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# A Paradigm of TAM Model in SME P2P Financing

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# **ABSTRACT**

Peer to Peer (P2P) financing is one of the FinTech instruments providing a channel to match borrowers and lenders via an internet platform. Using the TAM model, this study investigates intention towards use of P2P financing among Malaysian SMEs, with attitude as a mediating variable and the impact of COVID-19 as a moderating variable. The SMEs' intention to use P2P as a platform to obtain financing is significantly affected by perceived ease of use, perceived usefulness, and perceived security and the impact of COVID-19 showed insignificant moderating effect. The study also discusses the effect of size (total assets and leverage) on SMEs' P2P financing based on Multi-Group Analysis (MGA). SMEs with lower leverage and lower total assets show strong intention to use P2P financing. Followed by significant result on mediating role of SMEs' attitude towards intention to use P2P financing. The findings of this study are expected to provide guidance to policy makers in designing appropriate and better strategies in capturing SMEs' interest in P2P financing.

JEL Classification: G40, G32

Keywords: P2P financing; SMEs; COVID-19; Leverage, Total Assets

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### INTRODUCTION

Small and medium-sized enterprises (SMEs) play a significant role in economic growth and job creation. According to the Ministry of Entrepreneur Development and Cooperatives (2020), Malaysian SMEs' contribution to GDP increased to 38.9% in 2019 from 38.3% in the previous year. In terms of workforce, 7.3 million people were employed by SMEs in 2019, contributing 48.4% to the country's employment compared to 2018 with 48%. However, in Q2 2020, Malaysia's GDP contracted by a record-setting 17.1% year-on-year due to the COVID-19 pandemic and execution of the Movement Control Order (MCO) in Malaysia. Despite their great contribution towards the country's economy, SMEs continue to face challenges in obtaining financing as working capital from conventional banks, due to insufficient collateral, lack of a substantial track record, limited cash flow and the complex application process (Gupta and Chutani, 2020). According to the Ministry of Finance's (MoF) Economic Report 2019/20, more than 70% of Malaysian SMEs obtained financing from internal sources, namely personal savings, and only around 30% from external sources, such as banks, development finance and microcredit institutions (Tan, 2019). Insufficient access to finance may deprive the chance of SMEs to pursue new business opportunities, detracting from the benefits of their potential contributions to the economy.

The emergence of FinTech as innovative financing creates financial solutions for SMEs, with various products and services at competitive rates through digital platforms such as equity crowdfunding (ECF) and peer-to-peer (P2P) financing. Nevertheless, as stated in the Economic Report 2019/20, the adoption of technology by SMEs is minimal, with little research, inadequate access to the talent pool, and lack of strategic planning. SMEs should further explore the opportunities offered by innovative financing for future growth and go beyond the orthodox banking system. The COVID-19 pandemic is a blessing in disguise as digitalization and automation are the precise way to go. Since the beginning of the pandemic, the whole situation has changed and people are relying on online sources for everything (Whitehead, 2021).

One of the alternate solutions in addressing the financing needs for SMEs is P2P financing. Currently in Malaysia, 11 P2P companies that have been licensed by Securities Commission Malaysia. P2P is one of the FinTech instruments providing a channel to match borrowers and lenders via digital platforms. P2P financing is a significant enabler to support financing for SMEs' growth by connecting those looking for financing to investors searching for attractive returns. As borrowers, SMEs provide relevant information related to personal and financial conditions, while the lenders assess the risk of SMEs and make decisions to award the funds (Galloway, 2009). The credit rating process in P2P platforms is less complicated than in traditional banks (Wang et al., 2015). With an efficient structure, this platform is able to improve the lending process for both lenders and borrowers and offer lower interest rates (Williams-Grut, 2016). P2P financing is supplementing traditional financing and is especially attractive to capital-constrained SMEs since it offers lower transaction fees and the possible bearing of default risk (Gao, Fan, Fang, & Lim, 2018).

The dynamic economic environment warrants the need for research on SMEs' intention to use P2P financing. It has been confirmed that COVID-19 has disrupted the economy with a long-lasting impact on businesses and consumers globally. In spite of this challenge, FinTech have proven resilient and adaptable as it is able to contribute to pandemic relief efforts, adjusting operations and offerings to serve vulnerable market segments, like micro, small and medium-sized businesses (The World Bank, 2021). Abundant literature has explored the intention to use P2P financing from the investor's perspective (Thaker et al., 2019), and factors in adopting P2P financing (Rosavina et al., 2019). From the borrower's side, this research uses the Technology Acceptance Model (TAM) as the underlying basis to study intention to use P2P financing among Malaysian SMEs. It also examines the mediating role of SMEs' attitude towards intention to use P2P financing. The research is based on a field survey through self-administered questionnaires of Malaysian SMEs. By identifying the information related to SMEs' behaviour, this study is expected to provide guidance to the policy maker in designing appropriate and better strategies in capturing SMEs' interest in P2P financing.

### THEORETICAL MODEL AND HYPOTHESES

### **Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM) proposed by Davis et al. (1989) is extensively used to predict users' intentions in the field of information systems or information technology. This theory is largely based on the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), extending it by introducing two main antecedents: perceived ease of use and perceived usefulness as determinants of attitude related to intention and actual use of the technology. TAM theory suggested that when new technology is available to users, numerous factors may affect their decision on how and when they will make use of it (Ardiansah et al., 2020). Since TAM theory focuses on technology adoption, this study believes the theory is the most appropriate to explore the factors influencing SMEs' intention to adopts P2P financing. To strengthen the model, it is crucial to incorporate additional variable (Hu et al., 1999), as perceived usefulness and perceived ease of use alone are insufficient factors to indicate the user's intention to use the technology (Suh and Han, 2002). Hence, this study incorporates perceived security as an additional variable in examining SMEs' intention to adopt P2P financing. Perceived security involves personal data and it plays an important role in technology adoption. If users feel the system is insecure, they become reluctant to use it (Loewenstein et al., 2001). Especially as P2P financing involves monetary transactions, SMEs are cautious about security protection, influencing their intention to use this FinTech facility to obtained financing.

### **Hypotheses**

## Perceived Usefulness, Perceived Ease of Use, Perceived Security and Attitude

Kurniawan (2019) demonstrated that perceived usefulness and ease of use positively affect the attitude of 1,000 respondents in Indonesia who had accessed and were using P2P financing. They considered this service as a good idea due to its convenience and simplicity, compared to existing lending services offered by multi-finance companies and banks. Kurniawan's study further suggested that enhancement of the features and functions are required to make the platform user friendly, so as to increase the significance of perceived usefulness and perceived ease of use. Another study in Indonesia, by Jiwasiddi et al. (2019), also found perceived ease of use and perceived usefulness to have a positive influence on attitude towards FinTech. They posited that ease of navigation motivated the continuation of consumer behaviour.

Convenience also builds a positive user experience that will have an impact on attitude at the level of small consumer financing. This indicates that the ease of operation of the P2P financing application affects the usability and attitudes of individuals. Also, the P2P financing platform greatly helps their financial activities and is very useful in managing the business in terms of its comfort, pleasure, enjoyment and elimination of boredom. Thus, the conclusion suggests that both perceived usefulness and perceived ease of use are positively significant on behaviourial intention to use a P2P financing platform. However, perceived usefulness is the most weighty construct influencing attitudes and behaviours (Hasyim, 2019); this is supported by Fadhilah and Kitri (2019), where half of their participants agreed that P2P financing provided them with easy procedure and fast process.

The recent study by Haqqi and Suzianti (2020) also shows that convenience representing perceived ease of use has the biggest positive effect on the attitude toward Fintech adoption intention. Djaakum (2019) conducted a study among the users of P2P financing products which covered entrepreneurs, state employees, private employees and students. The study revealed that P2P financing was easy to use and efficient in solving participants' financial problems, strengthening their attitude towards P2P financing. The same finding by Shih (2019) suggested that the ease of the process and its perceived usefulness had a positive link with attitudes, and that attitudes also affected the intention to adopt P2P financing. However, perceived risk was not a main factor affecting the use of P2P financing.

Silva (2019) conducted a study on 510 Brazilian commercial bank customers to address the application and mechanism that drive the intention to adopt FinTech services; perceived risk was found to have a positive impact on attitudes towards FinTech service adoption. On the other hand, 203 Universitas Indonesia students questioned about their perceived risk on intention to invest in P2P financing platforms (Sipangkar and Wijaya,

2020) indicated that the relationship was not significant. It was reported that students preferred to participate in P2P financing as an alternative investment tools when the risk was lower than the existing sources of investment. Summarizing the past findings, the hypotheses below are proposed.

- H1: Perceived Ease of Use affects Malaysian SMEs' Attitude
- H2: Perceived Usefulness affects Malaysian SMEs' Attitude
- H3: Perceived Securitiy affects Malaysian SMEs' Attitude

# Perceived Ease of Use, Perceived Usefulness, Perceived Security and Intention to use P2P financing

Huei et al. (2018) suggested perceived ease of use and perceived usefulness were important in consumers' intention to accept FinTech products and services in Malaysia. Also, Ateik et al. (2020) observed the factors impacting 30 owners of microfinance businesses in Yemen towards FinTech adoption. Their study concluded that beliefs of perceived usefulness and perceived ease of use positively affected the FinTech adoption among the respondents. This reflects the technological competence of the individual as the key determinant of adoption of FinTech.

Amin and Li (2014) found that perceived ease of use and perceived usefulness have a positive influence on Bangladeshi farmerss intention to use a microfinance platform. They claimed that a highly innovative and supportive society provides strong support through skill and knowledge transformation. Also, familiarity with mobile phone operation has provided the skill development and technical knowledge in using FinTech services. To elaborate further, 379 consumers of P2P FinTech financing services in Indonesia agreed that the electronic transactions were stress-free and could be controlled. It is evident that perceived ease of use creates high level of intention of usability, through features which suit the user's needs (Candra et al., 2020). In contrast, Tandiono et al. (2020) exposed that ease of use is negatively significant with the borrowers' intention to adopt P2P financing at Pohon Dana, established in 2018. This was due to the respondents' view that the website was not easy to use or understand since lending via FinTech was a new business model for the service provider.

Moreover, the critical factor in encouraging the intention to use Islamic FinTech services is perceived usefulness. This means that individuals will be more inclined to accept Islamic FinTech when technology provides the desired benefits to help facilitate settlement of their financial problems, such as micro-payment, financing, and investment based on shari'ah compliance (Riza and Hafizi, 2020). This finding was supported by Purwantini et al. (2020), who suggested that the more individuals felt the benefits of Islamic FinTech services to meet their needs, the stronger their intention to use it. Thus, perceived usefulness proved to have a positive impact towards the intention to use Islamic FinTech products among 75 Indonesian consumers of Islamic FinTech services, namely Paytren, Investree Syariah, Dana Syariah and Ammana.

In another study, Haqqi and Suzianti (2020) indicated that security risk, representing perceived security, had the biggest negative effect on 35 users of P2P financing in Indonesia. Moreover, compared to early adopters, those late adopters were greatly influenced by perceived risk and security when they used Fintech services. Thus, these factors were vital in determining their adoption of FinTech, for instance mobile payment, mobile remittance, P2P financing, and crowdfunding (Ryu, 2018b). Tandiono et al. (2020) projected that perceived security positively led to customer intention toward P2P financing by Pohon Dana, because it offered good security to borrowers, including data privacy and financial security during online transactions. Fadhilah and Kitri (2019) also showed that many participants perceived that the online processing of P2P financing threatened their rights to security and privacy, partly because no borrowers or lenders met physically and partly because they were afraid that their personal data would be shared online, especially of those who had a bad credit history.

Interestingly, Tang et al. (2020) found that the security risk was not significant towards the intention to use FinTech in the context of Malaysia. The same finding was proposed by Ryu (2018a), where the 243 participants who had at least one experience of using FinTech services were willing to continue to use P2P financing and mobile payment regardless of any security risk. This finding is consistent with Sipangkar and Wijaya (2020), who argued that P2P financing platforms reduced the perceived risk in Indonesia by actively engaging in promotional activities. This would increase awareness by highlighting the high profit potential and reducing the perception of risk in P2P financing.

After review of the above arguments, three hypotheses were developed as follows:

H4: Perceived Ease of Use affects Malaysian SMEs' Intention to Use

H5: Perceived Usefulness affects Malaysian SMEs' Intention to Use

H6: Perceived Security affects Malaysian SMEs' Intention to Use

# Attitude and Intention to use P2P financing

User attitudes proved to be the most important drivers towards intention to adopt technology related to the banking world (Shaikh and Karjaluoto, 2015). Further, Hasyim (2019) explained that attitudes that are continuously held will become habit, which in turn will reach a high level of frequency of use. This is in line with the analysis by Ujang and Noor (2020) of 371 farmers in West Java, Indonesia, who had yet to adopt the use of P2P financing strategy. They stated that other than motivation and price value, habit was among the indicators that had a significant positive effect on behavioural intention to adopt P2P agricultural financing. Huei et al. (2018) articulated that positive FinTech adoption experience would yield and increase willingness to use. This statement has been supported by Silva (2019) as commercial banks' customers indicated that attitude had a positive impact on their intention to adopt integrated FinTech services in Brazil.

Chuang et al. (2016) conducted a study on engineers in Taiwan and found a positive influence of attitude toward intention to use FinTech services. They claimed that the degree of consumer evaluation was the main triggering factor for consumers to use these services. Iskandar (2019), in a study in Indonesia, found that community attitude in perception positively influenced FinTech system usage, with community members providing peer support and encouragement. Nicoletti (2017) claimed that an innovative attitude was a critical actor in FinTech initiatives, fuelling enthusiasm for using new technology and countering the traditional norms of financial services industry. Hu et al. (2019) questioned 587 bank customers to explore their intention for FinTech services, and found that attitude had a positive influence on their adoption.

Puspita et al. (2020) showed that attitudes among respondents who had not used shari'ah FinTech services had a positive link with the intention to use. The formation of the attitude was based on their awareness that shari'ah FinTech are useful, good, valuable, and enjoyable. Thus, it concluded that modelling a positive attitude was helpful in creating the intention to use shari'ah FinTech. Akinwale and Kyari (2020) discovered that the attitude of 467 end users of P2P financing in Lagos State, Nigeria was positively positively significant in influencing the adoption of FinTech services.

Synthesizing these past studies, the following hypothesis was developed:

H7: Attitude affects Malaysian SMEs' Intention to Use

H7a: Attitude mediate the relationship between Perceived Ease of Use affects Malaysian SMEs' Intention to Use

H7b: Attitude mediate the relationship between Perceived Usefulness affects Malaysian SMEs' Intention to Use

H7c: Attitude mediate the relationship between Perceived Security affects Malaysian SMEs' Intention to Use

SMEs are suffering operating difficulties from the pandemic as they need to postpone work resumption, declining market demand, and restrictions on logistics and crowd flow (Sun et al., 2021). SMEs unable to cope with uncertainties and more vulnerable to risk during COVID-19 pandemic experienced capital shortage due to lack of ability and funds (Zhu et al., 2020), and unstable repayment sources, lack collateral, and the probability of overdue or even nonperforming loans is high (Wang and Chen, 2020). Ba (2020) stated that the degree of pressure on the financial needs varies among SMEs.

The following hypothesis was developed:

H8: Impact of COVID-19 affects Malaysian SMEs' Intention to Use

H8a: Impact of COVID-19 moderate the relationship between Perceived Ease of Use and Malaysian SMEs' Intention to Use

H8b: Impact of COVID-19 moderate the relationship between Perceived Usefulness and Malaysian SMEs' Intention to Use

H8c: Impact of COVID-19 moderate the relationship between Perceived Security and Malaysian SMEs' Intention to Use

H8d: Impact of COVID-19 moderate the relationship between Attitude and Malaysian SMEs' Intention to Use

SMEs typically have different ownership structure, resource ability, cost structure and face more complexity in company transactions (Baas and Schrooten, 2006). Due to high monitoring and risk management costs, most banks are refusing to provide loans to smaller SMEs (Ono and Uesugi, 2009). Compared to conventional banks, the interest rate offered by P2P is more reasonable since it is evaluated based on SMEs ability to repay and credit profile. Low risk SMEs can obtain loans at lower interest rates while risky SMEs need to pay more interest for the loan (Verma, 2019). Without assets as collateral, SMEs intention to borrow from formal financing is restricted (Bhaird and Lucey, 2010). SMEs demand on P2P financing growth since no assets as collateral is required for application (Namvar, 2014).

The following hypothesis was developed

H9: The impact of Perceived Ease of Use, Perceived Usefulness, Perceived Security on Malaysian SMEs' Intention to Use P2P financing changed when leverage is present.

H10: The impact of Perceived Ease of Use, Perceived Usefulness, Perceived Security on Malaysian SMEs' Intention to Use P2P financing changed when total assets are present.

#### Research Model

The proposed research model is shown in Figure 1. Seven hypotheses were developed to test the relationships between perceived ease of use, perceived usefulness, perceived security and SMEs' intention to adopt P2P financing, To test these relationships, the study included attitude as a mediating role and the impact of COVID-19 as a moderating variable.

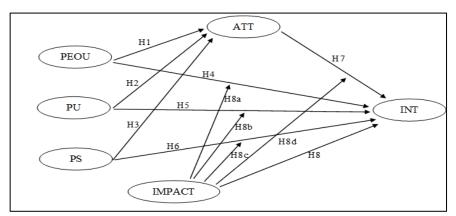


Figure 1 Research Model

# **METHODOLOGY**

This study analyzed the behaviour of Malaysian SMEs in using P2P financing. The list of SMEs was extracted from the Ministry of Entrepreneur Development and Cooperatives (MEDAC), with convenience sampling select SMEs from a variety of sectors, randomly capturing the target respondents to prevent bias selection. A total of 155 useable questionnaires were collected from the 5,000 distributed to Malaysian SMEs via Google Form. As the questionnaire was distributed in 2020, the low response rate is due to the outbreak of the coronavirus (COVID-19) and implementation of Movement Control Order (MCO) led to most of SMEs closed their business operation. Therefore, this study is based on online survey via google form and send to their email address obtained from Ministry of Entrepreneur Development and Cooperatives (MEDAC) website. As of 28 February 2021, the last date of data collection, Malaysia was still in the phase of a MCO.

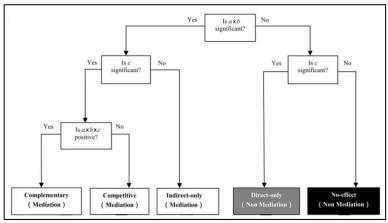
The questionnaire items, listed in Table 1, were adopted from Sipangkar and Wijaya (2020), Husin et al. (2019), Ryu (2018) and Nasri and Charfeddine (2012). Responses were measured on a 5-point Likert scale. The questionnaire consisted of two sections: demographic information was collected in section A, and data related to participants' perceptions of P2P platforms in section B.

Table 1 Measurement Items

Constructs	Items	Question
Perceived	E1	Easily access and get the P2P financing platform.
Ease of Use	E2	The procedure of using P2P to obtain financing is clear and understandable.
(PEOU)	E3	Interaction with the P2P platform to obtain financing does not require a lot of mental effort.
	E4	I believe that P2P platform to obtain financing will be frustrating and cumbersome.
	E5	It is easy for me to become skillful at P2P platform to obtain financing.
	E6	Using P2P platform is more flexible to obtain financing than traditional financing.
	E7	It is easy to make use of P2P platform to obtain financing.
Perceived	PU1	Using P2P platform to obtain financing would enable my company to accomplish growth more quickly.
Usefulness	PU2	Using P2P platform to obtain financing would improve my company performance.
(PU)	PU3	Using P2P platform to obtain financing allow me to increase business productivity.
	PU4	Using P2P platform to obtain financing allow me to manage business operation in an efficient way.
	PU5	Using P2P platform to obtain financing would make it easier to run the business.
	PU6	I believe having P2P financing would be useful for the business.
Perceived	S1	Feel secured using P2P platform to obtain financing
Security	S2	Feel safe when provide information in P2P platform to obtain financing.
(PS)	S3	P2P platform uses the latest technology to prevent unauthorized hacker.
	S4	Matters on security has no influence in using P2P platform to obtain financing
	S5	P2P platform provides security level password to help authenticate the identity of the user.
	S6	P2P platform provides lower risk of usage.
Attitude	A1	I believe using P2P platform to obtain financing is an interesting idea.
(AT)	A2	I believe using P2P platform to obtain financing is a good idea.
	A3	I am interested in using P2P platform to obtain financing.
	A4	I believe using P2P platform to obtain financing would be a pleasant experience.
	A5	In my opinion, it is desirable to use P2P platform to obtain financing.
Intention	I1	I intend to use P2P platform to obtain financing in near future.
(INT)	I2	I will recommend use of P2P platform to obtain financing.
	I3	I will frequently use P2P platform to obtain financing.
	I4	I predict I would use P2P platform to obtain financing in near future.
	I5	I plan to use P2P platform to obtain financing in near future.

The PLS-SEM analysis was performed in two stages. In the first stage, the measurement model was evaluated to indicate the relations between observed items and latent variables. It was examined through assessment of validity and reliability of the construct measures in the model. Several tests are performed such as indicator reliability (factor loading), composite reliability, convergent validity, average variance extracted (AVE) and discriminant validity. The second stage is assessment of the structural model, to ensure that only reliable and valid constructs' measures were used to assess the nature of the relationship in the overall model.

This study employed Zhao et al. (2016) method in mediation analysis. There are 2 steps in mediation analysis with the first to determine the significance of the mediation effects. Bootstrapping procedure is applied to test the significant level, particularly indirect effect. If the indirect effect is significant, then the type of mediation effect such as full mediation, partial mediation (complementary or competitive partial mediation), only direct effect or no effect would be determined. In the event of partial mediation, the strength of the effect will be examined. The method used is known as VAF value by calculating the ratio of indirect over total effect (Nitzl et al., 2016). According to Hair et al. (2014), VAF value of less than 20 percent is considered zero mediation, between 20 to 80 percent is partial mediation, above 80 percent is full mediation.



Source: Zhao et al. (2010)

Figure 2 Mediation analysis procedure in PLS

In moderation analysis of impact of COVID-19, this study employed a two-stage calculation method as standardized product term generation. Henseler and Chin (2010) posited that the two-stage approach has stronger statistical power. In addition, multi-group analysis (MGA) is performed to examine the moderating effect of leverage and total assets. Leverage and total assets are grouped into those SMEs with less than RM500,000 and above RM500,000. Memon et al. (2019) suggested that MGA can be used if the moderator is categorical.

# **RESULTS**

# **Descriptive Analysis**

Table 2 Respondents Profile

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	Frequency	Percentage (%)			
Gender					
Male	95	61.30			
Female	60	38.70			
Age					
Less than 20 years old	0	0.00			
21-30 years old	49	31.60			
31-40 years old	53	34.20			
41-50 years old	37	23.90			
More than 50 years old	16	10.30			
Education					
SPM/O-level	17	11.00			
STPM/A-level	3	1.90			
Diploma/ Advanced Diploma	37	23.90			
Bachelor's degree	62	40.00			
Master's degree	32	20.60			
Doctorate degree/PHD	0	0.00			
Others	4	2.60			

Table 2 Cont.

Table	Frequency	Percentage (%)
Location	Prequency	Tercentage (70)
Johor	19	12.3
Kedah	7	4.5
Kelantan	10	6.5
	19	
Kuala Lumpur Melaka	2	11 1.3
	1	0.6
Negeri Sembilan	3	
Pahang		1.9
Perak Perlis	12 1	7.7 0.6
Pulau Pinang	11	7.1
Putrajaya	1 7	0.6
Sabah	•	4.5
Sarawak	7	4.5
Selangor	47	30.3
Terengganu	8	5.2
How old is your business		
1-5 years	58	37.40
6-10 years	34	21.90
11-15 years	27	17.40
16-20 years	13	8.40
More than 20 years	23	14.80
More than 20 years	23	11.00
Total Assets		
Less than RM50,000	49	31.60
RM50,000 to less than		
RM100,000	32	20.60
RM100,000 to less than		
RM500,000	24	15.50
RM500,000 to less than RM1		
million	12	7.70
More than RM1 million	38	24.50
TD-4-11 *-1-114*		
Total Liabilities		42.60
Less than RM50,000	66	42.60
RM50,000 to less than	25	16.10
RM100,000	25	16.10
RM100,000 to less than	26	16.00
RM500,000	26	16.80
RM500,000 to less than RM1	10	7.70
million	12	7.70
More than RM1 million	26	16.80
Number of full-time employees		
Less than 5	70	45.20
5-20	48	31.00
21-50	17	11.00
51-150	12	7.70
More than 150	8	5.20
	~	

As shown in Table 2, the majority of the respondents (61%) were male. Around 66% were between 21 and 40 years old and 63% had a bachelor's degree or above. The largest group of respondents' SMEs were still at the start-up stage (year of establishment less than 6 years and number of employees below 5).

# Discussion

The PLS-SEM analysis was performed in two stages. In the first stage, the measurement model was evaluated to indicate the relations between observed items and latent variables. It was examined through assessment of validity and reliability of the construct measures in the model. The second stage is assessment of the structural model, to ensure that only reliable and valid constructs' measures were used to assess the nature of the relationship in the overall model.

#### **Measurement Model**

# **Assessment of Reflective Measurement Model**

There are five constructs with reflective measurement models in this study. The validity analysis comprises reliability, convergent, and discriminant validity, as shown in Tables 3 and 4. The construct reliability was measured in the form of composite reliability values and cronbach alpha. Composite reliability depicts the degree to which the construct indicator indicates the latent construct, ranged from 0.953 to 0.968. In addition, Cronbach's Alpha values ranged from 0.939 to 0.963. Both composite reliability and cronbach alpha value are above 0.70, thus indicating good internal consistency reliability (Hair et al., 2020). The factor loading for all items exceeded the recommended minimum value of 0.708 (Hair et al., 2014). The AVE which reflects the overall amount of variance in the indicators accounted for by the latent constructs was in the range 0.772 to 0.853, and exceeded the recommended minimum value of 0.5 (Hair et al., 2010). Therefore, the entire latent variables met the threshold criteria and were considered to have met the standards recommended for convergent validity.

Table 3 Factor Loading, Composite Reliability, AVE and Conbach Alpha

Variable	Items	Loading	Composite Reliability	Average Variance Extracted	Cronbach Alpha
PEOU	E1	0.870	0.953	0.772	0.941
	E2	0.892			
	E3	0.865			
	E5	0.852			
	E6	0.871			
	E7	0.920			
PU	U1	0.894	0.968	0.836	0.963
	U2	0.945			
	U3	0.947			
	U4	0.885			
	U5	0.914			
	U6	0.897			
PS	S1	0.913	0.953	0.804	0.939
	S2	0.889			
	S3	0.893			
	S5	0.904			
	S6	0.883			
ATT	A1	0.875	0.960	0.827	0.948
	A2	0.930			
	A3	0.890			
	A4	0.917			
	A5	0.936			
INT	I1	0.934	0.967	0.853	0.957
	I2	0.874			
	I3	0.923			
	<b>I</b> 4	0.953			
	I5	0.931			

Based on a formula by Fornell and Larker (1981), the square root of each construct's AVE should be higher than all its correlations with other constructs. As shown in Table 4, the square root of the AVE for the five variables are much larger than the corresponding latent variable correlations. Hence, Fornell and Larker's criterion is achieved.

Table 4: Discriminant Validity

Variable	ATT	INT	EOU	PS	PU
ATT	0.910				
INT	0.898	0.923			
PEOU	0.668	0.608	0.878		
PS	0.777	0.747	0.809	0.897	
PU	0.728	0.756	0.707	0.692	0.914

#### Structural Model Assessment

The path model (with four exogenous variables) was estimated through bootstrapping, including the mediator effect (Figure 3). The results reveal that all the variables' direct path to endogenous variables are positive and significant except for perceived ease of use (negative) (Table 5). Thus, it is meaningful to include a mediating effect. The four exogenous variables explain 84% of the variance in intention to use P2P financing ( $R^2 = 0.840$ ); three exogenous variables explain 67.4% of attitude to use P2P financing ( $R^2 = 0.671$ ) (Figure 3 and Table 5).

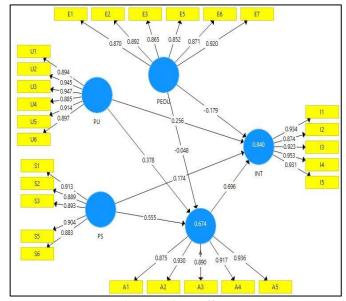


Figure 3 Direct Effects

Table 5: R <sup>2</sup> and Q <sup>2</sup> values					
Endogeneous LVs	R <sup>2</sup> value	Q² value			
INT	0.840	0.665			
ATT	0.674	0.513			

The predictive relevance  $(Q^2)$  indicates that the model is highly predictive (Table 6: Attitude to adopt P2P financing = 0.513; intention to adopt P2P financing = 0.665), as the value is above the threshold of zero (Chin, 1998). The effect size of attitude to adopt P2P financing is relatively high; however, the effect size of perceived ease of use and perceived security is low (Table 6).

Table 6 $f^2$ and $q^2$ effect sizes						
C		INT		ATT		
Constructs	В	$\mathbf{f}^2$	$\mathbf{q}^2$	В	$f^2$	$\mathbf{q}^2$
PEOU	-0.179	0.011	0.021	-0.048	0.001	-0.004
PU	0.256	0.169	0.063	0.378	0.199	0.097
PS	0.174	0.044	0.012	0.555	0.298	0.154
ATT	0.696	0.981	0.367	-	-	-

Path coefficient results are reported in Table 7 based on the results from the PLS structural model after reliability and validity of the measurement were assured. Perceived usefulness (PU) and perceived security (PS) positively influenced the Malaysian SMEs' attitude towards intention to use P2P financing, with coefficients of 0.378 and 0.555, respectively. Therefore, hypothesis H2 and H3 were supported. Consistent with previous results of Kurniawan (2019), respondents believed it was a good idea to try using the services. However, perceived ease of use (PEOU) was not significant in influencing the attitude to using P2P financing, so hypothesis H1 is rejected. This contradicts the findings of Djaakum (2019) and Shih (2019), where the ease of using the P2P platform increased their attitude to using P2P financing. This contradiction may be due tothea survey questionnaire for this study being conducted during COVID-19, where most SMEs suffered losses in the lockdown period. SMEs are still struggling to find ways to save their businesses, hence regardless of ease of use of the P2P platform this variable will not influence their attitude to obtaining financing through P2P.

The findings of this study show that PEOU, PU, and PS are significant in influencing SMEs' intention to use P2P financing supporting H4, H5, and H6. The intention to use P2P financing is positively influenced by PEOU and PS at 5% significance level. This shows that a useful and effective security system will encourage more SMEs to use P2P financing to obtain capital. When the platforms are able to provide good security for private data and finance, customer intention to adopt the digital product and services will increase (Tandiono et al., 2020). Furthermore, the result shows that PEOU is negatively significant towards SMEs' intention to use P2P financing, with a coefficient of -0.179. The results contradict the finding of Haqqi and Suzianti (2020) that reported perceived ease of use as the biggest influence on intention to adopt FinTech products and services. Instead of convenience, in this study it was revealed that the SMEs intention to adopt P2P financing was mostly affected by practicality and security provided by the platform. The results presented in Table 5 also reported that SMEs' attitude is positive and significant at 1% level to influence their intention to use P2P financing, supporting hypothesis H7. Attitude would help to create enthusiasm in using new technology instead of traditional norms in the financial services industry (Nicoletti, 2017).

Table 7 Summary of the Structural Model

Description	Hypothesis	Path coefficient	T-value	Results
PEOU -> ATT	H1	-0.048	0.390	Not Supported
PU -> ATT	H2	0.378***	3.903	Supported
PS -> ATT	Н3	0.555***	4.415	Supported
PEOU -> INT	H4	-0.179**	2.446	Supported
PU -> INT	H5	0.256***	3.450	Supported
PS -> INT	Н6	0.174**	2.443	Supported
ATT -> INT	H7	0.696***	9.897	Supported

Note: all p-values are two-tailed, \*\* significant at 0.05, \*\*\* significant at 0.01.

### Mediation, Moderation, and Multi-Group Analysis

This study examined the significance of direct and indirect paths to identify the mediation effect (Table 8) at a significance of 5%. The mediation analysis is based on Zhao et al. (2010) principle. As suggested by Hair et al. (2014), variance accounted for (VAF) is computed and interprets the strength of mediating effects.

The path coefficient for the direct path between PEOU and INT is -0.179 with p-value of 0.015. As for the indirect path (PEOU>ATT>INT), the path coefficient is reported to have negative coefficient and p-value of 0.698. Hence, it can be concluded that attitude does not mediate the relationship between perceived ease of use and SMEs' intention to adopt P2P financing. Thus, hypothesis 7a is rejected.

The path coefficient for the direct path between PU and INT is 0.256 with p-value of 0.001. As for the indirect path (PU>ATT>INT), the path coefficient is reported to have a positive coefficient and p-value of 0.000. Hence, it can be concluded that attitude mediates (complementary mediation) the relationship between perceived usefulness and intention. Therefore, hypothesis 7b is supported. To account for the strength of the mediating effect of attitude, VAF is computed and reported to be 50.008%; that is, 50.008% (partial mediation) of the effect of perceived usefulness on SMEs' intention to adopts P2P financing is explained by attitude.

The path coefficient for the direct path between PS and INT is 0.174 with p-value of 0.014. As for the indirect path (PS>ATT>INT), the path coefficient is reported to have a positive coefficient and p-value of 0.000. Therefore, it can be concluded that attitude mediates (complementary mediation) the relationship between perceived security and intention and hypothesis 7c is supported. To account for the strength of the mediating effect of attitude, VAF is computed and reported to be 50.018%, indicating that 50.018% (partial mediation) of the effect of perceived security on SMEs' intention to use P2P financing is explained by attitude.

Table 8 Mediator Analysis in PLS-SEM

Effects	Path	Path Coefficient	Indirect Effect	Standard Deviation	Total Effect	VAF	T-values	P-values	Decision
Direct without mediator	PEOU>INT	-0.179		Not Ap	pplicable		2.432	0.015	Supported
Indirect with mediator	PEOU>INT PEOU>ATT ATT>INT	-0.034 -0.048 0.696	Not A - 0.033408	pplicable 0.087	-0.067408	49.561%	-0.384	0.698	Not Supported
Direct without mediator	PU>INT	0.256		Not Ap	pplicable		3.432	0.001	Supported
Indirect with mediator	PU>INT PU>ATT ATT>INT	0.263 0.378 0.696	Not A <sub>3</sub>	pplicable 0.073	0.526088	50.008%	3.604	0.000	Supported
Direct without mediator	PS>INT	0.174	Not Applicable			2.456	0.014	Supported	
Indirect with mediator	PS>INT	0.386	Not A	pplicable	0.77228	50.018%	4.109	0.000	Supported

# **Moderating Effect**

Inclusion of the impact of COVID-19 as a predictive construct postulates a positive effect towards SMEs' intention to use P2P financing ( $R^2 = 0.846$ ) (Figure 4). It increases  $R^2$  from 0.840 (Figure 3) to 0.846 (Figure 4). First of foremost, it is reported that there is no significant relationship (t-value: 1.433) between attitude and intention to use P2P financing. Hence, hypothesis 8 is rejected. In addition, the COVID-19 impact has no moderation effect toward the perceived ease of use, perceived usefulness, perceived security, and attitude and intention to use P2P financing with p-value more than 0.05 (Table 9). Thus, hypothesis 8a, 8b, 8c, and 8d are rejected.

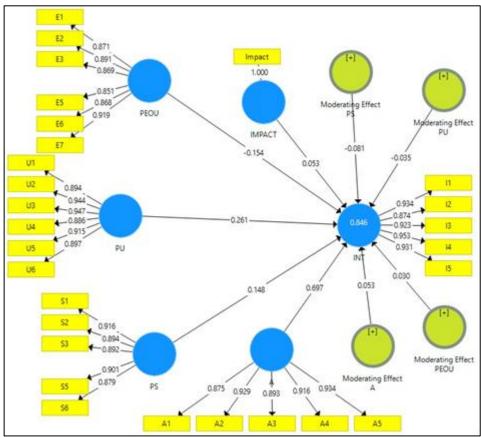


Figure 4 Moderating effects of Impact of COVID-19

Table 9 Summary of the Structural Model and Summary Result based on Moderating Variable of Impact from COVID-19

		122 17		
Description	Hypothesis	Path coefficient	T-value	Results
PEOU -> INT		-0.154	1.929	Not Supported
PU -> INT		0261***	3.024	Supported
PS -> INT		0.148**	2.087	Supported
ATT -> INT		0.697***	9.155	Supported
IMPACT -> INT	Н8	0.053	1.433	Not Supported
(IMPACT * PEOU) -> INT	H8a	0.030	0.358	Not Supported
(IMPACT * PU) -> INT	H8b	-0.035	0.379	Not Supported
(IMPACT * PS) -> INT	Н8с	-0.081	1.178	Not Supported
(IMPACT * ATT) -> INT	H8d	0.053	0.614	Not Supported

Note: all p-values are two-tailed, \*\* significant at 0.05, \*\*\* significant at 0.01.

Source: Developed for research

### **Multi-Group Analysis**

Multi-Group Analysis (MGA) is performed to further understand leverage of SMEs in affecting intention to use P2P financing behaviours. Leverage is divided into two groups (less than RM500,00 and more than RM500,000) and MGA is performed to analyze the leverage composition in SMEs and intention to use P2P financing. In terms of low leverage SME All the constructs (perceived ease of use, perceived usefulness and perceived security) were reported to have a significant relationship with attitude and intention to use P2P financing, except for perceived ease of use and attitude. In addition, all were reported to have a positive relationship except for perceived ease of use and attitude and perceived ease of use and intention (Table 10). As for the high-leverage SMEs, perceived security and attitude, and attitude and intention were reported to have a significant and positive relationship, while the rest reported no significant relationship. The presence of leverage changes the impact of exogenous on endogenous variables, therefore, hypothesis 9 is supported.

Table 10 Summary of Results Based on Total Leverage

1 401	Table 10 Bullinary of Results Based on Total Beverage							
	Low Levera	ige	High Leverage					
Description	(Less than RM5)	00,000)	(More than RM	500,000)				
	Path coefficient	T-value	Path coefficient	T-value				
PEOU -> ATT	-0.024	0.386	-0.108	0.675				
PU -> ATT	0.362***	6.213	0.397	0.079				
PS -> ATT	0.531***	3.005	0.615***	6.034				
PEOU -> INT	-0.185***	2.799	-0.149	0.204				
PU -> INT	0.257***	2.900	0.261	0.735				
PS -> INT	0.231**	2.079	0.071	1.465				
ATT -> INT	0.629***	11.23	0.780**	2.048				

Note: all p-values are two-tailed, \*\* significant at 0.05, \*\*\* significant at 0.01.

On the other hand, MGA was performed to understand the group effect of SMEs' total assets on intention to use P2P financing. Total assets were grouped into low (less than RM500,000) and high (more than RM500,000). For SMEs with low assets, all constructs were found to have a significant relationship except for perceived usefulness and attitude, and perceived security and intention (Table 11). Also, the findings suggested a positive relationship among the variables except for perceived ease of use and intention to use P2P financing. In contrast, for SMEs in the high-assets group, perceived security and attitude, and attitude and intention were reported to have positive and significant relationships, while the rest reported no significant relationship.

The existence of total assets changes the impact of exogenous on endogenous variables. Hence, hypothesis 10 is supported.

Table 11:Summary of Results Based on Total Assets

	Low Asse	ets	High Assets			
Description	(Less than RM:	500,000)	(More Than RM:	(More Than RM500,000)		
	Path coefficient	T-value	Path coefficient	T-value		
PEOU -> ATT	0.037	0.314	-0.154	0.614		
PU -> ATT	0.441***	4.234	0.152	0.853		
PS -> ATT	0.430***	3.288	0.892***	3.979		
PEOU -> INT	-0.185***	2.601	-0.063	0.265		
PU -> INT	0.275***	3.310	0.058	0.403		
PS -> INT	0.109	1.840	0.451	1.737		
ATT -> INT	0.751***	10.870	0.479**	2.344		

Note: all p-values are two-tailed, \*\* significant at 0.05, \*\*\* significant at 0.01.

### **CONCLUSION**

The results indicate that perceived ease of use, perceived usefulness and perceived security have an effect on Malaysian SMEs' intention to use P2P financing. Both perceived usefulness and perceived security indicate a positive association with intention to use P2P financing. In contrast, perceived ease of use indicates otherwise. The SMEs' intention to use P2P financing was not influenced by the impact of COVID-19 on their businesses.

In addition, both perceived usefulness and perceived security illustrated a positive effect on attitude toward P2P financing, although perceived ease of use had an insignificant effect on attitude toward P2P financing. Further, attitude toward P2P financing had a positive influence on intention to use P2P financing. Hence, it is concluded that attitude toward SMEs' intention to adopt P2P financing mediated the relationship between perceived usefulness and perceived security toward intention to use P2P financing. Unfortunately, attitude toward P2P financing did not mediate the relationship between perceived ease of use and intention to use P2P financing. In addition, SMEs with low leverage and total assets showed higher intentions to use P2P financing, considering the platform's perceived usefulness and perceived security. SMEs' attitude also played a significant role in their intention to use P2P platforms. However, SMEs with higher leverage and total assests saw only perceived security and attitude as important factors contributing to their intention to adopt P2P financing.

These findings provide insight that might benefit various stakeholders in improving SMEs' intention to use P2P financing. Accordingly, policy makers and P2P financial providers could design appropriate and better strategies to capture SMEs' interest in P2P financing activities. As such, P2P financial providers could emphasize the usefulness of P2P financing in addressing SME financing needs, as well as enhancing the security issues in dealing with P2P services. Future research is suggested to incorporate psychological variables or moderating variables, for instance company age and industry, to further illustrate SMEs' intention to use P2P financing. Another suggestion is to study these variables across countries or industries. This would provide an in-depth understanding of SMEs' behaviour in P2P financing.

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