FINTECH PAYMENT ADOPTION AMONG MICRO-ENTERPRISES: THE ROLE OF PERCEIVED RISK AND TRUST

Anissa Hakim Purwantini[1]. Friztina Anisa[2]
Prodi Akuntansi, FEB, Universitas Muhammadiyah Magelang, Kota Magelang, Indonesia[1]
Prodi Manajemen, FEB, Universitas Muhammadiyah Magelang, Kota Magelang, Indonesia[2]

Abstract. *The FinTech payments usage as a digital payment tool that facilitates business transactions is increasing, especially during the COVID-19 pandemic. This study investigates the factors influencing the intention to use FinTech payments (e-money, e-wallet, and Electronic Data Capture) in micro-enterprises in developing countries. Furthermore, this study will explore the role of perceived trust and risk in FinTech payment adoption. This study uses a quantitative method by distributing surveys to 136 micro-enterprises using the convenience sampling. The Partial Least Square (PLS-SEM) method is used to test the proposed hypothesis. The results indicated that perceived usefulness, risk, and trust are the crucial drivers of adopting FinTech payment among micro-enterprises. The results of this study reveal interesting findings, perceived risk has a significant positive effect on intention to use FinTech payments.*

Keywords: *FinTech Payment, micro-enterprises, risk, trust, paradox*

Corresponding author. anissahakimp@unimma.ac.id
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INTRODUCTION

The outbreak of coronavirus disease has a powerful impact on the economic sector. Based on the results of a survey of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia, from 25,256 respondents, 84.20% experienced a decrease in income (BPS, 2020). The Ministry of Cooperatives and SMEs seek to maintain the sustainability of MSME businesses and recovery the national economy by holding entrepreneurship training by following digital trends and partnering with national e-commerce practitioners. The use of e-commerce in business cannot be separated from digital payments, so that MSMEs that use e-commerce such as Shopee, Tokopedia, GoFood services on Go-Jek, and other marketplaces will certainly adopt digital payments to support businesses.

Benni (2021) found that the pandemic has accelerated the process of financial digitization. The use of digital payments and transfer services has surged, helping to reduce dependency on cash exchanges. FinTech payments help MSMEs in transactions during the large-scale social distancing (PSBB). FinTech payments is a digital financial solution that can accelerate Indonesia's economic recovery, primarily through the business sector in micro-enterprises. While on the one hand, although mobile payments offer many conveniences, there is an increasing fear of risks from using FinTech mobile payments as technology expands (Saleem, 2017). Cyber-attacks have become one of the risks arising from FinTech payments (Najib and Fahma, 2020). Trust becomes the key strategy for dealing with an uncertain and uncontrollable future (Kim et al., 2008).

Prior studies (Meyliana et al., 2019; Haqqi and Suzianti, 2020; Pal et al., 2020) explore the role of perceived trust, risk, and convenience toward mobile payments adoption that focuses on individual user perspective;

Karim et al. (2020) and To & Trinh (2021) examine intention to adopt e-wallet, extending TAM model with trust and security. Some recent studies (Singh and Sinha, 2020; Najib and Fahma, 2020; Odoom and Kosiba, 2020) have conducted studies on the analysis of factors driving the business actors's intention to use FinTech payments; however, these were again narrowly focused on mobile banking and e-money. Research on factors affecting FinTech payment adoption for micro and small businesses in Indonesia has been conducted by Najib and Fahma (2020). The study is based on the Extended TAM model by including the trust variable. The study suggests further research to investigate the effect of risk.

Perceived risk and trust play an important role in determining adoption technology. Perceived risk is the perception of uncertainty and undesirable consequences when using a product or service (Rahayu, 2018). Perceived risk in using FinTech payments services is a form of user concern about the uncertainty that may occur due to the use of FinTech. Risks arise from user concerns about the possible negative impacts of using digital payments (Cania, 2018). The risk of using digital payment technology usually arises in unpredictable conditions such as internet connection disruptions which cause the payment process to take a long time and even the failure of the transaction (Cahyani et al., 2020). Research that discusses the influence of risk on intention to use FinTech payment carried out by Sijabat et al. (2019) and Cahyani et al. (2020) reveal that there is a strong significant effect of risk on intention to use, while Cania (2018) show a weak negative effect of risk on intention to use. Nangin et al. (2020) argue that even though the user has realized the risk, it does not necessarily make people stop using FinTech services. The level of customer trust is the critical factor that determined decision to use FinTech for financial transactions (Stewart & Jürjens, 2018)

Risk perception is an essential factor in considering the intention to use FinTech payments by micro-enterprises. Especially in the context of developing countries where there are no regulations regarding consumer protection and cybercrime problems.

In the context of a developing country, like in Indonesia, there is no law regarding the protection of personal consumer data in e-commerce transactions. Delays in receiving cash and failed transactions due to internet connection are risks from using FinTech payments (Najib & Fahma, 2020). Purba et al. (2020) stated that the risks that arise in online transactions such as data confidentiality, theft of balances, and misuse of personal data for fraud.

However, few studies examine the role of perceived risk and trust in the intention of using FinTech payment services, especially in micro-enterprises in developing countries' contexts. Prior researchers have not yet developed a comprehensive understanding of the role of trust and risk in the FinTech payment. Therefore, it is crucial to explore the factors that influence the adoption of FinTech payments by micro-business actors. Accordingly, this study attempt to fill this gap by investigating the factors driving the intention to use FinTech payments for micro-enterprises by focusing on the role of perceived risk and trust. The sample used includes all types of businesses, not only focusing on culinary or restaurant fields as in previous research (Najib and Fahma, 2020).

The results of this study have contributed both theoretically and practically. Theoretically, this research contributes to researchers, especially in the field of information systems and digital marketing, by providing literature and developing models related to the role of perceived risk and trust in the acceptance of FinTech payment adoption for micro and small businesses. The practical contribution of this research provides an understanding to FinTech payment product providers and the government as the regulator regarding important factors that influence the intention to use FinTech payments. So that the right strategy can be formulated for the progress and development of MSMEs in Indonesia in facing challenges in the digital era.

LITERATUR REVIEW

Extended Technology Acceptance Model

The Technology Acceptance Model (TAM) was developed by Davis et al. (1989) which is the development of Ajzen's (1991) Theory Reason Action (TRA). The TRA concept explains that people's perceptions and evaluations of new technologies will influence their attitudes towards these new technologies. Perceptions regarding the benefits and ease of using new technology are a strong motive for a person to accept new technology. TAM is a model for predicting factors that influence technology acceptance. Many studies use this model to research the acceptance and use of technology. The TAM model shows that the perceived usefulness and ease of use will influence one's attitude in using technology and determine one's intention to use technology. Perceived Usability describes how a company's perception of the usefulness of technology improves its performance (Najib & Fahma, 2020). Perceived Ease of Use is based on the extent to which individual hopes that the use of a new system will be free from difficulties (Kamil, 2020).

This study uses the Extended TAM model, where the factor variables that influence individual attitudes and intentions in using technology are adjusted to the environmental and cultural context. In developing countries like Indonesia, the TAM model needs to be expanded with the addition of a trust variable because the use of payment systems via the internet or digital technology is still considered risky given the frequent occurrence of fraud, hacker attacks, and others (Najib & Fahma, 2020). This study adds a risk perception variable because it is a form of concern from using technology. Risks from using electronic payment technology usually arise in unpredictable conditions such as internet connection disruptions which cause the payment process to take a long time and even failure of the transaction (Cahyani et al., 2020).

Perceived Ease of Use

Perceived ease of use is defined as the level of one's belief that using a technological system will be free from the efforts of (Davis et al., 1989). Perceived ease of use is a person's belief in using a new technology that can be easily used and understood so that it does not feel heavy (Purba et al., 2020). The possibility of technology adoption increases when users find the technology easy and comfortable to use (Najib & Fahma, 2020). Perceived ease is a user's natural process of adopting a new technology that feels easy and effortless. Someone who feels the ease of using technology will tend to use it to carry out their activities. This means that the higher the convenience users receive, the technology is more useful.

H1. Perceived ease of use has a positive effect on perceived usefulness

Perceived Usefulness

According to Davis et al., (1989) perceived usefulness is the level of one's belief that the use of a certain technology system can improve job performance. The job will be quickly completed with the use of a technology system, so that job performance can increase. Improved performance in work will affect a person in adopting technology. The utility value that exists in the technology system used to complete work will encourage individuals to continue to use it. Users who feel confident that the use of technology will provide benefits to help their work will influence someone to reuse technology. The application of FinTech payments by MSMEs aims to facilitate payment transactions, such as shortening the time in payments and reducing the risk of incorrectly giving returns.

H2. Perceived usefulness has a positive effect on intention to use FinTech payment systems.

Perceived Risk

Perceived risk is a user's concern about the uncertainty or possible loss that may arise when making transactions online, such as financial losses, violations of privacy, dissatisfaction with the performance, psychological anxiety or discomfort, and

wasting time (Cania, 2018). Perception of risk is a consideration that leads to a person's uncertainty in deciding to make transactions using online technology (Sijabat et al., 2019). Najib & Fahma (2020) reveal that using digital payments by SMEs has several risks. These risks include delays in withdrawing money and failed transactions due to unstable connections. Perceptions of risk in the use of digital payments indicate a negative influence on the intention to use FinTech payments (Cahyani et al., 2020). The more risks involved in using FinTech payments as a payment system in business, the lower the intention to use FinTech payments.

H3. Perceived risk has a negative effect on intention to use FinTech payment systems.

H4. Perceived risk has a negative effect on perceived trust.

Perceived Trust

Trust is defined as a user's willingness to be loyal to a service provider based on positive expectations of the service provider's future behavior (Zhou, 2013). Perceived trust is a critical component in technology adoption and helps merchants to build strong customer relationships (Sing & Sinha, 2020). Trust is an important factor for users in using a new technology. The existence of threats or risks in using FinTech payments such as hacker attacks or fraud makes trust a crucial factor in determining the intention to use technology (Najib & Fahma, 2020).

H5. Perceived trust has a positive effect on intention to use FinTech payment

The Role of Perceived Trust as a Mediator

Previous research has confirmed a direct relationship between perceived usefulness and intention to use. MSME entrepreneurs consider FinTech payments to be useful in their business and this affects their intention to use FinTech payments (Najib & Fahma, 2020; Sing & Sinha, 2020). Sing & Sinha (2020) reveal that trust mediates the influence of perceived usefulness on intention to use a mobile wallet. Prior studies have shown that perceived usefulness has a small and significant effect on intention to use and it was partially mediated by trust. This implies that perceived usefulness results in higher user's intention; however, those who have low trust in a technology, may perceive mobile wallet as less useful and therefore have less intention to use (Shaw, 2014; Verkijika, 2018).

H6. Perceived Trust mediates the relation between Perceived Usefulness and intention to use FinTech payment systems.

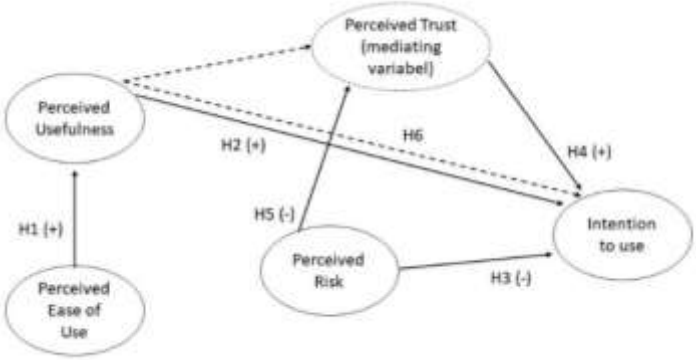

Figure 1. Conceptual Model

RESEARCH METHOD

Data collection and sample

The population of this study is micro-enterprises that have used FinTech payments for their payment systems, i.e: Electronic Data Capture (EDC), e-wallets (OVO, Gopay, Link Aja, etc.) and e-money. The sampling technique uses convenience sampling. This study used a survey for data collection, both directly to respondents and online survey. The questionnaire consists of two parts, the first is the identity of the respondent, and the second part contains closed and open questions to measure respondent's perceptions regarding the antecedents of intention to use FinTech payment.

Constructs Measurement

This study consisted of five variables. Items measurements of variables in this study were adopted from previous studies with little change in the adjustment in the context of FinTech payment. All variables are measured using a 5-point Likert scale, with the following details: (1) Strongly Disagree (STS); (2) Disagree (TS); (3) Neutral (N); (4) Agree (TS);

(5) Strongly Agree (SS). The operational definitions and measurements of the research variables can be seen in the following Table 1.

Data Analysis and Hypothesis Testing

The proposed model in this study was examined using PLS-SEM (Partial Least Square-Structure Equation Modelling) in SmartPLS 3.0 software. Testing in PLS is carried out on the measurement model (outer model) and structural model (inner model).

RESULT AND DISCUSSION

Demographic Analysis

The sample in this study is micro-enterprises that have used FinTech payments for payment systems in their business. Based on the convenience sampling technique, obtained a number of 136 respondents. Female respondents represented 61% of the total sample. The age of respondents in this study was mostly 20 – 30 years old (48.94%), 31 – 40 years old (20.21%), 41 – 50 years old (18.09%), and > 50 years old (9 ,57%) and for age <20 years as much as 3.19%. The micro-enterprises profile from this study is mostly engaged in the food and beverage sector with a percentage of 43.38%. As many as 33% have used FinTech Payment for more than 3 years and others for about one to two years. Micro-enterprises in their business use more than one type of FinTech payment. Business profile of respondent can be seen in Table 2.

Measurement Model Test

The validity test in this study showed that the loading factor value was above 0.7 on all constructs, except for the perceived risk variabel for RISK1 (0.630), RISK2 (0.535) and RISK3 (0.595). These indicators were discarded and not included in the next test. Average variance extracted (AVE), Composite reliability (CR), and Cronbach's Alpha was used to examine the reliability of the measurement instrument. The result indicated that all the observed variables and the AVE value were above 0.5, providing evidence for convergent validity. In addition, the estimates of Cronbach's Alpha and CR were more significant than 0.7, indicating reliability (see Table 3). The results of the discriminant validity test can be seen in Table 4. It shows that each construct tested has a square root value greater than the correlation between constructs. This indicates that the discriminant validity has been met.

Structural Model Test

The results of the structural model test show that the adjusted R^2 value on the variable of intention to use FinTech Payment is 31%, 48% on perceived usefulness and 27% on perceived trust. Hypothesis testing in this research uses the 500 sample bootstrapping method to calculate t-statistics. Based on the results, six proposed hypotheses were confirmed. In detail the results of hypothesis testing can be seen in Table 5.

Perceived ease of use had a significant positive effect on Fintech payment adoption intention ($\beta = 0.697$; $p < 0.01$), thus H1 was supported. Hypothesis H2 was supported as the effect of perceived usefulness on intention to use FinTech payment systems ($\beta = 0.397$; $p < 0.01$). The effect of perceived trust towards intention to use FinTeh payment is significant ($\beta = 0.186$, $p < 0.05$, consequently H4 was supported. We found perceived risk have direct positive effects on FinTech payment adoption intention with a path coefficient of $\beta = 0.193$ at a significance level of $p < 0,01$, not supporting H3. Finally, perceived risk towards perceived trust had no significant effect, thus H5 was not supported. Further explains trust as the mediation variabel, with paths significance at $p < 0.01$, hence our hypothesis H6 was supported.

Table 1. Constructs Measurement

Constructs	Item	Indicators	References
Perceived Ease of Use	6	ease of operation and access	Adapted from Davis et al.(1989)
Perceived Usefulness	4	usability, ease of access, increase work effectiveness	Adapted from Venkatesh et al.(2012)
Perceived Risk	8	financial risk, privacy risk, performance risk, delivery risk, time risk, psychological risk	Adapted from Claudia (2012)
Perceived Trust	4	security features, trust transactions, financial information secure, personal information safe	Adapted from Singh & Sinha (2020)
Intention to use FinTech payment	4	future usage increases	Adapted from Venkatesh et al.(2012)

Table 2. Business Profile of Respondent

	Criteria	Amount	Percentage
Business fields	Fashion	15	11.03%
	Event Organizer	4	2.94%
	Food and Beverages	59	43.38%
	Commerce	39	28.68%
	Agriculture	5	3.68%
	Pet Shop	5	3.68%
	Digital Product	4	2.94%
	Arts and Crafts	5	3.68%
		136	**100,00%**
Business Length	< 3 years	56	41.18%
	3 - 5 years	26	19.12%
	6 - 10 years	16	11.76%
	> 10 years	38	27.94%
		136	**100,00%**
The number of workers	< 5	83	61.03%
	5 - 10	43	31.62%
	11 -20	10	7.35%
		136	**100,00%**
Sales value (millions rupiahs)	< 15	57	41.91%
	15 – 30	32	23.53%
	31 - 50	12	8.82%
	51 -70	13	9.56%
	71 - 90	2	1.47%
	> 90	20	14.71%
		136	**100,00%**

Type of FinTech Payment Used (*each enterprise can use more than one type)	EDC	58	42.65%
	E-money	33	24.26%
	Go-Pay	65	47.79%
	Shopeepay	42	30.88%
	OVO	46	33.82%
	Link Aja	7	5.15%
	Oto Pay	4	2.94%
	Dana	8	5.88%
		263	**100,00%**
Length of Use of FinTech Payment	< 1 years	33	22,34%
	1 - 2 years	49	30,85%
	2 - 3 years	19	13,83%
	> 3 years	35	32,98%
		136	**100,00%**

Table 3. The Result of Measurement Model

Construct	AVE	CR	Cronbach's Alpha
Perceived Usefulness (PU)	0.742	0.920	0.884
Perceived Ease of Use (PEoU)	0.644	0.922	0.899
Perceived Trust (TRST)	0.812	0.945	0.923
Perceived Risk (RISK)	0.752	0.919	0.909
Intention to use (INT)	0.738	0.919	0.882

Table 4. Discriminant Validity Result

	INT	PEoU	PU	RISK	TRUST
INT	**0.859**				
PEoU	0.465	**0.815**			
PU	0.511	0.697	**0.862**		
RISK	0.232	0.080	0.080	**0.772**	
TRUST	0.409	0.557	0.530	0.055	**0.901**

Table 5. Hypothesis Testing

	Hypothesis	Path Coefficient	P Values	t-statistic	Information
H1 (+)	PEoU → Perceived Usefulness	0.697	0.000***	14.501	Supported
H2 (+)	Perceived Usefulness → Intention to use	0.397	0.000***	4.718	Supported
H3 (-)	Risk → Intention to use	0.193	0.004**	2.690	Not Supported
H4 (+)	Trust → Intention to use	0.186	0.020**	1.965	Supported
H5 (-)	Risk → Trust	0.022	0.379	0.290	Not Supported
H6	Perceived Usefulness → Trust → Intention to use	0.098	0.032**	1.767	Supported

Notes: *Sign. at 10%, **Sign. at 5%, ***Sign at 1%

Discussion

The results of this study indicate that there is a positive and significant influence on perceived usefulness and perceived trust toward intention to use FinTech payments services. Perceived ease of use has a significant positive effect on perceived usefulness. This result is consistent with prior studies (Najib & Fahma, 2020; Singh and Sinha, 2020; Amalia & Purwantini, 2021). Micro-enterprises owners feel the ease and flexibility in operating the FinTech payment system, thereby increasing the usability of the system. Perceived usefulness is the essential key factor that is considered by micro-enterprises owners to adopt fintech payments in their business. Fintech payment services such as e-money, e-wallet and EDC machines are very useful for micro-business players because they help complete payment transactions faster so that work effectiveness increases.

This study reveals that the perceived trust is one of the important factors in the consideration of micro-enterprises adopt the FinTech payment. This study confirmed the results of research conducted by Sijabat et al., (2019), Najib & Fahma (2020), and Raja & Widoatmodjo (2020) which show a positive and significant influence on perceived trust toward intention to use FinTech payments. The existence of a complaint service for problems using FinTech payments provided by the technology service provider company makes users feel that their security is guaranteed. Trust in technology is not only a guarantee of security from outside attacks such as hackers but also from the ability of the technology to help complete the work of (Sijabat et al., 2019).

Furthermore, this study found interesting results, perceived risk has a positive effect on the adoption of fintech payment systems. This result contradicted with previous research (Pal et al., 2020; Amalia & Purwantini, 2021) that confirmed that perceived risk had a significant negative effect on the intention to use fintech payments in the context of MSMEs. A plausible explanation for this result is that most of the respondents are in the young age group (20-30 years old) which belongs to the category of mobile innovators (Wang & Lee, 2020). Even though they feel a high level of security risk, privacy risk, financial risk, and performance risk they still use fintech payments in their business transactions. In addition, the business sector in this research sample is dominated by food and beverage. This sector is in a high level of competition in business, so that consumer demand becomes a priority in making business decisions to maintain business continuity. This finding is supported by the results of previous research (Najib & Fahma, 2020) which showed that the reason they used fintech payments was dominated by customer pressure.

This study also confirms the mediation effect of perceived trust in the relationship between perceived usefulness and fintech payment adoption, supported prior study (Singh & Sinha, 2020). The finding implies that micro-enterprises owners with low levels of trust in technology may perceive fintech payment as less useful and lead to decreased intention to use (Verkijika, 2018).

This research reveals implications to FinTech payment provider that micro-enterprises owners still feel insecure about transacting using fintech payments due to the worried about security, privacy risk, and financial losses due to problematic internet networks. The present study recommends that government and FinTech payment providers must improve and properly utilize digital infrastructure and make laws-regulations related to protection from cybercrime for the successful adoption of fintech payment services on micro-enterprises.

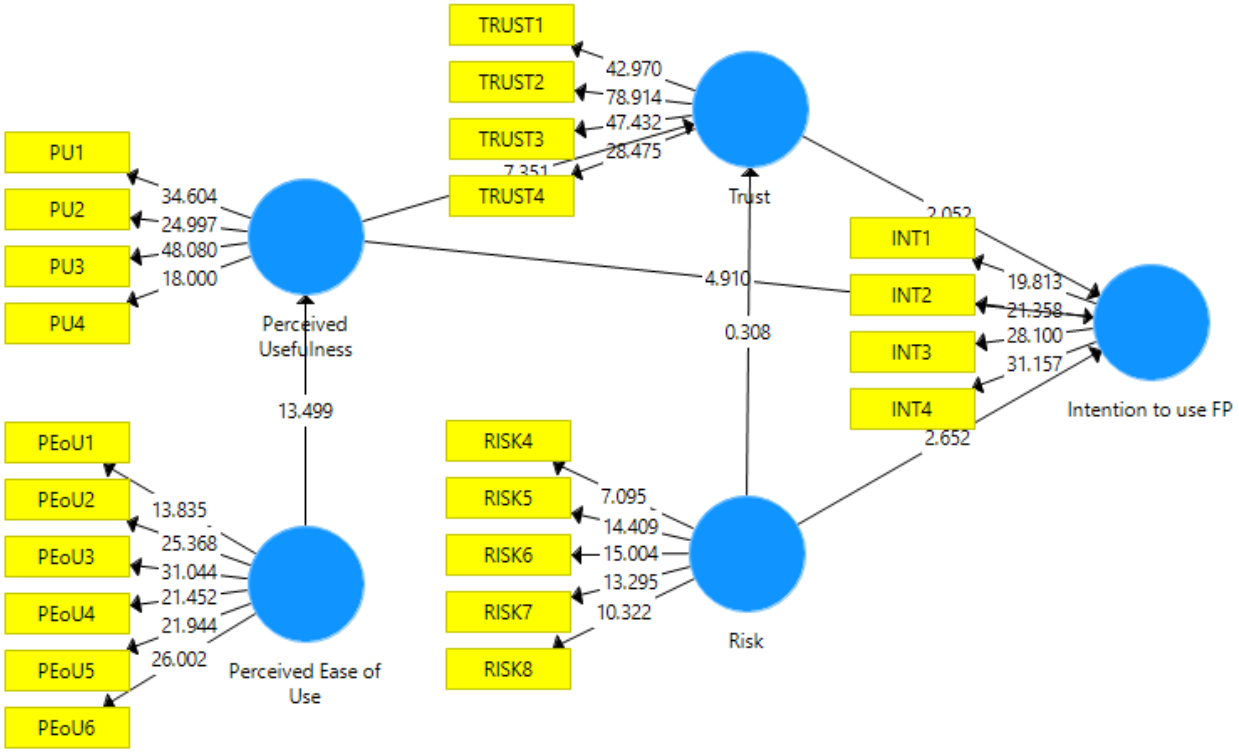

Figure 2. Hypothesis testing result

CONCLUSION

This research is in line with the theory in extended TAM, which states that perceived usefulness is a key factor that drives the intention of users in adopting a technology. This study reveals an interesting finding that the perceived risk has a positive effect on the intention to use FinTech payments. Micro-enterprises in this study mostly used e-wallet platforms (gopay, OVO and shopeepay) and Electronic Data Capture machines (debit cards). They assess that the platform has risks in payment transactions. Such as the risk of transaction failure due to an unsupported internet connection, theft of personal and financial data, and problematic systems. However, they can rely on the platform for payment transactions. Micro-enterprises use FinTech services as a means of paying bills, in credit payments and in paying their employees' wages/salaries online. With this, it can provide convenience for business owners in terms of transferring or receiving money by utilizing currently developing technology. Especially in the current pandemic era, which forces entrepreneurs to use FinTech payments to reduce cash payments. The adoption of FinTech payments is a strategic step to be able to maintain business continuity by providing the best service for customers through technological innovation.

This study has limitations due to the micro-enterprises context. The impact of risk can possibly play out differently for each type of FinTech payment (e-money, e-wallet, and Electronic Data Capture. Further research can consider comparing the level of risk for each type of FinTech payment. Comparison of perceived risk levels can provide a more in-depth analysis. In addition, further research can examine other factors that influence the intention to use FinTech payments in business

actors such as perceived benefits, perceived convenience, and social influence.

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