

**Malaysian Cashless Economy: Analysing E-Wallet Payment Solutions
Through Satisfaction**

Muhamad Khairi Bin Zakaria @ Supar

**Project Paper Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Business Administration
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DECLARATION

I declare that this case study is my original work, except for quotations and citations that have been duly acknowledged. I swear it has not been previously or concurrently submitted for any other degree at Universiti Tun Abdul Razak (UNIRAZAK) or other institution.

Signature :

Name :

Date :

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DEDICATION

This dissertation is dedicated to the memory of my late father, Hj Zakaria Ali. Although he was my inspiration to pursue my master's degree, he could not see my graduation. Also, this dedication is to my mother, Hjhz Maznah Embong has been there for me during my up and low. Thank you, mom!

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Abstract of the project paper submitted to the Senate of Universiti Tun Abdul Razak in partial fulfilment of the requirements for the Master of Business Administration.

**Malaysia Cashless Economy: Analysing E-Wallet Payment Solution
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**By
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February 2022

In 2011, Bank Negara Malaysia published a 10-year blueprint stating their objective for Malaysia to become a cashless society by 2021. As the country moves forward, in 2021, there has been slow progress on the adoption of cashless payments. The community still transacts by physical money even though there is progress in the adoption. This study determines the relationship between the adoption, concern, and preference towards satisfaction of the e-wallets user. Consumer satisfaction is paramount for any new product or service to be successfully adopted. Since the Bank Negara Malaysia's objective is to transform Malaysia into a cashless economy in the future, customer satisfaction is essential. There is not much literature focusing on e-wallet satisfaction, probably because e-wallet usage is relatively green in Malaysia. Hence, this study hopes to fill the gap in examining the relationship between the adoption, concern, and preference towards satisfaction on e-wallets in Malaysia. A set of questionnaires was administered personally through e-mail and messages to get the answers from respondents. A convenience survey sampling technique was utilised, and 300 questionnaires were successfully returned for data analysis. For the data analysis, all responses from the questionnaires were summarised using the IBM Statistic Packages for Social Science (IBM SPSS). The IBM Analysis for Model Structure (IBM AMOS) software forms a structural equation model (SEM) to validate and model the measurement and test the hypothesis. Results indicated that adoption, concern, and preference significantly correlate with satisfaction for e-wallet usage in Malaysia. It shows that the awareness to adapt, solve the consumer concern and win over the consumer preference is vital to influence the consumer to move from physical cash to cashless payment solution is essential for Malaysia in becoming a cashless economy.

CHAPTER 1: INTRODUCTION

1.0 Introduction

In a study on a cashless economy, the primary subject matter is money itself. Money has been in existence as part of human history for at least 3000 years (Krishnan, 2017). From the basic bartering between agreed parties, money has evolved as a medium of exchange. (Luo, 1998) Everyone today has handled money, either receiving or giving. In a current typical day, people will wonder how to live their life in the absence of money. Money is anything or any tool that can serve the following purpose: (Asmundson & Oner, 2012)

- Keep the value; meaning people can have the importance to keep and use later
- Has a unit of account and has a standard agreed value
- To serve as a medium of exchange to the society; meaning the member of the community can use it in exchange for a product or services

The simplest way to understand money is that people use it as the medium of exchange between parties in performing a sales and purchase transaction. Before money has existed, people exchanged goods for a particular agreement in value in the early days.

As put earlier, people have started exchanging goods that they need. They carry goods of what they offer and exchange with the interests of what they need; a barter trade. These bartering activities have been in existence for a long time. (Chapman, 1980)

There is no concrete evidence in the history of when the barter trade started, but historians believed it began in 6000 (bc). Bartering activities are also popular in the 1930s during the Great Depression era. In this period, people have less physical cash, thus prompting them to get their daily supplies and needs by bartering. (Yu., n.d.)

Fast forward, with the development of information technology, money transaction has also evolved. People do not need physical cash to carry in exchange for products and services. Hence, a cashless economy was born.

A cashless economy means performing a business transaction between two or more parties without physical cash (Paul and Friday, 2012); the exchange of monetary value occurred by electronic payment or another payment channel, i.e., bank cards or cheques. Fox (2016) mentioned that in the 1960s to 1970s, electronic payment was another option for payment in substitute for cash and cheques in the United States. It means that the digital cashless transaction had started much earlier. Since then, the usage of electronic payment has been growing in the United States, and the global society has been accepting cashless payment as a mode of settlement for commercial transactions.

When a cashless payment channel via credit card was introduced, society perceived it as a luxurious payment mode; (Mukaria, 2020) argued this. The argument probably has a basis. It is factual that banks need to perform background checks to verify consumers' income and other background details to issue a credit card to their customers. In the context of Malaysia, the approval of the customer application for a credit card needs after customers meets all the criteria. (Bank Negara Malaysia, 2012)

This research analyses Malaysia's perception of satisfaction in utilising a cashless payment system, particularly digital payment solutions, also known as an e-wallet. This study hopes to find the gap in the existing literature published, and therefore this research can fill up the opening for the benefit of society. A series of validated publications are examined and presented before executing the proposed survey to validate the hypothesis's idea.

1.2 Background

In an opening speech at the Islamic Fintech Dialogue, Assistant Governor, Bank Negara Malaysia, the central bank of Malaysia, stated that since the bank produced a 10-year blueprint. One of the main agendas is to promote electronic payment (e-payment) in Malaysia. The central bank targets a higher adoption of card payment, internet banking, online fund transfer, and the higher penetration of electronic wallets (e-wallet).

The Bank Negara Malaysia Assistant Governor also stated that the central bank's objective is to increase cashless payment transactions from 44 transactions per capita in 2010 to 200 transactions per capita in the next ten years, comparable to a more developed nation's electronic payment transactions per capita.

However, even though the acceptance trend is an uprising, the progress was relatively slow. In 2016, after six years of the attempt, Malaysia did not come halfway to the target of 200 transactions per capita. (Ranasinghe, 2017)

Only after the pandemic Covid-19, the e-wallet usage is tremendously scaling up with the constant government encouragement to the public to reduce the use of physical cash. (Mohamad Zahid, 2020)

Another contributing factor is that the government, in 2020, has introduced cash disbursement to Malaysian via three major e-wallet providers in a bid to promote higher adoption of electronic payment to the community. (NST, 2019)

1.2 Problem Statement

Since the central bank blueprint issued a 10-year cashless payment solution blueprint, the growth for e-payment adoption was reportedly slow. According to Bank Negara Report, in 2021, consumers performed approximately RM2.5 billion transactions on the internet banking platform. Meanwhile, the mobile e-wallet recorded a transaction valued at RM0.5 billion.

This research aims to determine how implementing the e-wallet payment in Malaysia relates to a few hypotheses developed over the policy. Since the evolution of the global cashless economy, most developed countries have achieved a substantial percentage of e-payment usage compared to physical cash transactions.

This research will identify possible literature available to determine the level of satisfaction of the Malaysian e-payment system and the relationship with the adoption, concern, and

consumer preference. The study conducted is within the valid publisher either from government publications or published and validated journals available.

The study will also present a hypothesis from the figure obtained from the validated sources and conduct a corresponding survey to validate the idea.

The study is also to discover the problems and barriers the stakeholders face in realising the government's vision to make Malaysia a cashless society.

1.3 Significance and Justification of Research

This study chose this subject of research because, in the past two years, there have been remarkable changes in the payment system landscape of Malaysia. Particularly with the pandemic COVID-19 outbreak, the urge not to handle cash among the general public is mounting. People worldwide are struggling to end this pandemic as it has jeopardised people's living. Many businesses are closed, schools and universities need to adopt online learning, workers are losing their job, and many other negative impacts are increasing due to the outbreak.

World Health Organisation (WHO) explains there are several ways how the COVID-19 transmits from one person to another. The small liquid particles from an infected individual's mouth or nose can spread when the infected person sneeze, cough, sing, speak, or even breath. The particles can be small aerosols to larger respiratory droplets.

Evidence shows that the virus spreads primarily among close contact people, within one meter or less, when they contact others. Anything the infected person touch will become a medium for a virus to spread to another individual.

People need to reduce their contact when exchanging items. Handling physical money during the shopping trip, for instance, can be the reason for a virus to spreads. (WHO, *Coronavirus disease (covid-19): How is it transmitted?* 2020)

The government has been promoting electronic payment as an alternative to reduce physical cash usage to curb the virus spreading.

1.4 Research Objectives

This study aims to understand better how consumers are satisfied with e-wallet usage by analysing adoption, perception, and satisfaction for e-wallet payment solutions in Malaysia. Hopefully, by executing the study, the findings will benefit all the correspondence stakeholders and drive the cashless economy for the betterment of society.

There is a possibility that the level of satisfaction varies by the different groups of demography. The young tech-savvy generation will probably be inclined to use e-wallets, while the older generation is perhaps slow to adopt. This study will randomly gather information from the consumer to mimic the Malaysian demographic. However, indirect determinants to the survey also need to be considered in executing the findings, if any.

Hopefully, the findings from this research will benefit the respective stakeholders in implementing a cashless economy, particularly e-wallets in Malaysia, which are the consumers, merchants, e-payment providers, financial institutions, and the regulators themselves.

1.5 Research Question

- i) To carry out the study on Malaysian consumer satisfaction by analysing the adoption, concern, and preference of e-wallets.
- ii) To assess how the adoption, concern, and preference influence the satisfaction of e-wallets customers.

1.6 Expected Implication of the Study

From the consumer respondents, the study anticipates assessing the following hypothesis:

Hypothesis 1:

H1 Consumer adoption has a positive relationship with satisfaction

Hypothesis II:

H2 Consumer concern has a positive relationship with satisfaction

Hypothesis III:

H3: Consumer preference has a positive relationship with satisfaction.

1.7 Research Outline

This study is structured into five chapters. After the introduction, the followings chapter will follow. Literature Review in Chapter 2 will provide a cashless economy in Malaysia and how the progress is running. A theoretical concept of consumer adoption, concern, preference and consumer satisfaction is discussed by this study in this chapter. The past literature was reviewed to gain the overall exposure of precious studies on the concept of consumer adoption, concern, and preference in engaging new products and services. The conceptual hypothesis framework is developed to find the relationship between the independent variables of adoption, concern, and preference with consumer satisfaction based.

Chapter 3, Research Methodology, discussed the research approach and the study design. It starts with explaining the research design, procedure, equipment approach, and discussion about the data collection, analysed, and integration. Research data quality, validity, and reliability will also discuss in this chapter.

Reports on data analysis and collection are reported in Chapter 4. This chapter shows the hypothesis examination result from the statistical analysis. This chapter tests the consistency of quantitative data analysis with the research objective.

Chapter 5 will conclude and present the key findings, the conceptual hypothesis model. This chapter also discusses the study's academic findings and theoretical contributions, followed by evidence that adoption, concern, and preference are positively related. Finally, the study's limitations are acknowledged, and areas for future research are suggested.

1.8 Summary

In conclusion, the main subject of this study is how the cashless economy is progressing in Malaysia. The study will examine the possible empirical progress presented in the available literature with the additional quantitative survey conducted. As Malaysia goes towards a cashless society, as mentioned in the cashless blueprint plan by Bank Negara Malaysia, all the stakeholders will need to be proactive in realising the objective. The study will identify how adoption, concern, and preference relate to consumer satisfaction, particularly in an e-wallets payment solution.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The study has examined various publications to find previous research on the cashless economy and related topics. Several journal publications and reports on the progress of the cashless economy, in particular, e-wallet payment solution adoption in Malaysia, were studied and analysed. The other searched publications are about consumers' concerns and preference towards new electronic payment solutions (e-wallet) to understand the relationship between adoption, concern, and their preference toward satisfaction. The central bank of Malaysia, Bank Negara Malaysia's annual report, will be the primary source of information on the cashless economy insight in Malaysia. Additional information from various other validated sources will also be gathered and evaluated. (Aveyard, 2019)

2.1 Background

Since the beginning of the internet era and the blooming of online business, the payment channel has changed tremendously. Information technology innovation has changed the landscape of business transactions where goods and services trading happened without physical cash. (Tee & Ong, 2016) There are several advantages of adopting cashless transactions that are getting afoot in the financial system. Electronic payment discourages crimes especially involving cash. (Armey et al., 2012) Consumers tend to keep less physical money with them when shopping. It will reduce the possibility of a criminal act when the intended robbers have no incentives for committing the crime. In the case of food vendors, cashless transactions reduce the possible unwanted transmission of disease, thus considered hygienic.

The cashless transaction has started in Western countries or developed regions for quite some time; however, the electronic payment in Malaysia is still in the introduction phase, and the progress is instead growing. (Ishak, 2020) Electronic payment, also popularly known as e-

payment, has been encouraged by the government of Malaysia with the introduction of various incentives. Malaysians can utilise this payment channel instead of keeping physical cash when shopping. The Malaysian government has announced that by 2022 only cashless payment will be accepted in all government agencies. (*"All payments for Govt services to be made on a cashless basis by 2022"* – Tengku Zafrul 2021)

There have been several e-payment methods available for consumers since the introduction. Among the earliest cashless payment providers are Visa Inc and Mastercard. Visa Inc and Mastercard Inc is an American multinational company providing global payment solutions and has been operating since the late 1950s. These two providers are pioneers in offering cashless payment to the world. They offer a payment solution in partnership with financial institutions around the globe. Both companies provide the payment acceptance terminal worldwide, and the partners of both companies do the issuance of a payment card to the consumers, the financial institutions. The partners or financial institutions offer consumers a specific credit limit to encourage them to utilise their payment solution. However, with the evolution of the cashless payment channels, financial providers are offering this payment channel not only by line of credit but also by debiting their clients' accounts directly after the transaction is complete at the accepting merchants. (Huchzermeier & Van der Heyden, 2007)

2.2 Objective of Cashless Economy

For Malaysia to go for a cashless society worldwide, several vital objectives will drive the adoption. Scholars and regulators worldwide agree that cashless economic will drive towards the following key goals:

- i) To modernise the payment ecosystem
Developing a modern payment infrastructure will lead to an efficient payment ecosystem worldwide. It will translate towards a positive impact on economic development, the underlying factor of economic growth.
- ii) Transaction efficiency

Bank transaction services are costly. Reduced banking costs (either saving or lending) will improve efficiency with inclusive financial services.

iii) Hedge of inflation and economic growth drives

Banknote in circulation worldwide carries a hidden cost and possible unknown inflation rates. The cashless policy aims to reduce the potential negative impact on the high utilisation of physical cash in the global economic system.

iv) Cost of physical cash

There are several costs associated with the supply chain of physical cash. There are hidden costs associated with the physical money from the banknote printing factory to the bank to the consumers.

v) Reducing Cash Handling Risk

Cash draws an invitation to the crime and constitutes losses. A natural disaster like a flood as well as fire also causes losses.

vi) Underground Economy

There is plenty of cash hidden in the informal economy worldwide. This unknown cash kept under legal activities slows national economic growth.

vii) Exposure for Corruptions

High cash utilisation exposes to money laundering activities. Money from illegal means often enters the formal economy through money laundering activities and jeopardises the economic system.

These objectives are why the world is moving towards cashless activities. (Kumari & Khanna, 2017)

2.3 Advantages of Cashless Economy

There are several cashless economy benefits to society:-

i) Can minimise cost and risk

Cashless transactions could eliminate business risks like untrustworthy employees, counterfeit money, and other crime like robbery. Furthermore, it can

minimise costs of security, cash transporting and counting costs, and other related costs.

ii) Quick Transaction

Cash handling when making payments can be time-consuming for both customers and merchants. It is one of the reasons why many businesses decided to go cashless so that they can offer customers a seamless experience at their premises. Quick transactions will increase customer satisfaction and higher profitability.

iii) Seamless International Transaction

For a traveller visiting another country, this one good reason for them to use a cashless payment solution is that they are no longer required to have foreign currency. They need to use their e-wallet app and make payments. The exchange rate is calculated accordingly at the transaction time, and they need not worry about handling foreign cash anymore.

iv) Compilation of Economic Data

The government and related organisations spend big money when it comes to surveying to get accurate data of their citizens. Big data will help them formulate new policies or revise the existing ones for the benefit of their people.

Another advantage is that the government can reduce the possibility of black money and illegal transaction. The relevant authority can monitor all the transactions as an e-wallet has all the recorded transactions and helps the government combat illegal activities. (*Moving towards a cashless society: Types and significant benefits* 2020)

2.4 Disadvantages of Cashless Economy

There are some possible disadvantages of the cashless economy:-

i) Crime Threat

With the advancement of technology, even though the e-wallet technology has developed quite a strong encryption security for their application, there is a possibility that criminals can hack into the system, thus making e-wallets a possible threat for crimes.

ii) Business Monopoly

E-wallet infrastructure and backbone technology are capital intensive. Therefore, to start the e-wallet business and with the requirement of the government licensing, the possibility that only a specific party can venture into this business.

iii) Power Supply

For the payment solution to work, all the terminals and the infrastructure need to be in place and not disrupted, especially when making payment. Should this happen in a relatively large area, for instance, one town or city, consumers are in trouble to get food and drink supplies for a certain period.

A classic example is when the electricity cut off when an earthquake triggered in Hokkaido, resulting in Sapporo city leaving with no electricity. (Fernandez, 2018)

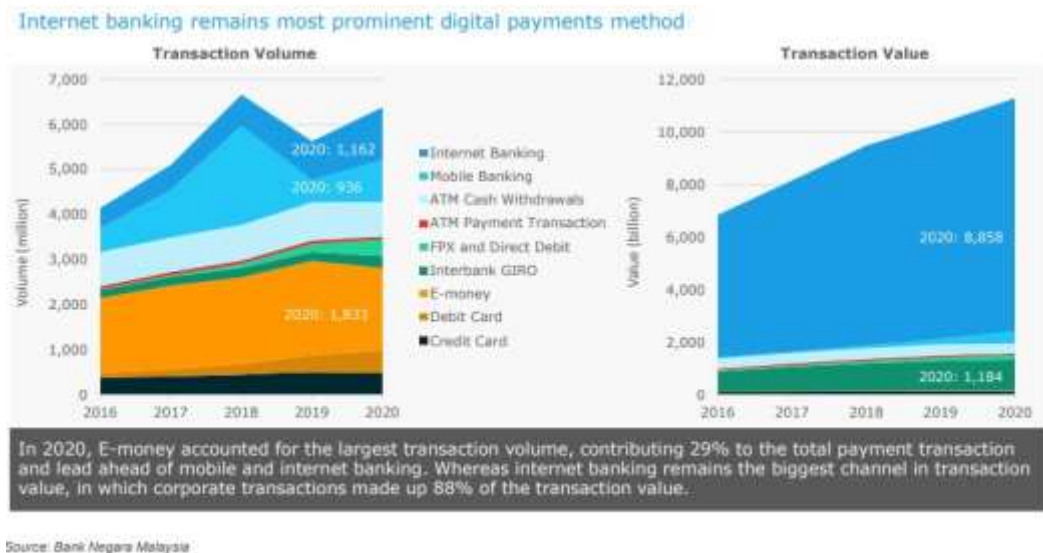
2.5 Current Cashless Ecosystem in Malaysia

In Malaysia, the central bank regulates the regulations for payment solutions. The bank will issue approval to operate to the providers in offering their answers to the consumers. Currently, the country has fifty non-bank e-payment providers licensed to operate by the central bank. For issuance of payment cards like Visa and Mastercards, mostly the issuers are banks and licensed financial institutions. (Bank Negara Malaysia, n.d.)

According to Bank Negara Annual Report, in 2020, credit card membership recorded at about 30% of the Malaysian population of 32 million. It is quite an achievement considering that 30% of the population is entitled to a credit card despite strict regulations imposed by the central bank. On e-wallet users, in 2020, there has been a significant jump in the number of

users compared to the previous year. E-wallet providers reported that 15 million user accounts were created in accumulation by the end of the year 2020. As Malaysian has 47 e-wallet providers, there is a possibility that one user registered an account with two or more providers. It means that 15 million user accounts do not necessarily mean 15 million Malaysian citizens use the e-wallet payment solution.

Figure 1: Malaysian Cashless Transaction 2020



Source: Fintech Report 2021

2.5.1 Cashless Payment Channel

As mentioned earlier, several cashless payment channels are available in Malaysia and worldwide. The central bank of Malaysia regards the followings payment channels as the electronic payment or e-payment channels.

i) Debit and Credits cards

Debit and credit cards are among the first cashless payment channel available in Malaysia. A licensed financial institution like a bank will issue these cards to the customer by utilising Visa and Mastercard payment channels. Besides Visa and Mastercard, other payment channels like American Express, Global Payment, and China-based financial services company UnionPay are also available.

The cardholders of these companies can perform cashless payments by using their respective card at the merchant who subscribed to the payment terminals. This payment solution is cashless, and no physical cash is required for the consumers to pay for the product and services.

ii) Mobile e-wallet

In line with the information technology advancement and the introduction of smartphones, this is a relatively new payment channel compared to card payment.

For consumers to use this payment channel, they need to download the mobile app for the respective e-payment provider in Malaysia. They will need to top up the e-wallet manually or link their bank account to perform a transaction.

iii) Quick Response Code (Q.R. Code)

Quick response code is another payment transfer jointly developed by all participating financial institutions in Malaysia. The consumer just needs to use their mobile banking app to transfer or make payments for the product and services.

iv) Internet Banking

Internet banking is where a bank's customers can perform most of the banking needs over online platforms. Customers can access bank websites for banking or have the respective app installed on their smartphone. The bank's customer can make payments, do fund transfers, and other related banking needs without going to the bank, and it is cashless. It is like a person making a trip to the bank branch and performing the transaction physically.

The central bank has issued 47 non-bank licenses to the respective companies to provide Malaysian consumers with e-payment solutions (e-wallets).

The non-bank e-money provider is an e-wallet provider offering mobile payment solutions on top of the bank-issued payment cards as the traditional cashless payment providers. These providers are developing a mobile app for smartphones to transact with merchants who subscribe to the provider to accept payment.

Figure 2: List of E-wallet Providers in Malaysia

E-wallet players in numbers

Players	Owned by	No. of Users (end 2020)	No. of Merchants (2020)
	Ant Group Touch 'n Go Group (Subsidiary of CIMB Bank)	Over 15 million	300,000
	Axiata Digital Great Eastern Life	8.8 million	231,100
	Grab	Undisclosed*	Over 163,000
	Maybank	1.9 million**	Approx. 530,000
	BigPay AirAsia	1.4 million***	Approx. 800,000****

Source: Directly from the e-wallet brands unless stated otherwise

*Grab has chosen not to disclose user numbers and we are unable to find reliable data publicly

**Based on earlier press statement by Maybank, they have declined to share numbers of the user numbers

*** BigPay performs eKYC on all 1.4 million of its users

****800,000 (approx.) are based on Visa/Mastercard payment acceptance points as BigPay leverages Visa/Mastercards merchant base

Source: Fintech Report 2021

2.5.2 Stakeholders

In the cashless ecosystem, there are several stakeholders involved. The primary subject matter is money. Before introducing cashless payment channels, people used physical cash to pay for goods and services. Now with the introduction of cashless payment, the followings direct stakeholders are in play:

i) Licensed Bank and financial institution

The central bank requires banks and financial institutions to operate in Malaysia. They can offer financial products, including but not limited to; deposit products and lending products.

These include the issuance of debit and credit cards to their customers. These debit cards and credit cardholders can perform cashless transactions for all the merchants who accept these payment channels.

Since 2010, banks are also offering internet banking platforms to their customers apart from issuing cards product. Internet banking platforms can offer a solution for consumers' banking needs as the customer is stepping into the bank branch. Almost all transactions utilise this platform, and it is cashless. There is no physical money involved when completing a transaction on the internet banking platform. Malaysia currently has 50 banks and financial institutions offering internet banking to the Malaysian public.

ii) Non-bank E-money providers (Electronic money)

The central bank licenses non-bank e-money providers to provide payment channels via smartphones. As of 2020, the central bank has issued 47 permits to offer e-money or e-wallets.

iii) Merchants

Merchants play an essential role in the implementation of cashless payments. The merchant needs to be equipped with a payment terminal to accept payment for goods and services rendered to the consumers. As of 2020, according to the central bank, 400,000 merchants have registered with either bank and financial institution and the e-money provider to accept cashless payment.

iv) Consumers

Consumers are Malaysian public who either has debit or credit cards and subscribe to e-wallet issued by e-money providers in performing payment at the accepted merchants.

v) Regulators

Meanwhile, the central bank is indirect stakeholders as regulators for the direct stakeholders.

2.6 Factors Affecting E-wallet Payment Solution Satisfaction

A few questions are involved in examining consumer adoption of e-wallet payment solutions. Several factors are affecting cashless adoption not only in Malaysia but worldwide. In the review of the literature, the study discovered the followings factors. The items constructed to determine the adoption, concern, and preference are conceptualised for the research questions.

2.6.1 Consumer Adoption E-Wallet as a payment solution

To increase the satisfaction of any new product and service, it can successfully get the best adoption rate. However, before this is achieved, the business needs to consider awareness. (Mussime & Ramadhan, 2011) In the case of the e-wallet payment solution in Malaysia, looking at the figure published by Bank Negara Malaysia, the percentage of the customer using the e-wallet payment solution is acceptable compared to the population. It is assumed that consumers have no objection to adopting an alternative payment, but a small percentage of consumers are unlikely to accept cashless payments.

2.6.1 Consumer concern about the e-payment solution

Czepiel & Rosenberg (1977) state that several factors need to be measured to determine consumer satisfaction. Consumer concern about the product or services is a factor in successfully introducing new products and services. Consumer concern varies from the adoption, security, safety, and other factors. This study will construct the sample of concern factors and develop the best possible model for determining consumer concern on e-wallet payment solutions.

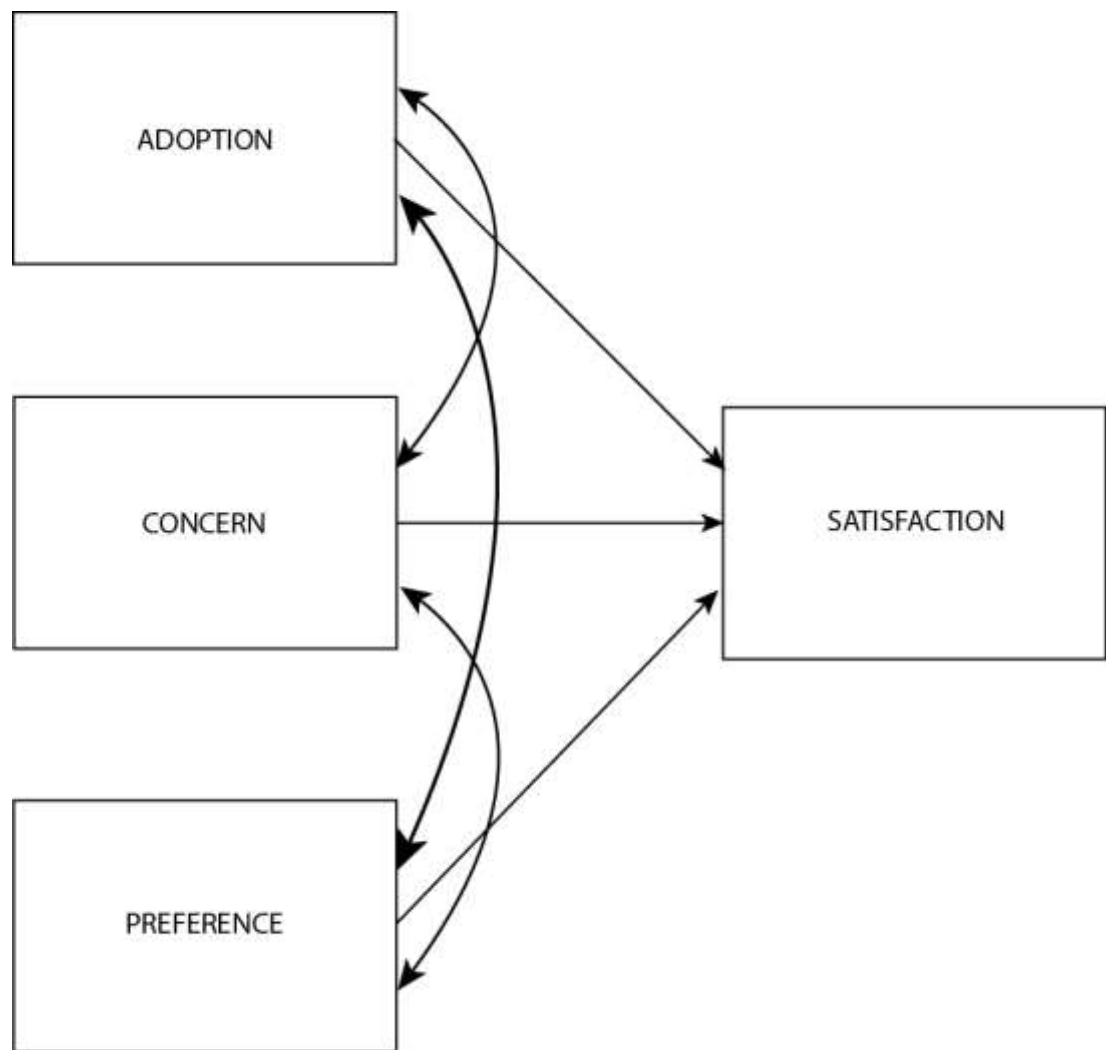
2.6.2 Consumers Preference in E-Wallet Payment Usage

Consumer preference plays the most important role in consumer satisfaction (Singh et al., 2017). The study will evaluate further the finding from Singh et al. (2017) and further construct new antecedents to examine further. The study finds there is a strong relationship between consumer preference and satisfaction.

2.7 Conceptual Framework

Figure 1 indicates the proposed framework to determine the correct target stakeholders to evaluate further. From the literature published, the study will identify the progress of each stakeholder. The variables that can be measured and observed are either quantitative or qualitative. However, for the proposed analysis, the quantitative variable will be analysed. Literature review and the existing empirical studies and findings will assist this study in formulating a suitable research methodology framework.

Figure 3: Conceptual Research Framework



2.8 Summary

Malaysia's cashless ecosystem payment has developed since the central bank introduced the cashless payment blueprint in 2011. However, particular areas of interest need to look into as it is rather interesting—for instance, issuing a forty-seven e-wallet license to non-bank providers for a country with a 32 million population.

However, generally, the country has tremendously adopted the cashless payment system at a commendable speed.

CHAPTER 3-RESEARCH METHODOLOGY

3.0 Introduction

For Malaysia to go for a cashless society, apart from consumers, the critical stakeholders that need to be ready for full adoption are the merchants. From the literature review, merchants play an essential role in Malaysia's aspiration to become a cashless society by 2032. However, a small trader is unlikely to adopt this payment solution at the current rate and exposure to cashless payment solutions. The study focuses on the consumer for e-wallet payment solutions satisfaction and the correlation between age group, income bracket, and other relevant factors.

This chapter will systematically discuss the possible method to apply for this study. It will point out the proposed research framework and analyse its possible strengths and weaknesses. Besides that, this chapter will include data collection methods, approaches, and instruments. One of the critical criteria is the validity and reliability tests of data analysis tools. This study will consider all the critical factors that can influence the data validity during the data collection.

3.1 Research Design (Quantitative Approach)

From the empirical findings of the literature available, the proposed conceptual research framework will base on random public respondents. A set of survey questionnaires was prepared based on the demographic questions and the Likert method scale from 1-5 regarding adoption, concern, preference, and satisfaction. Several questions connected to the adoption, concern, and preference were asked to analyse the correlation between these variables and satisfaction.

3.2 Population and Sample Study

From the specific conceptual framework discussed earlier, the target respondent will be a random group of consumers chosen to accept the invitation to answer the survey. The sample respondents were randomly sent an invitation to participate in the survey.

3.4 Sources and Collection of Data

3.4.1 Primary Data

Concurring to Kothari (1985), the essential information collection strategy is utilised to gather new information when conducting a modern examination. The inquire-about instrument utilised in this research will be in the form of a survey. It is helpful to gather current information about factors that can impact the business's readiness to adopt cashless payment terminals. Surveys are a set of "a deliberate, organised set of questions used to get the suppositions of an expansive number of respondents in composing, without necessarily making contact with the target group" (Mulder, 1989). Subsequently, this essential data collection strategy will be talked about in more prominent detail within the following segment, Investigate Disobedient.

3.4.1 Secondary Data

Secondary data collection is a process of collecting information and facts from multiple sources such as validated journals, reliable news sources, published articles and books, and information gathered from a trusted source from the internet. The study is doing a literature review from various sources to get better insight into the progress of the cashless economy and getting the empirical data from the completed research. In other words, from the reading, this study comprehends better direction and possibly knows where to survey to fill the gap in the published journal in the investigated subject matter.

3.5 Data Analysis Method (Research Instrument)

A set of questionnaires consisting of between 5 to 10 Likert Scale close-ended questions covers the consumer's demographics and other relevant information about the business. (Dilman et al., 2014) explains that closed-ended questions most likely applied the outline personality of a respondent. Therefore, this questionnaire format is possibly the best method to obtain statistical data from the consumers. This information is valuable to outline the consumer adoption, concern, preference, and satisfaction towards the cashless payment system.

The study will design a set of questionnaires to get the data. It will question relevant information in the search to understand the consumer better and structure into three group close-ended questions: ordered-based, scalar base, and partial base. The research used Google form to design and send the questionnaires to the random respondent.

3.6 Sample Size and Selection of Sample

3.6.1 Target Respondents

This research will be distributed randomly by blasting e-mail and Whatsapp messages to get the answer from the respondents. Approximately five hundred e-mail and Whatsapp messages were blasted randomly in an objective to get favourable responses.

3.6.2 Sampling Methods

This study will use a non-probability sampling type to gather statistical data from the targeted respondents. Why this sampling method? This sampling method is the simplest and cheapest option to collect relevant data compared to probability data sampling. More accurately, the study will use convenience data sampling technique. This method relies on the data collected from all the merchants in Malaysia. This method aims to get the statistical data fastest yet inexpensive.

3.6.3 Sampling Size

While it is impossible to survey the whole Malaysian population, the researcher collects data from 300 random respondents.

3.7 Data Analysis

3.7.1 Descriptive Statistical Analysis

The study will conduct the descriptive statistical analysis in IBM SPSS and analyse the data from the survey. This technique is good in describing and summarising data in a meaningful way, thus allowing the research to interpret the data easily.

The other type is to measure the spread, which will assist this study in summarising the statistical data dispersion, such as standard deviation and variance. (Farmbry et al., nd)

3.7.2 Standard Equation Modelling

The study uses linear regression analysis as the study is interested in testing all the hypotheses. Data analysis regression tool in IBM SPSS is an excellent method to find the relationship between all the variables.

3.8 Conclusion

With the proposed research methodology, the study hopes to find the relationship and probably the reasoning for the result.

CHAPTER 4: DATA ANALYSIS & RESULTS

4.0 Introduction

This chapter analyses the answers to the questionnaires distributed to the respondents. Demographic analysis is presented in the first section, followed by the simple report distribution tabulated on installing the e-wallet app among respondents.

The study tested the measures upon examining the hypothesis to get the validity and reliability of the data collected. After that, the measurement model shows the relationship within the variable to the research objective. The chapter summary will follow at the end of this chapter.

4.2 Respondents Demographic Analysis

The questionnaire was prepared in a Google Form (Appendix A) and distributed randomly via e-mail and Whatsapp Group to click and answer the survey questions. Three hundred questionnaires were responded to via the Google Form. It is expected that the questionnaires received are less than the targeted respondents. It targeted at least five hundred respondents based on the e-mail, and WhatsApp messages blasted to several Whatsapp groups. Baruch (1999) claims that the average acceptable response rate is about 50% of the targeted respondents in most academic journals that conducted surveys.

A sneak into the insight of the data collected is to get the characteristics, for instance, demographic and socioeconomics of the respondents. As for the demographic, gender, age, religion, ethnic group, and education background surveyed. The respondents also answered the socioeconomics profile, such as income group.

Table 1 shows the gender of the respondents almost equally divided, with 49.30% male and the remaining 50.70% female. The majority of the respondents are in the 20-30 years old age group, with a frequency of 130 of 300 respondents. This age group represents 34% of the sample size. As for the religious demographics, most of the respondents are Islam, with 75%. The three variables of secondary, diploma holder and bachelor degree show the almost average ratio of 30% on the education background. Most of the respondents work in the private sector, representing 46% of

the sample respondents. The highest income bracket of 30.7% of the respondents is a group earning an annual income of RM12,000-RM24,000, and 64% of the respondent lives in the urban area.

Of the 300 respondents, 87.3% installed the e-wallet app on their smartphones. The Touch & Go app is 219 or 73%, and GrabPay is second with 59.3%.

4.3 Confirmation Factor Analysis (CFA)

Mishra (2016) suggested that a confirmation factor analysis was conducted to measure the validity and reliability of the hypothesis model before evaluating the theoretical model. The CFA allows the hypothesis to test the relationship between the observed variable and the underlying latent variables. For this study, factor analysis was done on all 16 variable factors to study their correlations. The IBM Statistical Package for Social Studies (SPSS) Version 26 was used to test the CFA for the sampling validity.

4.3.1 Factor Analysis Validity

Kaiser-Meyer-Olkin (KMO) tests the validity and reliability of the sample collected. Table 4 is presented to measure the sampling for each variable: the respondents' concern, adoption, and preference towards the satisfaction of e-wallet usage. The result shows that Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy are 0.863 for adoption, 0.831 for concern and 0.872 for preference. According to Hair et al. (2018), if the KMO is more significant than 0.6, it is suggested that the sampling is adequate for factor analysis.

All the samples were significant for Bartlett's Test of Sphericity (BTS) ($P=0.000$). They indicate that the intercorrelation matrix has sufficient variance to test the validity of factor analysis.

In summary, all the KMO and BTS results showed the adequacy of the factor analysis test to proceed.

Table 1: Respondents Demographics Table (n=300)

Demographics	Variables	Frequency	Percent	Valid Percent	Cumulative Percent
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Gender	Male	148	49.30	49.30	49.30
	Female	152	50.70	50.70	100.00
	Total	300	100.00	100.00	
Age Group	Below 21 years old	42	14.00	14.00	14.00
	21-30 years old	102	34.00	34.00	48.00
	31-40 years old	89	29.70	29.70	77.70
	41-50 years old	44	14.70	14.70	92.30
	52 years old and above	23	7.70	7.70	100.00
	Total	300	100.00	100.00	
Religion	Islam	225	75.00	75.00	75.00
	Christian	28	9.30	9.30	84.30
	Buddhist	24	8.00	8.00	92.30
	Hindu	23	7.70	7.70	100.00
	Total	300	100.00	100.00	
Education Background	Secondary School	112	37.30	37.30	37.30
	Diploma	79	26.30	26.30	63.70
	Bachelor Degree	94	31.30	31.30	95.00
	Master's Degree	13	4.30	4.30	99.30
	Doctorate Degree	2	0.70	0.70	100.00
	Total	300	100.00	100.00	
Employment Sector	Private Sector	138	46	46	46
	Public Sector	43	14.3	14.3	60.3
	Self Employed	43	14.3	14.3	74.7
	Student	56	18.7	18.7	93.3
	Not employed	20	6.7	6.7	100
	Total	300	100	100	
Annual Income	RM0-RM1200	77	25.7	25.7	25.7
	RM12,001-RM24,000	92	30.7	30.7	56.3
	RM24,001-RM36,000	60	20	20	76.3
	RM36,001-RM48,000	30	10	10	86.3
	Above RM48,000	41	13.7	13.7	100
	Total	300	100	100	
Residing Area	Urban	192	64	64	64
	Suburban	78	26	26	90
	Rural Area	30	10	10	100
	Total	300	100	100	

Table 2: Evaluation of E-Wallets Consumer Installation Rate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	262	87.3	87.3	87.3
	No	38	12.7	12.7	100
	Total	300	100	100	

Table 3 Evaluation on E-Wallet App Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Boost	Yes	55	18.3	18.3	18.3
	No	245	81.7	81.7	100
	Total	300	100	100	
Grab Pay	Yes	178	59.3	59.3	59.3
	No	122	40.7	40.7	100
	Total	300	100	100	
Setel	Yes	88	29.3	29.3	29.3
	No	212	70.7	70.7	100
	Total	300	100	100	
Shoppe Pay	Yes	120	40	40	40
	No	180	60	60	100
	Total	300	100	100	
Touch & Go	Yes	219	73	73	73
	No	81	27	27	100
	Total	300	100	100	
Others	Yes	24	8	8	8
	No	276	92	92	100
	Total	300	100	100	

Table 4: KMO and Bartlett's Test for items group

		Adoption	Concern	Preference
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.863	0.831	0.872
Bartlett's Test of Sphericity	Approx. Chi-Square	1549.502	947.775	1965.967
	df	6	10	21
	Sig.	0.000	0.000	0.000

To further support the validity of the sampling, table 5 shows the factor loadings and commonalities based on the principle components analysis with varimax for 16 items. All 16 items were grouped into three factors and labelled by adoption, concern, and preference.

The details of the 16 items construct are as below:

Adoption Items:

- i) Convenience to use
- ii) Safety on cash handling
- iii) Shortage of cash
- iv) Reduce ATM trips

Concern Items:

- i) Security, e.g., identity theft, etc
- ii) No internet/poor internet connection
- iii) Lack of merchant acceptance
- iv) Price increase
- v) Not familiar with a smartphone

Preference Items:

- i) Buying snacks and tidbits
- ii) Paying bills
- iii) Online shopping
- iv) Buying movie tickets
- v) Mobile prepaid top-up
- vi) Booking flight/train/bus tickets
- vii) High valued purchase

Table 5 shows the correspondence index validation for factor loading analysis. For factor analysis, the commonalities for all items range from 0.624 to 0.876. These factor loading

values are interpreted as each item's variance proportion in three groups; adoption, concern, and preference. Garson (2012) and Azrul et al. (2020) suggested that the principal components analysis is used to identify and compute all items into specific variable components should be 0.5 (50%) or better.

Table 5 Factor loading and commonalities based on principle components analysis with varimax rotation for 16 items

Construct	Adoption	Concern	Preference
Convenience to use	0.810		
Safety On Cash Handling	0.854		
Shortage of cash	0.844		
Reduce trip to ATM	0.818		
Security; e.g. identity theft, etc		0.814	
No internet/Poor internet connectivity		0.754	
Lack of Merchant acceptance		0.801	
Price increase/Costly to pay with e-wallet		0.837	
Not familiar with a smartphone app		0.806	
Buying snacks & titbits			0.628
Paying bills			0.849
Online shopping			0.705
Buying movie tickets			0.831
Mobile prepaid top-up			0.786
Booking flights/bus/train, etc, tickets			0.857
High Valued Purchases			0.876
Note: Factor loading ≥ 0.5 (50%)			

4.3.2 Reliability Analysis

Before the data is collected, the reliability of the Likert scale is tested consistently and corresponds with the survey objective. (Said, 2018) Cronbach alpha tested all the relevant variables calculated for the adoption, concern, and preference towards the satisfaction of e-wallet usage by Malaysian consumers.

Cronbach's alpha (α) reliability co-efficient tested to measure the reliability analysis of items across all the construct models. Hair et al. (2018) state that when the co-efficient α is greater

than 0.70, the high internal consistency of all the tools is indicated by the measure. Therefore, convergent validity is supported.

Table 6 shows the Cronbach's α co-efficient for all the variables involved. Cronbach's alpha test results show that all the variables constructed have acceptable reliability. The value from the table shows α value of 0.966 for adoption, 0.887 for concern, and 0.942 for preference. Batterton & Hale (2017) suggests that if the alpha value is higher than 0.6, the reliability of the sample is acceptable. Thus, all the above variables' alpha is higher than 0.6 and accepted for this data collected.

Further to Cronbach's alpha calculation, Average Variance Extracted (AVE) is measured to support and reflect better characteristics of each research variable in the model. Arbuckle, J.L. (2010) reckons that AVE is used to examine the variables' reliability further.

Table 7 shows the outcome of the AVE calculations. It indicates that the AVE for adoption variables is 0.69, the concern variable AVE is 0.59, and the preference variables AVE 0.39. According to Lam (2012), even though the AVE value is less than 0.50, the data is acceptable if the composite reliability value is higher than 0.60.

Table 8 shows that all the composite reliability values are higher than 0.60 for all variables. The composite reliability values for adoption, concern and preference are 0.900, 0.876, and 0.916, respectively. Therefore, the data is acceptable, according to Lam (2012).

Table 6: Reliability Cronbach's Alpha, α , Cut-off Value (>0.60)

Items	Construct and Measurement	Cronbach Alpha, α
Adoption		0.966
1	Convenience to use	
2	Safety On Cash Handling	
3	Shortage of cash	
4	Reduce trip to ATM	
Concern		0.887
1	Security; for eg identity theft, etc	
2	No internet/Poor internet connectivity	
3	Lack of Merchant acceptance	
4	Price increase/Costly to pay with e-wallet	
5	Not familiar with a smartphone app	
Preference		0.942
1	Buying snacks & titbits	
2	Paying bills	
3	Online shopping	
4	Buying movie tickets	
5	Mobile prepaid top-up	
6	Booking flights/bus/train, etc, tickets	
7	High Valued Purchases	

Table 7: Average Variance Extracted (AVE), Cut-Off Value (>0.60)

Items	Construct and Measurement	AVE
Adoption		0.69
1	Convenience to use	
2	Safety On Cash Handling	
3	Shortage of cash	
4	Reduce trip to ATM	
Concern		0.59
1	Security; for eg identity theft, etc	
2	No internet/Poor internet connectivity	
3	Lack of Merchant acceptance	
4	Price increase/Costly to pay with e-wallet	
5	Not familiar with a smartphone app	
Preference		0.39
1	Buying snacks & titbits	
2	Paying bills	
3	Online shopping	
4	Buying movie tickets	
5	Mobile prepaid top-up	
6	Booking flights/bus/train, etc, tickets	
7	High Valued Purchases	

Table 8: Composite Reliability, Cut-Off Value (>0.40)

Items	Construct and Measurement	Composite Reliability
Adoption		0.900
1	Convenience to use	
2	Safety On Cash Handling	
3	Shortage of cash	
4	Reduce trip to ATM	
Concern		0.876
1	Security; for eg identity theft, etc	
2	No internet/Poor internet connectivity	
3	Lack of Merchant acceptance	
4	Price increase/Costly to pay with e-wallet	
5	Not familiar with a smartphone app	
Preference		0.916
1	Buying snacks & titbits	
2	Paying bills	
3	Online shopping	
4	Buying movie tickets	
5	Mobile prepaid top-up	
6	Booking flights/bus/train, etc, tickets	
7	High Valued Purchases	

4.4 Measurement Model

Structural equation modelling (SEM) can be applied to identify the variables' relationship. SEM techniques use the combination of quantitative and correlation varieties to model the fundamental assumption between variables. (Lachowicz et al., 2018) The structural equation model was designed to test the hypothesis between adoption, concern, and preference towards satisfaction.

4.4.1 Hypothesis Testing

Table 9: Research hypothesis test findings for the relationship

	Hyphothesised Effect	Std Estimate (β)	S.E.	C.R	P	Support
H1	Consumer adoption has a significant relationship with satisfaction	0.136	0.077	1.761	0.078	Yes
H2	Consumer concern has a significant relationship with satisfaction	0.251	0.077	3.268	0.001	Yes
H3	Consumer preference has a significant relationship with satisfaction	0.058	0.079	0.733	0.463	Yes

H1: Consumer adoption has a positive relationship with satisfaction

From table 9, the result shows that consumer adoption has a significant positive influence on satisfaction where ($\beta=0.136$, CR=1.761, $p=0.078$). This result supports H1.

H2: Consumer concern has a positive relationship with satisfaction

From table 9, the result shows that consumer concern has a significant positive influence on satisfaction where ($\beta=0.251$, CR=3.268, $p=0.001$). H2 is supported with this result.

H3: Consumer preference has a positive relationship with satisfaction

From table 9, the result shows that consumer preference has a significant positive influence on satisfaction where ($\beta=0.058$, CR=0.073, $p=0.463$). This result supports H2.

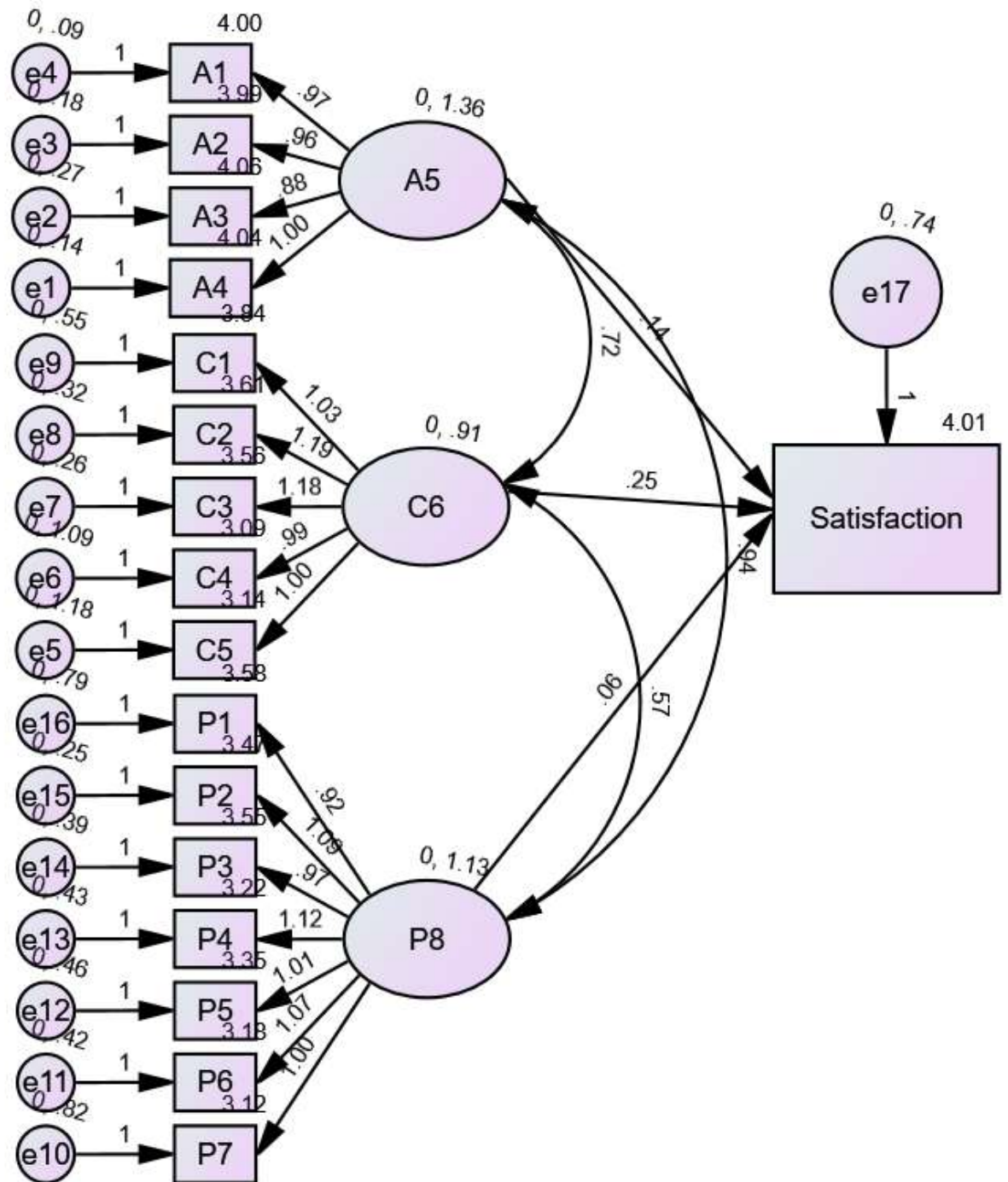
4.4.2 Structural Equation Modeling (SEM)

Structure equation modelling is an analysis technique used to analyse structural relationships using multivariate statistics. To analyse the structural relationships between variable and latent construct, the SEM uses the combination of factor analysis and multiple regression. (Bag, 2015) This study uses the measurement model developed to find the structural relationship between adoption, concern, preference, and satisfaction.

Item constructs labelled A1-A4 are the items for adoption, while items C1-C5 are for concern variables. The other group is an item marked with P1-P7 to represent the preferences. The equation is modelled in IBM SPSS AMOS to find the relationships with satisfaction.

Figure 4 is the result of structural equation modelling from the IBM SPSS AMOS.

Figure 4: Structural Equation Model



CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Research Findings

The focus of the study is to find the relationship between consumer adoption, concern, and preference with satisfaction. Mussime & Ramadhan (2011) finds that adoption positively influences consumer satisfaction.

This study wishes to add and further investigate the findings concerning e-wallet adoption and satisfaction. The other independent variable added to the research, namely concern and preference. Consumer satisfaction on product usage and subscribing to service is essential for growing a business. (Fornell, 1992) Many elements contribute to consumer satisfaction.

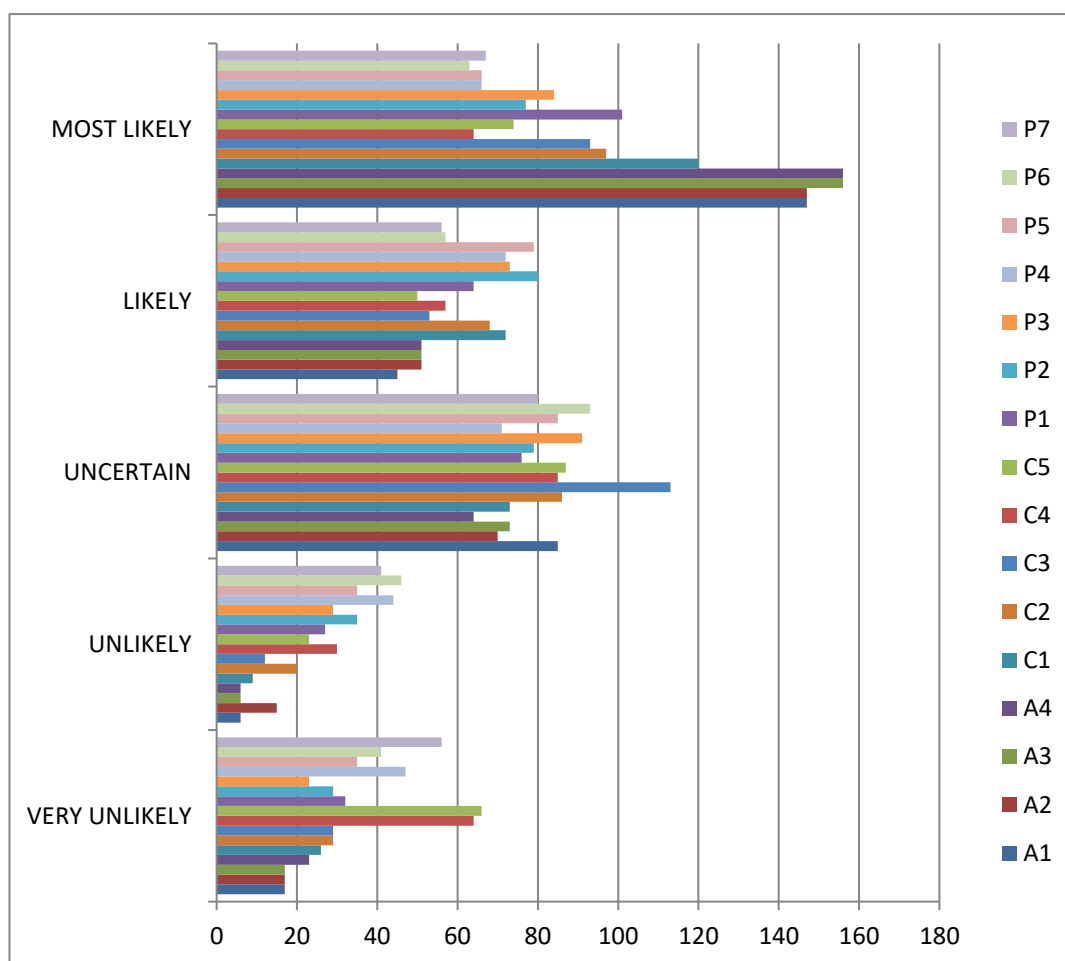
The main objective is to study the relationship between adoption, concern, and preference with satisfaction.

Table 10: Frequency Table for Adoption (A), Concern (C) and Preference (P)

Item	VERY UNLIKELY	UNLIKELY	UNCERTAIN	LIKELY	MOST LIKELY
A1	17	6	85	45	147
A2	17	15	70	51	147
A3	17	6	73	51	156
A4	23	6	64	51	156
C1	26	9	73	72	120
C2	29	20	86	68	97
C3	29	12	113	53	93
C4	64	30	85	57	64
C5	66	23	87	50	74
P1	32	27	76	64	101
P2	29	35	79	80	77
P3	23	29	91	73	84
P4	47	44	71	72	66

P5	35	35	85	79	66
P6	41	46	93	57	63
P7	56	41	80	56	67

Figure 5: Frequency Chart for Adoption (A), Concern (C) and Preference (P)



5.1.1 The relationship between adoption with satisfaction

The study analysis shows that consumer adoption has a significant relationship with consumer satisfaction. It is anticipated that the perceived satisfaction value does not come without consumer adoption of any products or services. Typically, any consumer who uses new products and services will have a certain degree of satisfaction with the new product.

To demonstrate this, Table 10 shows consumer willingness to adopt the e-wallet payment solution. Graner & Mißler-Behr (2013) says that successful acceptance of new product or technology for consumers depends on the adoption factor.

5.1.2 The relationship between concern and satisfaction

The study's concern about adopting e-wallet is analysed and correlated with the satisfaction answer questions. The result shows that consumer concern significantly correlates to satisfaction with new product usage. In this particular study is the e-wallets payment solutions.

5.13 The relationship between preference and satisfaction

As put earlier, the findings by Singh et al. (2017), consumer preference is paramount for the business's success, and it has a significant impact on satisfaction. The business needs to be proactive to get favourable preferences for their products.

5.2 Implication of the Research

5.2.1 Theoretical Implication

This study confirmed the existence of positive relationships between adoption, concern, and preferences with satisfaction. This research also supports the findings of the existing theory and past literature published about the adoption, concern, and preferences with satisfaction.

5.2.1 Satisfaction Implication

A business needs to look into consumer needs and preferences carefully. The adoption rate and consumer concern are significant to the success of new products and services. There is a strong relationship between the factors. Consumer perceived factors on these variables need to look into closely by the industries.

Today's markets are highly competitive. There are 42 e-wallets licenses issued in Malaysia by the central bank, Bank Negara Malaysia. Consumers' satisfaction with their products and services is important for the e-wallets provider to capture the best possible number of subscribers. This study can be used as a guideline in the business context to develop strategies to win customer satisfaction.

5.3 Limitation of Research

Several limitations exist in this study. There is enormous room for opportunity to improve for future research. The sample size of 300 respondents needs to be improved for future research. Sample size shall represent the true population in question. However, with time and resources limitation, this study can be an indicator in the future.

The answer from the respondents also opens to an error in handling. The understanding of questions generally can also influence the answer. Even though this study had put effort into simplifying the question, respondents have an error in understanding the question. Thus, there is a possible limitation that exists.

In summary, with time and resources, there is a possible flaw in the findings of this research. Future research should consider all the limitations in conducting better findings.

5.4 Recommendation for Future Research

It is suggested that researchers conduct similar studies on more broad topics for future research. The consumer satisfaction factor depends on many factors. These factors can be analysed to understand the consumer better. If the industry understands better about satisfaction, this would greatly help the industry gain better knowledge and provide better products and services to the general consumer.

5.5 Conclusion

This study confirmed a significant relationship between adoption, concern, and preference with satisfaction. Even though this study focuses on the perceived satisfaction for an e-wallets payment solution, other industries, especially businesses servicing the general consumer, can benefit from the study.

The concern variable showed the most significance between the three investigated. With this regard, the governing authority for Malaysia's financial system should ensure that the consumer's concern is taken care of when implementing the cashless payment solution.

Finally, the e-wallet payment provider in Malaysia should take consumer satisfaction, especially on consumer concerns, to help Malaysia become a cashless economy nation in the future.

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APPENDIX A: QUESTIONNAIRE

Malaysian Cashless Economy: Analysing E-Wallet Payment Solution through Consumer Satisfaction.

*Required

Demographic Profile/Profil Demografi

1. Gender/Jantina *

Mark only one oval.

- ☐ Male/Lelaki
- ☐ Female/Perempuan

2. Age/Umur *

Mark only one oval.

- ☐ Below 21 years old/Bawah 21 tahun
- ☐ 21-30 years old/ 21-30 tahun
- ☐ 31-40 years old/31-40 tahun
- ☐ 41-50 years old/41-50 tahun
- ☐ 51 and above/51 tahun ke atas

3. Ethnic Group/Kumpulan Etnik

Mark only one oval.

- ☐ Malay/Melayu
- ☐ Chinese/Cina
- ☐ Indian/India
- ☐ Other/Lain-lain

4. Religion *

Mark only one oval.

- ☐ Islam
- ☐ Christian/Kristian
- ☐ Buddhist/Buddha
- ☐ Hinduism/Hindu
- ☐ Other/Lain-lain

5. Education Background/Latar Belakang Pelajaran *

Mark only one oval.

- ☐ Secondary School/Sekolah MenengahDiploma
- ☐ Bachelor's Degree/Ijazah Pertama
- ☐ Master's Degree/Ijazah Sarjana
- ☐ DoctorateDegree/Ijazah Kedokteran
- ☐ Other: _____

6. Employment/Pekerjaan *

Mark only one oval.

- ☐ Private Sector/Sektor Swasta
- ☐ Public Sector/Sektor Awam
- ☐ Self Employed/Bekerja Sendiri
- ☐ Student/Pelajar
- ☐ Not employed/Tidak bekerja

7. Annual Income/Pendapatan Tahunan*
Mark only one oval.

- ☐ RM0-RM12000
- ☐ RM12,001 - RM24,000
- ☐ RM24,001 - RM36,000
- ☐ RM36,001 - RM48,000
- ☐ Above RM48,000

8. Your Residing area/Kawasan Kediaman Anda? *
Mark only one oval.

- ☐ Urban/Bandar
- ☐ Suburban/Pinggir Bandar
- ☐ Rural/Luar Bandar

9. Do you have e-wallet app installed on your phone/Adakah anda memasang aplikasie-wallet di telefon anda? *
Mark only one oval.

- ☐ Yes
- ☐ No

10. Which e-wallet app do you install on your smartphone/E-wallet yang anda pasang di telefon bimbit anda?
Mark only one oval per row.

	YES	NO
Boost	☐	☐
GrabPay	☐	☐
Settel	☐	☐
ShopeePay	☐	☐
Touch & Go	☐	☐
Others	☐	☐

Second Section: Questions about your concerns, preferences & satisfaction.

*Please tick from scale 1 to 5 (Lowest to Highest- best to your experience)

11. Why would you adopt/use e-wallet payment solutions?

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Convenience to use	1	2	3	4	5
Safety on cash handling	1	2	3	4	5
Shortage of cash	1	2	3	4	5
Reduce trip to ATM	1	2	3	4	5

12. What is your biggest concern about e-wallets? *

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Security. e.g. identity theft	1	2	3	4	5
No/poor internet connection	1	2	3	4	5
Lack of merchant acceptance	1	2	3	4	5
Price increase with e-wallet	1	2	3	4	5
Not familiar with smartphone application	1	2	3	4	5
Safety on cash handling	1	2	3	4	5

13. Most preferred reason for using e-wallets?

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Buying snacks/titbits	1	2	3	4	5
Paying bills	1	2	3	4	5
Online shopping	1	2	3	4	5
Buying movie tickets	1	2	3	4	5
Mobile prepaid top-up	1	2	3	4	5
Booking flight/train/bus tickets	1	2	3	4	5
High Valued Purchases	1	2	3	4	5

14. Based on your experience, are you satisfied with your current e-wallet usage now?

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

APPENDIX B: APPROVAL PAGE

TITLE OF PROJECT PAPER: MALAYSIAN CASHLESS ECONOMY:
 ANALYSING E-WALLET PAYMENT
 SOLUTIONS THROUGH SATISFACTIONS

NAME OF AUTHOR : MUHAMAD KHAIRI BIN ZAKARIA @
 SUPAR

The undersigned certify that the above candidate has fulfilled the conditions of the project paper prepared in partial fulfilment for the degree of Master in Management.

SUPERVISOR

Signature : _____

Name :

Date :

ENDORSED BY

Dean

Graduate School of Business

Date: