



Determining Factors that Influence Consumer Behaviour Intention to Use Cashless Payment in Malaysia

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Abstract. With the outbreak of the COVID-19 pandemics and the aggression in promoting Malaysia to be a cashless society by the Malaysian Government, the cashless payment is expected to grow and become the preferred method of payment in the future. This paper aims to explore factors influencing consumer behavioral intention to use cashless payment in Malaysia. The study model adopts constructs proposed by the Unified Theory of Acceptance and Use of Technology (UTAUT), an additional independent variable - trust and three moderating variables - age, gender and education level. A multiple regression analysis has been employed in this study. Two hundred sets of self-administered online questionnaires were distributed to cashless payment users aged 18 and above between 1 February to 30 March 2022. Performance expectancy, effort expectancy and trust were found to have a significant positive influence on the adoption of cashless payment. Performance expectancy has the strongest influence compared to effort expectancy and trust. However, facilitating conditions and social influence were found insignificant in this study. These findings are believed to be meaningful for the merchants, service providers or Government to understand the consumer needs and concerns in transforming Malaysia into a cashless society and advancing the country by the year 2030.

Keywords: Consumer Behavior · Cashless Payment · UTAUT · Fintech Adoption · Intention to Use Cashless Payment

1 Introduction

The COVID-19 pandemics has changed people's behaviour, working, and shopping since its first outbreak in December 2019, forcing people to adapt to the new normal. With this new normal, it is estimated that the global payment transaction using cash will decline by 69% compared to 2019 (McKinsey & Company, 2020). Moreover, World Health Organisation (WHO) has also encouraged to use of cashless payments method to stop the virus from spreading. Ever since the pandemic happened, it has been the most prominent catalyst for people moving away from cash. Consumer behaviours have drastically changed as safety, security and hygiene considerations shift their preference toward cashless and online payments (PayNet, 2021).

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A. Asmawi (Ed.): ICTIM 2022, AEBMR 228, pp. 31–51, 2022.

https://doi.org/10.2991/978-94-6463-080-0_4

Malaysia is seeing an emerging trend in digitalization and e-commerce. According to the Department of Statistics Malaysia (2021), the digital economy has contributed 22.6% to Malaysia's GDP, whereas e-commerce comprises 8.4%. The income of e-commerce has increased by 23.1% year-on-year in the third quarter of 2021. The rapid growth and convenience of digitalization and e-commerce have further fuelled the use of online services and cashless payment. Malaysia's government has also initiated e-Belia (Budget 2021) and e-Tunai (Budget 2022) to promote the migration towards cashless payment, which is also in line with the government's long-term target for Malaysia to go cashless by 2022. Malaysia is one of the leaders in adopting cashless payment across Southeast Asia countries, with a 96% adoption rate placed behind Singapore, which has a 98% adoption rate (Visa, 2021). Plus, with the high smartphone penetration rate of 98.7% in Malaysia, the adoption of cashless payment is expected to grow continually (MCMC, 2020).

Under the newly launched Malaysian national initiative, known as MyDigital, in February 2021, Malaysia is expected to be a cashless society by 2030. By 2022, all government services are expected to be cashless, according to the announcement made by the Minister of Finance Malaysia, Tengku Zafrul Aziz (2021). In addition, transforming Malaysia into a cashless country could improve transactional security, coordination, and communication on anti-corruption activities.

Although the government has been encouraging the adoption of cashless, Malaysians are not fully prepared for an entirely cashless society for several reasons. Firstly, the poor internet connectivity in rural areas, accessibility to credit cards, and lack of knowledge in online transactions could be the obstacles for Malaysia to going entirely cashless by 2030, said the president of the Federation of Malaysian Consumers Associations (Fomca) - Marimuthu (Kaur, 2021). Secondly, it might take longer for rural areas to turn into a cashless society than urban areas. Citizens in rural areas are still heavily reliant on cash and have lower digital financial knowledge. Based on the study done by Bain and Company (2020), 55% of the adult population of Malaysia is still underserved and unbanked. Therefore, the cashless revolution for Malaysia might not be so soon now. Moreover, cashless payment faces potential risks, and the most critical risk is a security risk. Although cashless payment is convenient, it can be dangerous at the same time if the consumers are not conscious of their spending patterns. Thus, it will affect the decision of consumers to use cashless payment.

Most investigations on adopting various technologies have adopted a well-established framework, known as the Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003). The UTAUT model was robust in explaining more variance, i.e. 70%, of behavioural intention to use technology, compared to the Technology Acceptance Model (TAM) first proposed by Davis, Bagozzi, & Warshaw (1989). Therefore, this study will adopt the UTAUT model to examine performance expectancy, effort expectancy, facilitating conditions, social influence, trust, behavioural intention to use, gender, education level, and age variables that influence the adoption of cashless payment in Malaysian. In order to speed up the process of a cashless society in Malaysia, understanding influencing factors of behavioural intention to use cashless payment among Malaysians is crucial. Thus, examining the influencing factors

contributing to consumers' intention to use cashless payments among Malaysians is the main aim of this study.

The finding of this research may also suggest that related parties such as merchant acquirer (act as a middleman to enable merchants to accept cashless payment between merchants, issuer, and payment network), payment network (e.g., Visa, Mastercard), the issuer (bank). Transaction fees are charged to the business owner to use a cashless payment method. In order to promote the use of cashless payment, the government might revise the interchange rate, which will affect the earnings of the related parties. Related parties can be more alert by using the findings of this study. This study is also beneficial to the Malaysian government in policy formulation in cashless payment. An appropriate policy formulation could help Malaysia accelerate the process of a cashless society.

The rest of the paper is organized as follows: Sect. 2 discusses related theories and studies that were conducted in the area of the adoption of technologies, including fintech; Sect. 3 explains the research framework and mythology adopted for this study; Sect. 4 discusses the findings of the study and their implications; Sect. 5 provides key conclusions.

2 Literature Review

2.1 Relationship Between Performance Expectancy and Behavioural Intention

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Performance expectancy (PE) is defined as the extent to which an individual believes that using the system will help the user attain a better result (Venkatesh & Zhang, 2010). In other words, it means that people are more likely to accept the new technologies when they believe that it will help them perform their work more efficiently. PE was found to influence the behavioural intention significantly to use technology in multiple studies. A past study done by Venkatesh et al. (2003) showed that PE is the most vital determinant influencing behaviour intention. PE has also proven to be an influential predictor of consumers' behavioural intention to use mobile banking services; however, the result might vary according to the mobile banking features of the countries (Merhi, Hone, & Tarhini, 2019). In this study, performance expectancy refers to how using a cashless payment mechanism will benefit consumers when doing specific tasks. Making a payment via a cashless approach takes less time and effort, resulting in more job performance efficiency. Hence, consumers' behavioural intention to adopt cashless payment will increase as their performance expectancy rise. As a result, H1 is formulated.

H1: Performance expectancy has a significant positive relationship with the behavioural intention to use cashless payment.

2.2 Relationship Between Effort Expectancy and Behavioural Intention

Effort expectancy (EE) is defined as the level of ease to implement the system (Venkatesh & Zhang, 2010). Most consumers were more likely to adopt new technology if it required little effort to learn and use (Merhi et al., 2019). Effort expectancy could

play a crucial role in the payment system, especially online payment. If the system has a simple and easy-to-understand interface and function that requires less time to learn, it will positively influence consumers to adopt the payment method (Nguyen & Nguyen, 2020). A prior study conducted by Talukder, Quazi, & Sathye (2014) also shows a similar result in mobile banking. Effort expectancy is interrelated with performance expectancy as users think technology is more valuable when it is easier to use (Mehta, Morris, Swinerton, & Homer, 2019). When consumers feel that using cashless payments to make payments is more manageable than paying using cash, their intention to use cashless payments will increase. As a result, H2 is formulated. In this study, effort expectancy refers to the degree of ease while using a cashless payment to make payment.

H2: Effort expectancy has a significant positive relationship with the behavioural intention to use cashless payment.

2.3 Relationship Between Facilitating Condition and Behavioural Intention

Intention Facilitating condition (FC) is defined by the available organization and the technical infrastructure resource that can support using a system (Venkatesh & Zhang, 2010). In order for the individual to use a system, it needs to be supported by necessary facilities, tools, equipment and assistance (Kabir, Saidin, & Ahmi, 2017).

For example, to achieve the target of a cashless society, the provision of the necessary facilitation conditions is a robust data security infrastructure and a targeted and proportional regulation that can strengthen confidence in e-payments. The study by Mensah (2019) found that FC is significant for e-government adoption. Zhou, Lu, & Wang (2010) also showed that FC has a positive impact on the adoption of mobile banking. However, Venkatesh et al. (2003) proposed that facilitating condition has a nonsignificant effect on behavioural intention. The study conducted by Owusu Kwateng, Osei Atiemo, & Appiah (2019) also shows that facilitating conditions do not substantially impact the adoption of m-banking. In this study, facilitating conditions reflect the supply factors such as availability and convenience to use cashless payment that motivates or demotivate consumers' intention to use cashless payment. Growth in the number of merchants acquiring services, merchant acceptance, availability of Point-of-Sales (POS) terminals for contactless payment and the convenience to use cashless payment will increase the adoption of the cashless payment mechanism. As a result, H3 is formulated.

H3: Facilitating condition has a significant positive relationship with the behavioural intention to use cashless payment.

2.4 Relationship Between Social Influence and Behavioural Intention

Social influence (SI) is defined as how an individual perceives that important other believes he or she should use the new system (Venkatesh & Zhang, 2010). In other words, social influence is defined as how an individual alters his or her behaviour in response to the demands of a social environment and how it affects other individuals and society (Rahman, Ismail, & Bahri, 2020). UTAUT model argues that social influence will have a more significant impact on women's behavioural intention, especially older women (Venkatesh & Zhang, 2010). In the context of mobile banking, social influence is positively related to user behaviour in Australia (Talukder et al., 2014). In contrast, a prior

study was done by Baabdullah, Alalwan, Rana, Kizgin, & Patil (2019) did not positively affect behavioural intention to use mobile banking in Saudi Arabia. This is because the respondents are mostly younger, well-educated and have sufficient knowledge of technology and the internet.

The positive response to adopting cashless payment will encourage people to use cashless. In this study, social influence refers to how consumers that have experience in using cashless payment can influence the people around them to have the intention to use cashless payment as well. As a result, H4 is formulated.

H4: Social influence has a significant positive relationship with the behavioural intention to use cashless payment.

2.5 Relationship Between Trust and Behavioural Intention

Trust is defined as the willingness of one party to engage in a specific action with a specific partner, considering the risks and rewards involved (Ruohomaa and Kutvonen, 2005). Trust plays an essential role in encouraging the behavioural intention to use new technology. This result is similar to the several studies in the adoption of an e-wallet (To & Trinh, 2021; Yang, Al Mamun, Mohiuddin, Nawil, & Zainol, 2021). Trust is a relatively important element in the monetary system because consumers are required to provide private and confidential information to use the system. Therefore, they are usually concerned about security and privacy while using services online.

In this study, trust indicates the users' confidence in the cashless payment system. When the consumer trusts the payment method, it will reduce the barriers while deciding to use cashless payment. As a result, H5 is formulated.

H5: Social influence has a significant positive relationship with the behavioural intention to use cashless payment.

2.6 Moderating Effect of Age in Adopting Cashless Payment

Venkatesh et al. (2003) has reported that age is one of the essential moderators in implementing the UTAUT model. The study found that the younger generation will have a higher motive to use a new system as they emphasize more reward, equivalent to perceived usefulness (similar to PE). The previous study done by Sun & Zhang (2006) shows that older users will tend to influence by others' opinions easily (SI). Moreover, perceived ease of use (similar to EE) has more impact on the older generation, influencing their behavioural intention to use a new system. Older adults tend to have higher levels of computer anxiety than younger adults, which makes them feel reluctant to use computers or new technology (Jung et al., 2010). Studies also found that older adults emphasize facilitating conditions more than younger adults (Salmi Mohd Isa & Wong, 2015; Venkatesh et al., 2003). However, Blank & Dutton (2012) suggest no significant relationship between the trust variable and age. Authors state that regardless of age, people tend to have less trust if they have a negative attitude towards acceptance of new technology. Thus, H6 is formulated for age as follows:

H6: Age has a significant impact on the relationships between performance expectancy, effort expectancy, facilitating conditions, social influence, and the behavioural intention to use cashless payment.

2.7 Moderating Effect of Gender in Adopting Cashless Payment

Research has shown that the gender of users affects the decision of acceptance in the field of information and communication. In the UTAUT model, Venkatesh et al. (2003) has reported that the men are more highly affected by the performance expectancy (PE) in intention to adopt and use the system. Meanwhile, women are more highly affected effort expectancy (EE) and social influence (SI). The findings are similar to the research done by Terzis & Economides (2011) in Computer Base Assessment (CBA). Regarding perceived usefulness and goal expectancy, men have a higher effect than women as men are more competitive and expect to achieve a better result. Men have a better understanding of using a computer than women. The finding also shows a similar result where ease of use is essential for using CBA for women. However, the study state that their social environment more easily influences men. When people around him recommend or suggest using the CBA system, they will tend to follow. Previous studies also found similar results where men are more easily influenced (Kim, 2010). The influence of facilitating conditions and security on attitudes was shown to be more assertive in male users than female users on the acceptability of e-wallets (Chawla and Joshi, 2020). In terms of the trust, the effects of security and personalization on trust were more significant for women than for men in a study on the moderating effect of gender on mobile payment systems (Shao et al., 2019). Thus, H7 is formulated for gender as follows:

H7: Gender has a significant impact on the relationships between performance expectancy, effort expectancy, facilitating conditions, social influence, and the behavioural intention to use cashless payment.

2.8 Moderating Effect of Education Level in Adopting Cashless Payment

Education level will be the moderator in this study. Education was not included in the UTAUT model, but many researchers have included it as a moderator in the technology acceptance study finds. The study about internet banking done by Abu-Shanab (2011) shows that higher education level has a more substantial effect on the adoption of 17 internet banking. The study also stated that demographical and cultural differences play an essential role in user intention to use internet banking. It is suggested to understand the needs of consumers based on their education level. Educated consumers have a higher tendency to use internet banking. Khorasanizadeh, Parkkinen & Parthiban (2016) find that user is more likely to use the system if the Learning Management systems (LMS) are easy to learn regardless of the education level. However, less educated will find new technology difficult to learn. Hence, the intention to use will depend on the easiness of a system. Thus, H8 is formulated for education as follows:

H8: Education level has a significant impact on the relationships between performance expectancy, effort expectancy, facilitating conditions, social influence, and the behavioural intention to use cashless payment.

2.9 Behavioural Intention (BI)

Behavioural intention (BI) is defined as a Motivational component that measures how much effort a person is willing to perform a behaviour (Ajzen & Fishbein, 2005). According to Bagozzi, Baumgartner, & Yi (1992), every person's strength in the intention-behaviour relationship differs from personality traits. BI is the basic principle of the actual use of the technology system. Therefore, it can directly impact technology usage (Venkatesh & Zhang, 2010). This also indicates that the greater the user's intention to adopt new technology, the easier for them to accept the technology. In this study, the key constructs of the UTAUT model and trust with moderators of age, gender and education level will influence the behavioural intention of users to use cashless payment. Users' intention to use will be an essential foundation to predict users' actual use of the cashless payment.

3 Research Methodology

The below theoretical framework consists of five independent variables: performance expectancy, effort expectancy, social influence, facilitating condition, and trust, which will influence the dependent variables, behavioural intention to use cashless payment. Each independent variable will be moderated by age, gender, and education level (Fig. 1).

The objective of this study is to use the constructs of the UTAUT model (PE, EE, FC, SI, BI) to examine the behavioural intention to use cashless payment in Malaysia while also including trust (TR) as an independent variable. This research design is a descriptive cross-sectional correlation study as the data was collected at a specific timeframe across a sample population. The data collected can be used to describe the relationship between variables. A cross-sectional study is easy to conduct and less time-consuming. The researcher can collect all the variables simultaneously, and outcomes can be generated at once. The data collected can be analyzed and allow the researcher to understand it in-depth. This study is based on quantitative research. The process of quantitative research is to collect and analyze numerical data. Predictions can be made

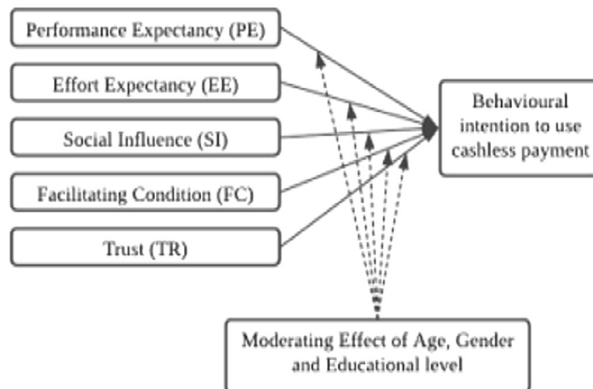


Fig. 1. Theoretical Framework of Study

according to the data pattern. A self-administered questionnaire is used in this study to evaluate the proposed hypotheses of the theoretical framework. The unit analysis of this study is cashless payment users in Malaysia aged 18 and above.

The target respondents of this study are Malaysian citizen who have used cashless payment service in their daily purchases or payments. Overall, the adoption of cashless payment in different age group is considered high. Therefore, the population of this report seeks for Malaysia cashless payment users aged 18 and above. A realistic result of a research can be formed by determining an appropriate sample size. According to Memon et al., (2020), sample-to-item ratio has been widely used for exploratory factor analysis. Suhr (2006) recommend a minimum subject to item ratio of 5:1. However, higher ratios are generally better. A total of 22 items (questions) will be tested to measure the independent variables in this study. Therefore, at least 110 responses should be collected in order to represent the population and formulate a reasonable conclusion.

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A self-administered questionnaire of factors influencing consumers' behavioural intention to use cashless payment was developed for primary data collection. Google form is the most suitable data collection instrument in this study. Google form can create a survey simply and efficiently. Google form was distributed online through WhatsApp, Instagram, Facebook, and email to reach a larger population.

To validate the questionnaire, 30 survey questionnaires were distributed randomly to cashless payment users for review. The majority of the respondents received positive feedback mentioning that the questionnaire was easy to understand and straightforward. A reliability test was conducted through SPSS. It is found that the value of Cronbach Alpha for each variable has exceeded 0.70, which indicates the result is acceptable and satisfactory.

The independent variables of this study are performance expectancy (PE), effort expectancy (EE), facilitating condition (FC), social influence (SI) and trust (TR). A variable that depends on the result of independent variables is a dependent variable. The dependent variable of this study is behavioural intention to use cashless payment. A closed-ended questionnaire was developed for this study. The questionnaire consists of three sections. Section A is the demographic profile of the respondents; Section B includes all the adapted items of each variable, and Section C is consumers' behavioural intention to use cashless payment. A total of 22 items were adapted for the variables. Each item was measured by a five-point Likert scale whereby one indicates "strongly disagree", and a range accordingly to 5 indicates "strongly agree".

The statistical data analysis software used for this study is the IBM Statical Package for Social Sciences (SPSS) and EViews 12 Student Version. This study has utilized these two softwares to analyze the data collected from the respondents to understand the relationship between UTAUT constructs toward the behavioural intention to use cashless payment. The analysis technique of this study included descriptive analysis, normality test, serial correlation LM test and multiple linear regression analysis.

The multiple regression model equation is formed as for this study as below:

$$BI = \beta_0 + \beta_1PE + \beta_2EE + \beta_3FC + \beta_4SI + \beta_5T + e \tag{1}$$

Where: β_0 and β_i : intercept and slope coefficient i ; BI: Behavioural Intention to use cashless payment; PE: Performance expectancy; EE: Effort expectancy; FC: Facilitating condition; SI: Social Influence; T: Trust; e : residual term

A normality test is carried out to check whether the dataset is normally distributed. In the event that the data is not normally distributed, Spearman correlation analysis, a statistical measure of the strength of a monotonic relation between two will be carried out.

4 Data Analysis

4.1 Reliability Test

Table 1 shows the result of the reliability test of this study. The acceptable Cronbach’s Alpha of a study needs to be at least 0.65 (Hair et al., 2006). Cronbach’s Alpha above 0.80 indicates the data set is excellent and reliable. All of the variables in this study are reliable as the Cronbach’s Alpha value is above 0.70. The highest alpha value is 0.910, which is the effort expectancy variable. Meanwhile, the facilitating condition has the lowest alpha value of 0.715, but it falls under the acceptable range.

4.2 Descriptive Analysis

The target respondents of this study are cashless payment users in Malaysia above 18. Participants of this study participated in the survey voluntarily and acknowledged the

Table 1. Reliability Test – Value of Cronbach Alpha for Each Variable

Variables	No of item	Cronbach’s Alpha
Performance Expectancy (PE)	4	0.833
Effort Expectancy (EE)	4	0.910
Facilitating Condition (FC)	3	0.715
Social Influence (SI)	3	0.831
Trust (TR)	4	0.868
Behavioural Intention (BI)	4	0.895

Table 2. Type of Cashless Payment Instrument

Cashless Payment Instrument	Frequency	Percentage (%)
Credit Card	51	25.5%
Debit Card	149	74.5%
E-wallet	170	85%
Internet Banking	134	67%
Mobile Banking	84	42%

purpose of this study. The data collected will be kept confidentially and strictly for academic purposes only. The survey questionnaires were distributed online from 1st February 2022 to 30th March 2022. Two hundred sets of data were collected back from the respondents, and only 198 sets of data can be used as those two respondents did not meet the requirement of this study. Therefore, their answers will not be included in the analysis of data.

Table 2 presents the consumers' choice of cashless payment instruments in Malaysia. The majority of the respondents used an E-wallet in their daily purchases or payment, which constituted 85%, followed by a debit card with 74.5%. A minor instrument used by the respondent is a credit card which only 25.5% of respondents used, whereas internet banking and mobile banking constituted 67% and 42%, respectively.

4.3 Demographic Profile of the Respondents

47% of the respondents are male and 53% of the respondents are female. In Fig. 2, respondents have been divided into five age groups in this study. Respondents aged 18 to 24 years old have the highest proportion, which constituted 54.5%, which has exceeded half of the total respondents. Followed by 25 to 29 years old, which has 14.1%, 40 to 49 years old constituted 11.6%, and there are 10.1% of the respondent's age between 30 to 39 years old. Respondents aged 50 and above have the lowest proportion, 9.6%. The result shows that cashless payment is more prevalent in the younger generation. In terms of education level, half of the respondents are degree students, which constituted 54%. The second largest proportion of the respondent's education level is SPM which has 16.7%. The minor proportion is PhD which only has 1.5%. Meanwhile, STPM/Pre-U, Diploma, and Master have 8.1%, 14.6% and 5.1%, respectively.

4.4 Normality Test

Results obtained for the Kolmogorov-Smirnov test (see Table 3) show that all of the variables should reject the null hypotheses since all of the significant values of less than 0.05. In other words, the dataset is not normally distributed.

4.5 Multicollinearity Analysis

Table 4 shows the tolerance and variance inflation factor (VIF) generated for every independent variable. The tolerance values for each independent variable are more than

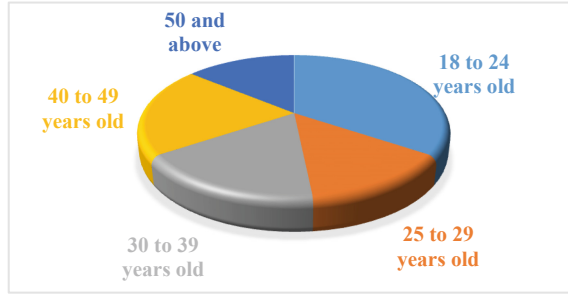


Fig. 2. Age Groups of Respondents

Table 3. Kolmogorov – Smirnov Normality Test Results

Variables	Statistic	Sig.
Performance Expectancy	0.256	0.000
Effort Expectancy	0.179	0.000
Facilitating Condition	0.108	0.000
Social Influence	0.167	0.000
Trust	0.129	0.000
Behavioural Intention	0.210	0.000

Table 4. Tolerance and Variance Inflation Factors (VIF) of Independent Variables

Dependent Variable: Behavioural Intention		
Independent Variables	Tolerance	VIF
Performance Expectancy	0.673	1.486
Effort Expectancy	0.561	1.781
Facilitating Condition	0.461	2.171
Social Influence	0.636	1.573
Trust	0.774	1.292

0.2, and the VIF are less than 5. According to the result generated, this indicates that the model did not have multicollinearity. The independent variables of this study do not correlate with each other.

4.6 Multiple Linear Regression Analysis

Table 5 shows this study's multiple regression analysis, which shows the relationship between the five independent variables and the dependent variable. The rule of thumb

Table 5. Multiple Regression Analysis

Dependent Variable: BI				
H0: There is no significant positive relationship between independent variables (PE, EE, FC, SI, TR) and dependent variable.				
Variable	Coefficient	Standard Error	t-Statistic	Probability
Constant	0.068106	0.242445	0.280915	0.7791
PE	0.613278	0.061975	9.895573	0.0000
EE	0.189195	0.049527	3.820047	0.0002
FC	0.069624	0.051770	1.344868	0.1803
SI	0.004588	0.037308	0.122982	0.9023
TR	0.135894	0.038584	3.5037	0.0005
Model Fit Test				
R-squared	0.642	Durbin-Watson		2.209
P-value of F statistics	0.000	P-value of Breusch-Godfrey Serial Correlation LM Test		0.2559

is to reject H0 if the p-value is less than the alpha value, 0.05. From the result generated, the probability value of performance expectancy is 0.0000; effort expectancy is 0.0002, and trust is 0.0005, which means these three independent variables are less than 0.05. Therefore, H0 is rejected. It can be concluded that there is a significant and positive relationship between performance expectancy, effort expectancy and trust with the behavioural intention to use cashless payment. H1 is supported. From the result, it can be known that if users find helpful cashless payment, saving time and convenience will increase their intention to use cashless payment in their daily lives. The behavioural intention to use cashless payment will also increase if users find cashless payment easy to learn and use. Users will also adopt cashless payment when they think the cashless payment system is secure, private, and trustable.

However, facilitating conditions and social influence variables provide the opposite results based on the findings. The p-value of facilitating condition is 0.1803, and social influence is 0.9023, which is more than 0.05. Thus, do not reject H0. There is no positive relationship between facilitating conditions and social influence with the behavioural intention to use cashless payment. H1 is rejected. From the result, it can be known that the available resources, facilities, and knowledge will not affect the user’s behavioural intention to use cashless payment. Furthermore, the influence of family and friends or the surrounding people will not affect users’ behavioural intention to use cashless payment.

The multiple regression equation is formed as below:

$$BI = 0.068106 + 0.613278PE + 0.189195EE + 0.069624FC + 0.004588SI + 0.135894TR$$

The result of the multiple regression shows that all independent variables in this study are positively correlated with behavioural intention to use cashless payment. From the result generated, it is known that every one-unit increase in performance expectancy, effort expectancy, facilitating condition, social influence and trust will increase the behavioural intention to use cashless payment by 0.613278, 0.189195, 0.069624, 0.004588 and 0.135894 units respectively.

In sum, all independent variables have a positive coefficient with the dependent variable. However, only performance expectancy, effort expectancy and trust are positive and significant with behavioural intention, whereas facilitating condition and social influence are positive but not significant, which also indicate they do not have a relationship with behavioural intention.

In terms of model fit test, the R-square value is 0.642, meaning the five independent variables in this study explained 64.2% of the variances in the dependent variables. The remaining 35.8% will be explained by other variables that are not included in this study. Meanwhile, the Durbin – Watson value is 2.209, which is close to 2, in the benchmark of the Durbin-Watson Test, 2 indicates no autocorrelation. Therefore, there is no autocorrelation in the data, and the result is identical to the serial correlation LM test. P-value for the serial correlation LM test's result is more than 0.05 probability, i.e. 0.2559, indicating that the data set does not suffer from serial correlation. P-value of the F-value is 0.000, implying that at least one of the independent variables in this study is significant to the dependent variable.

4.7 Moderating Effect of Gender, Age and Education Level

Tables 6 show the results of the moderators - gender, age, and education level using regression analysis. In Table 6, it can be seen that facilitating conditions and social influence are not significant for both males and females as the p-value > 0.05. Both performance expectancy and effort expectancy were not moderated by gender, which is significant for both groups. However, males exhibited a higher perception of performance expectancy ($\beta = 0.713$) and effort expectancy ($\beta = 0.265$) than females to use cashless payment. Moderation of gender played an important role in trust as only females are found significant.

In terms of age, every age group except for respondents above 50 years old are concerned about performance expectancy. However, the result might be biased as only 9.6% of the respondents were above 50 years old in this study. Younger users of cashless payment seem to have a more substantial influence by the social variable ($\beta = 0.370$). The younger generation often gets influenced by external factors as they got lesser experience and want to fit into the group. The influence of effort expectancy, facilitating condition and trust is more vital for older users of cashless payment. Older people required more effort and helped to accept new things. They are not as technology savvy as the younger generation and getting slow in learning. They require more time and effort to adapt to something new. Moreover, older people are more risk-averse. They are less willing to try

Table 6. The Moderating Effect of Gender, Age and Education Levels on the Relationship between Independent Variables and Dependent Variables

Paths			PE → BI	EE → BI	FC → BI	SI → BI	TR → BI	
Gender	Female	β	0.55	0.149	0.07	0.061	0.209	
		Sig.	0.000***	0.008**	0.175	0.107	0.000***	
	Male	β	0.713	0.265	0.038	-0.065	0.06	
		Sig.	0.000***	0.000***	0.4758	0.0719	0.0947	
Age	18-24	β	0.495	0.292	0.083	-0.004	0.162	
		Sig.	0.000***	0.000***	0.121	0.91	0.002**	
	25-29	β	0.051	-0.063	-0.119	0.37	0.383	
		Sig.	0.000***	0.305	0.008**	0.000***	0.000***	
	30-39	β	0.986	0.05	-0.05	0.014	0.004	
		Sig.	0.000***	0.152	0.131	0.473	0.798	
	40-49	β	0.046	0.452	0.239	0.095	0.292	
		Sig.	0.016**	0.000***	0.001**	0.000***	0.693	
	>50	β	0.026	-0.158	0.814	-0.224	0.738	
		Sig.	0.2163	0.000***	0.000***	0.003***	0.000***	
	SPM	β	0.775	0.23	0.195	-0.175	-0.016	
		Sig.	0.000***	0.000***	0.000***	0.000***	0.6145	
	Education	STPM/Pre-U	β	0.478	0.018	0.026	-0.056	0.551
			Sig.	0.000***	0.679	0.505	0.1	0.000***
Diploma		β	0.58	0.186	0.185	-0.006	0.088	
		Sig.	0.000***	0.000***	0.000***	0.895	0.004**	
Degree		β	0.533	0.329	0.043	-0.012	0.133	
		Sig.	0.000***	0.000***	0.429	0.737	0.001**	
Master		β	0.658	-0.141	0.098	0.163	0.3	
		Sig.	0.000***	0.000***	0.000***	0.000***	0.000***	

Note: * significant at 0.05 level, ** significant at 0.01 level, *** significant at 0.000 level

something new to take the risk themselves. Therefore, trust is relatively crucial for the older generation. The result of this study can be generalized to the age group between 18 and 24 years old, as the majority of the respondents come from this age group. In terms of the education level, the moderation effect varied concerning direction. PE is not moderated by age as it is significant at every education level. Meanwhile, the effect is more substantial for higher education in the case of effort expectancy, EE * Degree ($\beta = 0.329$). The influence on trust is more vital for people with higher education levels, whereas respondents with higher education levels than STPM/Pre-U found significant

Table 7. Hypotheses Testing Decision

Hypotheses	Results	Gender	Age	Education
H1: Performance expectancy has a significant positive relationship with the behavioral intention to use cashless payment.	Supported	Supported	Supported	Supported
H2: Effort expectancy has a significant positive relationship with the behavioral intention to use cashless payment.	Supported	Supported	Supported	Supported
H3: Facilitating condition has a significant positive relationship with the behavioral intention to use cashless payment.	<i>Do not support</i>	<i>Do not support</i>	Supported	Supported
H4: Social influence has a significant positive relationship with the behavioral intention to use cashless payment.	<i>Do not support</i>	<i>Do not support</i>	Supported	Supported
H5: Trust has a significant positive relationship with the behavioral intention to use cashless payment.	Supported	Supported	Supported	Supported

trust. The result of this study can be generalized to the bachelor's degree group, as 54% of the respondents hold a degree level.

PE was the most significant determinant of behavioural intention to use cashless payment, and males in middle-age tend to emphasize more on PE more than females. This indicates that when the work performance and efficiency increase while users use cashless payment, it will increase their intention to adopt cashless payment. The result is consistent with previous studies (Khurshid et al., 2020; Odeh, 2019). Previous studies done by Rahman et al., (2020) stated that the adoption of cashless payments could help increase productivity and work efficiency. It will establish a positive idea toward adopting cashless payments.

The findings show a significant and positive relationship between EE ($\beta = 0.1892$, $p = 0.0002$) and behavioural intention to use cashless payment. This indicates that the ease level of using cashless payment could affect the consumers' decisions. The moderation analysis shows that the older generation required more effort than the younger generation in learning cashless payment. When the system requires more effort to learn, it will demotivate their intention to use it. The result is aligned with the past studies of Riquelme & Rios (2010), Talukder et al. (2014), and Odeh (2019) in the context of mobile banking and financial information system. Studies prove that users are concerned about the easiness and difficulty before using the technology. If the system requires less effort to learn and can perform tasks without any outside help, they will consider using the system in their daily lives (Table 7).

Facilitating condition is found not significant to behavioural intention to use cashless payment ($\beta = 0.0696$, $p = 0.1803$). The study is confirmed by Owusu Kwateng et al. (2019); Yang et al. (2021). Similar to a prior study done by Venkatesh et al. (2003), the influence of facilitating conditions is stronger in the older population as they need more help and assistance in using a system. Facilitating condition indicates to what extent consumers believe there is support to use the system. This result might be because of the difference in culture and environment. The result implies that the resource and knowledge are not the influential determinants for them to use cashless payment. The users are more concerned with other components such as performance, ease of use, trust and security. If the service provider improves in that part, the adoption will only increase. However, the result might be different if the study were conducted in different areas, such as rural areas. This is due to a lack of facilities such as slow internet speed, low adoption of smartphones and poor literacy rate in cashless transactions (Kumar & Dixit, 2020).

Social influence was found positive but not significant in the behavioural intention to adopt cashless payment ($\beta = 0.004588$, $p = 0.9023$). The result shows that the user of cashless payment seems to be less influenced by the surrounding people. They tend to be less followed or listen to other people, such as family and friends' decision-making recommendations. This study shows that the younger generation tends to affect others, such as peers and friends, more quickly than the older generation. The result is consistent with the previous studies done by Mehta et al. (2019); Alalwan et al. (2017). However, the result might differ with a larger sample size as the sample size of this study is small to conclude the determinants of adoption of cashless payment.

These findings highlight that trust plays a significant role in behavioural intention to use cashless payment ($\beta = 0.1359$, $p = 0.0005$). Trust is the second most influential factor after performance expectancy, and the result is moderated by gender, age, and education level. Trust is found to impact female-only and have a more substantial impact on older respondents and in higher education. Higher educated people tend to be more risk-averse. An increase in trust will increase user intention to adopt something new (Jung, 2010). Such results are in line with the previous studies (Alalwan et al., 2017; Hanafizadeh et al., 2014; Luo, Li, Zhang, & Shim, 2010; Yang et al., 2021) where the studies have recognized the role of trust in the context of mobile banking and e-wallet. According to Zhou (2012), initial trust is critical for first-time users. Due to lacking experience, a user may perceive greater risk and uncertainty. In order to retain the users and enhance their trust, service providers need to ensure their system quality and security system consistently. Encryption technologies and digital certificates are highly encouraged to use in payment and banking systems to increase user trust.

5 Conclusion

This research was conducted to understand the factors that influence consumers' behavioural intention to use cashless payments in Malaysia. The conceptual model of this study has involved the key factors that have significant exploratory power ($R^2 = 0.642$) in predicting consumers' decision to use cashless payment. Five factors were identified to test what influences consumer decision making, i.e. performance expectancy, effort

expectancy, facilitating condition, social influence, and trust. Results found that performance expectancy, effort expectancy and trust play an important role in influencing consumers' behavioural intention to use cashless payment. In contrast, the facilitating condition and social influence were found to be no influence on the decision to use cashless payment.

As a cashless payment system plays a critical role in advancing a country, Malaysia still has room to improve and accelerate the adoption of cashless payment among consumers, small and medium enterprises (SMEs), corporations, and the government. The study showed that performance expectancy, effort expectancy, and trust are significantly and positively associated with behavioural intention to use cashless payment. The findings of this study could provide a reference for the government, service providers, corporations, and merchants to revise their plans. The findings allow the practitioners to have an overall idea on further increasing the adoption of cashless payment and heading toward a cashless economy. Based on findings, performance expectancy is the most critical determinant of attitude toward cashless payment. From the merchant perspective, merchants are encouraged to adopt digital payments to increase the efficiency of the payment process for the consumers. Merchants can consider adopting different types of cashless payments methods, providing convenience to consumers. Users are more emphasized efficiency and usefulness when selecting payment methods. In order to increase the user experience, the service providers of cashless payment are advised to constantly update their system and make sure the transaction process and record are always secure and stored correctly. Minimal error needs to be ensured to increase the adoption of cashless payment in Malaysia. Effort expectancy also plays a critical role in increasing the adoption of cashless payments. In order to attract more users of cashless payment, it is essential to improve the usability of the payment system. Service providers for e-wallet, mobile banking, and internet banking should consistently improve their user interface of the system. The user interface should be simple and easy to understand. The navigation layout of the system is suggested not to be complicated and use a familiar navigation layout to avoid any confusion. Besides, the service providers should also ensure the site is always responsive and reduce the page loading time. A slow loading time may cause users to abandon the system due to prolonged waiting and frustration. The last important determinant in this study is trust. Trust is essential for someone to accept a new system. Therefore, the service provider should always ensure the system is secure and safe. Security is critical in a payment system as it deals with transactions and customers' private information. Therefore, a solid and advanced security system is required to build trust among customers. An efficient and fast response to customer service is also required to build trust among customers. To improve customer experience, the service provider should offer personalized customer communication so customers can reach the service provider the first time they encounter trouble. Through such engagement with the service provider, customers will gain more confidence in cashless payment and feel more comfortable using it.

Similar studies can be conducted for other countries as people from different cultural backgrounds might have a different attitude towards adopting cashless payment. In addition, qualitative research such as face-to-face interviews with the respondents to achieve a more comprehensive understanding of the respondents on moving towards a cashless

society. Combining qualitative and quantitative research can enhance the trustworthiness of findings.

Acknowledgments. We acknowledge the support of Multimedia University for the conduct of this research project. We would like to thank all respondents who participated voluntarily and generously in this project.

Authors' Contributions. In this study, the first author was in charge of designing the framework, collecting data and carrying out the analysis. The second author supervised all the steps carried out in this research and constructed the writing of this paper.

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