ANALYZING USER ADOPTION AND BEHAVIOUR OF GRABPAY IN MALAYSIA: THE IMPLICATIONS FOR THE FUTURE OF CASHLESS PAYMENTS IN MALAYSIA

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A report summited in partial fulfilment of the requirements for the degree of Bachelor of Technology Management (High Tech Marketing)

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2024

DECLARATION

I declare that this thesis entitled “Analyzing User Adoption and Behaviour of GrabPay in Malaysia: The Implications for The Future of Cashless Payments in Malaysia” is the result of any of my own research except as cited in the references. The thesis has not been accepted for any degree and it is not concurrently submitted in candidature of any other degree.

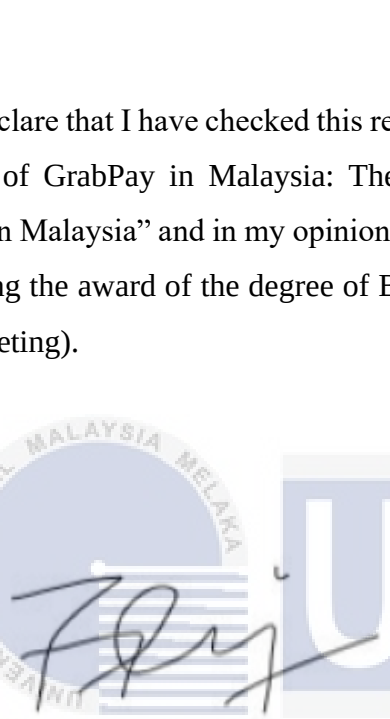
Signature: 

Name: CHOO SHER YI

Date: 4th February 2024

APPROVAL

I hereby declare that I have checked this report entitled "Analyzing User Adoption and Behaviour of GrabPay in Malaysia: The Implications for The Future of Cashless Payments in Malaysia" and in my opinion, this thesis it complies the partial fulfilment for awarding the award of the degree of Bachelor of Technology Management (High Tech Marketing).



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Date: 4th February 2024

DEDICATIONS

This research is dedicated to my beloved family for their love, my siblings for brainstorming with me a lot of idea; my supervisor for providing valuable guidance, my panel for the helpful feedback, and my friends for their support and the discussion on the research. Thank you all for being a crucial part of this journey.

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ABSTRACT

Grab is founded by Anthony Tan and Tan Hooi Ling since 2012, which act as a multifunctional platform that included various services such as GrabCar, GrabFood, GrabPay and so on. Among it, GrabPay is the digital wallet service that launched by Grab (Forbes, 2021). Recently, cashless transactions are become more common in Malaysia since the COVID-19 pandemic and the Movement Control Oder (MCO). However, the adoption and usage rate of GrabPay is relatively low compared to other digital wallet platform. Hence, the research was carried out to determine the factors influencing users' adoption of GrabPay in Malaysia, and to analyze the relationship between the identified factors and users' adoption of GrabPay in Malaysia. The researcher used quantitative method to conduct the research, with the involving of 385 users of Grabpay in Malaysian as the respondents. In the questionnaire, the researcher used the UTAUT model by Venkatesh to design the questions and the analysis such as frequency analysis, reliability analysis and correlation analysis was then carried out through SPSS. The result showed all the factors were positively influenced the adoption of GrabPay user in Malaysia, except performance expectancy. In the end of the study, the researcher had listed the limitation of the research and some recommendations for future research.

ABSTRAK

Grab diasaskan oleh Anthony Tan dan Tan Hooi Ling sejak 2012, yang bertindak sebagai platform pelbagai fungsi yang merangkumi pelbagai perkhidmatan seperti GrabCar, GrabFood, GrabPay dan sebagainya. Antaranya, GrabPay ialah perkhidmatan dompet digital yang dilancarkan oleh Grab (Forbes, 2021). Transaksi tanpa tunai menjadi semakin biasa di Malaysia sejak pandemik COVID-19 dan Perintah Kawalan Pergerakan (PKP). Walau bagaimanapun, kadar penerimaan dan penggunaan GrabPay agak rendah berbanding platform dompet digital lain. Oleh itu, kajian ini dijalankan untuk menentukan faktor yang mempengaruhi penggunaan GrabPay oleh pengguna di Malaysia, dan untuk menganalisis hubungan antara faktor yang dikenal pasti dan penggunaan GrabPay oleh pengguna di Malaysia. Pengkaji menggunakan kaedah kuantitatif untuk menjalankan penyelidikan, dengan melibatkan 385 pengguna Grabpay di Malaysia sebagai responden. Dalam soal selidik, pengkaji menggunakan model UTAUT oleh Venkatesh untuk mereka-bentuk soalan dan analisis seperti analisis kekerapan, analisis kebolehpercayaan dan analisis korelasi kemudiannya dijalankan melalui SPSS. Keputusan menunjukkan semua faktor telah mempengaruhi secara positif penggunaan pengguna GrabPay di Malaysia, kecuali jangkaan prestasi (PE). Akhir sekali, pengkaji telah menyenaraikan batasan kajian dan beberapa cadangan untuk kajian akan datang.

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LIST OF ABBREVIATIONS

AI	-	Artificial Intelligence
ATM	-	Automated Teller Machine
BNPL	-	Buy Now, Pay Later
CTAMTPB	-	Combined TAM and the theory of Planned Behaviour
EE	-	Effort Expectancy
EFA	-	Exploratory factor analysis
FC	-	Facilitating Conditions
FINTECH	-	Financial Technology
FPX	-	Financial Process Exchange
FX	-	Foreign Exchange
IC	-	Identity Card
IDT	-	Innovation Diffusion Theory
JPJ	-	Jabatan Pengangkutan Jalan
KYC	-	Know Your Customers
MAE	-	Maybank Anytime Everyone
MCO	-	Movement Control Order
MM	-	Motivational Model
MoF	-	Ministry of Finance
MPCU	-	Model of PC Utilisation
MYR	-	Malaysian Ringgit
P2P	-	Peer-to-peer
PE	-	Performance Expectancy
PHP	-	Hypertext Preprocessor
QR	-	Quick Response
RFID	-	Ratio-Frequescy IDentification
SCT	-	Social Cognitive Theory
SI	-	Social Influence
SMBs	-	Small to medium business

SWOT	-	Strengths, Weaknesses, Opportunities, and Threats
TAM	-	Technology Acceptance Model
TGV	-	Tanjong Golden Village
TNG	-	Touch'n Go
TPB	-	Theory of Planned Behaviour
TRA	-	Theory of Rational Action
UTAUT	-	Unified Theory of Acceptance and Use Technology Model

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CHAPTER 1

INTRODUCTION

1.1 Background of Research

Fintech is the combination of "financial" and "technology", it is the application of new technological advancements to products and services in the financial industry. The technology uses to enhance and to automate the financial services and processes for both businesses and the consumers (Sam Daley, 2022). According to Sam Daley, fintech refers to the application of software and hardware to financial services and processes, to make them faster, easier to use and more secure to the users. Some examples of it are online banking, mobile payment apps, cryptocurrency exchanges PayPal, and so on.

According to Guneet Kaur (2023), the evolution of the fintech industry can by concluded as below:

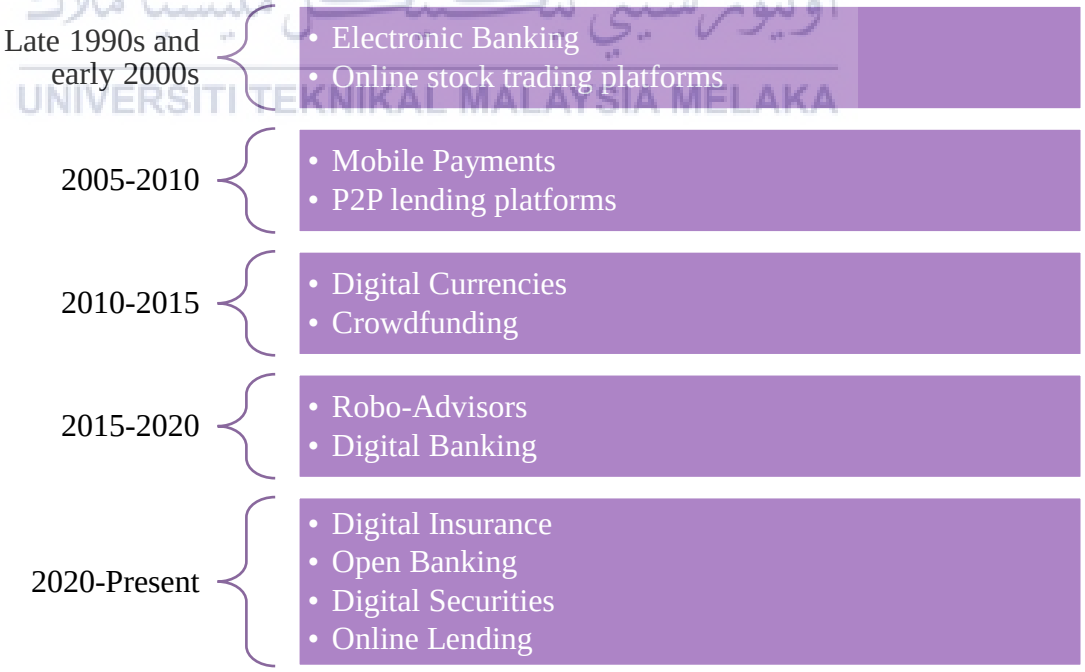

Figure 1.1: The Timeline of Evolution of Fintech Industry

Source: cointelegraph.com

Based on The Economic Times (2023), E-wallet (or called as digital wallet) is used for online transactions made through a computer or smartphone. The users need to link their e-wallet account with their bank account, and the e-wallet account was protected with password or the user's fingerprint. The users of e-wallet can use it for their financial transactions such as purchasing for the groceries, bills payments, transfer money to others, books a hotel room, etc. E-wallets had created a more convenient and secure ways for the users as it is in cashless form. Alipay and Wechat Pay was recorded more than 90% of the mobile payments market in China (Coco Feng, 2023). Alibaba was started by Alibaba group in 2004, it was introduced as the first digital payment in China (Shreya, 2022).

Nowadays, the use of mobile payments is being common in China, most of the citizens of China will make their transaction cashless, and they will not bring cash when going out. In Malaysia, the Covid-19 pandemic drives e-wallet acceptance and usage. People are more willing to use e-wallets compare with cash to reduce the contact between each other. Malaysia government had announced the Movement Control Order (MCO) on 18 March 2020, the citizens are not allowed to move freely (MDBC, 2022). During MCO, many Malaysian had started to use the mobile payment for their online shopping on the platforms such as Shopee, Lazada, Grabfood, etc.

Grab is a multifunctional platform founded by Anthony Tan and Tan Hooi Ling that provide several services such as GrabCar, GrabFood, GrabPay, GrabMart, GrabExpress since 2012. According to a report of SuccessStory, the company was start with ride-hailing service "MyTeksi", and then rebranded as "GrabTaxi" in 2013, and as "Grab" in 2016. The concept of GrabPay was started introduced to Malaysian since December 2016 (Grab, 2019). GrabPay is a digital wallet service under Grab. It offered the users a cashless payment option, the users need to top-up their GrabPay Wallet by link it with their bank account. The GrabPay service is not only available for the activities Offered by Grab only, that are more than 3000 merchants that are available with GrabPay. For example, the consumers can use GrabPay to purchase in 99Speedmart, KFC, McDonald's, Watson, Nando's etc. (The Star, 2020).

1.2 Problem Statement

According to Government Go Cashless: AGD's Perspective that posted by The Malaysian Administrative Modernization and Management Planning Unit, MAMPU (2021), The Prime Minister of Malaysia had launched the Malaysia Digital Economy Blueprint (MyDIGITAL) on 19 February 2021. One of the initiatives of this blueprint is to provide cashless payment option. The E-payment method was made up with the payment of debit or credit card and electronic fund transfer by using FPX (Accountant General's Department of Malaysia, 2021). Financial Process Exchange (FPX) is a payment method in Malaysia that let consumers to complete their transactions online by using the money in their bank credentials (Stripe Doc).

The Ministry of Finance (MoF) had said that all payments for public services in Malaysia would be cashless by 2022 (New Straights Time, 2021). The Malaysian that go to the government department such as Road Transport Department or "Jabatan Pengangkutan Jalan" in Malay (JPJ), they no need to use cash for the services, but they can pay it with their e-wallets or the debit and credit card such as MyDebit, FPX, JomPAY, DirectDebit and DuitNow QR (Jeremy Ng, 2022). To stimulate the usage of cashless payments among Malaysian, the government has organized a series of activities. For example, the government held a campaign that titled "Win with Cashless Boleh 2" from 1 December 2021 to 31 May 2022. When the Malaysian used cashless transactions at government agencies that are selected, they will have a chance to win cash prices up to RM10,000 for 100 winners (New Straits Time, 2022).

According to a case study by Aditya Shastri on March 2023, he had stated that the SWOT analysis of Grab. SWOT analysis is a method that used to evaluate the strengths, weakness, opportunities and threats that are reflecting to the strategies proportional to the current business organization (Majekodunmi Samuel, 2021). Aditya had mentioned that the strengths of Grab are it is the biggest technology start-ups in the Southeast region, the excellent service that provided by Grab, and the range of services as it provided a wide range of services such as GrabCars, GrabFood, GrabPay, and so on. The weaknesses of Grab are the customer's privacy issues and the changes of technology. Most of the users of Grab was worrying about their privacy when using the services of Grab as it will track their personal information. For the

users that use the GrabPay service, they are worry about the risk of their money to be scammed as some of them will linked their GrabPay e-wallet with their bank account. One of the opportunity of Grab is to explore new markets. For example, the GrabPay department can focus to collaborate with more business, it can help to expand the scope of use of GrabPay. When the users can use it at more places, it can increase the level of adoption of GrabPay. One of the threats to Grab is increasing of competitors. In recent years, the platforms of cashless payment were increasing and it had become a threats to the GrabPay usage as the consumers may choose other e-wallet (Aditya Shastri, 2023).

The Cashless transactions by using e-wallets are become more common in Malaysia in recent years. However, the adoption and the usage rate of GrabPay among Malaysian is relatively low if compared with other cashless payment platforms or e-wallets such as Touch'n Go, Mae app by Maybank2u, Boost and so on. According to Statista, a survey was conducted to analysis the e-wallet payment usage in October 2022 (Statista Research Department, 2023). In the survey, Rakuten Insight had listed out the usage rate of some of these e-wallet. As the result, Touch'n Go had recorded the highest usage rate, around 92% of the e-wallet users in Malaysia said that they have used Touch'n Go for their cashless transaction. Besides, GrabPay and Boost had recorded 51% and 36% respectively of the users that had used it as their payment method (Rakuten Insight, 2022). Hence, this research is carry out to determine the factors that influence the user's adoption and their behaviour of GrabPay for their financial transactions in Malaysia. The researcher aims to determine the factor that affected Malaysian's choice when choosing GrabPay as the e-wallet for their cashless financial transactions among other e-wallet that available in Malaysia, and to investigate the behaviour of the users of GrabPay in Malaysia while using it to make their financial transaction.

In order to compete with other cashless payment platforms that are competitors of GrabPay, Grab has designed a series of benefits or advantages for its users who choose to use GrabPay as an e-wallet for their financial transactions. Grab customised rewards to a customer's lifestyle needs and this helped them to create a feel of exclusivity for their brand. Grab has introduced GrabUnlimited to their users, it is a paid package that offers a lot of promotions (The Star, 2022). By subscribing the GrabUnlimited, the users of Grab can enjoy amazing savings such as free delivery for

the food delivery service. The users need to make their payment by using GrabPay e-wallet, to redeem the discount and to collect the GrabRewards points. For the users who are subscribing the GrabUnlimited plan, they will get 1.5% of the amount of their purchase that paid via GrabPay for the GrabRewards points; while the users that are non-GrabUnlimited members, they will get only 0.5% of their purchase to earn the rewards (The Star, 2022). The users will enjoy more value back wherever they spend started from 1 July 2022, but it is only available with GrabUnlimited (Grab, 2023).

The usage of GrabPay had brings pros and cons for the users, such as the users can collect the GrabRewards points from the services of Grab when they are using GrabPay wallet to pay for it, these reward points could be used for redeem vouchers and help to save more money for their next purchase. While one of the cons of it is cashback is not available and it cannot to be used for certain services (Iylia Adreena. 2019). The users of GrabPay had met some challenges that affecting the usage of GrabPay and these challenges may make them to change their e-wallet to other platforms.

Among it are the security of their account. The users always worry about their personal information being leaked as most of them linked their GrabPay wallet with their bank account and their credit and debit cards. Besides, the users of GrabPay need to fill-up their personal information to set-up their account for GrabPay wallet. For details, after they had downloaded the Grab app on their device, the users need to register their account by using their full name as on the Identity Card (IC), the email address, their phone numbers, the picture of their IC or passport, and linked to their debit and credit cards (Hannes, 2022). Once the user's personal information is leaked, it is very dangerous for the user. Unfortunately, it was actually happened in Singapore, according to an article by The Straits Times in 2020 with titled “Grab fined $10,000 for fourth data privacy breach in S’pore in two years”. The case occurred on 30 August 2020 involving the personal data breach of 21,451 GrabHitch drivers and passengers (Lester Wong, 2020). Hence, Grab must pay attention to the issues of security and always reassess its cybersecurity framework (Eileen, 2020).

Furthermore, the challenge of Grabpay towards their users is the limitation of their top-up amount and their purchase amount. For example, the minimum top-up for the GrabPay wallet by using online banking is RM20. This means that the users will

not able to top-up their account with the amount less than RM20. Before 7 September 2020, the minimum top-up amount that set by Grab was RM50 (Alex, 2020). Although it had decreased, but it was also created trouble for some users. GrabPay also limits the amount that users can spend on purchases. The users of GrabPay can just spent RM10000 by using their GrabPay wallet every month. If the amount was reach the maximum standard, the users will not be able to make their purchase by using their GrabPay wallet. The daily limit and monthly limit for the GrabPay wallet is RM500 and RM4999.99 respectively. While for the Grab premium users, the daily limit is from RM1000 to RM1500, and limit at RM10000 for the monthly limit (Jacie Tan, 2021). There are some users lost the money that they toped-up into their GrabPay wallet.

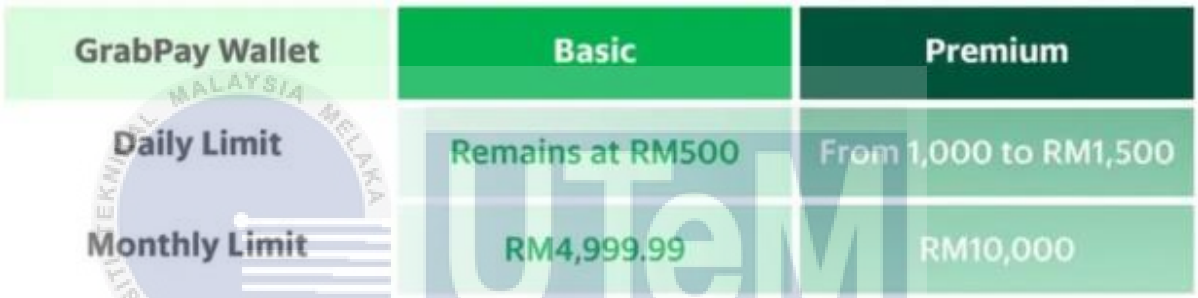

Figure 1.2: Limit of GrabPay Wallet

Source: Grab

The Grab platform is not user-friendly enough because the users cannot withdraw the balance of their GrabPay wallet to their bank accounts. The users are allowing to spend the amount of balance either paying for the services by Grab, or paying merchants only. However, they are not allowed to withdraw their money from the e-wallet to the bank accounts or to cash out their balance from thee e-wallet. The process of withdrawal is only allowed if the account of the user was deactivated or when they met a technical issue by Grab when want to top-up their GrabPay wallet (Hannes, 2022). In an article by Aaron Wong on February 15, 2021, he had make a tutorial on how to transfer the balance in the GrabPay wallet to the bank account, but it is only available in Singapore (Aaron, 2021). The users in Malaysia are unable to do so, this is inconvenient to the users in Malaysia.

In addition, GrabPay Malaysia allows the users to shop, pay for their services in Grab such as rides, food deliveries, and to collect and redeem the GrabRewards. The users can make their purchase by using their GrabPay wallet in over 3000 merchants. For example, AeonBig, Econsave, Caring Pharmacy, Guardian, KFC, MC Donalds, Domino's, Watsons, Burger King, Mr. DIY and so on. Since it is one of the leading e-wallets in Malaysia, the users can use it in their daily life needs such as pay for the bills, buy the groceries, internet plan and can earn points from it (Grab.com). Although it is very helpful to the users in Malaysia, but one of the limitation for GrabPay in Malaysia is some of the famous service are not available with GrabPay. For example, the GrabPay users cannot use the balance in their wallet to make their payment directly for some online shopping platforms such as Shopee and Lazada (Hannes, 2022). However, some of the competitors Boost of GrabPay such as Touch'n Go and can do so, it become a threat to GrabPay to compete with them (Hannes, 2023). Hence, GrabPay should continue to expand the scope of use of the users especially focus on the platforms that are commonly used by Malaysia users, so that they can able to compete with the competitors and the most important is to retain the existing users and attract the new users to use GrabPay as their wallet for the daily used.

The currencies that available for GrabPay Malaysia is in MYR only, once the users want to use the GrabPay wallet internationally, a currency conversion fees may be applied (Grab, 2023). For FX transactions, the transactions are made in different currencies other than PHP, the users will be charged a processing fee for 2% that are not- refundable. While for the cross border transactions, transactions made in PHP across overseas online and offline merchants, it will be charged 1% for the non-refundable processing fee to the users (Grab, 2023). Unlike its competitor, Wise Wallet, it supports more than 50 currencies, so users can use it internationally with no any conversion fee to be applied. It is free to their users to spend for any currency (Hannes, 2022). It had also became a threat to GrabPay as it is more beneficial to the users in this situation.

1.3 Research Questions

According to the background and problem statement that have mentioned in the previous part, the research intends to answer these three questions that are related to GrabPay in Malaysia. The questions are as below:

1. What are the factors that influence the user's adoption to use GrabPay in Malaysia?
2. Do these identified factors have a positive influence on the user's adoption to use GrabPay in Malaysia?
3. To what extend do the identified factors effect on the usage rate of GrabPay among Malaysian?

1.4 Research Objectives

The following research objectives are formulated to guide the research purpose and direction of this study:

1. To determine the factors that influence the user's adoption to use GrabPay in Malaysia.
2. To analyse the relationship between the identified challenges and the user's adoption to use GrabPay in Malaysia.
3. To assess the impact of identified factors on the usage rate of GrabPay among Malaysian.

1.5 Significance of the Study

Based on the issues mentioned above, this study is carry out to analyse the user adoption of GrabPay in Malaysia especially on the factors that affecting the user's adoption and their behaviour to use GrabPay as their e-wallet. This study aims to help to increase the usage rate of GrabPay Malaysia by understanding the limitations and challenges that faced by the users at this stage. Through this study, the researcher hopes to identify the shortcoming of GrabPay Malaysia from the user's point of view, and be a reference for Grab Malaysia for the improvement in future.

This study adds to the existing body of knowledge on the adoption of digital payments in the context of GrabPay in Malaysia. By identifying factors influencing the user adoption, analysing the relationship between challenges and adoption, and measuring the impact of these factors on the usage rates, the study advances the academic understanding of the user's behaviour, adoption, and the cashless payments in Malaysia. Through this study, the user awareness towards the benefits and features of GrabPay can be increased and to enhance the user's knowledge about GrabPay in Malaysia.

The increasing of usage rate of GrabPay in Malaysia can help to stimulate the economic growth in the country. This is because the widespread adoption of digital payment methods or cashless payments have a positive impact towards the economy of Malaysia. Through the research, the policymakers can identify the challenges that faced by the users that influenced their adoption decision and to make changes to improve it, thereby boosting the economic activity. Besides, the research can help to inform the policy decisions. Through the identifying the factors affecting the user adoption of GrabPay, it can help to provide some valuable insights for the policymakers and regulatory authorities.

For the managerial aspect, this research helps GrabPay on the strategic decision making. Through this research, after identifying the factors influenced users' adoption of GrabPay, the managers of GrabPay can make informed strategic decisions based on their payment systems. The management can use the findings to identify the key factors towards the users' adoption of GrabPay. For example, they can improve the

marketing efforts, improve the user experience, and addressing any perceived challenges.

1.6 Conceptual and Operational Definition

1.6.1 GrabPay

Conceptual Definition: GrabPay is a digital wallet platform that allows the users to make their transaction cashless. It is convenient for the users as they can use it to make payment in all of the partnering merchants of Grab (Grab, 2023). The digital wallet enables the users to store their funds securely as Grab make sure the accounts of users was protected with 24/7 fraud detection engine and Grab's artificial intelligence (AI) models ensure that only the genuine users and merchants transact by using the platform as they make more than 20 million real-time risk decision everyday (The Star, 2021).

Operational Definition: GrabPay was supported with wide range of the services that launched by Grab such as ride hailing, food delivery, retail purchases, bill payments, and so on. For example, the users can make their payment by using GrabPay wallet when they used the Grab rides, and for the GrabFood orders.

1.6.2 User adoption

Conceptual Definition: Based on Bill Yackey, user adoption is referring to a process that a new customer starts to use a new product and want to use the product for a long time. User adoption is a journey of a customer to become a regular user toward a product and to make it as part of their lives (Userpilot, 2023).

Operational Definition: In this research, the term of "user adoption" means the process of the individuals among Malaysian in order to accept or integrate GrabPay, and to use it for their financial transactions. It can be included the decision making, behavioural intentions and the

actual usage of GrabPay. These are influence by the perceived usefulness, the ease of use, security, trust, social influence, incentives and individual characteristics.

1.6.3 Factors

Conceptual Definition: According to Jim Frost, factors mean the variables that the researcher controls during a research to use to determine their effect on the response variable. Factors are the variables in a research that were believed that it will influence the result of the research. It can also call as independent variable, explanatory variables, manipulator variables, or risk factors (Jeffrey Franc, 2020).

Operational Definition: In this research, "factors" is referring to the variables or conditions that influence the users' adoption of GrabPay in Malaysia. It can be included the perceived usefulness, which relate to the degree to which the users perceive GrabPay to provide benefits and meet their financial needs. The ease of use refers to the user-friendliness of the user to use GrabPay for the financial transactions.

1.6.4 Usage Rate

Conceptual Definition: According to the marketing dictionary of Monash University, usage rate is a metric that use to measure how much of a product a user consumes in a selected period of time, it can be categorized as heavy, moderate and light. It involved the measurement of the customer's self-reported behaviour based on market dynamics, for example, the customer's purchase frequency and units per purchase. The marketer will identify how many people had rejected and adopted their products (Farris et al., 2010).

Operational Definition: The usage rate in this research is referring to the usage rate of GrabPay among Malaysian as their choice for cashless payment method.

1.6.5 Cashless Payments

Conceptual Definition: Cashless payments is the financial transactions which the individuals used to make their financial transactions without using physical cash (Mahfuzur Rahman et al., 2020). Cashless transaction is an economic setting to transact goods and services without using cash (Hock Han Tee, 2020).

Operational Definition: In this research, the operational definition of cashless payments is specifically referring to the financial transactions by using GrabPay e-wallet. It had included the electronic or digital financial transactions by the users among Malaysian that are using GrabPay as their preferred payment method.

1.7 Scope and Limitations of Study

The scope of this study is to analysing the user adoption and behaviour of GrabPay in Malaysia and its implications for the future of cashless payments in Malaysia. This study is specifically investigating the factors that influence the user adoption towards GrabPay, the relationship between the identified challenges and adoption, and the extent to which these factors affect the usage rate of GrabPay among the Malaysian users. The researcher will go through the method of questionnaire, to collect the data needed relate to the user adoption and behaviour among the Malaysian users of GrabPay. This study is also conducted to explore the relationship between the challenges, adoption and the impact of identified factors on the usage rate of GrabPay.

Mobile payments are a potentially fast-growing industry. Mobile phones are changing business practices and providing various opportunities in the digital business world (Radwan et al., 2023). Hence, there are various types of mobile payment that existing in the market. Competition among digital wallet payment platforms is fierce. According to an article on CompareHero on November 2023, stated that there are over 53 e-wallets are existed in the Malaysia market. Each of the e-wallet platform was compete to each other with the convenience, security system, rewards and other factors. One of the limitation of this research is the lower adoption rate of GrabPay among Malaysian. It would be a challenge for the researcher to find the Malaysia users of GrabPay for the purpose in investigating their user adoption and the factors that affecting the usage rate. The population of this research is 25 million of Malaysian users. The researcher used table of determining sample size for a finite population by Krejcie and Morgan (1970), and through the table, it can be seen that the ideal sample size are 385 respondents.

1.8 Structure of the Thesis

This thesis included five chapters. Chapter One (this chapter) consists of the background of research, problem statements, research questions, research objectives, significance of the study and structure of the thesis. This chapter had emphasized the concept and evolution of fintech by using the timeline of evolution of fintech industry. The researcher had introduced e-wallet or digital wallet that used as cashless payment in Malaysia. It had also highlighted the factor that may affect the user adoption and behaviour towards GrabPay in Malaysia, and also the challenges that faced by the users of GrabPay in Malaysia.

Chapter Two is related to the literature review for the cashless payment method in Malaysia, along with an introduction of cashless payment method overview and some theories that used in this thesis. Besides, the research framework and the research hypothesis are also included in chapter two.

Chapter Three is focus on the research methodology that will be used in this thesis. This chapter will describe the sample size and the population, and the methods used to collect and analyse the data.

Chapter four is the results from the previous chapter. After the data was collected, the researcher will analysis the data by using SPSS and associate with dependent and independent variable in previous chapter.

Finally, Chapter Five is the conclusion and the implications of this thesis. In this chapter, the researcher will discuss the findings in this study and elaborate the implications for the policymakers, practice, and knowledge. Furthermore, the researcher will carry out the recommendations for the future research in this chapter.

1.9 Summary

In summary, this chapter provides an overall discussion of the background of this study which based on the concept of fintech (financial technology), e-wallet, mobile payments, Grab, and GrabPay. The problem statement of the study was then discussed as the main problem is regarding the adoption rate of GrabPay in Malaysia. After that, the researcher had carried out some research questions and the research objectives such as to determine the factors that influence the user's adoption to use GrabPay in Malaysia. Then continue with the significance of study, and the conceptual and operation definition based on the terms of "GrabPay", "user adoption", "factors", "usage rate", and "cashless payments". The researcher also discussed the scope and limitations of the study as well as the structure of the paper and provided a general explanation of each chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In the previous chapter (Chapter 1), the researcher had described the background of the study, the problem statement related with the study, the research questions and objectives. Chapter 2 aims to present the review of previous literature related to this study. Besides, this chapter discussed the dependent and independent variables used for this study, and followed by the discussion of the development of the research framework and the hypothesis of the study.

2.2 Cashless Payment

2.2.1 Overview of Cashless Payment

Cashless payment or cashless transaction is referring to the economic environment to transact the goods or services without using cash (Hock-Han Tee et. Al., 2016). The cashless payments are included debit or credit cards, cheques, digital wallets, bank transfer. Cashless society means that a society that the financial transactions are not accept any cash in physical forms, such as notes and coins, but transfer digitally by using debit or credit cards, cryptocurrencies, online banking, or other mobile payment services such as PayPal (Brian Duignan). According to Screenu, cashless payment is referring to any electronic payment that is made without using the physical money (Screenu, 2020); while Xena et. al. stated that the used of cash was minimised as most people used the non-cash payment instruments for the transaction (Xena et. al., 2019).

Cashless payments have brought a lot of benefits to people, hence it is become more popular now. Compared to the traditional transaction methods such as transaction

by using cash, many people prefer to choose cashless payment method. Especially during and after the Covid-19 pandemic, the use of cashless transactions has increased significantly, and people are pay more attention to contactless when the transaction or payment process. The Covid-19 pandemic and the government had an impact on people's payment behaviour. It caused the rapid increase in the adoption and usage of cashless payments (Radoslaw et al., 2021). During the pandemic, people often buy the things online and order their meals via the food delivery apps, and used the cashless payment methods such as credit or debit card, online transfer, and e-wallet to pay for it.

According to Alexis, there are different types of cashless payments that are commonly used by Malaysia (Alexis Damen, 2023), some of it are:

i. Credit and debit cards;

Credit card is a card that let the users to be able to borrow money based on the line of credit and the credit card limit. When the users make their payment with credit cards, the issuer will pay to the seller, then the users have to pay back to the issuer for the amount of the transaction. The interest will be charged based on the payment amount if the users have balance on each month, and the balance of the credit card and the transaction history will affect the user's credit score (Miriam Caldwell, 2022)

While debit card refers to a card that allow the users use it to transfer their money directly from their bank accounts (Oxford Language). When the users use their debit card to make the payment, the money will be draw directly from the users' account. The user must use the personal identification number (PIN) or the password when they want to make their payment by using their debit card at a store or while using the ATM kiosks (Miriam, 2022).

ii. E-wallets;

According to the definition from The Economic Times, e-wallet is an electronic card that used with electronic devices such as computer or smartphone to transact the money online. It is a type of pre-paid account that the user uses it to store or transfer the money by using their

electronic devices and it is protected with the password that has been set by the user. E-wallet or digital wallet is a kind of software that lets the users make the digital transactions quickly and safe to protect their information and password. The users can use and store their money into the e-wallet by connecting their e-wallet account with their bank account (Brianna, 2023). Some of the example of the e-wallet that are commonly used by Malaysian are GrabPay, Touch'n Go e-wallet, Boost, ShopeePay, Lazada Wallet, Setel, Zapp, WannaPay, WeChatPay, Merchantrade Money, and so on (Hafiz, 2023).

Here are some of the example of e-wallets that are popular in Malaysia:

Figure 2.1: E-Wallets in Malaysia

Source: Ipay88.com

iii. Peer-to-peer (P2P) payments;

Peer-to-peer payment (also called as P2P), means that the transactions between two parties that with separate bank accounts. Through the P2P services, it allowing the users to send their money to the other's bank accounts via a third-party websites or the mobile applications. When the user signed up for the P2P service, they have to link their bank account with the service that via mobile app or an online portal. The services are different based on the different products, for example, some of the users are allowed to link their account to deduct the money

from it, while some of it are not allowed. The users can find others by using the username, the email address, contact number and can send money to others' accounts (Rene, 2022). Among the most popular P2P services on the market are Zelle, Popmoney, PayPal, Venmo, Cash App, Google Pay and so on.

iv. Buy Now Pay Later; and

Buy now, pay later (BNPL), is a type of loan that provide a user at the point of sale, so that the user can make their purchase but not using their credit card. The user shops as normal, and choose BNPL to make their payment. After that, the user need to fill up their personal information, such as their full name, address, identity card, or upload a selfie with their MyKad (IC). Then the lender will check it immediately, to assure the accuracy of the information and make sure that the user will pay back the loan based on their purchase history. After the approval of the apply, the user can have done their payment to buy things by using BNPL, and a small amount of fee will be charged (typically ranges between 2% to 8% of the payment amount). The user next need to pay the balance over time. Some BNPL vendors offers free interest fee to their customers if they able to pay off all their debts in a short period of time, typically 30 days. So the user just need to pay back the amount of their purchase payment (Shopify, 2022). However, if the user unable to pay off their debts on time, it will affect the user's credit score and they will hard to get credit in the future (Money Helper). The concept of BNPL is as a credit card, the faster the user pays off the debt, the less the interest they need to pay.

v. Cryptocurrency.

Cryptocurrency is a digital or virtual currency that use cryptography for the security and money supply. They gained prominence after the 2008 financial crisis and are a form of value on the internet. They can be used for monetary transaction or as the payment within specific networks. For example, Bitcoin is the famous cryptocurrency. There are over 1300 types of cryptocurrencies in the

market. The governments and the financial institutions are exploring their use (True, 2023). One of the characteristic of cryptocurrency is decentralization. It aims to operate on decentralized networks where transactions can be validated by anyone, this can help to ensure the transparency and helps to reduces the need of the intermediaries. Many cryptocurrencies use mining algorithms and the cryptographic tools to verify the transactions. The miners solve complex mathematical puzzles to validate and to add transactions to the block chain, maintaining the security and the integrity of the network (True, 2023).

2.2.2 The Advantages of Cashless Payment

Nowadays, people are more intent to use the cashless payment methods to make their purchase. It is different with the traditional payment method and bring several advantages to both the users and the business if compared to the traditional cash transactions. According to the Visa Consumer Payment Attitudes study, over 55% of the Malaysian did not use any cash to make their payment in a whole week, it recorded a rises of 13% to the previous year (Visa, 2022). According to Ng Kong Boon, Country Manager for Visa Malaysia, he said that the Covid-19 pandemic had accelerated digital transformation and the Malaysian prefer the cashless payment method to pay and be paid. Malaysian consumers believed that Malaysia could be a cashless society by 2025 (Visa, 2022). There are several advantages could bring from the cashless society.

i. Convenience,

Cashless payment provides the users a more convenient way to make their payments without using any cash. It helps to eliminating the need for physical cash and it enabling quick transactions. Through a survey by Business Wire on March 2023, it can be showed that 70% of the respondent from the survey prefer to use digital

payments, and there are 60% of them think that digital payments are more secure (Business Wire, 2023).

ii. Efficiency,

The cashless transactions are faster and more efficient compare to the traditional payment method by using cash. The users no need to waste too much time to queue for payment, they just need to scan the QR code that provided and finish their payment in just a few simple steps. This operation doesn't even take 2 minute of the users to complete it. Hence, cashless transactions can help to save the time and also can increase the efficiency of both the consumers and the businesses.

iii. Security,

The cashless payment methods improved the security features compared to the traditional ways that is by carrying the cash. This is because the digital payment methods often employ encryption and tokenization to protect the personal information of the users and always make sure the sensitive information are in safe. The security concerns in digital payments are hacking and cyber-attacks, phishing scams, data breaches, card skimming, personal information theft, unauthorized access to financial data, tracking of consumer behaviour, unlawful use of biometric data, and so on. Hence, encryption and secure storage of sensitive data is essential to prevent security and privacy issues in digital payments (Nikunj, 2023). The users also can protect themselves with the ways such as use a strong passwords and regularly changed so that not easy to be compromised, transact with the trusted and reputable payee, use a familiar and trusted payment methods, and shop online safely (Scott, 2022). However, it is a more

secure ways compare to the traditional cash payment as the consumers no need to worry about the risk of loss their money or stole by the theft.

iv. Records,

By using the digital payment methods, the users can track the activities of their payment history from time-to-time. This is because the cashless transactions will generate digital records that allowing the users a better tracking and management of their expenses. It can assist the users in budgeting and help them to plan their financial planning. According to a study by Visa on 2020, there are 70% of the consumers believe that the digital payments can help to make them easier to manage their finances (Visa, 2020).

v. Contactless Payments, and

Cashless payment methods had become more popular because it is contactless, the consumers can make the transaction of the money to make their purchase payment without any contact with others. It helps to reduce the physical contact during transactions especially during the Covid-19 pandemic, helps to prevent the spread of bacteria and prevent infection of Corona virus through the contact with others. The cashless payment methods help to reduce the risk of Covid-19 with less surfaces and people to contact and the shorter lines to queue to make payment.

vi. Rewards and Incentives.

The cashless payment platforms always offer the rewards programs and incentives to their users. For example, cashback offers, loyalty points, discounts, and so on. These can be one of the reasons that people

choose to use this platform, due to the benefits offered. For a real example, GrabPay as a leading e-wallet in Malaysia, had provided reward program named GrabRewards. When the users purchased by using GrabPay wallet, they will earn the points based on the amount of the purchase. After they gain more points, it can be used as a discount, or the users can redeem some vouchers to use in the stores that was collaborated with Grab (Grab, 2023).

2.2.3 The Future of Cashless Payment

Cashless payments have experienced significant growth, with debit cards, bank transfers, and cryptocurrencies becoming more popular. The cashless transactions reached $989 billion in 2021, and in the future, it was estimates predict annual cashless payments will reach $2 trillion by 2026. While the future of cashless payments is promising, people are worry about its impact on individuals without bank accounts and the ethical implications of shared e-commerce data.

Despite these concerns, the advantages of cashless payments outweigh the disadvantages. The users who accept cashless payments enjoy the convenience of managing their funds and reduce their reliance on visit the bank physically for cash withdrawals. This convenience encourages more users spending and allows for seamless transactions. Besides, the small to medium businesses (SMBs) had also benefit from going cashless, as it increases the customer retention, make the transactions faster, reduces operating costs, and improved the accuracy of accounting.

Cashless payments offer greater security compared to cash. Physical cash can be lost, stolen, or counterfeited, while the cashless payment systems are usually encrypted and easily traceable, and always improving the security.

However, the challenges must be met. Going cashless may marginalize individuals without access to bank accounts, especially those with lower

incomes. Some places had introduced the cash-backed legislation to ensure the equal access of goods and services to all citizens. Additionally, there are concerns about financial cybersecurity, as completely cashless systems could expose personal financial information to malicious actors. Financial institutions are addressing to these concerns and strengthening data protection efforts by taking a “zero trust” approach to the cybersecurity.

Hence, the rise of cashless payments offers convenience, security, and efficiency to both businesses and consumers. However, the companies and government agencies need to deal with the growth of social commerce and the contactless transactions. Advances in cybersecurity are necessary to protect the personal data, and a balance must be struck to ensure that everyone has access to essential goods and services in a cashless society in future (Miles, 2023).

2.3 GrabPay

2.3.1 Introduction of GrabPay

Grab is a super-app that is popular in Southeast Asia that provided a series of services such as ride-hailing, food and grocery deliver, financial service, and so on (Grab, 2023). Grab was origin in Malaysia in 2012, but was moved the headquarters to Singapore since 2014 by the founder, Anthony Tan (Olivia, 2020). GrabPay is a type of e-wallet that was launched by Grab that was introduced in November 2017 (Pang, 2018). It was introduced as a digital payment service for the third-party merchants that allow the users to use it for the services provided by Grab, and the payments other from it. GrabPay Malaysia was awarded as the Best E-Wallet during the Malaysia e-Payments Excellence Awards 2019 in recognition of the sustainable ecosystem and the quick expansion of the digital payments (Grab, 2019). Grab had brought a lot of convenient to their users and also their merchant partners since it was launched. Besides, Grab used some features such as Grab Pay Later and GrabRewards points and it helped to improve the usability of GrabPay by the users.

2.3.2 Registration and Account Set-up

The GrabPay app is designed to be user-friendly and easy to use even for first-time users. The first time users need to register and to set-up their account before they want to use the services of GrabPay. The first step of the users to activate their GrabPay wallet is tap the “Use GrabPay” button at the homepage of the Grab app, after that, they need to enter their full name that is same as their MyKad (IC). The Malaysian users need to select the MyKad and Passport for the foreigners, then to enter the MyKad or Passport number. With these simple steps, the GrabPay wallet had been activate successfully. The users can start to use it by top-up the money into their GrabPay wallet (Grab MY). GrabPay then need to verify the identity of each of the users via a process called Know Your Customers (KYC). It helps to protect Grab and helps to keep the platform more secure. KYC is a regulation that could help to prevent fraud,

money laundering and identity theft by using identity assurance and verification.

After the users had activated their account, the second step is to upgrade the wallet. The user need to tap on the “Upgrade Now” button, and then take a selfie along with their MyKad or the Passport. Then wait for the document of their information to be verified. The simplified KYC and the complete KYC are different in terms of the wallet type, balance limit, daily transaction limit, GrabRides, GrabFood deliveries, prepaid top-up, in-store and online shopping, transfer money locally and overseas, and the mastercard, it was shown as the table below.

	Simplified KYC	**Complete KYC**
Wallet Type	Basic Wallet	Premium Wallet
Balance Limit	RM 500	RM 1500
Daily Transaction Limit	RM 500	RM 1000
GrabRides	Available	Available
GrabFood Deliveries	Available	Available
Prepaid Top-up	Available	Available
In-store and Online Shopping	Available	Available
Transfer Money Locally	Available	Available
Transfer Money Overseas	Not Available	Available
MasterCard	Not Available	Available

Table 2.1: Simplified KYC vs. Complete KYC

Source: Grab.com

2.3.3 The Competitors of GrabPay

Competitors means that the other businesses who are offering same or similar products or services to the consumers (Commerce Commission, 2023). The consumers may choose different businesses based on the competitive

advantages that provide by the companies. Based on a definition of Market Business News, competitor can be a person, business, team or an organization that is competing with the company. In business, competitor is also called as a rival. Rivals are the same size and have the similar products or offered the same services with the company.

GrabPay is one of the leading e-wallet provider in Malaysia, it brings convenience to the users for the payment of their daily activities. For example, it is linked with other services by Grab, such as ride hailing, deliveries, financial services and so on. However, the GrabPay wallet is not only can be used for the services provided by Grab only, the users also can use it to pay the bills, buy groceries, foods, prepaid reloads and more. The users also can earn the GrabRewards points from the amount of their transactions by using GrabPay (Grab, 2023). There are some of the competitors of GrabPay in Malaysia that are provided the similar services:

i. Touch'n Go e-wallet

Touch'n Go, or also called TNG in short form, is a popular digital wallet platform provider in Malaysia. The TNG eWallet is an electronic wallet (or e-wallet) that holds the electronic money (e-money) through the mobile application offered by TNG Digital Sdn. Bhd. (TNGD). The user of TNG wallet can just use the app on their smartphone to reloads, make payments and transfer the funds anywhere and anytime within Malaysia (Touch'nGo, 2021). By using the mobile app of TNG e-wallet, it had offers many features to attract the customers as the features can help to make their life more convenient.

The users can transfer money to other users of TNG e-wallet, reload the mobile prepaid, pay the utilities and post-paid bills, to purchase for the movie tickets, QR code payment to the merchant that are collaborated with the company, and to pay tolls by using RFID and PayDirect (Tngdigital, 2021). The RFID technology is safer, seamless, card-free and hand phone-free technology. It is designed as a sticker that containing a radiofrequency chip. The users need to stick it on the left headlamp on their vehicle. The

RFID technology is connected with the users TNG e-wallet, so they no need to use the TNG card to pay toll fee as they using RFID service (Touch'nGo, 2023).

ii. Boost

Boost is another prominent digital payment platform in Malaysia that offers mobile payments, QR code payments and other features such as bill payments, prepaid mobile top-ups, and also provided some loyalty programs for their users. It has gaining popularity by collaborating or partner with various merchants and provide the cashback incentives to their customers (Boost, 2023). Boost have over 500, 000 merchant touch points that are available nationwide. For example, Boost pay is available at KFC, Zalora, myNews, TGV Cinemas, Lotus's, IIao IIao, Tealive, Caring Pharmacy and many stores that familiar to the Malaysian (Boost, 2023).

iii. Maybank QRPay

Maybank QRPay is the digital payment platform that us under Maybank, one of the Malaysia's largest banks. Maybank QRPay allow the users to make their payments by using the QR codes at the participating merchants. It was launched to the public in January 2018. The daily transaction limit of Maybank QRPay is RM1000, or its equivalent in a foreign currency (Ikmal, 2023). It leverages Maybank's extensive customer base and branch network to facilitate adoption among its existing customers. Maybank QRPay is also called Go Cashless via Scan & Pay, was available on the new app by Maybank-MAE by Maybank2u, and to help the users to minimize the physical contact with others (Maybank2u, 2023).

2.3.4 Features of GrabPay

The uniqueness of GrabPay among the other e-wallet platforms that act as its competitors are it is seamless to other services under Grab. For example, rides, in-store purchase, credits transfer, GrabFood, Prepaid Top-up (Grab).

The users can use GrabPay wallet to pay for the services such as ride hailing, food delivery and so on. By top-up the GrabPay wallet from the users bank account or their debit or credit card, the users can use it make the payment for any of the service. The GrabPay wallet is integration with the ecosystem of Grab. The integration had allowed the users to have a great experience to the Grab ecosystem as it make the convenience to the users to make their payments in various ways (Jeremy, 2021).

Besides, one of the specialty of GrabPay is the GrabRewards Loyalty Program. The users of GrabPay can earn the GrabRewards points through their payments. As long as the user was used GrabPay wallet to make the transaction, they will get the GrabRewards points based on the amount of the transaction. The more money the users spent with their GrabPay wallet, the more the GrabRewards points they earn. The points that the users earn can be used to redeem vouchers, discounts, and exclusive rewards, and providing added value to the users.

2.4 Theory Utilized

2.4.1 UTAUT Model

The Unified Theory of Acceptance and Use Technology Model (UTAUT) is a model developed by Venkatesh, et al. in 2003, it was used to examines the acceptance of the technology, and was determined by the effects of performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). The UTAUT model is a widely accepted model to explain the user acceptance and the adoption of technology. The model had provided a comprehensive framework for the understanding of the factors that influenced the individuals' intentions to use technology and their behaviour.

It integrates and extends several established theories, which include Theory of Rational Action (TRA) (Sheppard et al., 1988; Davis et al., 1989); Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989; Venkatesh and Davis, 2000); Theory of Planned Behaviour (TPB) (Ajzen, 1991; Taylor and Todd, 1995); and Social Cognitive Theory (SCT) (Bandura, 1986; Compeau and Higgins, 1995). The four main key structures that influence the technology acceptance are performance expectancy, effort expectancy, social influence, and facilitating condition, as mentioned in the previous paragraph.

2.5 UTAUT Constructs

2.5.1 Performance Expectancy

Performance expectancy (PE) is a variable in the UTAUT model that refers to the use to measure how much an individual perceives that using a system can help to improve the ability to gain in job performance (Venkatesh et al, 2003). It also has been defined as the degree to which an individual believes that the system helps to improve the performance of the job. It is based on the constructs from the Technology Acceptance Model (TAM), TAM2, Combined TAM and the theory of Planned Behaviour (CTAMTPB), Motivational Model (MM), the Model of PC Utilisation (MPCU), Innovation Diffusion Theory (IDT) and Sosial Cognitive Theory (SCT) (Marikyan, D. & Papagiannidis, S. 2023). It is the strongest predictor of intention to use and it is important in voluntary and mandatory settings (Zhou, Lu & Wang, 2010; Venkatesh, Thong & Xu, 2016).

2.5.2 Effort Expectancy

Effort expectancy is a crucial predictor of the technology acceptance. It is defined as the degree of ease associated with the use of the system (Vankatesh et al., 2003). Effort expectancy is premised in the ease of use and complexity (Cimperman et al., 2016). It is constructed from perceived ease of use and complexity driven by TAM, MPCU, IDT, which share similarities in definition and scale. The effect of the structure will become insignificant after long-term use of the technology (Gupa, Dasgupta & Gupta, 2008; Chauhan & Jaiswal, 2016).

2.5.3 Social Influence

Social influence is defined as the individual feels the importance of other people thinking he or she should use the new system (Adam, 2018). It

had become the largest supporting factors in the use of the new system by an individual, as it is affected by encouragement of the people and the environment around that individual. Besides, it used to measure the users' perceptions of how their significant others will perceive their behaviour regarding technology adoption and the usage (Claire, 2020).

2.5.4 Facilitating Conditions

Facilitating conditions is referring to the extent to which an individual perceives that organizational and technical infrastructures required to use the intended system are available (Ghalandari, 2012). It is included the individual's perception of whether they possess the necessary infrastructure, equipment and support to make effective use of the technology. It is included the factors such as access to training, technical assistance, hardware and software, and supportive organizational policies. When the individuals are more likely to use the technology when they perceive favourable facilitating conditions that make the smooth implementation and usage. According to the research, the facilitating conditions have a large impact to the technology adoption and the usage behaviour. By offering the users with the training programmes, technical support and necessary resources that they need to use the technology effectively, with that, the organizations can improve the facilitating conditions (Legris et al., 2003).

2.6 Research Framework

From the constructs of the UTAUT model, a framework is developed as the basis for this research, as shown in the figure below. There are four constructs of UTAUT in this research: PE, EE, SI, and FC.

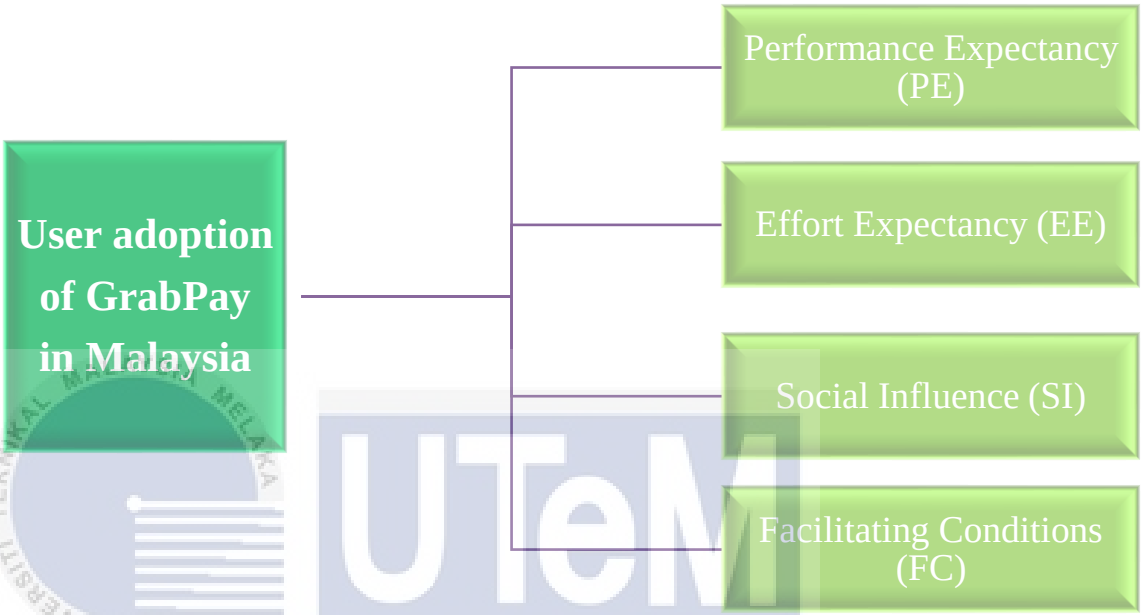

Figure 2.2: Research Framework

2.7 Summary

In this chapter, the researcher had described the overview of cashless payment in Malaysia, along with the different types of cashless payment methods. Besides, the researcher also discussed about the advantages of cashless payment in Malaysia, and followed by the future of cashless payment in Malaysia. After that, the part of 2.3 enter the discussion about GrabPay in Malaysia. This part began with the introduction of GrabPay, follow by the registration and account set-up by the users, the competitors of GrabPay, and the features of GrabPay Malaysia. Next, the part of 2.4 discussed about the theory utilized for this research, the researcher had highlighted the UTAUT Model and the UTAUT constructs that selected by the researcher to be used for this research. In the final part, the researcher had constructed a figure to show the framework of this research based on the UTAUT constructs mentioned before.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this research is to analyse the user adoption and their behaviour of GrabPay in Malaysia, and the implication for the future of cashless payments in Malaysia. In this chapter, the researcher will highlight the main components of this study. Besides, the researcher also will explain how the work achieves the research objectives as mentioned in the previous chapter. The methodology that been choose by the researcher to use in this research also will be explained in this chapter. Thus, this chapter will be divided into several sections to state the research design, data collection, research instrument, population and sampling and the data analysis procedure of this research.

3.2 Research Design

Research design is referring to a plan that use to answer the research questions. It is a document that contains the information about the methods, techniques and other essential details of a project (Emeritus, 2023). According to Yashvi Jain (2022), the author described the research design as the glue that stacked the research project together because it helps to provide a structure and direction to the research. Hence, in this research, the researcher used a questionnaire to survey and to perform a descriptive research.

The hypotheses are developed to improve the understanding of the relationship between the dependent variables and the independent variables. The researcher used the cross-sectional method to collect the data because it will only be conducted once. Therefore, the research design chosen was descriptive, and casual research and the

quantitative approach were deemed appropriate to make sure the purpose and the objectives of the research can be achieved.

3.3 Research Hypotheses

Based on the research design as mentioned, the research hypotheses were developed to investigate the relationship between the independent variables and independent variables. The independent variables were shown in the figure below, which represented by Performance expectancy (PE), Effort expectancy (EE), Social influence (SI), and Facilitating conditions (FC).

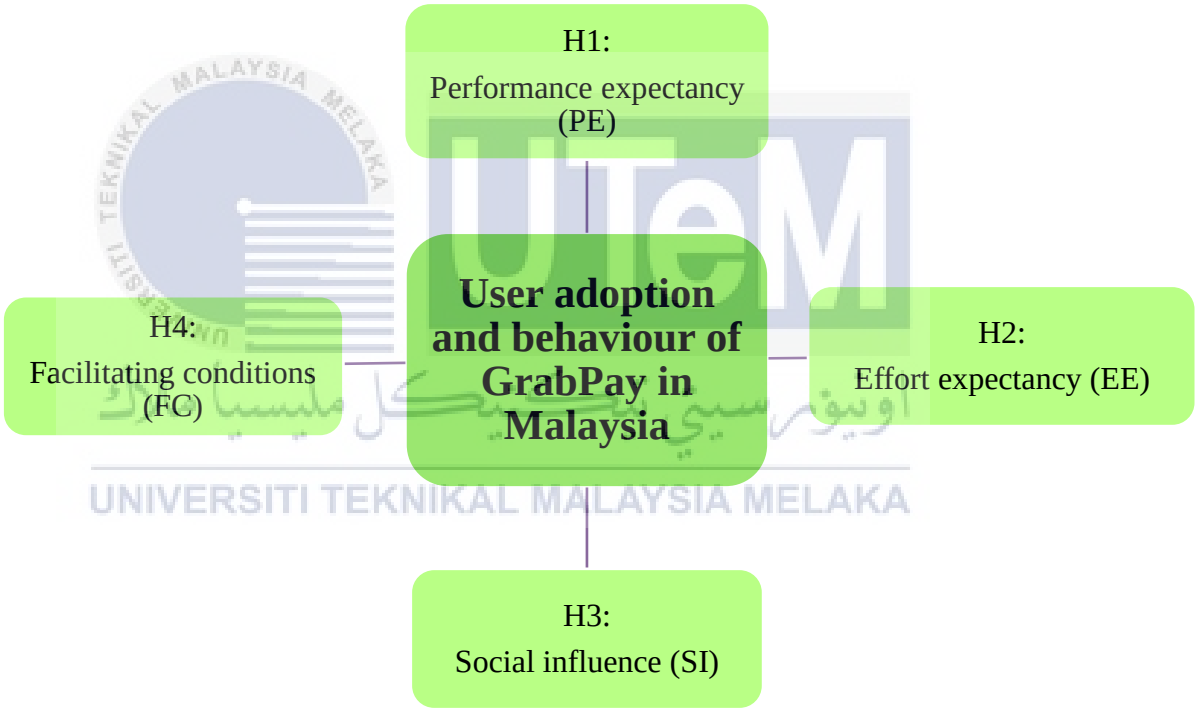

Figure 3.1: Research Hypotheses

3.3.1 Performance expectancy and the user adoption and behaviour of GrabPay in Malaysia

According to Venkatesh et al., (2003), the performance expectancy (PE) has a positive effect to the behavioural intention. A study about the relationship among self-efficacy, social influence, performance expectancy, effort

expectancy and behavioural intention in mobile learning service was carry out by Haeng et al. (2015), the researchers proved that there is a positive effect between performance expectancy and the behavioural intention. Through a study by Alkhunaizan, (2012), there is a positive relationship between performance expectancy and the willingness. Latha and Vatchala (2019) also had stated that the performance expectancy was a significant predictor of the intention of users to use the mobile payments. Hence, the hypothesis can be generated as:

H1: Performance expectancy (PE) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

3.3.2 Effort expectancy and the user adoption and behaviour of GrabPay in Malaysia

The effort expectancy has a positive effect on the behavioural intention (Venkatesh, 2003). Effort expectancy is a significant predictor of willingness to use the mobile wallets (Voronenko, 2018). According to Rahi et al., stated that the effort expectancy has a significant relationship with behaviour intention by the users when mobile wallets and online banking come as a new technology. The effort expectancy portrayed a positive effect on the behavioural intention in accepting the mobile payment systems (Gupta and Arora, 2020). Besides, there is a significant positive effect between the user's expectation and their behaviour intentions to use mobile payment methods (Ismail et al., 2017). And a study conducted by Kabir et al., the effort expectancy become one of the most variables to determine whether a user will adopt mobile wallet or not (Kabir et al., 2017) Therefore, the hypothesis can be proposed as:

H2: Effort expectancy (EE) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

3.3.3 Social influence and the user adoption and behaviour of GrabPay in Malaysia

Social influence is used to show the intention of individual's decision to use a service or product that was affected by the close associates, such as their family members, friends, colleague and so on (Vankatesh et al., 2012). Through a study by Yang et al, (2012), the social influence was positively affected the beginning adoption stages in China contexts. A study was found that social influence has a significant effect to the current and potential users of digital wallet services (Azman et al, 2021). Besides, the social influence was proved that it has a positive effect on the intention of users to adopt the digital wallet in a research in determining the intention of consumer to adopt e-wallet payment conducted by Junadi and Sfenrianto in 2015 (Jonathan et al. 2022). The hypothesis is proposed as:

H3: Social influence (SI) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

3.3.4 Facilitating conditions and the user adoption and behaviour of GrabPay in Malaysia

Facilitating conditions have a positive effect on the intention and behaviour of users (Venkatesh, 2003). The intentions of user to adopt e-wallet is affected by the facilitating conditions and is moderated by experience (Tusyanaah et al., 2021). Through a study by Havidz et al. (2018) stated that facilitating conditions and the intention to accept WeChat mobile payment system of the Indonesia citizen that stay in China. Besides, facilitating conditions were significantly affected the adoption of the user to use the application during the Covid-19 pandemic (See and Goh, 2020). Therefore, the hypothesis can be stated as:

H4: Facilitating conditions (FC) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

3.4 Operationalization of Constructs

The researcher used quantitative method by constructing a survey to collect the data and information from the respondents. Questionnaire is a tool that contain a series of questions that help to collect the useful information from the respondents, it is either in the form of written or oral and contain interview formats (Cint, 2022). The questionnaire can be conducted through online, by telephone, on paper, or in person; it can be quantitative or qualitative. The questions do not be administered in the presence of the researcher. The open-ended questionnaire can let the respondent to answer the question by using their own words; while the closed question refers to the question provided by the researcher are in option, the respondent only can make their choice for the options given by the researcher via the questionnaire (Cint, 2022).

Questionnaire is a commonly used method by the researchers to collect the information from the respondents. It brings some advantages and disadvantages to the research. The advantages of questionnaire included practicality. By using a questionnaire, it enables the researchers to manage their target audiences, questions and the format when the researcher want to collect large amounts of data for their topic. Through the questionnaire, the can help the researcher to save the cost, as the researcher no need to hire a surveyor to make the survey questions, the questionnaire will cause little or no cost because the researcher can generate their question online, and distribute it to their target respondents by using a website link (Cint, 2022).

However, questionnaire also bring some disadvantages. Among it is no personal interaction. Since the questionnaire don't need the presence of the researcher during collect data, there are no interaction between the researcher with the respondent. They just create the questions and distribute to the target respondent, and the respondents just need to fill up the questions based on their experiences and opinion. The next disadvantage by using questionnaire in data collection is the contrasts in comprehension and understanding. As the researcher unable to brief the question clearly to each respondent. Hence the results may be abstract, because the respondent may face difficulties in understanding the questions provided (Prasanna, 2023).

For this research, the researcher used the Likert scale as the option for the questions. It contains five categories of answer that represented the level of agree by

the respondents, which are start from “1: Strongly Disagree”, “2: Disagree”, “3: Neutral”, “4: Agree”, and “5: Strongly Agree”. The Likert scale is used as a rating scale to measure the respondents’ opinions, attitudes, or their behaviours. There are three sections in the questionnaire for this research: Section A that focus on the demographic profile of the respondents and their background; Section B is the questions based on the UTAUT factors as mentioned in the previous chapter; and Section C that included the questions about the identified challenges effect on the user’s adoption.

3.4.1 Section A: Background of the respondents

No.	Items
	Demographic profile of respondents
1	Age
2	Gender
3	Ethnic
4	Location (Based on State in Malaysia)
5	Education level
6	Income level
7	Have you registered as a user of GrabPay?
8	How long have you been using GrabPay?
9	How frequently do you use GrabPay as digital payment method?
10	What function do you mainly use GrabPay for?
Total	**10 Questions**

Table 3.1: Section A-Background of the respondents

3.4.2 Section B: UTAUT factors

No.	Items
Performance Expectancy (PE) (Sources: Vy, 2019; Lee, 2009)	
1	I think GrabPay can help to make the transactions more efficient.
2	GrabPay saves me more time than cash.
3	I think GrabPay is a user friendly payment method and easy to use.
4	I am satisfied with GrabPay's modern and efficient features.
5	I believe GrabPay is more efficient in processing transactions than traditional payment methods.
6	I can better manage my financial transactions with GrabPay.
Effort Expectancy (EE) (Sources: Vy, 2019; Lee, 2009; Gefen&Straub, 2000)	
1	I think it is easy to learn how to use GrabPay.
2	I think the process to register as a user of GrabPay is very simple.
3	I think that the navigation of the Grab app is easy to be understood and is user-friendly.
4	I am confident to use GrabPay effectively.
5	I think GrabPay is a better option compared to other cashless payment methods.
6	The process to make transaction with GrabPay is fast and efficient.
Social Influence (SI) (Source: Vy, 2019)	
1	I recommend my family, friends or colleagues to use GrabPay as the e-wallet.
2	I decided to use GrabPay as my e-wallet when I saw other people using it.
3	I believe that the famous people that using GrabPay will influence more people to accept and use it.
4	I trust the opinions and recommendations of GrabPay influencers on social media.
Facilitating Conditions (FC) (Source: Gupta, S., 2022)	

1	I faced difficulties or challenges when I am using GrabPay app.
2	I am satisfied with the user interface and design of the GrabPay app.
3	I think that GrabPay could add some specific features or functions to improve it.
4	I think that the customer service of GrabPay is helpful when I faced technical problems.
Total	**20 Questions**

Table 3.2: Section B-UTAUT factors

3.4.3 Section C: Identified challenges and users' adoption

No.	Items
1	I have encountered challenges or difficulties when using GrabPay.
2	I think that the identified challenges will affecting the willingness of people to adopt and use GrabPay as the cashless payment method.
3	Despite my challenges, I would still recommend GrabPay to others.
4	I think that GrabPay is overcoming the identified challenges effectively.
5	I think GrabPay's ability to overcome known challenges will attract more user adoption.
Total	**5 Questions**

(Source: Gupta, S., 2022)

Table 3.3: Section C-Identified challenges and users' adoption

3.5 Population and Sampling

Population means a complete collection of individuals, whether the group includes a nation or a group of people with their same characteristics. It refers to a group of peoples from which a statistical sample drawn for a study (Osikhotsali, 2023). While sampling means the selection of a subset from the individuals that counts as the population for the research, because population refers to a big pool of people, not every individual wants to participate for the research. Hence, a smaller group of people was targeted by the researcher for the data collection (Dana, 2020). This research is aim to analyse the user adoption and their behaviour of GrabPay in Malaysia, so the researcher was focus on the Malaysian that using GrabPay. According to PPRO, there are over 25 million of Malaysian are using GrabPay as their digital wallet to use to transact their money, it accesses a large pool of Malaysia's population (PPRO, 2022).

To find out the sample size that needed for this research, the researcher refers to the table of Krejcie and Morgan (1970), it had addressed the existing gap with a table to determine the sample size that is suitable for the research. As the result, the sample size needed in this research for the population of 25 million are the sample size of 385. And for the sampling technique, the researcher decided to use convenience sampling technique to get the data. Convenience sampling technique is a non-probability sampling method that may be due to the geographical proximity, availability at a given time, or willingness to participate in research (Kassiani, 2022).

3.6 Data Analysis Procedure

The data analysis is a process to describe an illustrate, condense and review and evaluate data by applying statistical or logical techniques. The data analysis procedure started with determining the sample size. A sample size that most appropriate size for the most research is with a sample size of between 30 to 500 (Roscoe, 1975).

The process was start with the analysis for reliability and validity of research instruments, followed by the measuring the correlation of the relationships between the dependent variables and independent variables. The process also indicated the direction, strength, and significance of binary relationships of all the stated variables. After that, the next step is the regression analysis in which the significance of the predictor variables of the measurement variables.

3.6.1 Reliability and validity of research instruments

Reliability and validity are the two most important and fundamental characteristics to evaluate any measuring instrument or good research tool (Haradhan, 2017). Reliability is referring to the consistency of a measure. Participants who complete the instrument designed to measure motivation should have approximately the same response each time the test is completed (Roberta, and Alison, 2015). It is concerns the confidence that one in the data obtained using an instrument, such as how well any measurement tool is controlled against random errors. The reliability refers to how the consistency in which a method is used to measures something. A measurement is considering as reliable if the same result is get using the same method under the same circumstances (Fiona, 2023).

While validity is concern on an instrument measures and how well it does so (Haradhan, 2017). Validity is defined as the degree to which concepts are accurately measured in quantitative research (Roberta and Alison, 2015). When conducting or critiquing research, it is important to consider the validity and reliability of data collection tools (instruments). Reliability is the stability

of the research; while the validity is the truthfulness of the findings (Altheide and Johnson, 1994). Both of it are important and need to be presented in research methodology in a concise but precise manner (Haradhan, 2017).

3.6.1.1 Pilot Test and reliability

After the set-up of the questionnaire, the researcher was conducted a pilot test that had included 39 respondents that represented 10% of the sample size of 385 respondents for this research. The test was conducted through Google Forms and the respondents were the users of GrabPay in Malaysia. The analysis of result was then carried out with SPSS to analyse the reliability of the set of questionnaire. The results were as shown in Table 3.4 that shows the Cronbach's Alpha with 0.948 based on the 25 significant items tested. It means the questionnaire was acceptable as the tested Cronbach's Alpha value was greater than 0.7 as the standard value.

Cronbach's Alpha	N of items
.948	25

Table 3.4: Reliability statistics (Pilot Test)

According to Pallant, the reliability test is used to measure the internal consistency of the scale that means that the degree of each of the item in the construct that sticks together. The method used in this research by the researcher to check the reliability is Cronbach's Alpha coefficient. If the reliability value is greater than 0.7, it can be accepted; otherwise it had to be rejected if it is under 0.7. In this study, the reliability values of PE, EE, and SI were greater than 0.7, so it could be accepted. However, the Cronbach's Alpha value for FC is 0.566, since it was below 0.7, it was lower reliability.

Variable	Cronbach's Alpha	Number of Items
Performance Expectancy	.925	6
Effort Expectancy	.862	6
Social Influence	.869	4
Facilitating Conditions	.566	4

Table 3.5: Reliability Result

3.6.2 Factor analysis

According to Statistic Analysis, exploratory factor analysis (EFA) is a statistical technique to reduce the data collected into a small set of summary variables and to explore the underlying theoretical structure of phenomena (Statistic Analysis). The exploratory factor analysis should be conducted based on the three reasons (Field, 2005), which are:

i. to gain initial idea of the study structure defined by the participants;
ii. to evaluate the reliability of the questionnaire; and
iii. to get information on how to reduce the number of survey questions.

There are two main steps that must be followed when the researcher wants to conduct the EFA for the research which is extraction and rotation. According to a textbook by University of Southern Queensland, "Statistic for Research Students", stated that the extraction methods are methods that estimate the variability explained by inputs by generating a parsimonious set of factors. There are several traditional EFA factor extraction methods. While the rotation method refers to the changing the scaling of the factors data vectors based on geometric axis.

3.6.3 Correlation analysis

The researcher used Pearson's Correlation in this research to analyse the relationship between the dependent variables and independent variables

stated and to determine the key factors the affected the user adoption and behaviour to use GrabPay as their choice for e-wallet in Malaysia.

Correlation analysis is a useful tool that used to understand how one variable affects another. It is a statistical method that used to identify the strength of a relationship between the variables. It reveals patterns in many variables in the dataset (Tim, 2023). Correlation analysis is a statistical method used to discover whether a relationship exists between two variables and the strength of this relationship (Emily James).

The Pearson's Correlation coefficient (r) is a common way to measure a linear correlation. The number between -1 and 1 helps to measure the strength and direction of the relationship between the variables (Shaun, 2022).

Pearson's Correlation Coefficient, r	**Correlation type**	**Interpretation**
Between 0 and 1	Positive correlation	The other variable changes in the same direction when one variable changed.
0	No correlation	No relationship
Between 0 and -1	Negative correlation	The other variable changes in the opposite direction when one variable changed.

Table 3.6: Pearson's Correlation Coefficient

Source: Shaun Turney, 2022

3.6.4 Multiple regression analysis

Multiple regression analysis is to examine the effects of decision making strategy, group belonged and type of agenda on the individuals' evaluation of the discussion process, the evaluation of the discussion results and the satisfaction with the discussion. It was conducted to examine the effect of the factors on the evaluation of discuss process (Kazuhisa Takemura, 2021). It was use in determining whether these structures were positively significant predictors. A standard multiple regression analysis was performed with all five constructed inputs as the independent variables and adoption as the dependent variable. It helps the researcher to understand how an outcome variable be predicted (Vogt, 2007).

3.7 Summary

In this chapter, the researcher had highlighted the methodology that was used for the research. The researcher used the quantitative method to identify the analyse the user adoption and their behaviour of GrabPay in Malaysia, and the identified challenges impact on users' adoption. Besides, the operationalization of each variable used to create research tools in this study is also discussed. The researcher had also stated the target population and respondents to get information from them for this research. Finally, this chapter also stated the analysis used for the current study that consists reliability analysis, multiple regressions, and correlation analysis. The results of this research by using the method stated will be discussed in the next chapter.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

This chapter is mainly an analysis of the research results. It is started with the rate of response of the research, and a frequency analysis was first conducted on the profile and background of the respondents. Then, it is followed by the descriptive analysis for the dependent variables and independent variables. Next is the normality test, and factor analysis. After the analysis, the researcher shows the reliability analysis result, and the relationship between independent variables and dependent variables. And lastly, the chapter present the discussion by the researcher about the findings of this research.

4.2 Rate of Response

The researcher conducted a set of questionnaires to collect data from the respondents. The target respondents for this research is the users of GrabPay among Malaysian to analyse the user's adoption and the behaviour of the users of GrabPay. By referring to the Krejcie and Morgan Table, the researcher had determined the sample size of the data collection for this research (Krejcie & Morgan 1970). Since the targeted population of this research is 25 million, the sample size of the respondents used are 385 respondents. To collect the data from respondents, the research used questionnaire and distributed the questionnaires through online platforms. The platforms such as Facebook, Instagram, WhatsApp, and Xiaohongshu were used in distributing the questionnaire to the respondents. It is a more convenient way to collect

data from a big sample size of respondent compared to other ways such as face-to-face survey. The questionnaire was distributed through various methods through online platforms especially via social media applications, and finally the researcher successfully acquired all the necessary data.

4.3 Normality Test

A normality test assesses whether a set of sample data originates from a population with a normal distribution. This test is typically conducted to ascertain if the data under investigation follows a normal distribution. The main values that were used by the researcher for this research are skewness and kurtosis. Skewness means the measurement of the asymmetry of the distribution of a variable, while Kurtosis means the measure of the peakedness of the distribution (Hae, 2013). If the data of the skewness is in the range of -2 to 2, it can be considered as normal, same as the data of kurtosis if it is between -7 to 7. In the analysis of this research, the data of skewness is between -1.478 to -1.138 while the data of kurtosis is among 0.767 to 2.731. The data are as presented in the table 4.1.

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Performance Expectancy	385	-1.475	.124	2.195	.248
Effort Expectancy	385	-1.478	.124	2.731	.248
Social Influence	385	-1.138	.124	0.767	.248
Facilitating Conditions	385	-1.169	.124	2.330	.248
User's Adoption	385	-1.373	.124	2.369	.248

Table 4.1: Normality of data

4.4 Frequency Analysis

In this research, the researcher used frequency analysis to analyse the first section of the survey, which is the background of the respondents based on their demographic profile. Section A contains 10 simple questions, including the respondent's age, gender, ethnic, the location based on the state, their education level, monthly income level, GrabPay registration status, using period, using frequency, and the main use of GrabPay.

a. Age

The table below shows the different age groups among the respondents. There are five age groups of respondents that took part in this survey: below 18, 18 to 24, 25 to 34, 35 to 44, 45 and above. The largest proportion among it is the age 18 to 24 which is 151 respondents (39.2%), followed by age 25 to 34 134 respondents (34.8%), There are 48 respondents age 35 to 44 (12.5), for the respondents aged 45 and above are 28 (7.3%), while the least are below 18, 24 respondents (6.2%). The data was shown in the table below:

Age	Frequency	Percentage (%)
Below 18	24	6.2
18 to 24	151	39.2
25 to 34	134	34.8
35 to 44	48	12.5
45 and above	28	7.3
Total	**385**	**100**

Table 4.2: Age group analysis

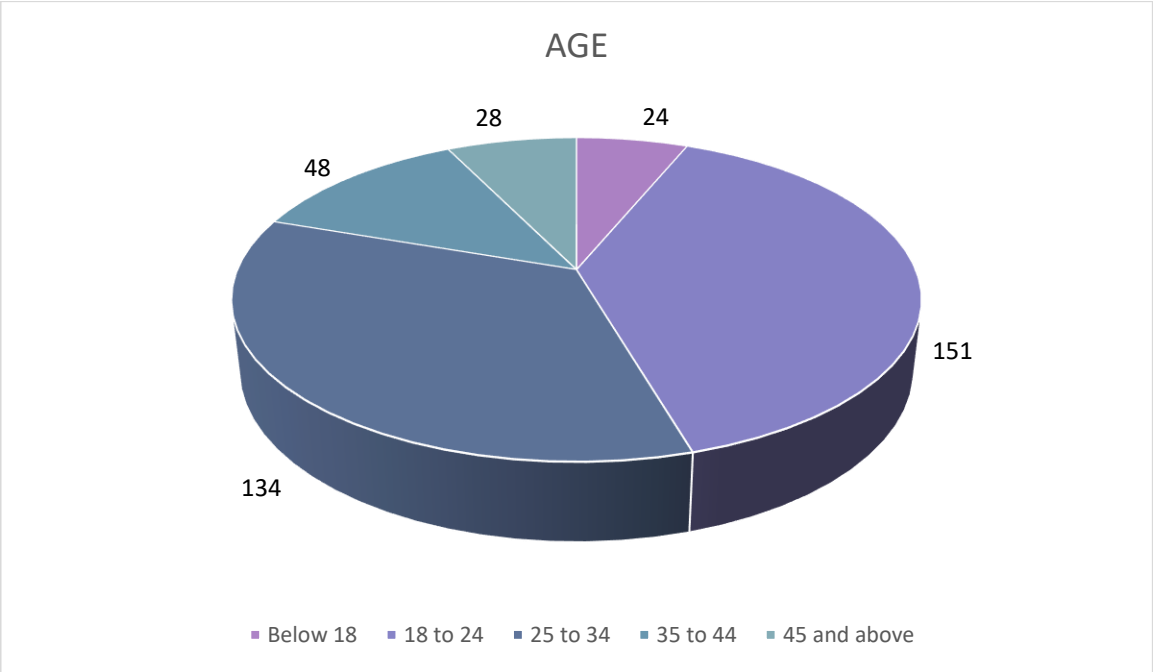

Figure 4.1: Age group analysis

b. Gender

The second question is about the gender of the respondents. In this survey, there were 385 respondents, including 227 females (59%), and 158 males (41%).

Gender	Frequency	Percentage(%)
Male	158	59.0
Female	227	41.0
Total	**375**	**100**

Table 4.3: Gender analysis

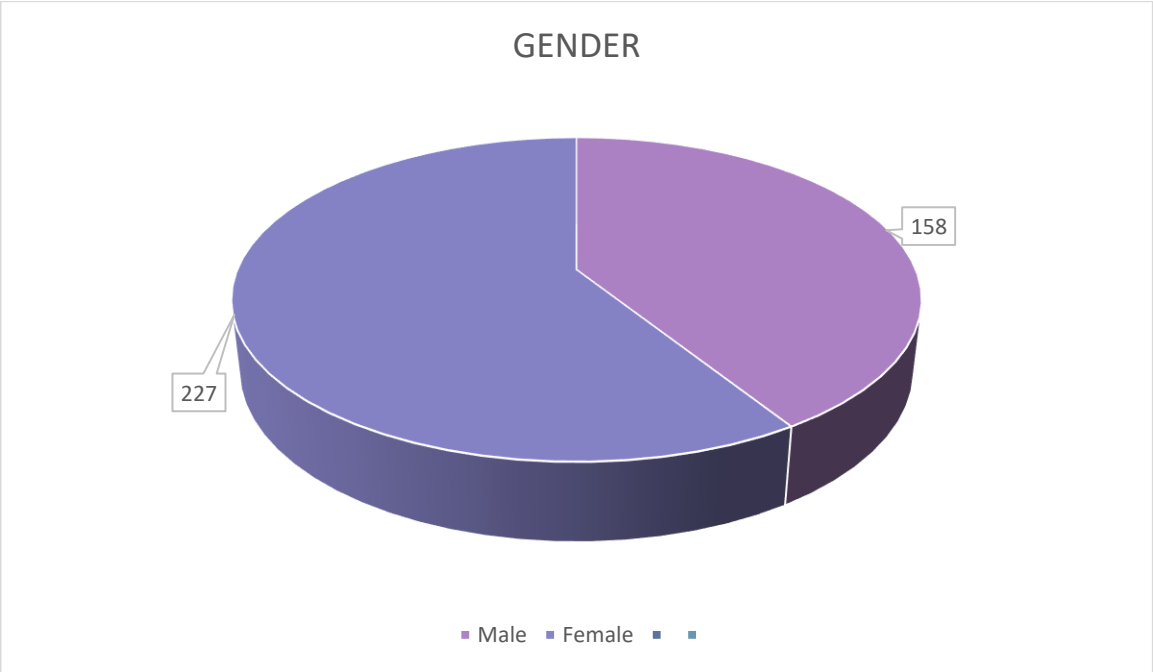

Figure 4.2: Gender analysis

c. Ethnic

Since Malaysia is a multi-ethnic country, the respondents participating in this study were basically composed of different races. Among them, 147 respondents were Malay (38.2%), 155 respondents were Chinese (40.3%), 58 Indians (15.1%), while another 25 respondents were other ethnics (6.5%).

Ethnic	**Frequency**	**Percentage(%)**
Malay	147	38.2
Chinese	155	40.3
Indian	58	15.1
Others	25	6.5
Total	**385**	**100**

Table 4.4: Ethnics of analysis

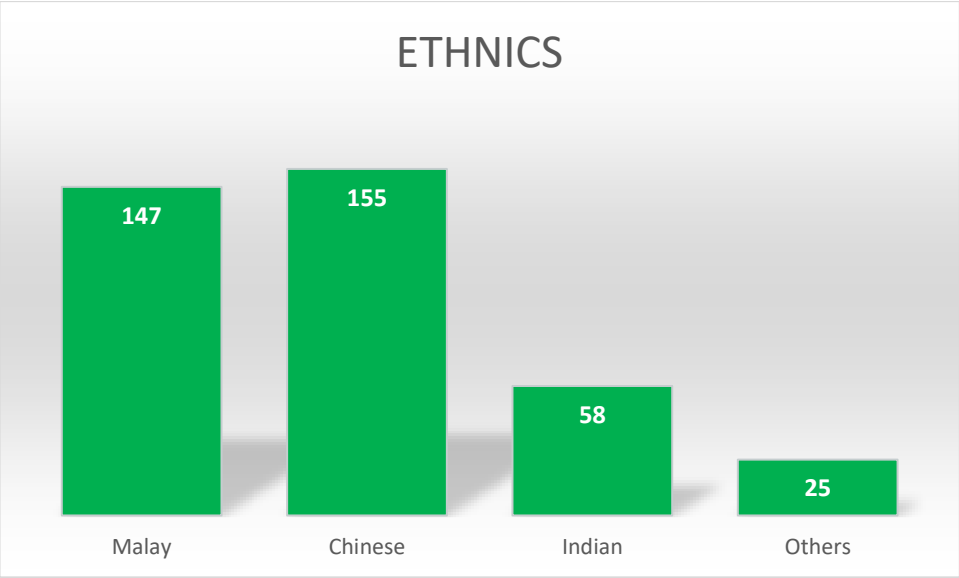

Figure 4.3: Ethnics of analysis

d. Location (Based on state in Malaysia)

Since the target respondents are the users of GrabPay in Malaysia, the researcher had analyse the respondents based on the states they stay in. Among them are Melaka, Pahang, Selangor, Penang, Kedah, Perlis, Perak, Negeri Sembilan, Federal Territories (including Kuala Lumpur, Labuan and Putrajaya), Kelantan, Johor, Terengganu, Sabah and Sarawak. The state with the most respondent stay in is Selangor, 63 respondents (16.4%), while state with the least respondent stay in is Sabah with 8 respondents (2.1%). The data has been recorded in the Table 4.5.

Location	Frequency	Percentage(%)
Melaka	24	6.2
Pahang	20	5.2
Selangor	63	16.4
Penang	27	7.0
Kedah	18	4.7
Perlis	25	6.5
Perak	41	10.6
Negeri Sembilan	25	6.5
Federal Territories	44	11.4

Kelantan	17	4.4
Johor	36	9.4
Terengganu	19	4.9
Sabah	8	2.1
Sarawak	18	4.7
Total	**385**	**100**

Table 4.5: Location (based on state in Malaysia)

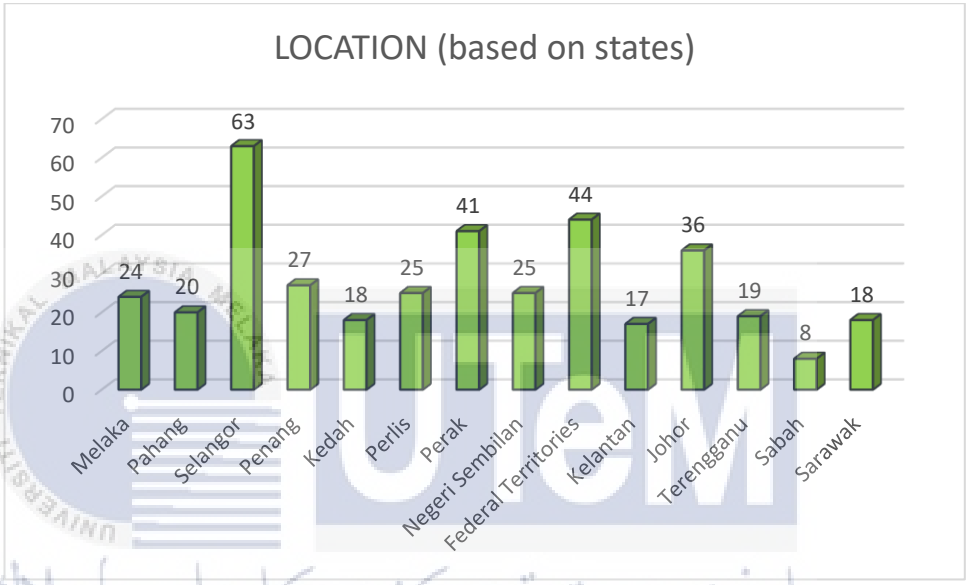

Figure 4.4: Location (based on state in Malaysia)

e. Education level

Through the analysis of the respondents' education level, most of the respondents are tertiary education, recorded as 170 respondents (44.2%). Followed by secondary education which is 130 respondents (33.8%). 16 (4.2%) of the respondents choose primary education, while 69 (17.9%) choose other educational levels.

Education level	Frequency	Percentage(%)
Primary education	16	4.2
Secondary education	130	33.8
Tertiary education	170	44.2
Others	69	17.9

Total	**385**	**100**

Table 4.6: Education level

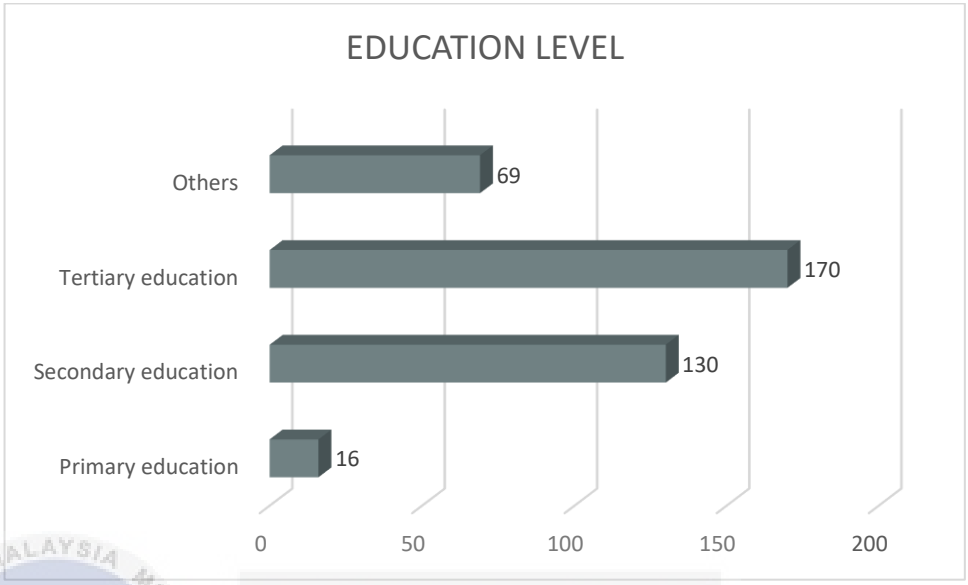

Figure 4.5: Education level

f. Income level

The survey was also asked the respondents about their income level. There are four options for the respondents to choose: under RM2000, RM2000 to RM4000, RM4000 to RM6000, and above RM6000. It was recorded that 174 (45.2%) respondents' income level was under RM2000, 131 (34%) of respondents' income level was RM2000 to RM4000. For the income level between RM4000 to RM6000 was recorded 61 respondents (15.8%), and respondents with the income above RM6000 was 19 respondents (4.9%).

Income level	Frequency	Percentage(%)
Under RM2000	174	45.2
RM2000 to RM4000	131	34.0
RM4000 to RM6000	61	15.8
Above RM6000	19	4.9
Total	**385**	**100**

Table 4.7: Income level

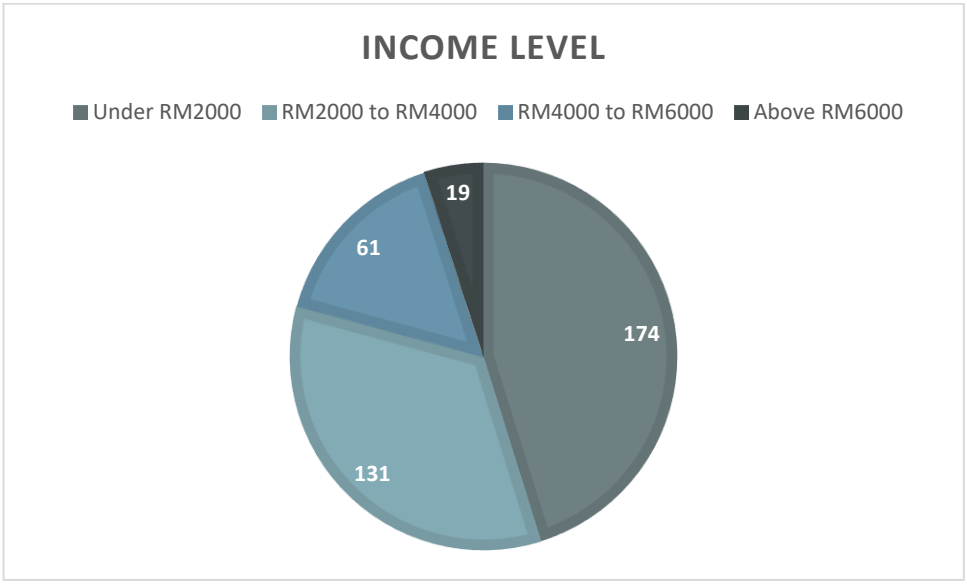

Figure 4.6: Income level

g. Have you registered as a user of GrabPay?

This question was designed to analyse the use of GrabPay among the respondents. 355 (92.2%) of the respondents registered as a user of GrabPay, while 30 (7.8%) of them are not.

GrabPay registration status	Frequency	Percentage(%)
Yes	355	92.2
No	30	7.8
Total	**385**	**100**

Table 4.8: Registration status of Grabpay

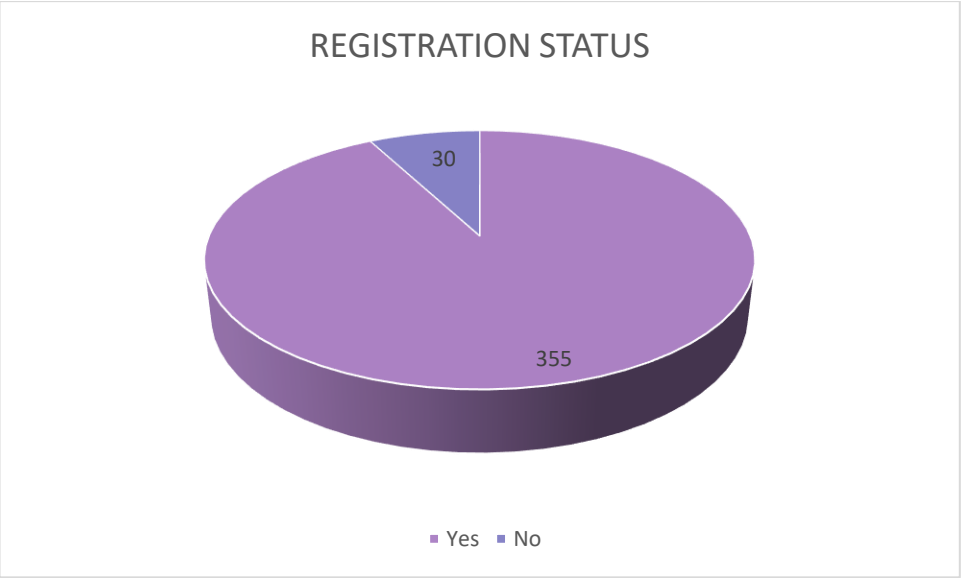

Figure 4.7: Registration status of Grabpay

h. How long have you been using GrabPay?

This question in the survey is focus on the using period of the respondents on GrabPay application. There are 69 (17.9%) of the respondents use GrabPay less than 3 months, 37 (9.6%) of the respondents use GrabPay 3 to 6 months. For using period of 6 to 12 months recorded by 45 (11.7%) respondents, and there are 103 (26.8%) of respondents use GrabPay for 1 to 2 years, while 131 (34%) of them has been use it for over 2 years.

Using period	Frequency	Percentage(%)
Less than 3 months	69	17.9
3 to 6 months	37	9.6
6 to 12 months	45	11.7
1 to 2 years	103	26.8
Over 2 years	131	34.0
Total	**385**	**100**

Table 4.9: Using period of GrabPay

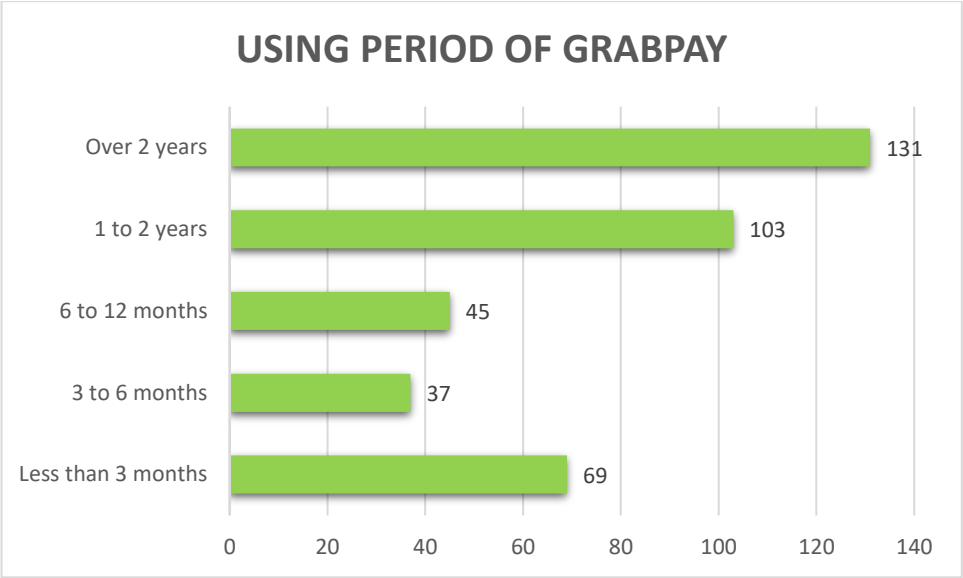

Figure 4.8: Using period of GrabPay

i. How frequently do you use GrabPay as digital payment method?

This question is to analyse the using frequency of the GrabPay by the respondents. 59 (15.3%) of respondents use the GrabPay daily, 123 (31.9%) of them use it weekly, and 73 (19.0%) of them use it monthly. There are 77 (20.0%) of the respondents use GrabPay occasionally, while 53 (13.8%) of respondents rarely or never use it.

Using frequency	Frequency	Percentage(%)
Daily	59	15.3
Weekly	123	31.9
Monthly	73	19.0
Occasionally	77	20.0
Rarely or never	53	13.8
Total	**385**	**100**

Table 4.10: Using frequency of GrabPay

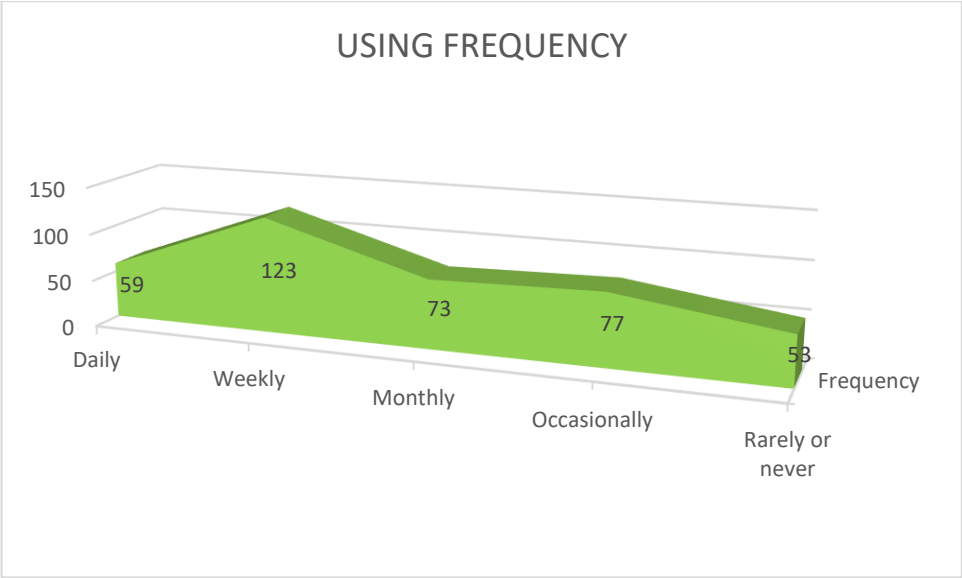

Figure 4.9: Using frequency of GrabPay

j. What function do you mainly use GrabPay for?

The respondents were next asked about the main use of GrabPay since GrabPay is available for various activities. There are 149 (38.7%) of respondents using GrabPay for the payment of food deliveries, 116 (30.1%) of them use it for the ride payments, 15 (3.9%) use for money transfers. For the use on online shopping such as GrabMart had recorded 22 (5.8%) respondents, 42 (10.9%) for in-store purchases, for those use for in-store purchases are 42 (10.9%) respondents and 23 (6.0%) of them use GrabPay for others usage that are not mentioned in the options. The data was shown in Table 4.11 below:

Use of GrabPay	Frequency	Percentage(%)
Food deliveries	149	38.7
Ride payments	116	30.1
Money transfers	15	3.9
Online shopping (GrabMart, etc.)	22	5.8
In-store purchases	42	10.9
Bill payments	18	4.7
Others	23	6.0
Total	**385**	**100**

Table 4.11: Main function of GrabPay

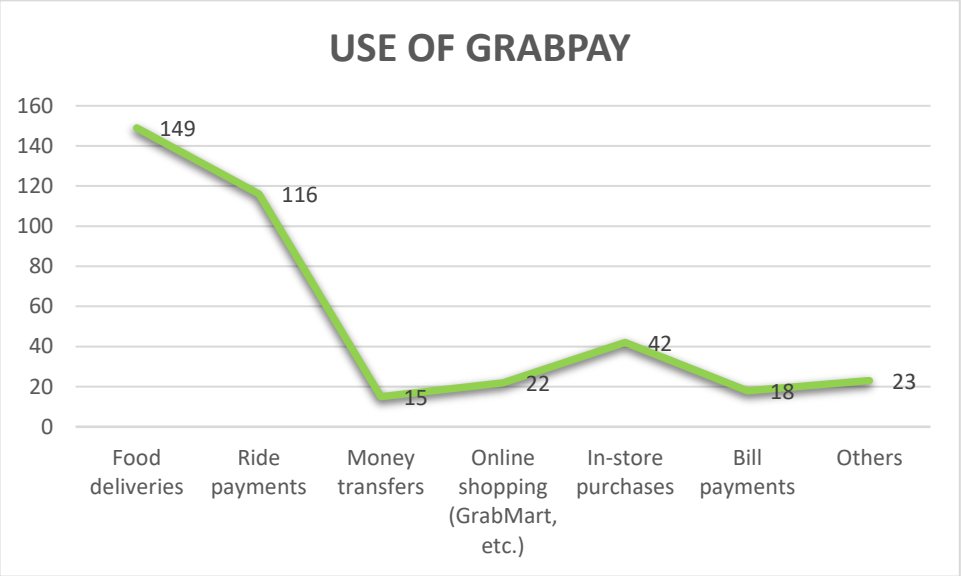

Figure 4.10: Main function of GrabPay

4.5 Descriptive Analysis of Independent Variables

Through this part, the researcher will discuss about the descriptive statics for each of the independent variables, which including Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Condition (FC). The descriptive statistics helps to show how to examine the dimensions of variables. Besides, the value of mean and standard deviation will show in the analysis for the purpose to show how widely distributed statistics are around the mean.

4.5.1 Performance Expectancy (PE)

The Table 4.12 shows the results of the descriptive analysis for the performance expectancy (PE). It is shown that the mean for the items in PE for this research is in the range of 3.89 to 4.28. Most of the respondents were agree to t the items that are stated in performance expectancy.

Items	Mean	Std. Deviation
PE1 - I think GrabPay can help to make the transactions more efficient.	4.24	0.979
PE2 - GrabPay saves me more time than cash.	4.28	0.979
PE3 - I think GrabPay is a user friendly payment method and easy to use.	4.28	0.932
PE4 - I am satisfied with GrabPay's modern and efficient features.	4.24	0.944
PE5 - I believe GrabPay is more efficient in processing transactions than traditional payment methods.	4.25	0.955
PE6 - I can better manage my financial transactions with GrabPay.	3.89	1.203

Table 4.12: Descriptive analysis of performance expectancy (PE)

4.5.2 Effort Expectancy (EE)

The Table 4.13 had shown the descriptive analysis of effort expectancy (EE). The means of the items were recorded in the range of 3.31 to 4.40. It shows that most of the respondents were agreed with the statements.

Items	Mean	Std. Deviation
EE1 - I think it is easy to learn how to use GrabPay.	4.40	0.902
EE2 - I think the process to register as a user of GrabPay is very simple.	4.33	0.948
EE3 - I think that the navigation of the Grab app is easy to be understood and is user-friendly.	4.25	0.880
EE4 - I am confident to use GrabPay effectively.	4.27	0.948
EE5 - I think GrabPay is a better option compared to other cashless payment methods.	3.31	1.445
EE6 - The process to make transaction with GrabPay is fast and efficient.	4.31	0.944

Table 4.13: Descriptive analysis of effort expectancy (EE)

4.5.3 Social Influence (SI)

The descriptive statistics of social influence (SI) has been shown in Table 4.14. The range of the means for social influence is showed from 3.85 to 4.19. Hence, it was shown that most of the respondents were agree the statement stated in SI.

Items	Mean	Std. Deviation
SI1 - I recommend my family, friends or colleagues to use GrabPay as the e-wallet.	4.04	1.067
SI2 - I decided to use GrabPay as my e-wallet when I saw other people using it.	4.03	1.164
SI3 - I believe that the famous people that using GrabPay will influence more people to accept and use it.	4.19	1.051
SI4 - I trust the opinions and recommendations of GrabPay influencers on social media.	3.85	1.258

Table 4.14: Descriptive analysis of social influence (SI)

4.5.4 Facilitating Conditions (FC)

The Table 4.15 shows the descriptive analysis of facilitating conditions (FC). It was show that the range of mean of the FC was between 2.46 to 4.30. It shows that some of the respondents was agree to the statements stated in FC.

Items	Mean	Std. Deviation
FC1 - I faced difficulties or challenges when I am using GrabPay app.	2.46	1.289
FC2 - I am satisfied with the user interface and design of the GrabPay app.	4.19	0.974
FC3 - I think that GrabPay could add some specific features or functions to improve it.	4.30	0.934
FC4 – I think that the customer service of GrabPay is helpful when I faced technical problems.	4.13	1.076

Table 4.15: Descriptive analysis of facilitating conditions (FC)

4.6 Descriptive Analysis of the Dependent Variable

Table 4.16 shows the descriptive analysis of the dependent variable of this research which related to the prospect of adoption of the respondents. The means of the descriptive analysis of the dependent variables is between 2.53 to 4.24. It is shown that the respondents were only agreed to some of the statements in the prospect of adoption.

Items	Mean	Std. Deviation
P1 - I have encountered challenges or difficulties when using GrabPay.	2.53	1.293
P2 - I think that the identified challenges will affecting the willingness of people to adopt and use GrabPay as the cashless payment method.	4.13	1.028
P3 - Despite my challenges, I would still recommend GrabPay to others.	3.88	1.048
P4 - I think that GrabPay is overcoming the identified challenges effectively.	4.13	1.029
P5 - I think GrabPay's ability to overcome known challenges will attract more user adoption.	4.24	0.994

Table 4.16: Descriptive analysis of the prospect of adoption

4.7 Factor Analysis

Factor analysis is referring to a technique used to condense the variables into fewer numbers of factors, so that the research data is easier to work with. In reference to Julie Pallant in 2011, the steps involved in factor analysis to conduct a factor analysis is assessment of the suitability of the data, followed by factor extraction, and factor rotation and interpretation.

Step 1: Assessment of the suitability of the data. The researcher need to consider the sample size and strength of the relationship between the items, to determine the suitability of the data set in factor analysis. A larger sample is suggested for the factor analysis. To determine the strength of the relationship among the items, the evidence of the coefficient correlation must be greater than 0.3 in the correlation matrix. Besides, the two statistical measures that use in test the favourability is through Bartlett's test, and Kaiser-Meyer-Olkin (KMO). According to Pallant in 2011, the index among 0 to 1 for KMO is considered as appropriate, and Bartlett's test is p greater than 0.05.

Step 2: Factor extraction. It is use to determine the least number of factors that can be used in representing the interrelationships between the variables. To obtain the factor solutions, the principal component analysis (PCA) can be used, it is use in considering the number of the factors that dependent on the researcher's need, and to minimize the factors with a simple solution or to elaborate more with the original data. To determine the number of factors to be extracted, the researcher had used three techniques, which are Kaiser's criterion, Catell's scree test (a graphical test to determine the number of factors), and Horn's parallel analysis (with comparing the eigenvalue with others that obtained using the similar data and size, the eigenvalues that greater than the corresponding values will be retained. According to Pallent, 2011, the Kaiser's criterion is considered to be significant if the eigenvalues than greater than 1.0.

Step 3: Factor rotation and interpretation. In the initial extraction phase, the factors obtained are often difficult to interpret since the significant cross loadings in many factors are correlated with many variables so it would be easier if the items were rotated. To rotate the factors, there are two main approaches that can be used,

orthogonal (Varimax, Quartimax, Equamax) or oblique (Direct Oblimin and Promax). Basically, the rotation that used for orthogonal is Varimax, while Direct Oblimin for oblique.

For this research, the researcher used Varimax as the rotation and the result was shown as in Table 4.18. Refer to the standard that has been stated, the value of KMO should be greater than 0.70. The value of KMO for this research was recorded as 0.964, it was greater than 0.7, this means the sampling requirements of factor analysis has been satisfied. While the value of Bartlett's test recorded was found that the significant value with $p<0.001$, hence it showed sufficient correlation between the components in this research. The result in Table 4.17 also showed that all of the factor loadings were generally high, and the lowest loading recorded was 0.611.

Items	Component			
	1	2	3	4
EE5	.824			
EE6	.752			
EE4	.741			
EE3	.732			
EE1	.731			
EE2	.728			
SI2		.807		
SI4		.780		
SI1		.771		
SI3		.761		
PE1			.798	
PE4			.727	
PE2			.739	
PE3			.727	
PE6			.711	
PE5			.702	
FC1				.974
FC2				.713

FC4				.650
FC3				.611

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.964
Bartlett's Test of Sphericity	Approx. Chi-Square	6423.669
	df	190
	Sig.	.000

Table 4.17: Factor Analysis

4.8 The Relationship between independent variable and dependent variable

4.8.1 Correlation Analysis

Correlation analysis is a statistic to determine the strength and direction of that relationship among the two variables in the research, which are dependent variables and independent variables. In this research, the dependent variables represented by performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). While the independent variable is the identified challenges and the user adoption of GrabPay. According to Pallant in 2011, the value of correlation coefficients is between -1 to +1. If the value is 0, it means that there's no correlation between the variables.

If the value is with a positive sign, it means that when the value of one variable increase, the other variable will increase. However, if the sign showed in negative (-), it means that once the value of one of the variable increased, the other variable will decrease in the value. According to Cohen, 1988, the correlation coefficient can be determined by the strength of the relationship

was recommend as 0.10, 0.30, and 0.50 to demarcate small, medium and high effects (Gilles, 2016).

From the results conducted form SPSS, the correlation between all of the dependent and independent variables used in this research were in positive value. According to the fact from Cohen, when the r values is 0.50 to 1.0, it showed high correlation. As the results shown in the Table 4.18, the highest positive correlation for adoption is 0.798 with facilitating conditions (FC), and the lowest positive correlation value of adoption is 0.725 with performance expectancy (PE).

		PE	EE	SI	FC	Adoption
Pearson Correlation	PE	1				
	EE	.883**	1			
	SI	.777**	.771**	1		
	FC	.656**	.659**	.690**	1	
	Adoption	.725**	.737**	.744**	.798**	1

**. Correlation is significant at the 0.01 level (2-tailed)

Table 4.18: Pearson's correlation

Remarks:

PE: Performance expectancy

EE: Effort expectancy

SI: Social influence

FC: Facilitating conditions

4.8.2 Multiple Linear Regression Analysis

Multiple Linear Regression is also known as multiple regression, which is a statistical technique that use multiple explanatory variables to estimate the outcome of a response variable. R-Squared (R^2) is used to determine the proportion of variance in the dependent variable that explained by the independent variable. It also means R^2 shows how the data fit the regression model. The Table 4.19 showed the R^2 of this research is 0.734, means that 73.4% of the variation in performance can be explained by the four independent variables (PE, EE, SI, FC) that been tested in this research.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.857[a]	.734	.731	.37122	2.091

a. Predictors: (Constant), FC, PE, SI, EE

b. Dependent Variable: Adoption

Table 4.19: Model summary

Table 4.20 shows the result of ANOVA. From the result, the researcher can conclude that at least one of the independent variables can estimate the dependent variable. There's a model fit when the p-value is 0.000. While the mean square and F value were recorded 36.078 and 261.806 respectively.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144.314	4	36.078	261.806	.000[a]
	Residual	52.366	380	.138		
	Total	196.680	384			

a. Predictors: (Constant), FC, PE, SI, EE

b. Dependent Variable: Adoption

Table 4.20: ANOVA results

Next, the Table 4.21 shows the coefficient analysis of dependent and independent variables. Based on the data shown, the variables were positively significant determinants that influence the users' intention in the adoption of GrabPay ($p < 0.05$), except the performance expectancy (PE) that recorded 0.147 that is greater than 0.05. The facilitating conditions (FC) records the highest beta value, β with 0.476. It shows that FC is the highest impact that influencing the users' adoption to use GrabPay. The second highest is achieved by social influence, β=0.200; and followed by effort expectancy and performance expectancy that recorded β =0.193 and β =0.087 respectively.

The Durbin-Watson value of the research is recorded as 2.091, as shown in Table 3.6. It is a statistic test for autocorrelation in the residuals from a statistical model or regression analysis (Will Kenton, 2023). The range of value for Durbin-Watson test is between 1.5 to 2.5 are counted as normal, if the value is out of the range, it will be a cause for concern. According to Field (2009), suggested that the values below 1 or above 3 will be the cause for concern.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.349	.112		3.110	.002		
	Performance	.073	.050	.087	1.452	.147	.196	5.097
	Effort	.174	.053	.193	3.251	.001	.199	5.015
	Social	.149	.035	.200	4.302	<.001	.323	3.098
	Facilitating	.479	.039	.476	12.441	<.001	.479	2.087

a. Dependent Variable: Adoption

Table 4.21: Coefficient analysis of variables

4.8.3 Summary of Hypothesis Testing

Through the analysis, the researcher found that the variables from H2 to H4 were accepted. However, the variables from H1 was not accepted since the significance of coefficient was recorded 0.147, exceed 0.05 as the standard is $p<0.05$. Hence, the effect expectancy (EE), social influence (SI), and facilitating conditions (FC) have a positive effect on the users' adoption on using GrabPay, while the performance expectancy (PE) is not. The results had presented in the Table below:

Hypothesis	Accepted	Not Accepted
H1: Performance expectancy (PE) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.		√
H2: Effort expectancy (EE) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.	√	
H3: Social influence (SI) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.	√	
H4: Facilitating conditions (FC) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.	√	

Table 4.22: Hypothesis result

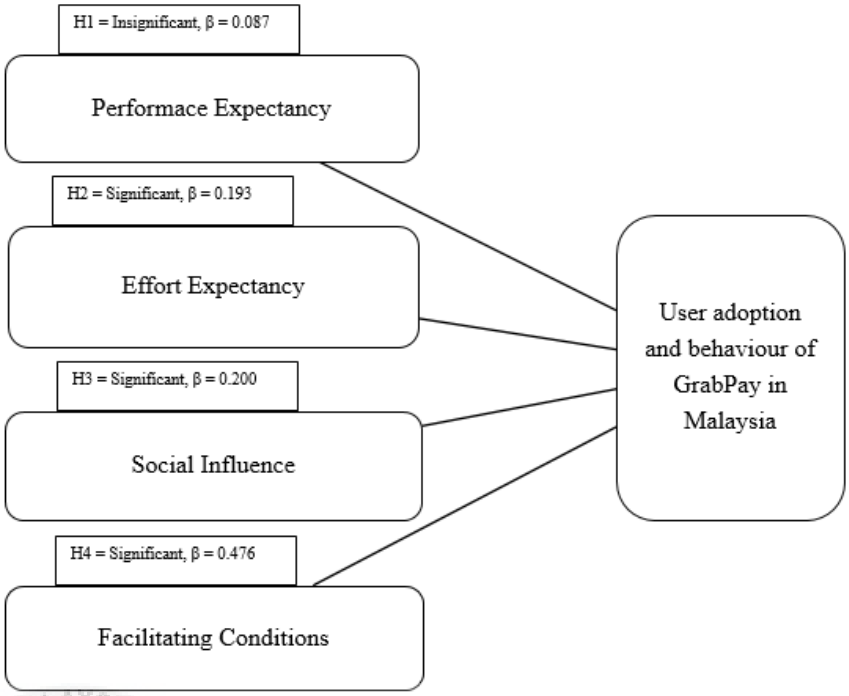

Figure 4.11: Hypothesis Result

4.9 Discussion of Findings

As mentioned in Chapter 1, this study is focused on the analysing the user adoption and behaviour of GrabPay in Malaysia by using the UTAUT model.

H1: Performance expectancy (PE) has a negative effect on the user adoption and behaviour of GrabPay in Malaysia.

According to the data of Table 4.23, the significant value of the performance expectancy (PE) had reached 0.147, which was greater than 0.05. Since the standard of significance of coefficient is $p<0.05$. Hence, it caused the hypothesis to be insignificant, means that the hypothesis (H1) is negative significance to the users' adoption and behaviour of GrabPay in Malaysia. A similar patterns of research was observed in the research of Venkatesh et al., (2003); Haeng et al., (2015); Alkhunaizan, (2012); and Latha and Vatchala (2019). However, different patterns of results are recorded.

The results demonstrated that the use of GrabPay maybe not effective and efficient to the Malaysia users in order to make their transactions. In addition, using GrabPay is not as time-saving as using cash. It was found that GrabPay is hard to use for some users in Malaysia and it is not user friendly to them. Hence, some of them are not satisfied with Grab Pay's modern and efficient features. They might not agree with the efficiency of GrabPay in processing their transactions compare with the traditional payment methods such as cash payment. It can be seeming that most of the Malaysia users of GrabPay think that the use of GrabPay could not help them to manage their financial transactions.

H2: Effort expectancy (EE) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

The significant value of the effort expectancy (EE) was recorded as 0.001 based on the analysis in Table 4.23. It was lower than 0.05 ($p<0.05$) so it was showed a positive effect on the user adoption and behaviour of GrabPay

in Malaysia. This result is similar with the research carried out by Venkatesh (2003); Voronenko (2018), Rahi et al.; Gupta and Arora (2020); Ismail et al., (2017); and Kabir et al., (2017).

According to the results through the research, majority of the users of GrabPay in Malaysia think that it is easy for them in learning how to use GrabPay or to set up their GrabPay account. They think that the process to register as a GrabPay user is very simple. Besides, it is shown that the navigation of the Grab Application is easy to be understood by most of the GrabPay users among Malaysian. Most of them are confident and think that they can use the GrabPay effectively. The GrabPay is a better option to make the payment if compared with other cashless payment methods that act as the competitors of GrabPay. The Malaysian users think that the process to make their payments or transactions is fast and efficient.

H3: Social influence (SI) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

According to Table 4.23, showed that the significant value of social influence (SI) was recorded smaller than 0.001 (<.001). It is fulfilled the standard of $p<0.05$, so the Hypothesis 3 was significant and can be concluded with the social influence has a positive effect on the user adoption and behaviour of GrabPay in Malaysia. The similar result can be observed from the researches that carried out by Vankatesh et al., (2012); Yang et al., (2012); Azman et al., (2021); and Jonathan et al., (2022).

The social influence is related with the term of world-of-mouth. The concept and ideas of GrabPay should always be concerned so that the awareness of GrabPay can be increased. For example, people can recommend it to their family, friends or colleagues to use GrabPay as their option of the e-wallet. As the using rate of GrabPay raised, people will try to start to use GrabPay and hence the user adoption of GrabPay will be increased. Apart from that, sharing of the influencers on the social media platforms are important because people will aware or realize GrabPay and have a basic concept on it

through the sharing of the opinions and recommendations shared by the influencers.

H4: Facilitating conditions (FC) has a positive effect on the user adoption and behaviour of GrabPay in Malaysia.

Based on the analysis form Table 4.23, the significant value of facilitating conditions (FC) is less than 0.001 (<.001). It was accepted as it is met the standard of the significant value of $p<0.05$. It proved that facilitating conditions has a positive effect on the user adoption and behaviour of GrabPay in Malaysia. The similar result can be observed from the researches from Venkatesh, (2003); Tusyanaah et al., (2021); Havidz et al., (2018); and See and Goh, (2020).

Grab should always focus on the difficulties or challenges that might happen to their users when they are using the GrabPay application because it is affecting the user's adoption towards it. Furthermore, the user interface and design of the GrabPay app is something that Grab must always consider because a user-friendly or comfortable interface of the app can help maintain users and attract news. Grab could add some specific features or function that meet the users' need to improve the application or to increase the users' adoption rate. Besides, the GrabPay should pay attention on the customer service to help the users to solve their problems on time. This can help to increase the confidence and satisfaction of the users to GrabPay.

4.10 Summary

In this research, the researcher had gather a total of 385 samples from the population of 25 million of GrabPay users among Malaysian according to sample size calculation method by Krejcie and Morgan (1970). And the result analysis was carried out through SPSS version 27.0. First, the data that analysed for frequency analysis is based on the background of the users, such as the respondents' age, gender, ethnic, location, education level, income level, registration status, using period, using frequency, and the main function used. Next is the descriptive analysis that has been carried out to all of the variables and the determination of the mean and standard deviation for each. The normality of the data was determining with the results of skewness and kurtosis by using SPSS.

All the items were next go through Exploratory Factor Analysis (EFA) that used to find out if a potential item exists in a variable. After that, the reliability analysis was performed on the variables in order to understand the validity of the items in the variables. The researcher was then tested the correlation and multiple regression analysis to test the relationship between each of the variables for this research. The researcher is able to determine the effect of the independent variable on the dependent variable through the analysis. As the result, it was showed that the variables were positively significant on the user adoption and behaviour of GrabPay in Malaysia, except the performance expectation (PE) that was verified as insignificant according to the result shown.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This research was carried out by the researcher to analyse the user adoption and their behaviour of GrabPay in Malaysia, and the implication for the future of cashless payments in Malaysia. It was involved of 385 samples from the 25 million of GrabPay users in Malaysia. In this chapter, the findings will be summarized and the discussion of the contribution of the findings towards the existing body of knowledge, practitioners and policymakers. Furthermore, the researcher will identify the limitations of research in this chapter and followed by giving some suggestions for the future research. Finally, the researcher will draw a conclusion of this study at the end of this chapter.

5.2 Summary of Findings

There are three objectives that involved in this research, which has been discussed in the Chapter 1. The researcher will then summarize them in this chapter.

5.2.1 Research Objective 1: To determine the factors that influence the user's adoption to use GrabPay in Malaysia

As stated in Chapter 1, the first objective for this research is to determine the factors that influence the user's adoption to use GrabPay in Malaysia. The researcher had used the four UTAUT factors which are represent by performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). It is use to determine whether the factors can

positively affect the intention of Malaysian to use GrabPay and the user's adoption. After that, the researcher had constructed a set of questionnaire that was developed with the reference from other relevant researches. The questionnaire is distributed to 385 GrabPay users in Malaysia from the population of 25 million. The researcher used convenience sampling technique by distributed the questionnaire through various social media platforms.

According to the descriptive analysis from the data collect, the result had showed majority of the respondents were agreed to the statements. Most of the items in the questionnaire recorded the mean value of 3.00 and above, except two statements that were stated in reverse form as shown in Table 5.1 and 5.2 below:

Items	Mean	Std. Deviation
FC1 - I faced difficulties or challenges when I am using GrabPay app.	2.46	1.289

Table 5.1: Reversed Statement in FC

Items	Mean	Std. Deviation
P1 - I have encountered challenges or difficulties when using GrabPay.	2.53	1.293

Table 5.2: Reversed Statement in dependent variable

It can be concluded that most of the respondents were agreed that the items that listed in the questionnaire were the factors that influence the user's adoption to use GrabPay in Malaysia.

5.2.2 Research Objective 2: To analyse the relationship between the identified challenges and the user's adoption to use GrabPay in Malaysia.

After the data had been collected, the researcher used SPSS system to analyse the data. The correlation analysis was then carried out to determine the relationship between the dependent variable and independent variable. Correlation analysis is a statistical method that used to identify the strength of a relationship between the dependent variable and independent variables (Tim Gell, 2023). The researcher used the correlation analysis to analyse the relation between the UTAUT factors, which are performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC), which were included as the independent variables; and the user's adoption to use GrabPay in Malaysia, the dependent variable.

According to the result been discussed in the previous chapter, the relationship between the dependent and independent variables are positive, except performance expectancy (PE). The positive between the variables means that when the independent variables increased, it will also cause the dependent variable increase. However, since the result of PE recorded negative as the record shows the significant value of PE that exceed 0.05 ($p<0.05$). Hence, the users' adoption to use GrabPay in Malaysia will have the opposite effect to the changes.

5.2.3 Research Objective 3: To assess the impact of identified factors on the usage rate of GrabPay among Malaysian.

According to the results stated before, all the independent variables were positive significant to the users' adoption to use GrabPay in Malaysia, except performance expectancy (PE) as it recorded a significant value that less than 0.05, which is 1.47. Table 5.3 shows The ranking of the factors that influence the users' adoption to use GrabPay among Malaysian based on the beta value of each of the factor.

Factor	Beta value	Rank
Facilitating	0.476	1
Social	0.200	2
Effort	0.193	3
Performance	0.087	4

Table 5.3: Ranking of factor

According to the data shown, the highest beta value was achieved by facilitating conditions (FC) which had recorded 0.476. The facilitating conditions was play an important role in influencing the user behaviour and the user's adoption to use GrabPay. It had included perceived support and the available resources that are available to the users. By improving the key features such as stable internet access, user education and build up strong support services, the users can get more confident to the GrabPay and build their trust to use it as their choice of the digital payment method. This is because of the acceptance can be increased as people believe the system is secure, easy to use and could bring convenience to them. Hence, it was believed that making GrabPay more user-friendly and reliable can helps to increase the user's adoption towards it.

Second ranking is social influence (SI) with the recorded beta value of 0.200. Social influence refers to how the individuals were influenced by their social circle and social norms. When they were recommended by the people around them, such as their family, friends and colleagues; and get some

positive feedback from them, it can significantly affect their decision to use GrabPay as their digital wallet. Besides, cultural factors and social perceptions also play a role in shaping attitudes towards digital payment platforms. Recognizing and leveraging social influence will be critical for GrabPay to gain acceptance and popularity among Malaysian users.

The third highest beta value was achieved by effort expectancy (EE) with 0.193. It is related to the users' perceptions of the ease of using GrabPay as the digital payment platform. For example, it involved some factors such as a friendly interface, simple registration processes and clear instruction to use it. GrabPay needs to prioritize a seamless and straightforward user experience to minimize perceived effort, and make it more attractive to the users among Malaysian and could encourage a higher adoption by them to the GrabPay. By addressing and optimizing these aspects of work expectations, GrabPay can enhance its appeal and encourage greater adoption among users who value the ease of use of their digital payment experience.

Next, the lowest beta value among the factors of independent variables was performance expectancy (PE) which recorded as 0.087. Performance expectancy of the users' adoption of GrabPay focus on the user's expectation advantages bring by the application or the efficiency when they are using the platform as their digital wallet. It was included the user's perceptions on how GrabPay enhances their payments experience, and highlight the factors such as perceived usefulness, efficiency and the value adds to the transactions. GrabPay should pay attention on the effective communication of their platform benefits to ensure the users' experience such as their convenience and the simplified payment processes. This can help to improve the GrabPay's performance expectations to the users. Aligning GrabPay to user expectations in terms of efficiency and value is important to fostering positive attitudes and influence the adoption decisions in the Malaysian market.

5.3 Contribution of The Findings

At the end of this study, this study had achieved its objectives by meeting the research objectives as presented in Chapter One. Therefore, the contributions of this study are divided as knowledge, practice and policy makers.

5.3.1 Research Contributions to Knowledge

This study contributes to knowledge by delving into user adoption and behaviour of GrabPay in Malaysia. By adopting the UTAUT model, it was suggested that the user's adoption towards GrabPay in Malaysia was affecting by some key factors such as performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). The result of the study showed that the key factors of UTAUT model was positive significant to the user's adoption of GrabPay in Malaysia, except performance expectancy.

In this research, the researcher used descriptive research to identify and describe the characteristics of the variables and used the quantitative method to collect the data from the respondents. The hypotheses were designed to test the relationship between the independent variables and dependent variable. After it, the researcher used SPSS to analyse the data collected. The system was used in order to analyse the results of frequency analysis, descriptive analysis, factor analysis, reliability analysis, and correlation analysis. Therefore, the researcher used multiple linear regression analysis to test the hypotheses that was proposed.

5.3.2 Research Contributions to The Practice

The research was successfully to add the empirical data to the knowledge on the GrabPay in Malaysia. In this research, the UTAUT factors which are PE, EE, SI and FC were tested to determine the relationship between each of them with the user's adoption and behaviour to use GrabPay among

Malaysian. According to the results, most of the factors recorded positive significant effect to the user's adoption, except PE. Hence, it is believed that the industry practitioners can use this knowledge as a reference or a guidance for them to engage with GrabPay in Malaysia.

For the performance expectancy, since the significant value is 0.147 ($p<0.005$), it was not acceptable for the rule with positive significant effect to the user's adoption and behaviour to use the GrabPay. For practitioners, this means there is an opportunity to improve the function of GrabPay to make it more attractive to the users. It is important for them to understand the user's expectations and enhance GrabPay's functionality. Besides, making users aware of GrabPay's benefits through clear communication can bridge the gap between their expectations and the actual benefits offered by the platform. This finding is a call to action for businesses to continuously improve GrabPay based on user feedback and remain competitive in the evolving digital payments landscape.

In this research, effort expectancy (EE) provides the practical implications for the practitioners looking for the streamline user experience. The businesses can improve the interface of GrabPay and the functionality by recognizing the importance of the ease of use the application and minimize the effort required during the transaction, means that make the users more convenient when they are using the GrabPay application. For example, simplify the registration processes, improving the navigation, and ensuring a user-friendly design of interface. With it, the practitioners can enhance the usability of GrabPay and make it more accessible and appealing to more users in Malaysia.

Gaining insight into the impact of social influence (SI) on the GrabPay adoption helps to provide the practitioners with some valuable information on the role of social networks and the community perceptions. Businesses can leverage this knowledge by incorporating social impact strategies into their marketing and user engagement plans. Encouraging user referrals, creating referral programs, and cultivating a positive community around GrabPay can be able to helps in expanding the social network's reach. By proactively

addressing the social aspects of user adoption, the practitioners can create a sense of community trust and encourage wider acceptance of GrabPay.

The findings related to facilitating conditions (FC) provide a practical guidance for the practitioners with the purpose to create an environment conducive to GrabPay adoption. By addressing accommodations such as ensuring that necessary infrastructure, support services and compatibility factors are in place. Practitioners can focus on improving system compatibility, providing effective customer support, and collaborating with relevant stakeholders to enhance the overall user experience. By dealing with the FC, the businesses can remove the challenges, and makes GrabPay easier for users and aligning it with the conditions that make people want to use it more widely in Malaysia.

5.3.3 Research Contributions to Policymakers

The research had provided some information that might help the government to make some better rules for the digital payment platforms such as GrabPay in Malaysia. This research can be a guidance to the parties who make the rules, also known as policymakers to understand what is needs and concern of the users when using the digital payment applications. It suggests to make the rules that focus on the safety of the users and their satisfaction while using GrabPay. The policymakers can utilise these ideas to create a guideline that make GrabPay easy to use and is more secure for its users.

Through this research, the researcher was also discussed how GrabPay can be more helpful for the users. The policymakers can use these as the suggestions to held some campaigns or programs that proposed to teach the public about the advantages of using GrabPay as the digital payment method. Besides, the research might also share the thoughts on improving the technology that can makes GrabPay work more smoothly. The policymakers can consider these ideas so that they can able to make sure the systems supporting GrabPay are good and could provide a better experience for the users in Malaysia after used the application. This research is act as a helper to

the government, and giving them some ideas in making rules that could encourage more people to use GrabPay as their choice of digital payments platforms, and make the process of payment or transaction easier and modern in the country.

5.4 Limitations of The Research

The study "Analyzing user adoption and behaviour of GrabPay in Malaysia: Implications for the future of cashless payments in Malaysia" provides some valuable insights based on the factors that are influencing the user's adoption. However, some limitations must be acknowledged. First, the generalizability of the findings may be limited as the study specifically focuses on GrabPay in the Malaysian context. This means that what we find out might not be the same for other ways people pay online or in different countries. The way people decide to use digital money can be different depending on where they are and what payment options they have.

Another limitation is related to the potential time sensitivity of the study. This means the result of the research might have a time limit. This is because of the technology changes quickly, and the ways people use the digital payment methods also will be changed as affected by the evolution, environment or others factors. Hence, it means that the result that analysed maybe will found different in the future if the new technologies or ways of doing things come up. Furthermore, this research had included a specific group of people, the group of people might not represent all of the users in Malaysia as everyone might have the different behaviour on their payment activities. Hence, the results might not be true for everyone who use it.

Additionally, this study suffers from potential self-report bias. The information users provide about their GrabPay experience may be affected by social desirability bias or may not accurately recall their interactions, affecting the reliability of the data. Given the cultural diversity of Malaysia, this study may not fully capture cross-cultural differences, creating additional limitations. User behaviour and preferences may vary across regions and ethnic groups, and research may not fully explain these differences.

Lastly, there are external factors such as economic conditions. Regulatory changes, or global events that might affect how people use GrabPay. These things were not really part of this research, so it might be not fully understanding about how they can change the way of people decide to use GrabPay or the user's behaviour. It's important to know that there are things were overlook in this study that can also make a difference in how people act when it comes to using GrabPay.

5.5 Recommendations for Future Research

Based on this study, several recommendations are made for consideration in future research efforts. First, broadening the scope to include a comparative analysis with other digital payment platforms would provide a more comprehensive understanding of factors influencing the user adoption as there are the comparisons between that. Through it, the researcher can really understand what is the differences between GrabPay and other digital payment platforms and also what are the challenges that faced by people when they choosing GrabPay as their choice by comparing with other platforms.

Additionally, it would be a good idea to conduct a long-term study to see how people's behaviour on using GrabPay change over time. Since the technologies of digital payments are always changing, it's important to understanding how user's behaviour evolves with technological advancements, market trends and changing the socioeconomic conditions will provide valuable insights. A long-term study could help the researcher to determine the long-term effects of the policy changes or the introduction of new features by GrabPay.

To address the potential time-sensitivity of the study results, continuous monitoring of user adoption patterns and behaviour of GrabPay is recommended. Regular updates will enable researchers to capture emerging trends, ensuring research insights remain relevant in the face of rapidly evolving technology and consumer preferences.

In the future, it would be interesting to look more closely at the cultural differences in Malaysia. The researcher could study how people from different ethnic groups and places in Malaysia use GrabPay in different ways. Understanding these differences can help the researcher to give some specific advice on how to make GrabPay better for everyone, considering the specific needs of different groups of people.

Additionally, it might be a good idea for future research to see how significant factors such as changes in the economy or regulations might influence people's decisions to use GrabPay. Examining how these larger impacts relate to each individual's choices can give us a better overall understanding of the benefits and

drawbacks of digital payments. In this way, we can truly capture the challenges and opportunities that come with using services like GrabPay in an ever-changing world.

Finally, it might be helpful to mix things up by looking at GrabPay in a different way. Adding something called qualitative methods, such as interviews or group discussions, can give us a more detailed understanding of what people really feel and think when using GrabPay. These methods can reveal small details in how people behave that we cannot see with numbers alone. Therefore, combining these different learning styles can help us fully understand why people choose to use GrabPay in Malaysia.

5.6 Conclusion

In conclusion, the study "Analyzing User Adoption and Behaviour of GrabPay in Malaysia: Implications for the Future of Cashless Payments in Malaysia" provides valuable insights into the factors influencing user adoption of GrabPay among the Malaysian. The application of the UTAUT model as a key factor enriches our understanding of the complexities associated with digital payment adoption. The identified factors, including Performance Expectations (PE), Effort Expectations (EE), Social Influence (SI), Facilitating Conditions (FC), collectively help to shape users' adoption and behaviours regarding GrabPay. The study highlights the importance of a user-centric strategy, emphasizing the importance of improving performance, ensuring ease of use, leveraging social influence, addressing accommodations, to drive successful adoption. However, the study acknowledges its limitations, such as the generalizability of the findings and the potential time sensitivity of the study. Despite these limitations, the findings had also provided some valuable insights that can help in guide the businesses and policymakers in encouraging widespread use of cashless payments in Malaysia, especially with GrabPay leading the way.

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APPENDICES

APPENDIX A: Determining Sample Size for a Finite Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

(source: Krejcie & Morgan, 1970)

APPENDIX B: Questionnaire used to collect data

ANALYZING USER ADOPTION AND BEHAVIOUR OF GRABPAY IN MALAYSIA: THE IMPLICATIONS FOR THE FUTURE OF CASHLESS PAYMENTS IN MALAYSIA

Gooday everyone, I am a year four student from Fakulti Pengurusan Teknologi dan Teknousahawan (FPTT) in Universiti Teknikal Malaysia Melaka (UTeM) and was currently doing a research for my final year project that are related to the user adoption and behaviour of GrabPay in Malaysia and the implications for the future of cashless payments in Malaysia. Hence, I would like to collect the opinion and the valuable advises from the respondents especially the users of GrabPay in Malaysia. For your reference, this questionnaire is divided into several parts, which are Section A: Background of the respondent, Section B: UTAUT factors which is Performance(PE), Effort Expectancy(EE), Social Influence(SI), Facilitating Conditions(FC), and Section C: Identified challenges and users' adoption.

This questionnaire takes five to ten minutes to complete and all the information will be provided anonymously. Your participation is very important to the survey and is greatly appreciated. Thanks for participating and have a great day!

Question 1: Age

Below 18	
18 to 24	
25 to 34	
35 to 44	
45 and above	

Question 2: Gender

Male	
Female	

Question 3: Ethic

Malay	
Chinese	
Indian	
Others	

Question 4: Location (Based on state in Malaysia)

Melaka	
Pahang	
Selangor	
Penang	
Kedah	
Perlis	
Perak	
Negeri Sembilan	
Federal Territories (Kuala Lumpur, Labuan, Putrajaya)	
Kelantan	
Johor	
Terengganu	
Sabah	
Sarawak	

Question 5: Education level

Primary education	
Secondary education	
Tertiary education	
Others	

Question 6: Income level

Under RM2000	

RM2000 to RM4000	
RM4000 to RM6000	
Above RM6000	

Question 7: Have you registered as a user of GrabPay?

Yes	
No	

Question 8: How long have you been using GrabPay?

Less than 3 months	
3 to 6 months	
6 to 12 months	
1 to 2 years	
Over 2 years	

Question 9: How frequently do you use GrabPay as digital payment method?

Daily	
Weekly	
Monthly	
Occasionally	
Rarely or never	

Question 10: What function do you mainly use GrabPay for?

Food deliveries	
Ride payments	
Money transfers	
Online shopping (GrabMart, etc.)	
In-store purchases	
Bill payments	
Others	

Section B: UTAUT Factors

This section contains questions related to each of the UTAUT factors, which include performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions. These questions were designed to assess the respondent's level of agreement, with rating options ranging from "strongly disagree" to "strongly agree."

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

Performance Expectancy (PE)

According to Venkatesh et al on 2003, Performance expectancy (PE) is a variable in the UTAUT model that refers to the use to measure how much an individual perceives that using a system can help to improve the ability to gain in job performance.

	1	2	3	4	5
Question 1: I think GrabPay can help to make the transactions more efficient.					
Question 2: GrabPay saves me more time than cash.					
Question 3: I think GrabPay is a user friendly payment method and easy to use.					
Question 4: I am satisfied with GrabPay's modern and efficient features.					
Question 5: I believe GrabPay is more efficient in processing transactions than traditional payment methods.					
Question 6: I can better manage my financial transactions with GrabPay.					

Effort Expectancy (EE)

Effort expectancy is a crucial predictor of the technology acceptance. It is defined as the degree of ease associated with the use of the system (Vankatesh et al., 2003).

	1	2	3	4	5
Question 1: I think it is easy to learn how to use GrabPay.					
Question 2: I think the process to register as a user of GrabPay is very simple.					
Question 3: I think that the navigation of the Grab app is easy to be understood and is user-friendly.					
Question 4: I am confident to use GrabPay effectively					
Question 5: I think GrabPay is a better option compared to other cashless payment methods.					
Question 6: The process to make transaction with GrabPay is fast and efficient.					

Social Influence (SI)

Social influence is defined as the individual feels the importance of other people thinking he or she should use the new system (Adam, 2018).

	1	2	3	4	5
Question 1: I recommend my family, friends or colleagues to use GrabPay as the e-wallet.					
Question 2: I decided to use GrabPay as my e-wallet when I saw other people using it.					
Question 3: I believe that the famous people that using GrabPay will influence more people to accept and use it.					
Question 4: I trust the opinions and recommendations of GrabPay influencers on social media.					

Facilitating Conditions (FC)

Facilitating conditions is referring to the extent to which an individual perceives that organizational and technical infrastructures required to use the intended system are available (Ghalandari, 2012).

	1	2	3	4	5
Question 1: I think the user interface and design of GrabPay app brings difficulty.					
Question 2: I am satisfied with the user interface and design of the GrabPay app.					
Question 3: I think that GrabPay could add some specific features or functions to improve it.					
Question 4: I think that the customer service of GrabPay is helpful when I faced technical problems.					

Section C: Identified challenges and users' adoption

	1	2	3	4	5
Question 1: I have encountered challenges or difficulties when using GrabPay.					
Question 2: I think that the identified challenges will affecting the willingness of people to adopt and use GrabPay as the cashless payment method.					
Question 3: Despite my challenges, I would still recommend GrabPay to others.					
Question 4: I think that GrabPay is overcoming the identified challenges effectively.					
Question 5: I think GrabPay's ability to overcome known challenges will attract more user adoption.					

Thank you for your time! We appreciate and find your valuable opinions in this research to be highly valuable. Thank you for your participation.

APPENDIX C: GANTT CHART OF FYP1 AND FYP2

CARTA GANTT
PSM I (BPTU 4072)

WEEK / ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FYP talk									MIDTERM SEMESTER BREAK							
Search for FYP topic																
Meeting with supervisor																
Topic discussion																
Title confirmation																
RO & RQ Construction																
Submission Chapter 1																
Submission Chapter 2																
Submission Chapter 3																
First draft of FYP																
Submission of FYP 1																
Presentation 1																
Revised of FYP 1																

CARTA GANTT
PSM II (BPTU 4084)

WEEK / ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Draft questionnaire to collect data									MIDTERM SEMESTER BREAK							
Summit questionnaire to supervisor																
Do pilot test																
Reliability analysis regarding pilot test																
Data collect																
Data analysis through SPSS																
Submission of Chapter 4																
Submission of Chapter 5																
Compiled and submission the report of FYP 2																
Slide and Presentation																