

CHAPTER 3: RESEARCH METHODOLOGY

This chapter will discuss the methodology and data used for this research. The model used in constructing the theoretical framework of this research is originated from The Unified Theory of Acceptance and Use of Technology (UTAUT) that has been proposed in the study of Venkatesh et al. (2003).

According to Mester (2006), debit card is an outcome of development in information technology. Foscht et al. (2010) also acknowledged the role of technology contributes to the popularity of debit cards as one of the chosen electronic payment modes. Based on these literatures, debit card is considered an electronic payment method and involved with information technology elements. Hence, the adoption theory; Unified Theory of Acceptance and Use of Technology (UTAUT) is suitable to be used in studying the usage of debit card among the consumers.

The proposed theoretical framework retained the original four forces which are Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. Two new forces that have been introduced into the theoretical framework are Transaction Value and Rewards Program. The Transaction Value here is referring to the total price of item(s) that paid by the consumers. If the debit card is used for making bill payment for example, the value of payment made is considered a Transaction Value. The details about the forces or elements in the theoretical framework are discussed in the next page.

Theoretical Framework

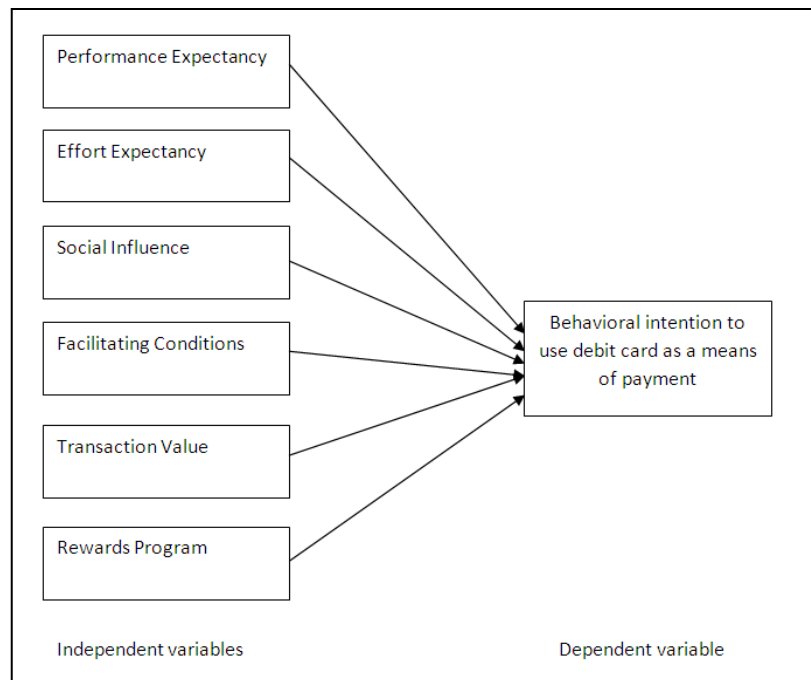


Figure 10: Theoretical framework

Performance Expectancy refers to the benefits and consumers perception towards debit card usage. The perception includes the usefulness of debit card and the satisfaction of consumers towards using debit card in making payments.

Effort Expectancy refers to the level of effort that consumer thinks would be spent using the debit card. This force is being studied by comparing the usage of debit card with cash and credit card.

Social Influence is what consumer considers others to think about them using a debit card. This includes the social status level, innovativeness and education level.

Facilitating Conditions is the environment where the debit card is used. It includes the knowledge of consumer him/herself as well as the retail outlets that accepting the debit card.

Rewards Program in this theoretical framework includes the discount given to consumers, prize offerings, monetary incentives and loyalty benefits.

Transaction Value in this theoretical framework has been broken down into three parts based on the practice made by Malaysian bank issuers with purchase or payment with a value of RM50 and below is considered as low transaction value. Medium transaction value is referring to purchase or payment with a value between RM 50 and RM 150. While the purchase or payment with a value of exceeding RM150 is considered as high transaction value. Using a seven interval Likert scale, this research is finding out the 'agreeableness levels' of consumer to use debit card when transaction value becomes a concern.

Development of Hypotheses

Four hypotheses are made in order to answer the research questions. The hypotheses are as below:

H₁: Performance Expectancy (PE) has a greater extend of influence on consumers' behavioral intention to use debit card as a means of payment compared to Effort Expectancy (EE).

H₂: Transaction Value (TV) has a greater extend of influence on consumers' behavioral intention to use debit card as a means of payment compared to Social Influence (SI).

H₃: Rewards program (RP) has a greater extend of influence on consumers' behavioral intention to use debit card as a means of payment compared to Facilitation Conditions (FC).

H₄: Performance Expectancy (PE), Transaction Value (TV) and Rewards program (RP) would all significantly influence consumers' behavioral intention to use debit card as a means of payment.

Selections of Measures

As listed in the theoretical framework, this research will measure six independent variables (Performance Expectancy, Effort Expectancy, Transaction Value, Social Influence, Rewards program & Facilitation Conditions) and one dependent variable (Behavioral intention to use debit card as a means of payment):

| Factors/Variables | Items |
|-------------------------------------------------------------------|--------------------------------------------------------------------|
| Performance Expectancy (PE) | Benefits and perception towards debit card usage. |
| Effort Expectancy (EE) | The effort needed in using a debit card. |
| Transaction Value (TV) | The average ticket size of debit card transaction(s). |
| Social Influence (SI) | Factors that influencing the usage of debit card. |
| Rewards program (RP) | Rewards that consumers look for when using debit card to purchase. |
| Facilitation Conditions (FC) | Factors that facilitate the intention to use debit card. |
| Behavioral intention to use debit card as a means of payment (BI) | The intention of using debit card as a means of payment |

Table 13: The research variables

In order to perform the arithmetical operations on the data collected from respondents; a seven interval Likert scale is used.

| | | | | | | |
|-------------------|---------------------|-------------------|----------|----------------|------------------|----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Strongly Disagree | Moderately Disagree | Slightly Disagree | Not sure | Slightly Agree | Moderately Agree | Strongly Agree |

Table 14: Seven interval Likert scale

This interval Likert scale would allow the measurement of distance between any two points on the scale. The scale would also measure the magnitude or extent of the differences in the preferences among the respondents.

Sampling Design

The primary sources of data are from the respondents that are located in the Klang Valley area. A total of 300 respondents were selected from the government and private sector employees that already has experience using the debit card.

Data Collection Procedure

The questionnaires are made based on six independent variables of theoretical framework and 1 dependent variable. In total, there are 33 questionnaires that need to be answered by the respondents. The questionnaires are being distributed by two approaches; hardcopy and via online (docs.google.com).

Data Analysis Techniques

To analyze the data, the computation operations on the variables would be:

1. Descriptive analysis
2. Reliability analysis
3. Pearson's correlation analysis
4. Multi regression analysis

The data collected was analyzed using Statistical Package for Social Science for Windows (SPSS for Windows Version 20.0). Descriptive analysis used frequency and percentage to examine the profile of the respondents. Test of Pearson's

correlation, Cronbach's Alpha and multi regressions were used in this research. The level of significance at probability level of 5% was used.

Descriptive Analysis

In order to summarize the demographic profile of the respondents; the frequency and percentage, descriptive statistics is used. Mean and standard deviations of each variable are applied to measure the variability of the responds received.

Reliability Analysis

In any quantitative research, the reliability of measurements or data used is one of the main priorities. Measurements are reliable if the true aspects of the trait measured, instead of chance aspects (Sage et al., 1980). Hence, the measurement must be reliable to the extent that the result from the respondents should be almost similar or even equal if the research is repeated. The reliability of measurements could be seen via Cronbach's Alpha that used on the research variables. The Cronbach's Alpha that is more than 0.7 indicates a high reliability (Nunnaly, 1978).

Pearson's Correlation Analysis

The association between each variable and its extent towards the intention of debit card usage are examined through the correlation analysis. In summary, the higher the correlation's score, it translates into the higher intention by the debit

cardholders. A perfect positive correlation has a coefficient of 1.0 and if there is no correlation, it will be denoted by 0.

Multiple Regression

From the 6 independent variables, the significant level of each of them towards the dependent variable is assessed by Multiple Regression analysis. Different from the Pearson's correlation analysis, Multiple Regression is said to assess the contribution of each independent variable to the regression model, based on the greatest contribution (Hair et al., 2006).

Questionnaire Design

A self-administered questionnaire adapted from several references such as Kim, Y.S. and Lee, M. (2010), Simon S.M. Ho (1994), Jonathan Zinman (2009), Santiago (2011), Teng-Tsai Tu (2010), Alhassan G. Abdul-Muhmin (2010), Andrew T. Ching (2010), John Simon (2010) and Malaysian debit card issuers was used to collect the needed data using seven-point Likert-type scales.

Details on questionnaires that have been designed for this research are as Table

15:

| Variables | Description of measures | References |
|------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------|
| Performance expectancy | I can track my cash transactions easier. | Kim, Y.S. and Lee, M, (2010) |
| | I can manage my spending habit easier. | Kim, Y.S. and Lee, M, (2010) |
| | I do not have to make regular cash withdrawal. | Kim, Y.S. and Lee, M, (2010) |
| | I do not have to carry much cash around (I can avoid the possibility of cash of cash being lost or stolen) | Kim, Y.S. and Lee, M, (2010) |
| | I do not encounter any regular system interruption/technical problem when using debit card to make payments. | Simon S.M. Ho (1994) |
| | The system at retail outlets is always available for me to make payment using debit card. | Simon S.M. Ho (1994) |
| | I feel secure making payments using debit card. | Simon S.M. Ho (1994) |
| | I have complete trust in making payments using debit card. | Simon S.M. Ho (1994) |
| | I am satisfied when making payment using debit card. | Simon S.M. Ho (1994) |
| Effort expectancy | I found it easier to make payment using debit card compared to cash. | Jonathan Zinman (2009) |
| | I do not require cash from ATM before making any payments. | Jonathan Zinman (2009) |
| | I do not have to worry about/calculate the interest/financial charges when making payments using debit card. | Jonathan Zinman (2009) |

Table 15: The research questionnaires

| Variables | Description of measures | References |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Social influence | Using debit card shows that I am a high income earner. | John Simon (2010) |
| | Using debit card shows that I am capable of financing a purchase with my own funds. | John Simon (2010) |
| | Using debit card shows that I am an innovative person that willing to try new technology. | John Simon (2010) |
| | Using debit card shows that I am a well educated person. | John Simon (2010) |
| | It is my normal habit to use debit card for any payments. | John Simon (2010) |
| | I have a religious reason in using debit card (I want to avoid "riba"/unnecessary financial charges in making any payments). | Alhassan G. Abdul-Muhmin (2010) |
| | People that important to me are influencing my usage of debit card. | John Simon (2010) |
| Facilitating conditions | I have an adequate knowledge in using debit card. | Santiago (2011) |
| | Most of the retail outlets that I visit/shop at accept debit card for payment. | Santiago (2011) |
| | The retail outlets that I visit/shop at are supportive towards making payment using debit card. | Santiago (2011) |

Table 15: The research questionnaires (continued)

| Variables | Description of measures | References |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Rewards program | I am using/will use debit card to make payments because/when there is a discount given for my purchase. | Andrew T. Ching (2010) |
| | I am using/will use debit card to make payments because/when there is chance for me to win prizes. | Andrew T. Ching (2010) |
| | I am using/will use debit card to make payments because/when there is monetary incentive (cash back) given to me. | Andrew T. Ching (2010) |
| | I am using/will use debit card to make payments because/when I will enjoy benefits from the loyalty program. | Andrew T. Ching (2010) |
| | I will continue using debit card to make payments even though there is no rewards/incentive given. | Andrew T. Ching (2010) |
| Transaction value | I am using/will use debit card to purchase item(s) that I consider low transaction value (total purchase is RM50 and below) | Alhassan G. Abdul-Muhmin (2010) & Malaysian debit card issuers |
| | I am using/will use debit card to purchase item(s) that I consider medium transaction value (total purchase is between RM50 and RM150) | Alhassan G. Abdul-Muhmin (2010) & Malaysian debit card issuers |
| | I am using/will use debit card to purchase item(s) that I consider high transaction value (total purchase is above RM150) | Alhassan G. Abdul-Muhmin (2010) & Malaysian debit card issuers |

Table 15: The research questionnaires (continued)

| Variables | Description of measures | References |
|----------------------|--------------------------------------------------------------------------------------|---------------------|
| Behavioral intention | I have the intention to continue using debit card as a means of payment. | Teng-Tsai Tu (2010) |
| | I predict that I will continue using debit card as a means of payment in the future. | Teng-Tsai Tu (2010) |
| | I definitely will continue using debit card as a means of payment in the future. | Teng-Tsai Tu (2010) |

Table 15: The research questionnaires (continued)