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# DETERMINANT IN ACCEPTANCE OF CASHLESS PAYMENT: AN EMPIRICAL STUDY IN MALAYSIA

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***ABSTRACT--****This paper examines the factors that may have influence to the acceptance of cashless payment. A survey method was employed using a sample of 204respondents.The objectives of this research are to determine the determinant of cashless payment among Malaysian, and to evaluate the impact of determinant in acceptance of cashless payment. There are 4 factors; trust, perceived usefulness, perceived ease of use and risk. A quantitative study has been conducted for this research with questionnaire as data collection. The research used multiple regression analysis to recognize the impact that are related to acceptance of cashless payment. The findings of this study reveals there is a positive impact of trust, perceived usefulness, and perceived ease of use towards acceptance of cashless payment, whereas risk has a negative impact. This findings would help to determine whether Malaysian societies are heading towards cashless society in year 2050.*

***Keywords--****Cashless Payment, Perceived Usefulness, Perceived Ease of Use, Risk Trust*

## I. INTRODUCTION

In this modern day, we can see people tend to prefer using items such as wireless, paperless and even making payment transaction with no actual money known as cashless payment.

Cashless payment is commonly used by the society especially in the western and developed countries such as European and American. The usages of cashless payment are so common that the usage of traditional paper money has been categorized as different group or classes of people by the society. But this is still not happening yet in the developing countries where the majority of population prefers to use the traditional paper money and slowly accept the usage of cashless payment in daily transaction.By studying the determinants of cashless payment method, it will help to determine whether Malaysian are heading towards cashless society in year 2050, as mention by Former Minister of Youth and Sports in December 2017. From this study, one of the industries that get positive impact is the E-Wallet Industries as they provide the platform for the user to use the cashless payment. E-Wallet Industries nowadays growing strongly in Malaysia such as Touch & Go Wallet, Grab Wallet, Shoppe, Lazada and others E-Wallet that seem to catch the eye of Malaysian. Cashless payment method believe to be not just a more easy way of

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payment, but it is also more efficient and faster than traditional method that uses paper money in daily transaction. Most importantly is that cashless payment is more environmentally friendly. Government must encourage their citizen to use cashless payment method since it is one way for a country to boost the economy as well as making the environment of the society suitable for future trade and to save the world thus becoming a developed country. The aims of this study are (1) to determine the determinant of cashless payment among Malaysian,(2) to evaluate the impact of determinant in acceptance of cashless payment. This paper is organized as follows: Section 1 overview background of the study and Section 2 presents the literature review related to the area of study. Section 3 and 4 discusses of the research method applicable in this study and the findings respectively, whereas Section 5 provides the conclusions and limitations of the study and avenues for further research.

## II. LITERATURE REVIEW

Trust in cashless payment method that has been provided by the bank will increase attention to use cashless payment system. The Technology Acceptance Model (TAM) usually applied on information systems. The study applied on the attitude of consumer's bank and spending behaviour and has been done by no means a simple transaction. Gefen and Straub [1] argue that a model of technology acceptance with more social dimensions require trust as a key factor which needs to be included as an antecedent to increasing the urge to use cashless payment method.Other researchers have found trust issues and risk perception to one of the main factors of cashless payment method adopted byBradley and Stewart [2]. Furthermore, cashless payment method is an exchange where no physical money is involved and lack of personal interaction will make trust to be a key for the method to be use. Mansour[3] in his study of 'An analysis of Business's acceptance of internet banking: an Integration of e-trust to T.A.M had also use variables of Trust and Perceived usefulness and found out that trust dimensions-integrity and credibility positively influence perceived usefulness and exert both a direct and indirect positive effect on attitude toward business' internet banking adoption. Therefore the study includes trust as a key factor for consumer to use the cashless payment method. Previous study state that, it supports the idea that purely application on T.A.M is not enough to explain about internet banking but due to the open internet technology infrastructure separates the distance between partners and the absence of human interactions. This show the importance of trust and trust related concept that can increase the use of internet banking byCharfeddine and Nasri [4].

Another study conducted by Cheng[5] investigated consumer attitudes and behaviour intention to use R.F.I.D (radio frequency identification) RFID door security system based on T.A.M and the data collected show that perceived of ease of use had a significant positive impact on perceived of usefulness and perceived of ease of use both influence attitudes toward use and perceived usefulness and behavioural intentions to use. Basically, R.F.I.D is a form of wireless communication that incorporates the use of electromagnetic or electrostatic coupling in the radio frequency. Not only that, study byOzturk[6] title of 'Customer Acceptance Of Cashless Payment System In The Hospitality Industry which had been conducted at United State Of America with 305 respondent, the study show

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that the independent variables use by Ozturk [6] which are Perceived ease of use and Perceived usefulness had a significant impact which associated with intention to use of cashless payment method.

Chen[7] said that users are unwilling to use Mobile Banking Services (M.B.S.s) if such services require more mental effort than traditional banking services or if this service is more time consuming or frustrating. Therefore, for users that is finding it too complex to learn how to use M.B.S.s, their intention to use them decrease. Their results indicated that this factor significantly affects mobile banking adoption only for frequent users, thus partially supporting their hypothesis regarding the perceived ease of use towards usage of M.B.S.s. Therefore, managing individual and financial transaction can be done by mobile banking which is highly flexible and effective making it easy to access without time constraints.

Wang[8] has conducted a study showing that perceived ease of use has significant positive effect on behavioural intention. Not only did Wang[8] studies shows the positive effect between perceived ease of use and behavioural intention but so did the study by Wang[6] in 2016. To prevent the “under-used” useful system problem, Internet banking systems is needed to be easy to learn and easy to use. Research done by Chang[9] as proven that perceived ease of use positively influence one’s behavioural intention because, a person that is low involvement will value the ease of use associated with internet banking.

A research has been done by Pavlou[10] showing that perceived risk was significantly related to intentions to transact. The perceived risk associated with online transactions may reduce perceptions of behavioural and environmental control, and this lack of control is likely to negatively influence transaction intentions. However, consumers are likely to transact online if their risk perceptions about behavioural and environmental uncertainties are alleviated, so that they gain control over their online transactions. According to Kailani and Kumar[11]a society in which uncertainty aversion is high, perceived risk associated with e-buying behaviour is also high, negatively impacting e-commerce.

Therefore, the trust in cashless payment, perceived usefulness and the perceived risk selected as determinants of cashless payment.

## III. DATA AND METHODOLOGY

The data were collected through the distribution of 250 self-administered online questionnaires to Malaysian in Central, Northern, Southern and East Coast Region of Malaysia. However, there are only 81.6% response rate with 204 completed questionnaire returned. Based on that, [12] stated rules of thumb on the sample size should be in between 30 and 500. In this study, the convenience sampling is used as sampling technique.

The questionnaire is developed using close-ended question with two section. Section I seeks respondent’s demographic profile, and Section II gathers data on the related variables that may influence awareness of cashless payment.To ensure the objective of this study is achieved, Multiple Regression Analysis is used for determining the factors affecting the acceptance of cashless payment.Thus, the variables are illustrated in Fig 1.

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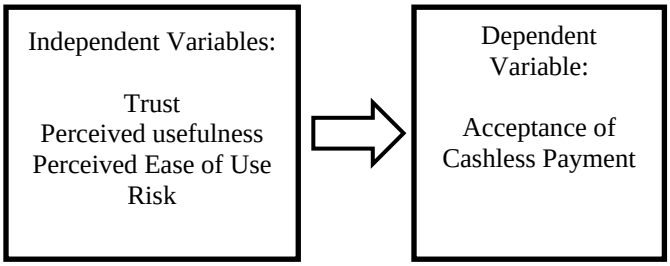


**Figure 1:** Independent and dependent variables

### *A. Hypothesis Development*

$H_0$: There is no impact of trust, perceived usefulness, perceived ease of use and risk towards acceptance of cashless payment.

$H_1$: There is an impact of trust, perceived usefulness, perceived ease of use and risk towards acceptance of cashless payment.

### *Measurement Of Variables*

Trust: This independent variable was measured by scale that was developed by Mansour [3] whom studied on trust dimension-integrity and credibility positively influence the attitude towards business internet banking adaption. This independent variable was also measured by Wang [8]. A sample from trust instrument is "Is Web retailer trustworthy?"

Perceived Usefulness: Perceived Usefulness is one of the variable in [6], [3] and [8]. A sample of question is "I believe using RFID payment systems saves me time".

Perceived Ease of Use: It was measured by scale adapted from [6], [9] and [13]. A sample of the question is "I think that it is easy to use online banking to accomplish my banking transactions".

Risk: This dependent variable was adapted from the scale by [10], [11] and [7]. A sample item is "It is likely that shopping online will cause me to suffer a financial loss due to the hidden costs, maintenance costs or lack of warranty in case of faults".

Acceptance of Cashless Payment: This dependent variables been designed by Ozturk [6]. All the questions in this Section II used five Likert point (1 = strongly agree, 5 = strongly disagree). Sample of question is "Overall, trust give positive impact to acceptance of cashless payment".

### *B. Multiple Regression Analysis*

Regression model for this study can be stated as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad (1)$$

where Y is the value of acceptance of cashless payment, $\beta_0$ is a constant, $\beta_i$ is the coefficient of variable $X_i$ for i = 1, 2, 3 and ε is the error of the observation.

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The model explains the variables that impact of determinant of cashless payment towards acceptance of cashless payment. There are some phases in Multiple Regression model building; identify reliability analysis and obtain the models.

### *C. Reliability Analysis*

The function for the reliability test is to measure the internal consistency and stability of the multi-item scales. The reliability analysis calculates a number of commonly used measures of scale reliability and it could also provide information on the relationship between individual items in the scale. Cronbach's alpha is the most commonly used means to measure the scale reliability test and the Cronbach's alpha can also detect if the test of the study is accurately measuring the variable of interest. Fraenkel et al [14] stated useful Cronbach's alpha should be at least 0.70 and preferably higher.

### *D. Obtaining the model*

F-Test, Multicollinearity and Coefficient Test are carried out to obtain all possible models. The main purpose is to remove all insignificant variables. All tests use 5% significance level.

F-Test: To test whether it is possible for all independent variables to have zero coefficients; the ANOVA table. This test is carried out on all possible models. The hypothesis statement; reject $H_0$. This is to prove that the independent variables in the models are significant.

Multicollinearity: Correlation analysis is carried out to determine the multicollinearity between the independent variables. The multicollinearity occurs when correlation coefficient between two or more independent variables have strong positive or negative correlation[15]. IBM SPSS Statistics used to generate a correlation matrix.

Coefficient Test: to determine which regression coefficients may be 0 and which are not. If any of β's could equal 0, it implies that this particular independent variables is of no value in explaining any variation in the dependent value. Thus, the independent variables should be eliminate them from the regression model, [16].

## IV. RESULTS AND FINDINGS

### *A. Reliability Analysis*

**Table 1:** Summary of Reliability Analysis

| Cronbach's Alpha | N of Items |
|---|---|
| **0.712** | **19** |

According to the Table 1 above, the reliability of 19 questions shows the Cronbach's Alpha of 0.712 which consider accepted and reliable for internal consistency.

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### *B. F-Test*

**Table 2:** Summary of ANOVA Table

| Measurement | Value |
|---|---|
| $R^2$ | 0.882 |
| F-Test | 363.810 |
| p-value | 0.000 |

The summary of ANOVA table shown in Table 2 has computed the value of $R^2$, F-Test and also the p-value. For this study the R square is 0.882 meaning that 88.20% of the dependent variable (acceptance of cashless payment) can be explained by the independent variable (trust, perceived usefulness, perceived ease of use and risk. The function of the F-statistics and the p-value is to see whether the null hypothesis could be rejected or accepted. The value of F-statistics is 363.810 and the p-value is zero showing that the data is statistically significant at 5% level. This can lead to rejection of null hypothesis.

Hence, there is an impact of trust, perceived usefulness, perceived ease of use and risk towards acceptance of cashless payment.

### *C. Multicollinearity*

**Table 3:** Correlation matrix

| Variables | Trust | Perceived Usefulness | Perceived Ease of Use | Risk |
|---|---|---|---|---|
| Trust | | 0.257 | 0.475 | -0.122 |
| Perceived Usefulness | 0.257 | | 0.336 | 0.119 |
| Perceived Ease of Use | 0.475 | 0.336 | | -0.065 |
| Risk | -0.122 | 0.119 | -0.065 | |

Table 3 above shows the correlation coefficient for each independent variables. There is no multicollinearity arises since the correlation coefficient is weak positive relationship or weak negative relationship whereas one variable has moderate positive relationship.

### *D. Coefficient Test*

**Table 4:** Summary of Coefficient analysis table

| Variables | B | Std. Error | t-Statistics | p-value |
|---|---|---|---|---|
| Constant | 5.372 | 0.248 | 21.690 | 0.000 |
| Trust | 0.341 | 0.025 | 13.468 | 0.000 |

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| | | | | |
|---|---|---|---|---|
| Perceived Usefulness | 0.336 | 0.023 | 14.692 | 0.000 |
| Perceived Ease of Use | 0.222 | 0.018 | 12.129 | 0.000 |
| Risk | -0.232 | 0.015 | -15.127 | 0.000 |

From Table 4, it is shown that all the independent variable shows the data is statistically significant at 5% level. Where the p-value is less than significance level.

Thus, the regression model would be:

$Y = 5.372 + 0.341X_1 + 0.336X_2 + 0.222X_3 - 0.232X_4$

### *E. Summary of findings*

**Table 5:** Hypothesis of F-Test

| Hypothesis | Acceptance |
|---|---|
| There is an impact of trust, perceived usefulness, perceived ease of use and risk towards acceptance of cashless payment. | Accepted with fit model |

From the Table 5 above, the null hypothesis is rejected and alternate hypothesis is enough evidence to be accepted as the best model. This result is consistent with [3] where perceived usefulness and perceived ease of use has significant impact to acceptance of cashless payment.

**Table 6:** Hypothesis of coefficient test

| Hypothesis | Acceptance |
|---|---|
| There is a impact of trust towards acceptance of cashless payment | Accepted with positive impact |
| There is a impact of perceived usefulness towards acceptance of cashless payment | Accepted with positive impact |
| There is a impact of perceived ease of use | Accepted with positive impact |

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| | |
|---|---|
| towards acceptance of cashless payment | |
| There is a impact of risk towards acceptance of cashless payment | Accepted with negative impact |

As for Table 6 shown the factor of trust has a positive effect on influencing the acceptance of cashless payment as the coefficient is positive. If there is an increase in one unit of trust variable, then the acceptance of cashless payment will increase. The factor of perceived usefulness has a positive impact on influencing the acceptance of cashless payment due to the positive coefficient. An increase in one unit for perceived usefulness variable will increase the acceptance of cashless payment. The factor of perceived ease of use has a positive impact on influencing the acceptance of cashless payment due to the positive coefficient. An increase one unit of perceived ease of use variable will increase the acceptance of cashless payment. All these result is consistent with a study done by [8] where perceived ease of use and perceived usefulness have significant positive impact. Meanwhile, risk is consistent with a study from [11] where they said in a society in which uncertainty aversion is high, perceived risk associated with e-buying behaviour is also high, thus negatively impacting e-commerce.

However, the factor of risk has a negative impact on influencing the acceptance of cashless payment due to the positive coefficient. An increase in one unit of risk variable will decrease the acceptance of cashless payment by 0.232

## V. CONCLUSION

The objective of this research are (1) to determine the determinant of cashless payment among Malaysian and (2) to evaluate the impact of determinant in acceptance of cashless payment. Objective (1) achieved where the determinant of cashless payment were considered as trust, perceived usefulness, perceived ease of use and risk. Besides that,3 independent variables which are: trust, perceived ease of use and perceived usefulness has positive impact with the acceptance of cashless payment whereas risk has a negative impact with acceptance of cashless payment. It means,the higher thetrust, perceived usefulness and perceived ease of use, the greater acceptance of cashless payment. Then, the higher the risk, the lower the acceptance of cashless payment.

Therefore, in this study shows that most of Malaysian is accepting cashless payment but they will highly considered the risky transaction. For example, they are accepting used of TouchNGo or Grab E-Wallet but they will very cautious in any banking transaction.Supposedly, this wary is acceptable.

Based on this research, there are several recommendation that can be made in the future in order to improve this study. Firstly, the future research can expand the limitations of this study by adding and including more variables such as self-efficiency, intention to use,attitudes towards cashless payment, and also satisfaction of past transaction. With this addition, it can give the better understanding and more depth towards this topic of study.

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