

Factors Influencing Malaysian University Students' Intention to Use Online Payment Systems: An Application of the Extended Perceived Value Theory

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Abstract. The current study aims to investigate the factors influencing the adoption of online payment systems among university students in Malaysia by extending the Perceived Value Theory (PVT). The research model incorporates perceived functional value, perceived social value, trust, and personal innovativeness as predictors of attitude, which in turn influences the intention to use online payment systems. A quantitative research design was employed, and data were collected from 395 university students in Malaysia using an online survey. The results, analyzed using PLS-SEM, revealed that perceived functional value, perceived social value, and trust significantly influence attitude, while personal innovativeness does not. Furthermore, attitude was found to be a significant predictor of the intention to use online payment systems. The findings provide valuable insights for online payment service providers and policymakers to promote the adoption of cashless payment methods among university students. However, the study has limitations, such as the cross-sectional design and the focus on a specific population, which future research should address.

Keywords: Attitude, intention to use, online payment systems, Perceived Value Theory, personal innovativeness, trust, Industry, innovation and infrastructure

1. Introduction

Due to the rapid development of Internet services, online payment has become more prevalent among people worldwide (Shihadeh, 2020; JosephNg et al., 2022). People are transforming their payment methods from cash-based payments into cashless transactions (Munikrishnan et al., 2024). Based on the report of eMarketer, the amount of global online payment users has reached 938 million. In recent years, there has been an increasing number of online payment users globally. This is driven by the growing penetration of smartphones and electronic commerce platforms (Yang et al., 2021). Malaysia is an emerging economy for the adoption of online payment systems among users due to its high penetration of the Internet and smartphones and the large population of youth (Abdul-Halim et al., 2022). As motivated by the Malaysian government, a variety of industries in Malaysia have started embracing and accepting online payment systems, including retailing, food and beverages, and electronic commerce companies (Sivathanu, 2019). For instance, the users of online payment systems in Malaysia were rewarded 30 MYR to improve their adoption across all ages, encouraging users to accept the Touch n' Go payment system (Sivathanu, 2019; Che Nawi et al., 2022).

Although the number of active users of online payment has been increasing, the use of cashless payment methods in Malaysia is still relatively low in comparison with other regions (Ebubedike et al., 2022). According to Munikrishnan et al. (2024), Malaysia has been a cash-based economy, with 72% of transactions processed in cash. Thus, it is important to determine what forms the low level of online payment services usage and identify the elements that trigger cashless payment. In addition, a result by Arrow Payments (n. d) stated that mobile/ online payment applications are favorites among college and university students (Gen Z). 93% of students said that they have used digital payments very often, where this has supported the study of Chelvarayan et al. (2022), where university students are highly aware of the mobile payment systems which justified to study of the group as a sample.

Although there are some researches employed the Perceived Value Theory (PVT) as the theoretical support, most of the studies discussed how product-related factors including perceived functional value and perceived social value impact the adoption of online payment (Wu & Huang, 2023; Zhang et al., 2024). However, perceived functional value and perceived social value are insufficient to explain the online payment adoption. Besides, whether product-related factors and personal-related factors can jointly affect the adoption of online payment technology is less well-known (Senali et al., 2023). As validated by the existing literature, trust, and personal innovativeness are significant influential factors affecting the adoption of online payment (Al-Sabaawi et al., 2023; Tikku & Singh 2023). For instance, Putri et al. (2023) highlighted the inclusion of trust as trust can form the decision of a user toward a technology. Besides, Rahi et al. (2023) emphasized the importance of including innovativeness as a driver of users' behavior, and individuals with high innovativeness are motivated to use new technology. In that, trust and personal innovativeness are integrated into PVT theory and we seek to investigate the predictive effects of perceived functional value, perceived social value, trust, and personal innovativeness as influential factors on attitude. Afterward, the attitude would predict the intention to use online payment systems among university students. As argued above, the research questions and objectives were formulated as below:

RQ1: What factors drive the attitude of university students to use online payment systems?

RQ2: Is there any effect of attitude on the usage intention of university students to use online payment systems?

RO1: To examine the predictive effects of perceived functional value, perceived social value, trust, and personal innovativeness on attitude.

RO2: To determine the effect of attitude and usage intention of online payment systems.

This research expects to provide students in higher educational institutions with an understanding and insights into the benefits of online payment. In addition, this will help students to properly understand the usage and impact of the online payment system, and lead students to adapt and utilize online payment once they conduct financial activities and transactions. Apart from that, this research expects to bring valuable insights into the extension of perceived value theory by incorporating personal-related factors and highlighting its role in explaining the usage intention of online payment systems among Malaysian university students.

2. Literature Review

2.1. Perceived Value Theory (PVT)

Although the usage of information systems has received enormous attention from scholars, the behavioral phenomenon of online payment systems is under-studied and rooted in the PVT theory (Li et al., 2023). This research applies PVT theory as the theoretical support, looking into the behavior phenomenon of online payment systems among university students in Malaysia.

Perceived value, as considered by Kim et al. (2008), is a customer's perception of the extent to which an individual will become inclined to adopt or use an object. Initially, perceived value is conceptualized into five aspects, including social, functional, emotional, conditional, and epistemic value (Sheth et al., 1991). It has been studied in a variety of fields, including mobile technology, information technology, and consumer behavior (Ofori et al., 2022; Sharma & Klein, 2020; Li et al., 2023). However, some research studied perceived value as a unidimensional construct while others conceptualized it as a multi-aspect construct (Chopdar & Balakrishnan, 2020; Lin et al., 2020). In this study, by rooting on the PVT theory, we propose an extended integrated framework, considering perceived functional value and perceived social value as dimensions of perceived value and incorporating trust and personal innovativeness as additional personal-related factors, we seek to address the lack of consistency in the above-mentioned studied and look into the phenomenon of online payment systems usage among university students in Malaysian setting. The two aspects of perceived value in the context of online payments are deemed applicable due to the following reasons. Firstly, online payment systems make users' transactions more convenient, easier, and time-saving (Li et al., 2023). Secondly, perceived social value is also important. This is because online payment systems such as WeChat can improve the users' social experience including social status, entertainment, and social interaction.

2.2. Perceived functional value

Perceived functional value is defined as the perceived benefit or utility that is obtained from an alternative's capacity for either functional, utilitarian, or physical performance (Sheth et al., 1991). A significant body of literature has been previously carried out regarding the influential effect of perceived function value on the attitude of individuals to use technologies. For instance, Chakraborty et al. (2022) conducted empirical research and found that the efficiency of the payment process significantly drives the preferences of consumers to use mobile payment systems in comparison with other manners. This finding is supported by Güney and Giraldo (2020), in which the researchers observed that functional value positively impacts the willingness of consumers to purchase organic food. This is because consumers are encouraged by the utility value of the products and thus believe that they can benefit from the use of products, obtaining more nutrition. According to Karjaluo et al. (2021), consumers are inclined to trust mobile banking services and more willing to use such services for their transactions, this is driven by their perceptions that they can acquire benefits from the actual usage. Lastly, Hafez (2023) revealed functional value as a significant driver of mobile banking adoption. This can be explained by the fact that the functional

features encourage users to engage in mobile banking activities. Based on the evidence discussed by past researchers, we developed the hypothesis below:

H1: Perceived functional value positively affects the attitude of online payment systems.

2.3. Perceived social value

According to Li et al. (2023), perceived social value is referred as usefulness in pursuing social approval, status-seeking, and social support. To understand the relationship between social value and attitude, prior literature has carried out investigations in different contexts. Firstly, Leong et al. (2020) addressed that users are more likely to be encouraged to continuously use mobile payment systems if the use of mobile systems can bring a superior image and promote their social connections among their peers, friends, and family. In a similar vein, Hamari et al. (2020) illustrated that consumers' tendency to purchase freemium services is significantly driven by their perceptions in terms of the social value of the products, which can be explained by the fact that consumers believe their social experiences can be enhanced by engaging in the virtual world. Moreover, Li et al. (2023) concluded that individuals are more likely to use WeChat Pay for payment due to the social value of system features, including information seeking and socialization. Lastly, as found by Wu et al. (2018), social value, as one of the dimensions of perceived value, can shape the decision-making process of individuals for online shopping using social media. This is because social media supports interpersonal communication and thus strengthens the interpersonal connections among people within online communities. Thus, we proposed the hypothesis based on the prior literature:

H2: Perceived social value positively affects the attitude of online payment systems.

2.4. Trust

Trust as defined by (Kim et al., 2010) is users' belief that a specific online payment technology is trustworthy. According to Bapat and Khandelwal (2023), trust is deemed an important determinant in the success of online retailing. As a new form of payment, online payment systems require more effort to establish trust between users and service providers in comparison to traditional payment methods (Ling et al., 2024). Of the linkage between trust and attitude, Chetioui et al. (2021) developed research regarding the adoption of online shopping services. As a result, trust was found to positively influence the attitude of users. Meanwhile, Alswaigh and Aloud (2021) explored how trust influences the user acceptance of mobile wallets, and the result supported the relationship between trust and attitude among individuals in Saudi Arabia. This outcome is supported by the evidence of Hidayat et al. (2021), which indicated a positive correlation between trust and consumers' attitudes toward adopting e-wallets in the Indonesian context. This can be concluded that individuals trust the service provider, perceiving the systems they use are reliable and trustworthy (Ling et al., 2024; Franque et al., 2023). However, the study by Shane et al. (2022), found that trust is not significantly related to the adoption of e-wallets. Thus, this study hypothesized that:

H3: Trust positively affects the attitude of online payment systems.

2.5. Personal innovativeness

Personal innovativeness, as conceptualized by Hirschman (1980), is the curiosity of an individual to seek out something novel and distinctive. In validating the role of personal innovativeness, Kamboj and Sharma (2020) investigated the adoption of social media, indicating that consumers' innovativeness encourages their active tendency to adopt social media as a platform for self-presentation. Besides, research

by Mahmud et al. (2023) on the adoption of financial technology among bank customers stresses that early adopters and innovators are more inclined to accept it. In this research, personal innovativeness is integrated as an additional predictor of university students' attitudes. Lastly, as argued by Behera et al. (2023) who looked into the adoption of mobile banking technology, innovative customers are more active in taking risks and are more willing to adopt mobile banking services. Another explanation provided by Ling et al. (2024) indicated that users with high innovativeness exhibit more positive perceptions of adopting a new technology. Thus, we assume that those students at Malaysian universities with high levels of innovativeness tend to take risks and make decisions to evaluate online payment as a method for their transactional activities. Based on the findings of prior studies, the hypothesis is proposed:

H4: Personal innovativeness positively affects the attitude of online payment systems.

2.6. Attitude

Attitude is defined as the extent of evaluative effect that individuals relate to the utilization of certain technology in their jobs (Davis, 1989). Ariffin and Lim (2020) investigated the factors impacting the users' intention to utilize online payment. The attitude of users was revealed to have a positive association with intention. Sudono et al. (2020) carried out a study regarding the determinants impacting the users' intention to utilize online payment. The attitude was validated to impact the users' intentions. Lastly, Choi and Park (2020), Laksamana et al. (2022), and Chaveesuk et al. (2022) determined factors affecting the intention of consumers of online shopping. The result from SEM showed that attitude has a positive effect on users' behavioral intention for online shopping. Thus, the current study formulated the hypothesis:

H5: Attitude positively affects the intention to use online payment systems.

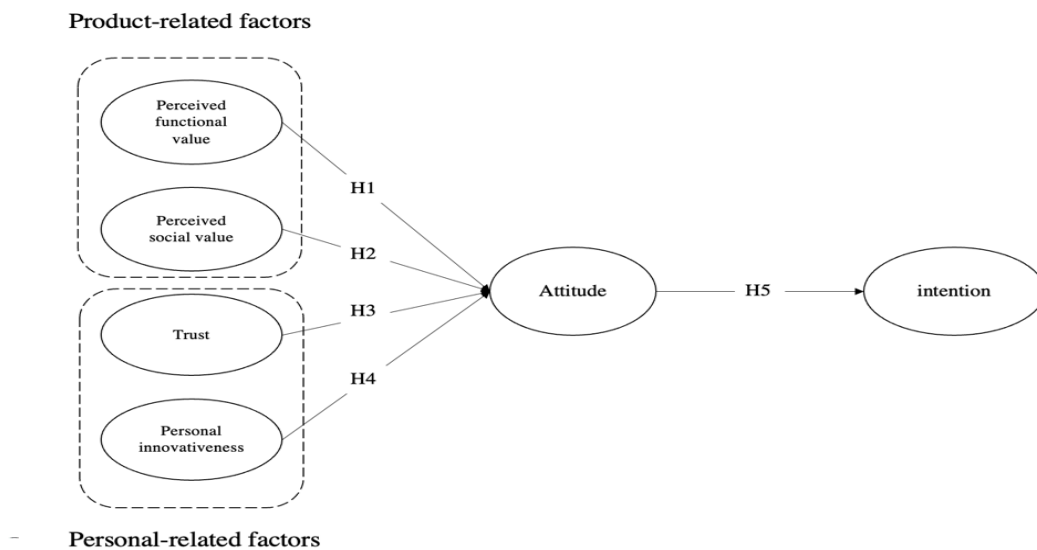


Fig. 1: Proposed Research Model

3. Methodology

3.1. Samples and Procedures

A quantitative research design is employed in the present study to achieve our objectives and a survey method was adopted for the collection of data from respondents. An online survey using Google Forms was

employed to obtain feedback from students at Malaysian universities. Social media platforms, Facebook, YouTube, and TikTok were adopted to spread survey links. Based on the purposive sampling method, users of online payment systems aged between 18 to 39 years old were employed to engage in the survey research. To identify respondents who are online users with experience in using online payment systems, a screening question was proposed: Have you used online payment systems within the past three months? Those who are not online payment users were excluded. Before respondents filled up the online survey, they were informed that their participation was fully voluntary and all their responses would be kept confidential. Before the data collection started, a pilot study was conducted to test the internal consistency of items. The pre-test was carried out among 40 target respondents by distributing online questionnaires to collect primary data (see Table 2). Subsequently, the SPSS 24 was applied to examine the reliability. Cronbach's Alpha was considered as the criteria for determining the reliability of constructs in the present study and the result concluded that the index of constructs' Cronbach Alpha should be above 0.7 (Taber, 2018), which is deemed acceptable to proceed with data collection. In the process of collecting data, participants were informed that all participation was voluntary and their feedback would be kept confidential. According to the result of the data collection, 395 responses were received with 500 surveys distributed, representing an effective response rate of 79.0%.

Since this study was not able to get the exact sampling frame, thus, G-power analysis has been utilized to calculate the sample size. Therefore, based on the G-power analysis, the minimum sample size required for this study is 138 (Predictors: 5, effect size: 0.15; power: 0.95). Based on the criteria of Saunders et al. (2012) and Cham et al. (2022), a sample size of 300 is deemed appropriate to represent a large population in a research study. In that, 395 responses were considered sufficient.

3.2. Measurements

In this study, a cross-sectional online survey was applied and the survey questionnaire included 7 sections. Section A: demographic items, Section B: Perceived functional value, Section C, Perceived social value, Section D: Trust, Section E: Personal innovativeness, Section F: Attitude, Section G: Intention. Section B contains the 4 items adapted from Sweeney and Soutar (2001) measuring perceived functional value. Section C (perceived social value) contains the 4 measurement items that were adapted from Sweeney and Soutar (2001). Section D consists of the 4 items of trust adopted from studies developed by (Ponte et al., 2015; Jamaludin & Ahmad, 2013). Section E consists of the items of personal innovativeness revised from research by Agarwal and Prasad (1998). Section F consists of 3 items of attitude adapted from studies developed by Ismail & Mokhtar (2016) and Yuan et al. (2021). Lastly, Section H consists of the 4 items of intention which were adapted from studies by Ismail & Mokhtar (2016) and Yuan et al. (2021). The variables were measured using a 5-point Likert-type scale, where 1 = Strongly disagree and 5 = Strongly agree. (*The details of the operationalization of variables can refer to Appendix 1*)

3.3. Data analysis technique

The PLS-SEM was employed as an analytical approach. Firstly, the Confirmatory Factor Analysis (CFA) was carried out to assess the reliability and validity of the constructs' internal consistency and measurement model. Afterward, 5000 bootstraps were used to carry out bootstrapping analysis (Hair et al., 2012). According to Nguyen et al. (2024), PLS-SEM is adequate to handle complex research models. In this research, the measurement model consists of 23 items, which can be deemed complex. In addition, the current research involves integrating multiple variables to extend the existing PVT theory (Hair et al., 2019), thus, the PLS-SEM method is considered suitable for the analysis of this model.

4. Results & Discussion

4.1. Descriptive analysis

Based on the demographic questions in the survey questionnaire, there are a total of four items which are gender, age, race, and educational background. As shown in Table 1, among 395 respondents, there are 223 male students and 172 female students (56.4% and 43.6%). As for the age of respondents, it was classified into four groups, which are 18-22 years old, 23-25 years old, 26-30 years old, and 31-40 years old. Nearly half of the participants include 167 of them who are aged 23-25 years old (42.2%). On the races, most of them were Chinese (n=129, 32.6%). According to the educational background of students, the educational level of students consists of bachelor, master, and Ph.D. Among 395 respondents, there are 301 bachelor students (76.3%), which represents the majority of them.

Table 1: Demographic information of respondents (n=395)

Variables	Category	Frequency	%
Gender	Male	223	56.4
	Female	172	43.6
Age	18-22	68	17.4
	23-25	167	42.2
	26-30	101	25.5
	31-39	59	14.9
Race	Malay	107	27.5
	Chinese	129	32.6
	Indian	106	26.5
	Others	53	13.4
Educational background	Bachelor	301	76.3
	Master	75	18.9
	Ph.D	19	4.8

4.2 Measurement model assessment

CFA was used to test reliability and validity. The result of construct reliability is shown in Table 2. In our research, the reliability of the constructs was assessed through the criterion of Cronbach's Alpha and factor loading to ensure internal consistency. The validity in this research includes convergent validity and discriminant validity, which are assessed based on Composite Reliability (CR), Average Variance Extracted (AVE), and Heterotrait-Monotrait Ratio (HTMT) respectively. As for the six constructs in the paper, the criterion of Hair et al. (2012) indicated that Cronbach's Alpha and factor loading values are required to be greater than 0.7 and 0.5. (Hair et al., 2022). The convergent validity can be deemed acceptable if the CR and AVE exceed 0.7 and 0.5 respectively. As a result, the CR and AVE of all indicators have exceeded the threshold, thus being considered acceptable. To examine the discriminant validity, based on the criterion of Henseler et al. (2015), the value between two reflective constructs should not exceed 0.85. As listed in Table 3, all HTMT values are not greater than the threshold. Thus, we deem the results acceptable.

Table 2: Convergent validity

Construct(s)	Items	Loadings	Cronbach's Alpha (pilot testing, n=40)	Cronbach's Alpha (n=359)	CR	AVE
Perceived Functional Value (PFV)	PFV1	0.901	0.930	0.906	0.912	0.780
	PFV2	0.888				
	PFV3	0.911				
	PFV4					
Perceived Social Value (PSV)	PSV1	0.823	0.778	0.705	0.781	0.505
	PSV2	0.857				
	PSV3	0.858				
	PSV4	0.854				
Trust (TRU)	TRU1	0.813	0.710	0.726	0.754	0.550
	TRU2	0.779				
	TRU3	0.842				
	TRU4					
Personal innovativeness (PI)	PI1	0.868	0.897	0.860	0.881	0.701
	PI2	0.911				
	PI3	0.924				
	PI4	0.889				
Attitude (ATT)	ATT1	0.858	0.829	0.810	0.823	
	ATT2	0.876				
	ATT3	0.892				
Intention to use (INT)	INT1	0.835	0.715	0.826	0.857	0.724
	INT2	0.859				
	INT3	0.871				
	INT4	0.861				
						0.652

Table 3: Heterotrait-Monotrait Ratio

	PFV	PSV	TRU	PI	ATT	INT
PFV						
PSV	0.664					
TRU	0.652	0.740				
PI	0.559	0.534	0.377			
ATT	0.637	0.527	0.646	0.331		
INT	0.755	0.642	0.596	0.602	0.715	

4.3 Structural model assessment

Through a bootstrapping analysis, we estimated the structural model, and the outcome is shown in Table 4. According to Simundic and Ana-Maria (2008), the confidence interval is defined as a realistic estimate of the precision and sample size of certain research, which is employed in this research as a criterion. The outcome can be deemed significant when the Lower Limit Confidence Interval (LLCI) and Upper Limit Confidence Interval (ULCI) do not straddle a zero in between (Hilbrecht et al., 2014). Apart from that, f^2 is another criterion applied in this study, denoting the magnitude of the influence between variables with effect size (Susanto et al., 2022). Firstly, the perceived functional value was found to positively affect the attitude of online payment systems (Beta=0.365, $t=6.539$, $p<0.05$, $f^2=0.118$). In that, H1 was validated. Secondly, the perceived social value was revealed to significantly predict the attitude of online payment systems (Beta=0.136, $t=2.569$, $p<0.05$, $f^2=0.017$), thus evidencing H2. Thirdly, PLS-SEM validated that there is a significant relationship between trust and attitude toward online payment systems (Beta=0.236, $t=4.344$, $p<0.05$, $f^2=0.053$). Therefore, H3 is confirmed. However, personal innovativeness was found no effect on the attitude of online payment systems (Beta= - 0.015, $t=0.313$, $p>0.05$, $f^2=0.000$). Hence, H4 was rejected. Lastly, the attitude was found to have a positive influence on intention to use online payment systems (Beta=0.617, $t=18.202$, $p<0.05$, $f^2=0.613$). Consequently, H5 was validated.

Cohen (1988) divided the effect size of f^2 into small, medium, and large, with corresponding values of 0.02, 0.15, and 0.35, respectively. As shown in Table 4, perceived functional value, perceived social value, trust, and personal innovativeness have a small and trivial impact on the attitude of online payment systems and attitude has a large effect on the intention to use online payment systems ($f^2 = 0.613$).

Table 4. The outcomes of pathway analysis

Hypotheses	Std. Beta	Std. errors	T values	LLCI (5%)	ULCI (95%)	Decision	VIF	R ²	f^2
PFV->ATT	0.36	0.0	6.5	0.2	0.4	Support	1	0	0.118
PSV->ATT	0.13	0.0	2.5	0.0	0.2	Support	1		0.017
TRU->ATT	0.23	0.0	4.3	0.1	0.3	Support	1		0.053
PI->ATT	-	0.0	0.3	-	0.0	Reject	1	.380	0.000
ATT->INT	0.61	0.0	18.	0.5	0.6	Support	1		0.613

Note: PFV=Perceived Functional Value; PSV=Perceived Social Value; TRU=trust; PI=Personal innovativeness; ATT=attitude; INT=Intention to use; LLCI = lower limit confidence interval; ULCI = Upper limit confidence interval; 1-tailed test

4.4 Discussion

Based on the result, the perceived functional value showed a positive relationship with attitude. This was consistent with past research by Chakraborty et al., 2022; Güneş & Giraldo, 2020) who validated the significant relationship between perceived functional value and attitude. This result indicates that university students in Malaysia are more inclined to use online payment systems if they feel that using such system

derives utility benefits such as convenience, enhancing their transactional efficiency, and making their financial activities easier.

The findings of the present study showed there is a significant effect between perceived social value and attitude, this was consistent with previous researchers, Li et al. (2023) who proved that individuals may derive perceptions that they can acquire social experiences using the technology, such perceptions have a significant effect on the tendency of users to adopt the technology. This result can be concluded that Malaysian university students are willing to engage in using online payment systems when they feel that the systems are easy to understand and comprehend. The correlation between trust and attitude was confirmed positively. This finding is similar to Hidayat et al. (2021), in which the researchers determined the relationships and found positive. This finding suggests that students in Malaysia context are more likely to use online payment systems if they believe the online payment systems are reliable.

As a result of PLS-SEM, the relationship between personal innovativeness and attitude was revealed as insignificant. This finding is inconsistent with the viewpoint of Sultana et al. (2023). This result can be explained that students' innovativeness is not important in comparison with their perception in terms of the utility and socialization features. As explained by Campbell and Singh (2017), individuals with innovative characteristics are the crux of society and they are not ready to embrace online payment in their daily lives. In this research, the potential reason can be that university students in Malaysia do not perceive online payment systems are useful to make them change their payment method to online manners. In that, they would not be inclined to engage in the use of online payment or recommend to followers. Thus, their engagement in using the system may not predicted by their curiosity in terms of new payment methods. Lastly, attitude was evidenced as a positive antecedent of intention. Our finding is supported by the outcome of Choi and Park (2020) who illustrated the positive effect of attitude on users' intentions. Thus, it can be implied that the positive beliefs of university students encourage them to actively engage in using online payment systems.

5. Conclusion

In conclusion, this study contributes to the understanding of the factors influencing online payment system adoption among university students in Malaysia by extending the Perceived Value Theory. The findings highlight the importance of perceived functional value, perceived social value, and trust in shaping students' attitudes towards online payment systems, which in turn influence their intention to use such systems. The non-significant relationship between personal innovativeness and attitude suggests that this factor may be less relevant in the context of university students and requires further investigation.

5.1 Theoretical implications

This research seeks to narrow the literature gaps of past research by determining the different predictors influencing the intention of users to use online payment. In the present research, the researchers carried out an extended PVT theory by discussing the effect of external factors affecting the acceptance of online payment systems. It brings an extended PVT-rooted model and contributes to the related literature, offering relevant research as a theoretical reference. By highlighting the predictive role of trust and personal innovativeness, we provide a deeper understanding in terms of how individuals' perception of reliability and personal traits can shape their attitudes and behavior to engage in using online payment systems.

5.2 Practical implications

This research offers a practical view as a guideline for students and marketers to apply online payment systems as platforms in their daily transactions to promote convenience in their process of payment.

Nowadays, online payment systems have not been well accepted in some contexts, hence, this study is conducive to enhancing the acceptance of online payment among students. Apart from that, by integrating product-related factors and personal-related factors, the findings of our research can benefit service providers by providing an understanding of improving the penetration of online payment systems. For instance, online payment service providers should focus on enhancing the functional benefits and user-friendliness of their systems by improving the overall functions of the system and constructing a more convenient, time-saving, and efficient payment. Besides, they should also emphasize the social value and trustworthiness of their platforms through effective marketing and communication strategies. Also, service providers are recommended to provide more socialization-centered functions, improving the social experience of its users. The developers of online payment systems are also recommended to focus on the dark side of online payment, reducing the barriers that make users hesitant to use it. For instance, the risk barriers including security risks and privacy risks should be given attention also.

By highlighting the significant role of trust, it also suggested that the developers of online payment platforms should focus on the provision of reliable and secure platforms, and constantly improve the quality of online payment services (Chen et al., 2023), and the privacy of their users should be strictly protected. Lastly, to enhance the adoption of online payment systems among students in Malaysian universities, policymakers and educators also can use these insights to design interventions and awareness programs to promote cashless payment methods among university students. Thus, enhancing the financial knowledge and literacy level of students toward financial technologies and improving the students' understanding and awareness of the risks of online payment.

5.3 Limitations and Recommendations

There are some limitations in this study. This leads to corresponding recommendations and suggestions for future research. Firstly, this study was carried out in the context of Malaysian universities. The focus on university students in Malaysia may limit the generalizability of the findings to other populations and contexts. Future studies should investigate online payment system adoption among different demographic groups and in other countries. Future researchers are recommended to choose specific representative online payment platforms such as Grabpay, Ipay88, and Touch n' Go.

Additionally, this study applied a quantitative survey design. The cross-sectional design limits the ability to establish causal relationships, and future research should employ longitudinal or experimental designs to address this issue. In addition, future studies can also apply qualitative research to enrich the insights.

Lastly, regarding the data analysis technique, this research applied the SEM to test the relationships. Future research would apply different SEM techniques such as mediation, moderation, and multigroup analysis to make the analysis more robust, and other potential variables such as perceived privacy and perceived risk (Chan et al., 2021; Hashim et al., 2023) could be incorporated to expand the conceptual model and contribute to the knowledge of information systems.

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Appendix 1

Constructs	Items	Sources
Perceived functional value (PFV)	<p>Interacting with other consumers on the online payment platforms can let me know the quality of products/services.</p> <p>Interacting with other consumers on online payment platforms can help me to know whether the production of products/services followed an acceptable standard of quality or not.</p> <p>Interacting with other consumers on online payment platforms can help me know whether the use of products/services is consistent with my initial expectations or not.</p> <p>Interacting with other consumers on online payment platforms can help me choose the right products/ services.</p>	Sweeney and Soutar (2001)
Perceived social value (PSV)	<p>Learning to operate online payment platforms would be easy for me.</p> <p>I would find it easy to do what I want to do with online payment platforms.</p> <p>I would find online payment platforms would be clear and understandable.</p> <p>I would find it easy to use online payment platforms.</p>	Sweeney and Soutar (2001)
Trust (TRU)	<p>Online payment platforms have integrity.</p> <p>The online payment platforms are reliable.</p> <p>The online payment platforms are trustworthy.</p> <p>Trusting online platforms is not difficult.</p>	Ponte et al., (2015); Jamaludin & Ahmad (2013)
Personal innovativeness (PI)	<p>I heard about online payment platforms, and I would look for ways to experiment with them.</p> <p>Among my peers, I am the first one to try out online payment platforms.</p> <p>In general, I am not hesitant to try out online payment platforms.</p> <p>I like to experiment with online payment platforms.</p>	Agarwal and Prasad (1998)
Attitude (ATT)	<p>I consider the online payment platforms to be great.</p> <p>I consider the online payment platforms to be helpful.</p> <p>I consider the online payment platforms to be valuable.</p>	Ismail & Mokhtar (2016) and Yuan et al. (2021)

Intention to use (INT)	Assuming I had access to the online payment platforms, I intend to use them.	Ismail & Mokhtar (2016) and Yuan et al.
	Given that I had access to the online payment platforms, I predict that I would use them.	(2021)
	I plan to use the online payment platforms in the future.	
	I believe that using online payment platforms would be fascinating.	
