0,833333
29	Attitude	Intention	0,789474
30	Attitude	Trust	0,5

From the findings based on the interview above, several propositions can be drawn as follows:

- 1) P1: Usability, ease of use and trustworthiness have a strong influence on user intent;
- 2) P2: Good social influence can affect various aspects; and
- 3) P3: Attitude has a strong influence on intensity.

## CONCLUSION

The findings of the Jaccard's coefficient test demonstrate that all the variables examined had an impact on the MSME's intention to make purchases via electronic payments. In addition to digital literacy skills and mastery of tools that are not so qualified, provider supporting infrastructure is also the reason why MSMEs in the country tend to grow slowly.

It is recommended for future research to choose a sample not only from MSME actors registered with *Asosiasi Gula Rafinasi Indonesia* (AGRI) or to expand the sample sought to see the influence of variables that can affect intentions in using e-payments. Further research is suggested to choose variables that are not only perceived usefulness, ease of use, trust, attitude and social influence. This is because there are still many other variables that must be examined regarding other aspects that can affect the intention of business actors to use digital payments. Future research may be more focused on choosing a longer research period, so as to make better and more accurate research.

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