

FACTORS INFLUENCING UT_eM STUDENTS IN THE ADOPTION OF USING QR_{PAY}

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**BACHELOR OF TECHNOLOGY MANAGEMENT (HIGH
TECHNOLOGY MARKETING) WITH HONOURS
UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

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**FACTORS INFLUENCING UTeM STUDENTS IN THE ADOPTION OF USING
QRPAY**

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**A report submitted
in partial fulfillment of the requirements for the degree of
Bachelor Of Technology Management (High Technology Marketing) With Honours**



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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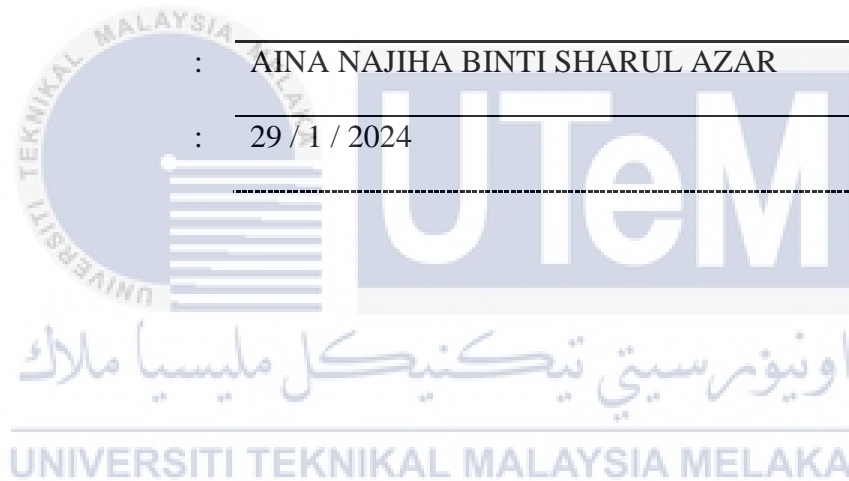
DECLARATION

I declare that this thesis entitled “FACTORS INFLUENCING UteM STUDENTS IN THE ADOPTION OF USING QRPAY” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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APPROVAL

I hereby declare that I have checked this report entitled “FACTORS INFLUENCING UteM STUDENTS IN THE ADOPTION OF USING QRPAY” and in my opinion, this thesis it complies the partial fulfillment for awarding the award of the degree of Bachelor of Technology Management (High Technology Marketing) With Honours.

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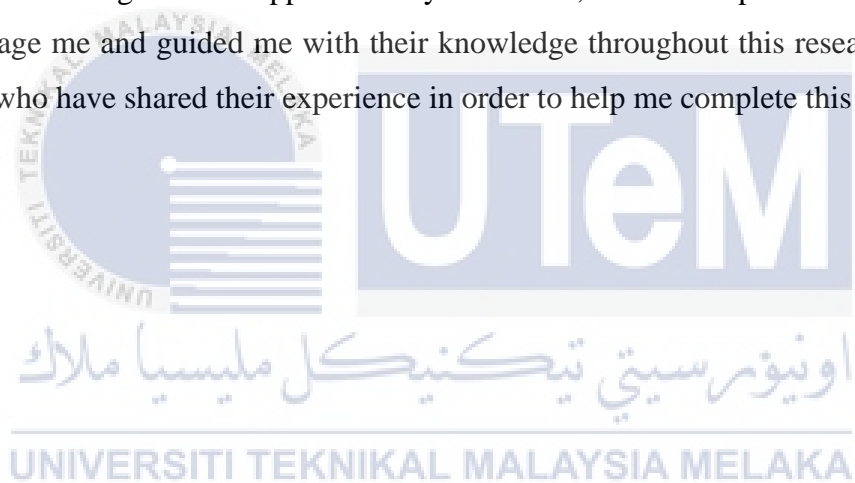
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DEDICATION

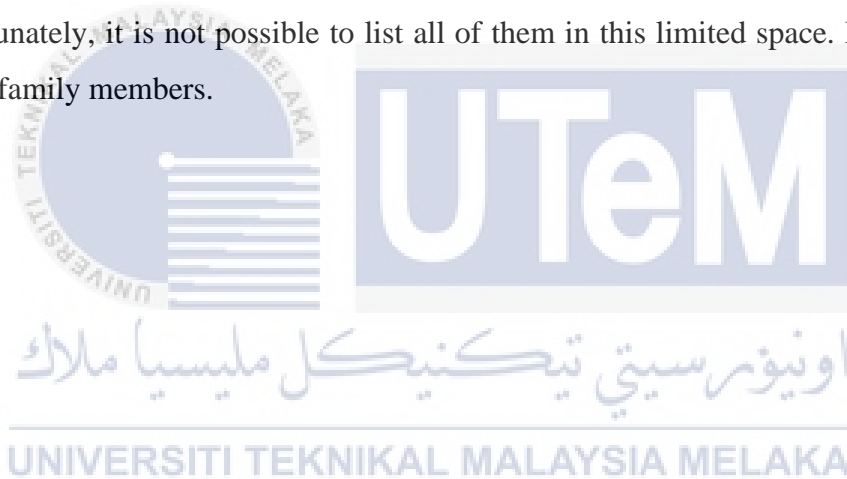
I would like to give thanks whole heartedly dedicated to my beloved parents, EN Sharul Azar bin Dzul kifli and Puan Melati binti Miswan and my beloved brother Muhd Idham Syafiq bin Sharul Azar which is my main source of motivation, strength and care. They always give us strength when we think of giving up, which continues to provide their moral, spiritual, emotional, and financial support.

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ABSTRACT

Nowadays, there are many things we do online like banking transaction. It can be use to pay at anywhere for more convenience for everyone. Currently, there are many ways to pay using your mobile phone in Malaysia. The speed of things in Malaysia is thought to be slow because of many reasons. This research looks at things that can influence whether people in using QR pay. The paper aims to understand the factors that influence the adoption of QR pay among UTeM students. Primary data were obtained through an online survey using a self-administered questionnaire. This model uses a particular approach to solve a problem. The UTAUT is a theory about how people accept and use technology. The researchers changed a model to figure out what things make people use mobile phones. The way of studying something by looking at numbers and data is called quantitative analysis method. Researcher chose to use a statistical tool called SPSS to look at the information we gathered. Perceived security, perceived usefulness and perceived ease of use, were found to be significant in determining adoption to use QR mobile payment among students.

Keywords: Mobile Technology, QR Pay, Generation Z, Behavior Intention

ABSTRAK

Pada masa kini, terdapat banyak perkara yang kami lakukan secara online seperti transaksi perbankan. Ia boleh digunakan untuk membayar di mana-mana untuk lebih kemudahan untuk semua orang. Pada masa ini, terdapat banyak cara untuk membayar menggunakan telefon bimbit anda di Malaysia. Kelajuan sesuatu di Malaysia dianggap perlahan kerana banyak sebab. Penyelidikan ini melihat perkara yang boleh mempengaruhi sama ada orang menggunakan pembayaran QR. Kertas kerja ini bertujuan untuk memahami faktor-faktor yang mempengaruhi penggunaan pembayaran QR dalam kalangan pelajar UTeM. Data primer diperolehi melalui tinjauan dalam talian menggunakan soal selidik yang ditadbir sendiri. Model ini menggunakan pendekatan tertentu untuk menyelesaikan masalah. UTAUT ialah teori tentang cara orang menerima dan menggunakan teknologi. Para penyelidik menukar model untuk mengetahui perkara yang membuatkan orang ramai menggunakan telefon bimbit. Cara mengkaji sesuatu dengan melihat nombor dan data dipanggil kaedah analisis kuantitatif. Pengkaji memilih untuk menggunakan alat statistik iaitu SPSS untuk melihat maklumat yang kami kumpul. Keselamatan yang dirasakan, kegunaan yang dirasakan dan kemudahan penggunaan yang dirasakan didapati penting dalam menentukan penerimaan menggunakan pembayaran mudah alih QR dalam kalangan pelajar.

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Kata Kunci: Teknologi Mudah Alih, Pembayaran QR, Generasi Z, Niat Tingkah Laku

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CHAPTER 1

INTRODUCTION

1.0 Introduction

In this chapter, the researcher wants to discuss in general about the factor influencing using QRPAY among UTeM students, Melaka. This chapter want to explore more about the background of research study at Melaka. The objective of this research is to determine the perceived security of using QRPAY among UTeM students, to examine how the perceived usefulness intention to adopt QRPAY among UTeM students and to examine perceived ease of use intention to adopt QRPAY among UTeM students, Melaka. The researcher also want to see to identify among UTeM students, Melaka. Beside in this introduction chapter have problem statement, three research question, three research objective, scope of studied, significant of studied, limitation of study and the summary for this introduction chapter.

1.1 Background Of Study

The rapid advancement of mobile QRPAY technology has altered the lives of youth generation. Mobile QRPAY is widely recognized as one of the major alternative payment methods, and it is used in a variety of applications and situations. Introducing a new type mobile QR (quick response) payment technology has been accepting as an alternative to cash is a commonplace. Using QR codes in camera phones became common in the 2000s. A years ago, the iOS and Android platforms integrated the ability to scan QR codes into their default camera apps, paving the way for the QR use explosion. The function is just from scanning a white and black squares code by the seller to complete, next the users need to fill the total amount and finally the transaction will be accepted.

Other than that, it can receive and transferred money easily at anywhere. As a result, the payment process is sped up.

Using QR to pay for things is becoming more popular in our society. Many youth find it helpful and it can make life easier and more organized. Technology helps mobile QRPAY improve because banks and other companies have made it easy to pay online. Flexible phones and strong Wi-Fi and 5G connections make QRPAY popular. A cashless society is good for both people who don't want to spend a lot of money and businesses that want to collect information.

Moreover, nowadays everyone can pay anything when entering the mall, restaurant, and small vendor. QR has seen as the important valuable technology and increasing the popularity compared to others variety payment methods (Suo et al., 2022). QR codes for payment transfers by removing the need to handle cash. There are also giving cashbacks, shopping discount from the shop and discount if using QR code. The widespread at that point hit and QR code installments got to be a highlight of way of life.

Malaysia government make collaboration with the three largest e-wallet operators in Malaysia (Grab, Boost and Touch'n Go E-Wallet), to rollout the RM450 million e-Tunai Rakyat programme on 15 January 2020 (Ministry of Finance Malaysia, 2020). The e-Tunai Rakyat initiative aims to accelerate the e-payment adoption among Malaysian consumers and small retail merchants.

Digital Wallets	eWallets	Mobile Wallets
<ul style="list-style-type: none"> • A digital version of your debit and credit cards stored in an app on your mobile phone that enables you to go cashless and cardless. • The money sits in your bank account or credit card account until accessed. • Digital wallets (e.g. GooglePay, Masterpass, VISA Checkout) are the gateway to your first online purchase or payment. 	<ul style="list-style-type: none"> • <u>May be reloaded</u> from your digital wallet or online banking! • Think <u>eWallet</u>, think Boost or Touch N' Go <u>eWallets</u>. 	<ul style="list-style-type: none"> • Mobile wallets are on your phone. • A user may tap a terminal or scanning a QR code with a smartphone. Examples include, QR Pay and Tap to Pay. • <u>Nielsen</u> revealed that only eight per cent of Malaysians use mobile wallets for payments.

Figure 1: The Differences of Digital Wallets, E-Wallets and Mobile Wallets
Source: MDEC files in Hizam (2020)

Figure 1: The Differences of Digital Wallets, E-Wallets and Mobile Wallets

1.2 Problem Statement

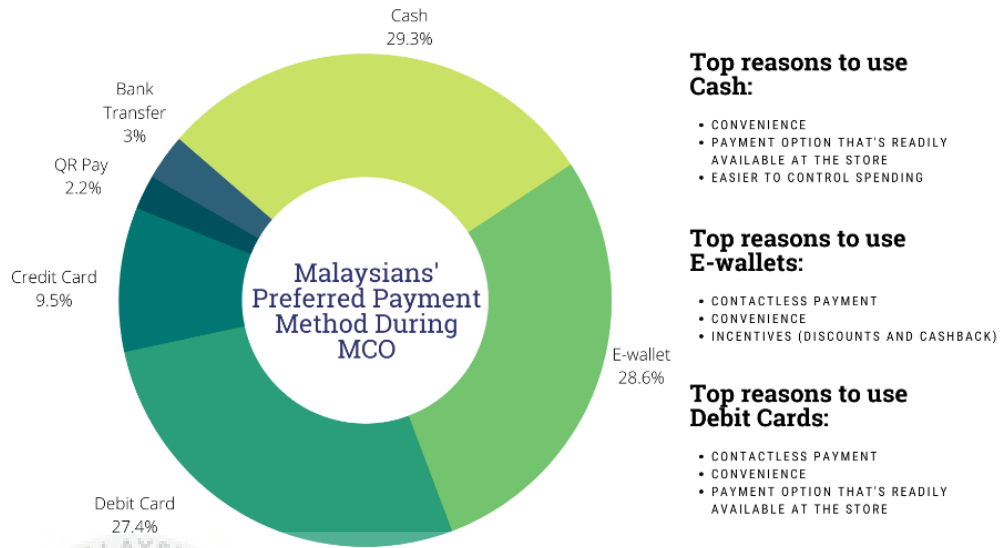


Figure 1.2 Malaysian Preferred Payment Method During MCO

This research is to focus for students who is attracting in using and adopt mobile QR payment system for their purchase. The mobile payment adoption has been examined and stated that among the younger generation is easy to influence and using QR payment (Ibrahim, 2020). This technology already has been adapting in Malaysia for making any payment for goods and services. In fact, QR mobile payment is a big opportunity to change the culture from bringing cash in the physical store. In this research is to verified QRPAY factor about the factors affecting adoption using QRPAY among youths in Melaka.

Malaysia has a growth in using QRPAY recent years with variety services provided such as Maybank QR Pay, RHB QR Pay, Touch & Go Mobile Wallet and others. According to (Kholin, 2023) the big major of this contactless payment is from COVID-19 virus, this is stated in September 2020 to April 2021 from 65% of consumer using QR payment is increasing to 83%. A year since the pandemic, consumers and companies are becoming more accustomed to socially distant payments. However, there still a community did not adapt because of the trust for QR mobile payment. In Malaysia, 10% of users using a QR code for their transaction (Tu et al., 2022). A user

worries about being vulnerable to fraud, data theft, and theft, particularly when it involves financial information, are among them (Hajazi et al., 2021). QR payment is less possibility error because when we make a payment it still requires a last approval need to accept before the transaction happened. If the consumer has no trust there will prefer to change back to traditional mode for buying behavior payment. Hence, consumer can be doubt and do not prefer to purchase products and services using QR payment (Nur & Panggabean, 2021). The trust is highly considered because it involves with a big amount of money.

Furthermore, queuing up to make any transaction and need to withdraw a money need to take a time. QR pay did not need us to having a drive and que to the bank and withdraw the money (Hajazi et al., 2021). It can reduce waiting time just only with scanning a QR code to make any transaction because it is faster and easy to use. For instance, placing QR codes outside a restaurant or street food vendor eliminates the need for customers to wait in queue to order and pay for their food. Additionally, it is simple and quick to transfer money between accounts or receive money from others. QR Mobile payments are one of the most common alternative payment methods, and they are used in a wide range of contexts and applications. Technology-enabled efficient processes are now commonplace among generation. Every persons have their own preference types of mobile QR payment service that gives benefits and advantages to use for every transaction payment. According to Moghavvemi et al. (2021) the QR pay in users' adoption will influence the other to use the transaction. Social influence is a behavioral intention for youth to adapt with QR payment because of their many preferences of mobile payment service nowadays (Imani & Anggono, 2020). Users with higher levels of mobile self-efficacy are more likely to experience more positive emotions and are more willing to use technology, according to the available research.

1.3 Research Question

RQ1: What are the factor that influence between perceived security and adoption of QRPay among FPTT students?

RQ2: What are the factor that influence between perceived usefulness and adoption QRPAY among FPTT students?

RQ3: What are the factor that influence perceived ease of use intention to adopt QRPAY among FPTT students?

1.4 Research Objective

RO1: To determine the factor that influence perceived security on adoption QRPAY among FPTT students.

RO2: To examine the factor that influence how the perceived usefulness on adoption QRPAY among FPTT students.

RO3: To examine the factor that influence perceived ease of use intention on adoption QRPAY among FPTT students.

1.5 Scope Of Study

This scope will explain and focus on the adoption of students in Melaka intention to use QRPAY. QR give a great impact on purchase intention and customer satisfaction. There a variety choice of cashless payment but, this is more specific for QR payment. The focus for researcher is to identify the key preferred types of QRPAY, to examine how the perceived usefulness intention to adopt QRPAY among students UTeM in Melaka, to examine perceived ease of use intention to adopt QRPAY among students UTeM in Melaka. The target for this respondent is only for students UTeM in Melaka, Malaysia who is using QR Pay only. The questionnaire will be distributed for students UTeM students via online survey such as Google Form.

1.6 Significant Study

Researchers can investigate aspects like perceived security, perceived usefulness and perceived of use of students UTeM adoption of QR mobile payment in University Technical Melaka Malaysia. Additionally, they can investigate how frequently students UTeM students uses QR mobile payments and what payment methods they prefer. Lastly, what researcher can use the framework to get a specific data in this researched.

1.7 Limitation

The limitation of this study is focusing for students UTeM only in using QR mobile payment. Those who do not in students UTeM students will be not to be a respondent. Therefore, why did this research focus for students because in University Technical Melaka Malaysia mostly is using cashless payment. All the place like Neraca Cafe, Tealive, Richiamo Coffee, and all place in University Technical Melaka Malaysia can be paid with QRPAY. Mobile payments using QR (Quick Response) codes have grown in demand among younger generations due to their practicality and simplicity.

1.8 Summary

The researcher discussed the background analysis of the subject of the research, the problem statement, the topic of the research, and its purpose, as well as the extent, constraints, and importance of the research.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Regarding on this chapter, it will discuss more the literate review of this researcher will explain more about the definition of technology mobile adoption, QR payment, factor that influence and adoption in using QR pay and preference application QR payment method behavior. At the last part of this chapter, the researcher also provides a conceptual framework to explain more in this research.

2.1 Technology

Technology focus to the collection of tools, strategies, frameworks, and gadgets that are made, utilized, and connected with people to solve the issues, perform assignments, and make a live easier. payment systems into smartphones, tablets, and other mobile devices. This allows users to make transactions and purchases through their mobile devices, without the need for cash or physical credit cards. New technology and online payment systems make it possible to pay for things on the internet. It can communicate using your phone or wirelessly. Furthermore, it can be both tangible and intangible. Tangibles innovation incorporates physical gadgets and objects like computers, smartphones, and vehicles.

The technology is continually advancing and progressing, driven by logical revelations, investigate, and development. It has had a significant effect on society, changing how we live, work, communicate, engage, travel, and connected with the world. However, it's not a shock that the QR code installment innovation acknowledges QR installments for buys, utilities, fines, and charges. It's moreover conceivable to exchange cash and discover out data almost products, thereby increasing customer satisfaction (Wallet factory, 2022).

On average, a person in Malaysia made **170** e-payment transactions as compared to 150 in 2019

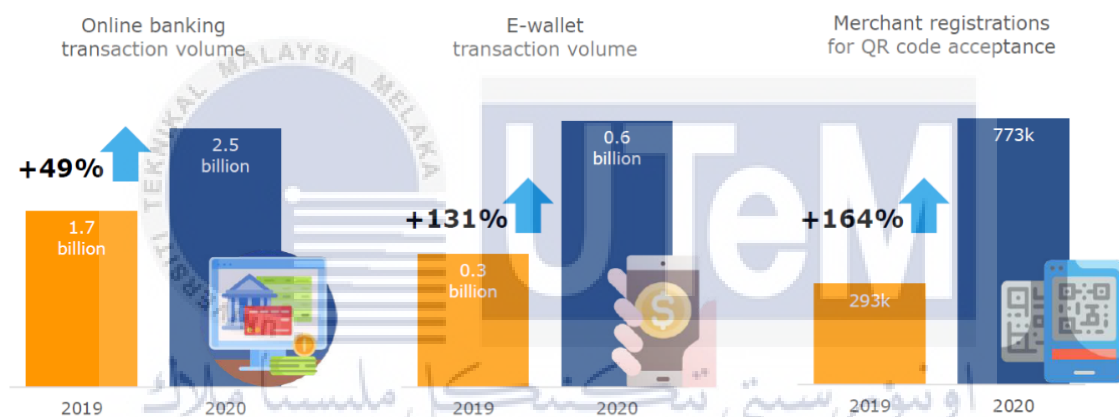


Figure 2.1: Fintech News Malaysia

2.2 QR Pay

QR pay was made in Japan in 1994 (Sorensen, 2023). This is used in different ways like for selling things and sharing information, but many people also use it to pay using their phone. Nowadays, paying with your phone is becoming more popular and safer. QR payment technology is a new contactless payment that allow consumer to make any transaction by scanning using their own smartphones. QR pay are helpful because it can use to buy things and do money stuff fast and easily. To buy something with a QR pay, you don't need a card machine.

Malaysia has started using QR pay for mobile payments in the past few years. Some of the most famous payment services are Maybank QR pay, Boost, Touch & Go Mobile Wallet, and more. And more things like that. Even though people didn't use it much at first, now it's very well-liked. Nowadays, young people are more likely to do it. QR Pay also do not have any charge in using this new technology. People are getting used to it, especially when they eat out at restaurants, cafes, bars, and other places.

2.2.1 Types of Application QR Payment

Based on the figure, QR payment is less awareness from the users in Malaysia. During the MCO, all the things is by contactless method. The adoption in that time is still growth time by time.

2.2.1.2 Maybank QR Pay

Starting from August 10th, 2020, Maybank QR Pay can be used together with DuitNow QR. DuitNow QR is like a special code that can be used by lots of different banks to easily pay and receive money. This Maybank QR pay can get money direct after the scanning from QR code. It will make customers using this mobile payment reducing time and can approve the transaction anytime.

2.2.1.2 GrabPay

The convenience GrabPay for paying any transaction service like food, groceries, bills and others. It also can earn GrabRewards for every transaction if the consumer use GrabPay.

2.2.1.3 Boost

Boost is acknowledged at over 200,000 vendor touchpoints across the country, and checking. Pay with Boost at your top pick eateries, merchant, retail store and numerous more. When it's time to pay, with Boost, it's all fair a check absent. Tap phone and filter the merchant's QR code.

2.2.1.4 Touch N Go Ewallet

All you have to do is use your eWallet from your home country. Scan a QR code from the merchant with your eWallet and enter the amount you want to buy. Then, the total cost will be automatically changed to Malaysian Ringgit.



Figure 2.2: Steps of Using QR Pay

2.3 QRPAY Adoption

Technology acceptance is the process by which people or organizations accept and use new technology. It's about learning and adapting to new technology. Technology acceptance is influenced by expected performance, expected effort, facilitating conditions, and social influences. In Malaysia, users are familiar with PMPs such as his WeChat Pay and TouchnGo Electronic wallet. On the other hand, remote payments allow you to make payments in different countries. Based on technology acceptance model theory (TAM) used user-specific characteristics. However, QR code mobile payments can significantly reduce the dependence of initiatives on other stakeholders and implementation costs for consumers and merchants (Suo et al., 2022).

The integration of mobile devices is referred to as mobile payments. The technology and online payment mechanism that enable it consumers can pay for products or services. Many earlier research, like those on mobile payment acceptance, have made intention to utilise the primary dependent construct (“Factors Influencing Malaysian Consumers’ Intention to Use Quick Response (QR) Mobile Payment,” 2019). Financial transactions must be initiated, approved, and completed. Using a mobile phone network or wireless communication technology. There are two kinds. defines mobile payments as proximity mobile payments (PMP) and distant mobile payments (RMP). Mobile phones and short-distance communication. Barcode scanning or radio frequency identification (RFID) technology can be used (Qasim & Abu-Shanab 2015). This implies that purchasers communicate directly with one another.

2.4 Advantages of using QR Payment.

2.4.1 Sales Promotion

There are a lot of fun ways to encourage people to buy things. UTeM had launch their “cashless campus” to this payment system. To help them understand it, we need to make QR Codes fun and exciting. One way to encourage people to use a product or service is by giving them discounts or cash back. These offers are advertised a lot to help more people realize how useful QR pay. It's really easy to sign up for mobile banking and do transactions.

2.4.2 Simple and quick

Convenience means that something is easy and does not take too much time or effort. People will pay money to get good things they want or need. (Jebarajakirthy & Shankar, 2021). Using the QR pay, checking the transactions will be much simpler with just one scan. Do not have to worry about how much money you need to pay. Besides being easier to use, it can save time by not having to search for others debit card or money in the purse. Users don't have to use a card or wait for change when paying.

2.4.3 Security

QR Code payments are easy to use and safer. QR Codes work similar to transferring money between bank accounts. If pay online, the digital banking system will keep a record of the money coming in or going out. A QR code is a very safe way to pay for things. When you use QR codes to pay, the information is made safe so nobody can cheat or steal from you. These kinds of payments are safer than credit cards when it comes to protecting your information from getting stolen.

2.5 Disadvantage of using QR Pay

2.5.1 An active internet connection is required.

QR codes also require an internet connection to work. People with otherwise compatible devices may experience limited signal or no Wi-Fi access, preventing them from seeing anything hidden behind the QR code. So, the users for QRPAY need a good internet connection for making a transaction or otherwise they need to purchase like a physical.

2.5.2 Uncertainty and discomfort.

QR codes are a technology that is still quite new to many people today. It can be difficult to know what users should do, and tech-savvy people may not want to scan a code that takes them to an unfamiliar website where their personal information could be compromised. Many people prefer to use conventional methods to access information because they are simple. It is impossible to make the public perceive as they believe about receiving information through creative sources.

2.6 Dependent Variable

2.6.1 Factor influencing in the adoption of using QR Pay

Factor influencing is where the individual's behavior influences the genuine utilize behavior of new technology. This found from (Imani & Anggono, 2020c) that the behavioral intention could significantly affect the actual use behavior of technology. Individual who are going to experience the cashless payment of products and services to fulfill their wants and needs. (Saloman, 2020). With a few clicks on the mobile screen, the wallet user can now easily make payments to anyone and anywhere. The vendor can win the war of consumer retention and consumer preferences. Consumer will always be searching for a vendor who prefer cashless payment method.

Consumer can be loyal at specific service provider based from the experience by self and others (Zhou, 2013). Cash installments are some of the times precarious to track and unreliable. When consumer interface their accounts to advanced stages, all approaching and active cash streams from the account can be effectively followed, fraud, hazard and duplicity (Kumari & Biswas, 2023). A cashless society can progress whereas keeping up financial straightforwardness.

2.7 Independent Variable

2.7.1 Perceived Security

Perceived security is an individual's conviction that a given method is safe. It has been shown to have a direct impact on technology adoption intentions (Voronenko, 2018). Security issues are a major aspect in facilitating digital cash transactions using e-wallets (MyMoney Store, 2019). Thus, an e-wallet features Near Field Communications (NFC), which promises to provide a secure environment for users to conduct commercial transactions in a quick and efficient manner (Nathan, n.d.). Moradi (2013) shown that perceived security has a positive association with customers' behavioural intentions towards e-Banking, while Kumar (2018) claimed that security is a significant indication that results in the adoption of mobile wallet payment methods. As a result, the first hypothesis is formed. This means people can believe or rely on something or someone. person has in using technology without worrying about it failing or causing harm. The consumer expects that the product or service they use will meet their expectations. Trust is really important when using money, like when you use your phone to pay for things (Imani & Anggono, 2020c).

Other research has found that when people trust something or someone, they will most likely want to use it. It's important to know what users want if that can build the satisfaction. It can believe that the e-wallet system is reliable and use it. They may feel confident using QR pay to store and spend their money. If people trust the system and feel comfortable using online payments, more people will start using it.. This means that

when people trust in a product or company, it makes them more likely to buy from them. Buy things online and pay using QR pay, which is a safe way to pay.

2.7.2 Perceived Usefulness

Perceived usefulness is the perceived likelihood that technology will improve how a customer completes his task. In online contexts, usefulness is defined as the extent to which a customer feels an online and offline purchase would offer access to helpful information and allow for a speedier purchase (definition).Luna and colleagues, 2018). TAM defines perceived usefulness as the degree to which a person feels something is valuable that using a certain method will improve his efficacy and work performance.

Technology is the use of scientific knowledge and tools to solve problems, create new things, or facilitate tasks. It includes things like computers, smartphones, and other electronic devices, as well as any advancements or innovations that make our lives easier or more efficient. These studies have found that when people believe that using these technologies will improve their performance or make their lives easier, they are more likely to intend to use them.

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2.7.3 Perceived Ease Of Use

According to Kim and Woo (2016), PEOU refers to a person's belief that utilising a given technology would be simple. Several studies have indicated that PEOU is strongly connected to present and future usage, as well as a user's attitude towards embracing a system. According to Kim et al. (2015)'s study on mobile banking, technological readiness and specialized. Knowledge influenced perceived ease of use, which influenced intention to use. So, if users thinks that using QRPAY information system will help them get better or if they believe that using a mobile commerce technology will make shopping more convenient, they are more likely to actually use these technologies. Therefore, it is important for technology developers to focus on

creating systems that will meet users' performance expectations in order to increase users' intention to use these technologies.

The perceived simplicity of use is critical in technology uptake and acceptability. When people believe a technology is simple to use, they are more likely to adopt it and incorporate it into their everyday lives. This is especially important when consumers are considering adopting new technologies or upgrading from outdated systems to newer ones. Various variables impact this view, including the technology's design, user interface, accessibility, and user assistance methods, as well as the individual's past experiences and knowledge with similar technologies.

2.8 Theoretical Framework

QRPAY adoption in this study is referred to user's attitude, behaviour or intention to use when dealing with QRPAY. To gain better understanding of consumers' behavioural intention to adopt a specific technology, Technology Acceptance Model (TAM) by Davis (1989) was proposed in this study. TAM mainly contains two chief elements, namely perceived usefulness and perceived ease-of-use to measure the attitudes of consumers towards the technology dedicated to them. TAM is a useful model, which has been used widely to describe how the users react and response towards the emergence of advanced technologies. This study extended TAM model with perceived security factors for assessing the attitude among the UTeM students adoption.

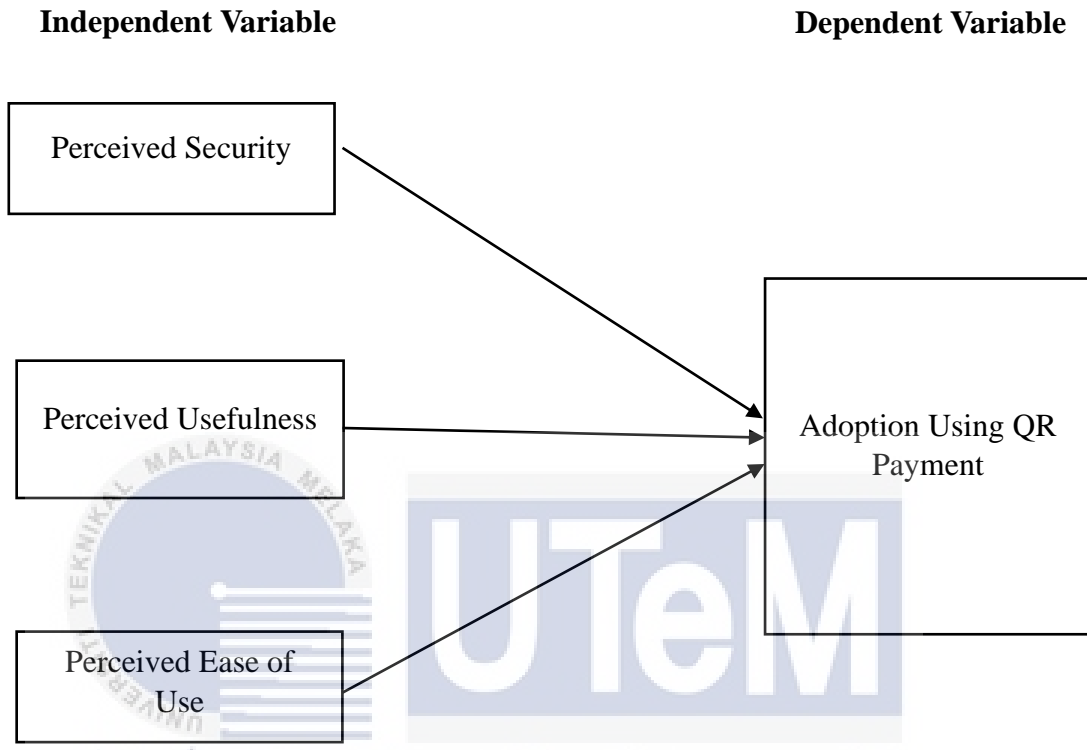


Figure 1: Theoretical Framework

The picture in Figure 1 displays the plan for this research and the addition of a new idea to it. A name for a product, Trust. It's crucial to include payment and money-related information in this study. This new thing might be connected to the user's plans to use QR mobile payments. Trust being there can be a good thing, according to earlier studies by Daştan and Gürler, as well as Al-Amr.

2.9 Hypothesis

The 3 hypothesis that are established for this study are:

Hypothesis 1 (H1)

H0: There is no significant factor that influence between perceived security and adoption QR pay among FPTT students.

H1: There is a significant factor that influence perceived security and adoption QR pay among FPTT students.

Hypothesis 2 (H2)

H0: There is no significant factor influence between perceived usefulness and adoption QR pay among FPTT students.

H1: There is a significant factor influence perceived usefulness and adoption QR pay among FPTT students.

Hypothesis 3 (H3)

H0: There is no significant factor influence between perceived ease of use and adoption using QR pay and student FPTT

H1: There is a significant factor influence between perceived ease of use and adoption using QR pay and student FPTT.

2.10 Summary

To conclude, the keyword and terms are clarified in this chapter. The data is collected from such as article, website and e-books. Free and subordinate factors have moreover been expressed to create the speculation. Conceptual framework have moreover been built to superior get it the connections between factors. Within another chapter, the researcher will explain more in the research methodology.



CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

This chapter is to discuss about the method that used to collect the data and the information for this research. When conducting a studied, researchers usually used to approach which is quantitative and to fulfill this research. Choosing the right research method is crucial, because it helps to obtain the results of the research. There are a few discussions about the research mythology which is research design, methodology choices, data source, sampling design, research strategy, data analysis method, and validity and reliability in this chapter.

3.1 Research design

Research design can be defined as the blueprint that created to reduce the uncertainty and even as a medium of solvent **Sundram (2016)**. It is about how data to be collected and analyzed in a good manner and to ensure the research is in the right track, efficient and effective research must have right plan to right path and researcher must follow it right straight to the motive and goals that been made before. According to **Nayak and Singh (2015)**, research design is a process that aims to establish a plan of activities to respond satisfactorily to research questions identified in the exploratory

phase, including selecting research methods, operating structures of interest, and developing appropriate sampling strategies.

Besides, there are three types of research design which is exploratory, descriptive, and explanatory (Saunders, et al., 2019). In particular, exploratory research is used by an analyst to determine the phenomena and to gain greater insight into the topic of interest. Descriptive research is intended to accurately describe situations, events or persons relevant to research issues. Explanatory study is to investigate a problem or scenario to clarify the variables relationship.

Therefore, the researcher is going to use the descriptive research to determine the factors effecting adopting using QRPAY among UTeM students in Melaka. This is because the descriptive research can be conducted by utilizing specific data collection methods such as surveys.

3.2 Methodological Choices

Researcher will use the quantitative data in this research. A researcher examines the various variables in a project while including numbers and statistics to analyze its findings. The primary method of data collection, measurement, and meta-analysis is the use of graphics, figures, and pie charts interpretation. The study surveys that were conveyed online and offline. Agreeing to Malhotra (2012), overviews through online, domestic and working environment have been received to obtain secure higher reaction rates, time effectiveness and to reach a expansive number of respondents. Additionally, when the raw result is inserted into the SPSS system, the results can be precisely determined and interpreted.

3.3 Source of Data

This research has two types of information main and other sources of data. Ajayi (2017) says that primary data means the data that researchers gather themselves by doing things like watching, asking questions, studying examples, and talking to people. This data is fresh and one-of-a-kind.

3.3.1 Primary Data

Primary data is information that is gathered for the very first time by individuals through their own experiences or by finding evidence, especially for research purposes. It is also known as basic information or information collected directly. Gathering information can be expensive because it requires an agency or outside organization to analyze it, which means they need people and money. The investigator watches over and manages the process of collecting information and controls it personally.

Most of the information is gathered by watching and studying things, doing tests, sending out questionnaires by mail, asking people questions in person or on the phone, studying specific cases, and talking to groups of people. To get the information needed for this study, the person doing the research will ask people questions through a website called Google Form.

3.3.2 Secondary Data

Secondary data, also being used for these further studies to describe the adoption of using mobile QR pay among UTeM FPTT students for the theories. To increase more information the researcher found information for their study by using websites like journal, website, article, text books and previous research scholar in Malaysia and other countries. Collection information that has already been gathered by others is faster and easier than collecting information yourself because you don't have to do as much work.

3.4 Sampling Design

Sampling design is focus on the data sources that allow the researcher to identify sampling technique, sampling size and sampling location.

3.4.1 Sampling Technique

The study is more focus on people among UTeM students, where the tendency to adopt new technology. UTeM students were more suitable for this research because the new era digital had changed from their age. The sample size should be above 100 respondents. Currently, students more likely to have mobile phones which allow them to download mobile payment application and performing the QR code mobile payments. A survey research on the samples is conducted by distributing questionnaire with a set of structured question was asked according to the defined variables. Only students who used the QRPAY mobile payment were given the survey for voluntary response. Probability sampling method is employed in this study so that the results can be generalized from the sample to the population of UTeM students.

3.4.2 Sampling Size

The researcher choose UTeM, Melaka to focus the scope more smaller because of the cashless campus. It can related with this research. As the researcher known the population had followed Krejcie & Morgan theory table which was stated 320 respondents needed to answered the questionnaire to represent UTeM students.

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
"S" is sample size.]

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.

Table 5: shows Krejcie & Morgan theory table

3.4.3 Sampling Location

Bayar dengan

UTeM PayNet MyDebit JomPAY FPX

UTeM 'CASHLESS CAMPUS'

Untuk keterangan lanjut, sila layari www.utem.edu.my/cashless

MyUTeM

Peluang memenangi hadiah bernilai **RM50,000***

TARIKH PENYERTAAN
27 SEPTEMBER 2019 - 29 FEBRUARI 2020

Figure 3.4.3 UTeM Cashless Campus

The location of this study will target the population in UTeM FPTT students. UTeM is a cashless campus. To perform this research, the researcher need to find and look out at UTeM respondent. As we know, all places in UTeM can paid by cashless like QRPAY and Paywave. The targeted respondents are from UTeM in experience in

using QR payment and must be a level of maturity and have a good understanding to conduct this questionnaire.

3.5 Research Strategy

3.5.1 Questionnaire Development

This research used a way of gathering information called “quantitative method.” The researchers gathered the information themselves, and it was in a specific format. The list of questionnaires was made using tool called Google Forms, which is easy to use and distribute. This survey is cheaper because using a survey rather on paper by hand. It can be given to people in different place at one time. It can send link about the information to the person selected. The rating is from strongly agree, agree, neutral, disagree and strongly disagree. Next, the content analysis it using category question with a picture. Researcher can ask a question with a printed picture. Students will quick respond if they see a picture.

The researcher can share the questionnaire on social media very easily. Social media platform like Twitter, Facebook, and WhatsApp. This method will make the survey easier to understand and save the time. After everyone has answered all the question, the researcher study the responses to get more information. Information means a knowledge or facts that someone knows and can share with others. The questionnaire has 4 parts called section A, B, C and D.

Section	Questionnaire
A	Respondent Background <ul style="list-style-type: none"> • Gender • Age • Education • Course • Year

B	<p>General Information Technology about QRPay</p> <ul style="list-style-type: none"> • Degree of awareness on the growth of technology • Types of QrPay Used • Experience in using QR Pay • Frequency used for QR Pay for a week • The purpose of using Qr Pay payments • Reason for adopting QR Pay
C	<p>Independent Variable:</p> <ul style="list-style-type: none"> • Perceived Security (Fred D. Davis, 1 B.C.E.) • Perceived Usefulness (Tu Nhat Vy. (2019)) • Perceived Ease of Use (Tu Nhat Vy. (2019))
D	<p>Dependent Variable: Factor Affecting Adoption Using QR Payment (Tu Nhat Vy. (2019))</p>

Table 1: shows the questionnaire design

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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Table 2: Five-point Likert Scale

3.5.2 Operationalization Constructs

Constructs	No of Item	Scale of Measurement
Perceived Security	5	Licked Scale (1-5)
Perceived Usefulness	5	Licked Scale (1-5)
Perceived Ease of Use	5	Licked Scale (1-5)
Adoption of Using QRPay	5	Licked Scale (1-5)

Table 3: shows the operational construct

3.5.3 Pilot Test

The person doing research wants to check if people understand the questions by asking a few people first. This will help get a better outcome for the study. A pilot test is a small practice study researchers use to see if their full study will work before they actually start it. The pilot test aims to find out if there are any questions that respondents find confusing or unclear. In addition, it will identify any mistakes or problems in the survey that the researcher can fix before giving it to people to answer.

The researcher will choose 30 people to try something out and see how it works. We look at the opinions and thoughts shared by people who try out the survey before it's complete, and use them to improve the final survey. The new survey questions will be given to the people who are answering them.

3.6 Reliability and Validity Analysis

Researchers needed to check if their methods and findings were correct by doing reliability and validity analysis. Doing research that is as accurate and trustworthy as possible by using numbers and data. We did a test to make sure that the thing we were studying and the thing we were measuring were accurate. All of the things we measured were reliable. The variables in this study should have had the same structure underneath. Correlated means that two things are related to each other and affect each other in some way. The validity test is about how well the measurement works and how close the results are to the actual value. When scientists make sure their measurements are always the same and correct, it helps them get results that are trustworthy. Rewrite: Information or facts. This study used tests to find out if the measuring tool was accurate. The way to measure what was being studied was shown using specific words. It was harder to make sure the measuring tool was accurate, but it was very important. This means finding out if something is dependable.

Cronbach's Alpha Coefficient	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.7 \leq \alpha < 0.9$	Good
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 5: Cronbach's Alpha Coefficient

3.7 Data Analysis Method

To run the analysis, the collected data are imported into SPSS (The Statistical Packages for Social Science). A window-based programme called SPSS can be used to enter and analyse data, as well as to make tables and graphs for the research. It can handle large amounts of collected data and can be used for analysis. To obtain results, all collected data are entered into the SPSS programme. Because each result from the questionnaire data has its own sign, making it simple to intercept and understand, the SPSS makes it simpler to conduct the analysis and obtain all of the results in text and graph form.

3.7.1 Descriptive Analysis

Descriptive research is used to explain situations, events or people that are important to research questions. A descriptive study is done to understand how different things are related. It can help to explain a problem or situation. For this study, we used a plan and a list of questions to gather important information. This method was used to describe and make sure that factors affecting adoption using QRPAY among UTeM students. The researcher can use descriptive analysis to comprehend the numerical variables as well as the variables that are centered on the "demographic information" of

the respondents. The most frequent data form displayed in descriptive statistic is Mode, Main and Medium. A clearer explanation of a huge quantity of data is simplified from each descriptive statistic. The researcher used the descriptive analysis which is frequency distribution to distinguish the gender, age, courses and year at UTeM.

3.8 Pearson Correlation Analysis

The Pearson correlation coefficient is a way to see if two things that keep changing are related to each other. It is the best way to see how two things are related because it looks at how they change together. To find out if two things are related, we used a type of math called Pearson correlation analysis. The correlation goes from almost no connection to a very strong connection, and is shown on a scale from -1 to 1. The number called the Pearson Correlation Coefficient, which is called "r,"

R	Interpretation
0.81 to 1.00	Very Strong
0.61 to 0.80	Strong
0.41 to 0.60	Moderate
0.21 to 0.40	Low
0.00 to 0.20	Very low

Table 4: Pearson Correlation Coefficient

3.9 Multiple Regression Analysis

Regression analysis is a set of statistical methods used to estimate the relationship between one or more independent variables and a dependent variable. This study includes three independent variables: perceived security, perceived ease of use, perceived usefulness. In this study, the researcher will employ linear regression analysis and the equation shown below.

$$y = a + bx_1 + cx_2 + dx_3$$

Where,

y = dependent variable value (adoption of using QRPay)

a = constant

b, c, d = regression coefficient

x₁ = independent variable value (perceived security)

x₂ = independent variable value (perceived ease of use)

x₃ = independent variable value (perceived usefulness)

3.10 Summary

This chapter talks about how the researchers did their study. For the study, researcher picked descriptive research. For this study, researcher asked people questions using a survey as our main source of information. It also looked at information found in articles and journals on the Internet as another source of data. The researcher will test their study and check if it is accurate and consistent by doing a trial run and using a special calculation called Cronbach's Alpha coefficient. The researcher will use SPSS version 26 to analyze the data in Social Sciences.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION

4.0 Introduction

In this chapter, the researcher analyzed and develop data gathered from distributed questionnaire. It has demonstrated the successful completion of this research goal. The overview used in this chapter is analysis of pilot test, result dissemination questionnaire, result and analysis, demographic analysis, descriptive analysis of all variables, hypothesis testing of the relationship between independent variable towards dependent variable, multiple regression analysis and regression coefficient. In this research, 320 questionnaires were collected using researcher-based surveys through an online Google Survey Form. Data analysis is generated based on the Social Science Statistical Package (SPSS) version 23.

4.1 Analysis of Pilot Test

The purpose of the pilot test is to determine if the questionnaire is correct to capture the required data as expected. Therefore. The effectiveness of the pilot test and the reliability of the questionnaire can be tested. For pilot testing, check internal reliability by using Cronbach's Alpha. For the pilot test, the researcher chooses 30 peoples out of 320 respondents at random to fill out the questionnaire. The researcher utilized SPSS to examine the data's reliability. All of the items in the table below were found to reliable and valid. The critical value of 30 respondent is 0.361 (df – 2) based on the figure 4.1 for R-table.

DISTRIBUSI NILAI r_{tabel} SIGNIFIKANSI 5% dan 1%

N	The Level of Significance		N	The Level of Significance	
	5%	1%		5%	1%
3	0.997	0.999	38	0.320	0.413
4	0.950	0.990	39	0.316	0.408
5	0.878	0.959	40	0.312	0.403
6	0.811	0.917	41	0.308	0.398
7	0.754	0.874	42	0.304	0.393
8	0.707	0.834	43	0.301	0.389
9	0.666	0.798	44	0.297	0.384
10	0.632	0.765	45	0.294	0.380
11	0.602	0.735	46	0.291	0.376
12	0.576	0.708	47	0.288	0.372
13	0.553	0.684	48	0.284	0.368
14	0.532	0.661	49	0.281	0.364
15	0.514	0.641	50	0.279	0.361
16	0.497	0.623	55	0.266	0.345
17	0.482	0.606	60	0.254	0.330
18	0.468	0.590	65	0.244	0.317
19	0.456	0.575	70	0.235	0.306
20	0.444	0.561	75	0.227	0.296
21	0.433	0.549	80	0.220	0.286
22	0.432	0.537	85	0.213	0.278
23	0.413	0.526	90	0.207	0.267
24	0.404	0.515	95	0.202	0.263
25	0.396	0.505	100	0.195	0.256
26	0.388	0.496	125	0.176	0.230
27	0.381	0.487	150	0.159	0.210
28	0.374	0.478	175	0.148	0.194
29	0.367	0.470	200	0.138	0.181
30	0.361	0.463	300	0.113	0.148
31	0.355	0.456	400	0.098	0.128
32	0.349	0.449	500	0.088	0.115
33	0.344	0.442	600	0.080	0.105
34	0.339	0.436	700	0.074	0.097
35	0.334	0.430	800	0.070	0.091
36	0.329	0.424	900	0.065	0.086
37	0.325	0.418	1000	0.062	0.081

Figure 4.1 R-Table

4.1.1 Validity of Pilot Test

Table 4.1.1 Validity of Pilot Test

[Sources: Data Analysis of SPSS]

	Indicator/Item	Correlation Value	Critical Value	Validity
Perceived Security	I feel confident about the security of QRPay when making payments	0.888	0.361	Valid
	I believe that QRPay is more secure than traditional cash/card	0.892	0.361	Valid
	QRPay provides security and trustworthy transaction (e.g., PIN, Biometric authentication)	0.905	0.361	Valid
	I am concerned about the privacy of my personal and financial information when using QRPay.	0.451	0.361	Valid
	Overall, I feel that QRPay is secure and reliable payment method	0.845	0.361	Valid

	Indicator/Item	Correlation Value	Critical Value	Validity
Perceived Usefulness	I find QRPay to be time-saving when making transactions	0.769	0.361	Valid
	I can easily find QR codes or payment option for QRPay at most places I shop	0.688	0.361	Valid
	QRPay allows me to make various	0.670	0.361	Valid

	types of transaction easily			
	Using QRPay is the trend of the modern lifestyle	0.604	0.361	Valid
	Overall, I find QRPay to be a useful and valuable method	0.720	0.361	Valid

	Indicator/Item	Correlation Value	Critical Value	Validity
Perceived Ease Of Use	I can easily learn how to use QRPay	0.572	0.361	Valid
	I can quickly become proficient in using services of QRPay	0.699	0.361	Valid
	The procedures of QRPay are simple to me	0.831	0.361	Valid
	The process of making a with QRPay is straightfoward	0.795	0.361	Valid
	Overall, I find QRPay to be easy to use and user-friendly	0.662	0.361	Valid

Adoption Of Using QRPAY	Indicator/Item	Correlation Value	Critical Value	Validity
	I intend to use QRPay for my payments in the future	0.763	0.361	Valid
	I will always try to use QRPay during purchasing things	0.904	0.361	Valid
	I will recommend others to use QRPay for purchasing	0.864	0.361	Valid

	QRPay suits my lifestyle because I always carry my mobile phone with me.	0.674	0.361	Valid
	QRPay payments would be one of my favourite technologies for payment	0.745	0.361	Valid

Table 4.1 shows the correlation value and critical value for 30 respondents used to collect the data. From the table can be concluded that all items in the questionnaire have strong reliability and the set of the questionnaires were proving to be valid as the values of critical value is above 0.361.

4.1.2 Reliability Test

The researcher also uses Cronbach's Alpha analysis to perform the reliability analysis because it is the best tool for measuring the reliability and internal consistency of variables. Moreover, SPSS is used by the researcher to perform the Cronbach's Alpha analysis. The table below 4.1.2 shows the Cronbach's alpha for 30 respondents used to collect the data can be concluded that all items in the questions have strong reliability and the set of the questionnaires were proving to be valid as the values of Cronbach's Alpha is above 0.7

Alpha Coefficient Range, α	Level of reliability
0.80 to 0.95	Excellent reliability
0.70 to 0.80	Good reliability
0.60 to 0.70	Poor reliability
$\alpha < 0.60$	Very poor reliability/questionable

Table 4.1.2.1: shows the Cronbach's Coefficient Alpha scale

Table 4.1.2.2 Validity of Pilot Test
 [Sources: Data Analysis of SPSS]

Variable	Cronbach's Alpha	Number of Item	Reliability
Perceived Security	0.864	5	Reliable
Perceived Usefulness	0.694	5	Reliable
Perceived Ease Of Use	0.733	5	Reliable
Adoption Of Using QRPAY	0.841	5	Reliable

4.2 Result Dissemination Questionnaire

Questionnaire was distributed to 320 respondents. Questionnaire will be distributed only to FPTT year 1 until year 4 UTeM students. Researcher take the online survey through google form and face-to-face at Neraca Café FPTT by using scanner QR to distribute the questionnaire. Respondent are selected randomly from FPTT students only.

Table 4.2.1 Total Respondent FPTT students by Year

Year	Total (N)	Respondent (S)	Respondent (S)
1	618	105	53
2	447	76	72
3	426	72	76
4	395	67	119
Total	1886	1886	320

Table 4.2.2 Results Dissemination Questionnaire

Evidence	Total
Distributed questionnaire	320
Receive questionnaire return	320
Response rate	100%
No returned questionnaire	0
Incomplete questionnaire	0
Total analyzed qualified questionnaire	320

4.3 Result and Analysis

The exacting technique used to ensure the correctness and dependability of the data acquired during the research process is essential to the validity of the study's findings. The chosen statistical methods and analytical instruments are in perfect alignment with the research goals, as demonstrated by a rigorous analysis of the analysis validity, which raises the study's overall credibility because it reduces potential biases and confounding factors, the robustness of the experimental design greatly enhances result validity and increases trust in the study's findings.

The image shows a screenshot of the iCalcu.com website's Critical Pearson Correlation Calculator. The page title is "Critical Pearson Correlation Calculator". The user has entered a level of significance (alpha) of 0.05 and a number of pairs of 320. The "Sides" section has two radio buttons: "One-sided" and "Two-sided", with "Two-sided" selected. A blue "Calculate" button is located below the input fields. The result of the calculation is displayed in a text box as "Critical Pearson Correlation: 0.10966379846251573". The background of the calculator interface features the UTEM logo and the text "UNIVERSITI TEKNIKAL MALAYSIA MELAKA".

Figure 4.3 Critical Pearson Correlation Calculator

Figure 4.3 is a calculator that a researcher using to calculate the critical value for 320 respondents at random to fill out the questionnaire. The researcher utilized SPSS to examine the data's reliability. All of the items in the table below were found to reliable and valid. Critical value of 320 respondent is 0.109 (df – 2).

4.3.1 Validity Analysis Result

Table 4.3.1 Validity of Pilot Test

[Sources: Data Analysis of SPSS]

	Indicator/Item	Correlation Value	Critical Value	Validity
Perceived Security	I feel confident about the security of QRPay when making payments	0.893	0.109	Valid
	I believe that QRPay is more secure than traditional cash/card	0.884	0.109	Valid
	QRPay provides security and trustworthy transaction (e.g., PIN, Biometric authentication)	0.880	0.109	Valid
	I am concerned about the privacy of my personal and financial information when using QRPay.	0.800	0.109	Valid
	Overall, I feel that QRPay is secure and reliable payment method	0.840	0.109	Valid

	Indicator/Item	Correlation Value	Critical Value	Validity
Perceived Usefulness	I find QRPay to be time-saving when making transactions	0.769	0.361	Valid
	I can easily find QR codes or payment option for QRPay at most places I shop	0.688	0.361	Valid
	QRPay allows me to make various	0.670	0.361	Valid

	types of transaction easily			
	Using QRPay is the trend of the modern lifestyle	0.604	0.361	Valid
	Overall, I find QRPay to be a useful and valuable method	0.720	0.361	Valid

	Indicator/Item	Correlation Value	Critical Value	Validity
Perceived Ease Of Use	I can easily learn how to use QRPay	0.670	0.109	Valid
	I can quickly become proficient in using services of QRPay	0.699	0.109	Valid
	The procedures of QRPay are simple to me	0.831	0.109	Valid
	The process of making a with QRPay is straightfoward	0.795	0.109	Valid
	Overall, I find QRPay to be easy to use and user-friendly	0.662	0.109	Valid

	Indicator/Item	Correlation Value	Critical Value (r)	Validity
Adoption Of Using QRPAY	I intend to use QRPay for my payments in the future	0.763	0.109	Valid
	I will always try to use QRPay during purchasing things	0.904	0.109	Valid
	I will recommend others to use QRPay for purchasing	0.864	0.109	Valid
	QRPay suits my lifestyle because I always carry my mobile phone with me.	0.674	0.109	Valid
	QRPay payments would be one of my favourite technologies for payment	0.745	0.109	Valid

Table 4.3.1 shows the correlation value and critical value for 320 respondents used to collect the data. From the table can be concluded that all items in the questionnaire have strong reliability and the set of the questionnaires were proving to be valid as the values of critical value is above 0.109.

4.3.2 Reliability Analysis Result

To get dependable replies, the main objective of a reliability test was to assess the validity of each question with respect to the independent and dependent variables. Researchers utilised the Cronbach's coefficient alpha to assess a study's level of reliability

Alpha Coefficient Range, α	Level of reliability
0.80 to 0.95	Excellent reliability
0.70 to 0.80	Good reliability
0.60 to 0.70	Poor reliability
$\alpha < 0.60$	Very poor reliability/questionable

Table 4.3.2.1: shows the Cronbach's Coefficient Alpha scale

Table 4.3.2.2 Reliability Test For 320 Respondents for Each Questions.
[Sources: Data Analysis of SPSS]

Variable	Cronbach's Alpha	Number of Item	Reliability
Perceived Security	0.914	5	Reliable
Perceived Usefulness	0.934	5	Reliable
Perceived Ease Of Use	0.939	5	Reliable
Adoption Of Using QRPAY	0.937	5	Reliable

The Cronbach's Alpha for 320 respondents used to see the result of reliability for each number of item. It can be seen from the below table 4.3.2.2. From the table can be concluded that all items in the questionnaire have strong reliability and the set of the questionnaires were proving to be valid as the values of Cronbach's Alpha is above 0.7.

As follows, the Cronbach's Alpha valued for perceived security of adoption in using QRPay scored 0.914 which fell under excellent reliability. Moreover, the Cronbach's Alpha result on perceived usefulness of adoption in using QRPay was 0.934 which was fell under range of 0.80 to 0.95 and it was considered as excellent reliability. While for perceived ease of use of adoption using QRPay was 0.939 and the value for adoption of using QRPay was 0.937 which shows excellent reliability. Since all the value is excellent reliability for Cronbach Alpha, it could be concluded that overall reliability test of all items in the questionnaires used was acceptable and valid for further research.

Table 4.3.2.3 Reliability Test For 320 Respondents

		N	%
Case s	Valid	320	100.0
	Excluded ^a	0	.0
	Total	320	100.0

Cronbach's Alpha	N of Items
.973	320

[Sources: Data Analysis of SPSS]

Table 4.3.2.3 shows the Cronbach's alpha for 320 respondents used to collect the data. From the table can be concluded that questionnaire have strong reliability and the were proving to be valid as the values of Cronbach's Alpha is above 0.7 which is 0.973.

4.4 Demographic Analysis (Section A)

In this part of demographic profile, researcher often compile all the relevant criteria and information that constitutes it. This section helps the researcher the purpose of this research. The demographic profiles that were included in the questionnaire is gender, course, year, age, degree of awareness, types of using QRPay, frequency used for the QRPay, the purpose of using QRpay and the reason for adopting QRPay.

4.4.1 Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	124	38.8	38.8	38.8
	Female	196	61.3	61.3	100.0
	Total	320	100.0	100.0	

Table 4.4.1 Respondent Demographic of Gender

[Sources: Data Analysis of SPSS]

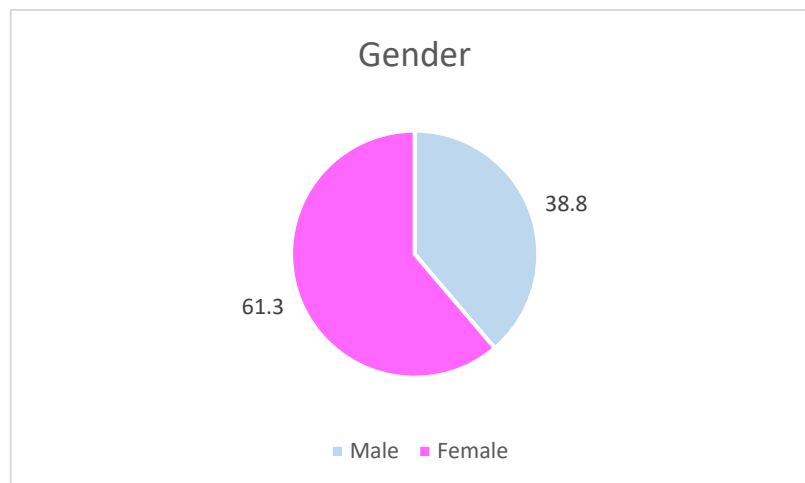


Figure: 4.4.1

The table presents the respondent's gender segmented by frequency and proportion. Out of total 320 respondents, there were 124 (38,8%) male respondents, which much lesser than the 196 (61.3%) female respondents. Overall, there was 320 respondents. As could be seen in the figure 4.4.1, respondents of both genders gave out a total 39% and 61% respectively.

4.4.2 Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20-21	50	15.6	15.6	15.6
22-23	146	45.6	45.6	61.3
24-25	124	38.8	38.8	100.0
Total	320	100.0	100.0	

Table 4.4.2: Respondent Demographic of Age

[Sources: Data Analysis of SPSS]

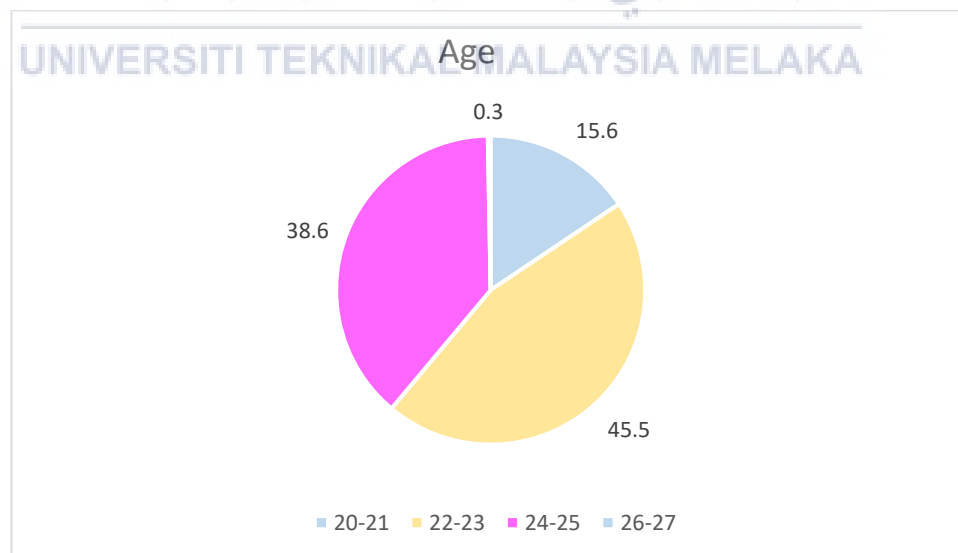


Figure 4.4.2: Respondent Demographic of Age

The frequency data of respondents' ages were displayed in the table above. Data collection includes respondents between the ages of 20 to 21 making up 50 (15.6%) respondents. While respondents between 22 to 23 (45.5%) make up the highest age group that contribute 146(38.6%) respondents in answering this questionnaire. For ages 24 to 25 is the second highest age group that contribute 124 respondents. For ages 26 to 27 is (0%) that contribute to answer and was the lowest among all age.

4.4.3 Course

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid btm	107	33.4	33.4	33.4
btms	74	23.1	23.1	56.6
btmi	78	24.4	24.4	80.9
btec	61	19.1	19.1	100.0
Total	320	100.0	100.0	

Table 4.4.2: Respondent Demographic of Courses

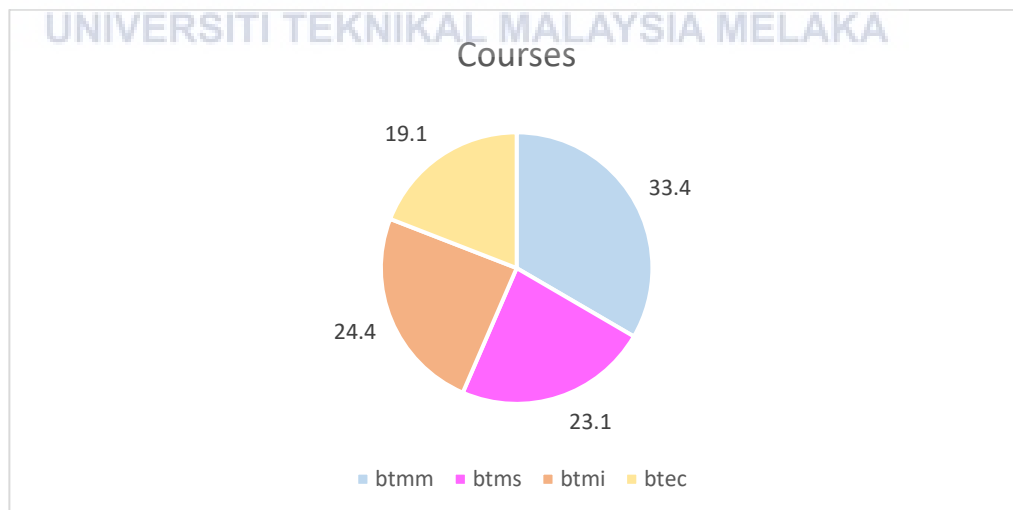


Figure 4.4.2: Respondent Demographic of Courses

The frequency data of respondents' courses were displayed in the table above. Data collection includes respondents from btmm students with 107(33.4%) respondents is the highest answered. Next, for btms courses had contribute 74 (23,1%) respondents. For btmi courses had a second highest which is 78 (24.4%) respondents and the lowest respondents is btcc courses with 61 (19.1%) respondents answered only.

4.4.3 Year

		Year			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Year 1	53	16.6	16.6	16.6
	Year 2	72	22.5	22.5	39.1
	Year 3	76	23.8	23.8	62.8
	Year 4	119	37.2	37.2	100.0
	Total	320	100.0	100.0	

Table 4.4.3: Respondent Demographic of Year

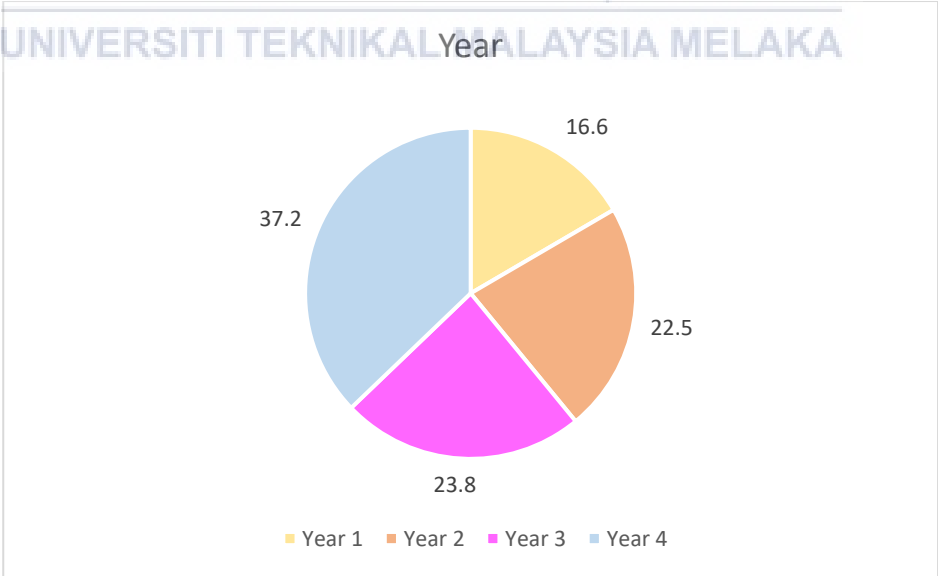


Figure 4.4.3: Respondent Demographic of Year

The frequency data of respondents' courses were displayed in the table above. Data collection includes respondents from year 4 students is the highest respondent with 119 (37.2%) respondents. For year 1 is the lowest respondent with 53 (16.6%) respondents only. For year 2 only contribute 72 (22.5%) respondents and year 3 is 76 (23.8) respondents only.

4.4.4 Degree of Awareness QRPay

		Awareness			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Aware	267	83.4	83.4	83.4
	Slightly Aware	52	16.3	16.3	99.7
	Not Aware	1	.3	.3	100.0
	Total	320	100.0	100.0	

Table 4.4.4: Respondent Demographic of Degree of Awareness QRPay

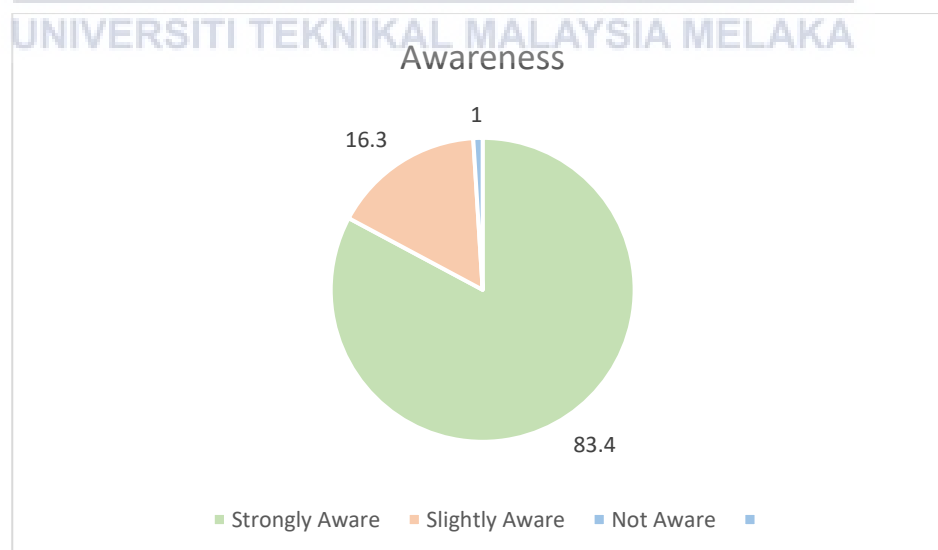


Figure 4.4.4: Respondent Demographic of Degree of Awareness

The results of the question “degree of awareness on QRPay Technology Adoption” are shown in Table 4.4.4 and figure 4.4.4 above. Based on that, the results show that majority of respondents, 267 (83.4%) is strongly aware, for slightly aware only 52 (16.3%) respondents and only 1 (0.3%) respondents answered not aware about the technology.

4.4.5 Types of QRPay Used

		Types of .QRPay			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	Maybank2e	138	43.1	43.1	43.1
	TouchNGo	87	27.2	27.2	70.3
	GrabPay	17	5.3	5.3	75.6
	Boost	13	4.1	4.1	79.7
	WechatPay	5	1.6	1.6	81.3
	Other	60	18.8	18.8	100.0
	Total	320	100.0	100.0	

Table 4.4.5: Respondent Demographic of Types Of QRPay Used

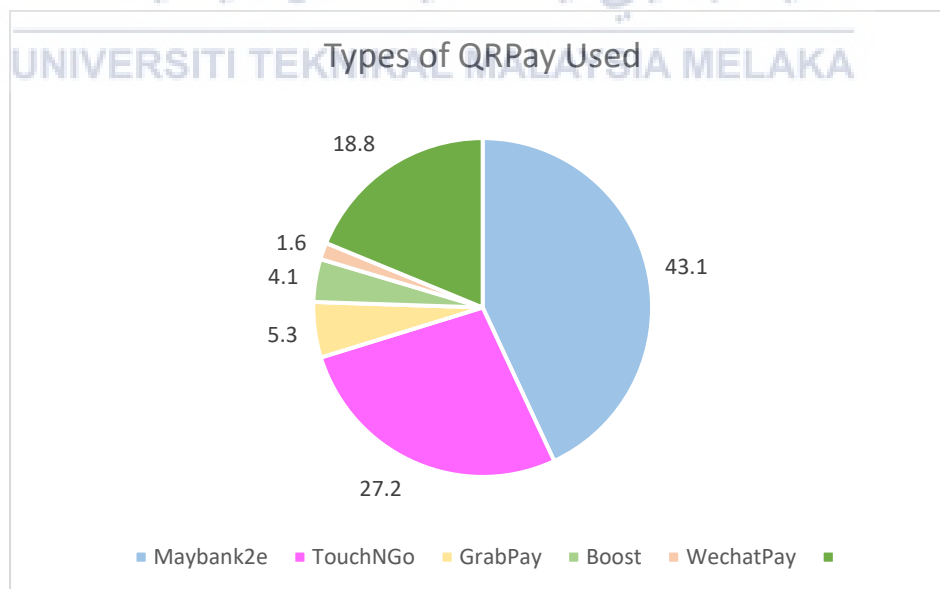


Figure 4.4.5: Respondent Demographic of Types of QRPay Used

Based on table 4.4.5 and Figure 4.4.5 it involved the types of QRPay used by respondents in this study. It was resulted the majority types of using QRPay payments is used by respondents was Maybank2e with 138 (43.1%) respondents. Followed by TouchNgo the second highest being used by respondent with 87 (27.2%) respondents. Next is, GrabPay with 17 (5.3%) respondents. For Boost is 13 (4.1%) respondents used it. For WechatPay is the lowest respondent used it because only 5 (1.6%) respondents answered it and the last one is 60 (18.8%) respondents used Other payment rather than QRPay.

4.4.6 Frequency Used for a Week

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-4 times	66	20.6	20.6
	5-8 times	115	35.9	56.6
	9-12 times	68	21.3	77.8
	Over 12 times	71	22.2	100.0
Total		320	100.0	

Table 4.4.6: Respondent Demographic of Frequency Used for a Week

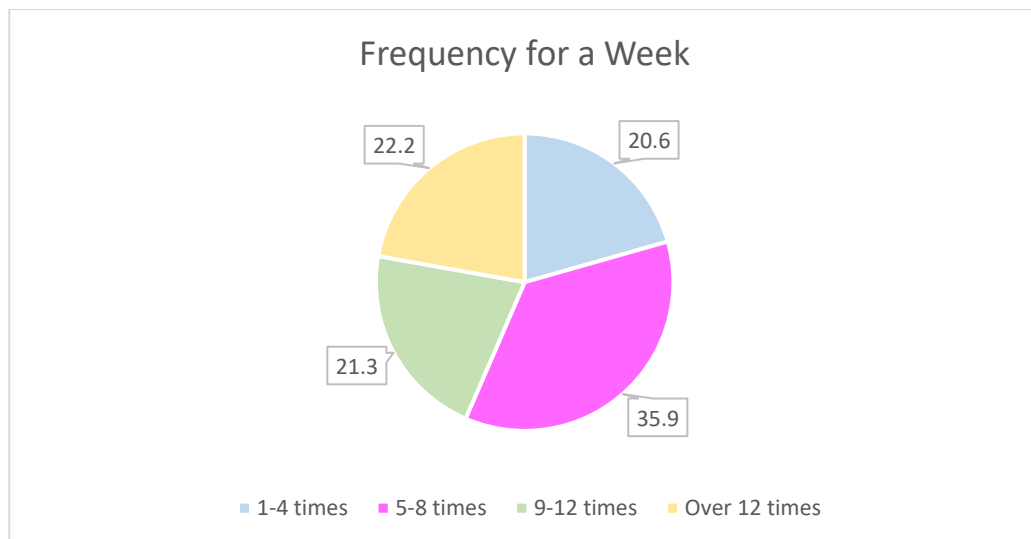


Figure 4.4.6: Respondent Demographic of Frequency Used for a Week

Based on the table 4.4.6 and Figure 4.4.6 is the respondent frequency used for a week is 1-4 times only 66 (20.6%) respondents which is the lowest frequency used. Beside that, 5-8 times a week had the highest frequency with 115 (35.9%) respondents used in a week. For, 9-12 times is only 68 (21.3%) respondents and 71 (22.2%) respondents used for over 12 times in a week which is the second highest in using QRPay for a week.

4.4.7 The Purpose of Using QRPay

		Purpose			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Food	165	51.6	51.6	51.6
	Movie	11	3.4	3.4	55.0
	Transfer Payment	122	38.1	38.1	93.1
	Shopping Mall	20	6.3	6.3	99.4
	Other	2	.6	.6	100.0
Total		320	100.0	100.0	

Table 4.4.7: Respondent Demographic of The Purpose of Using QRPay

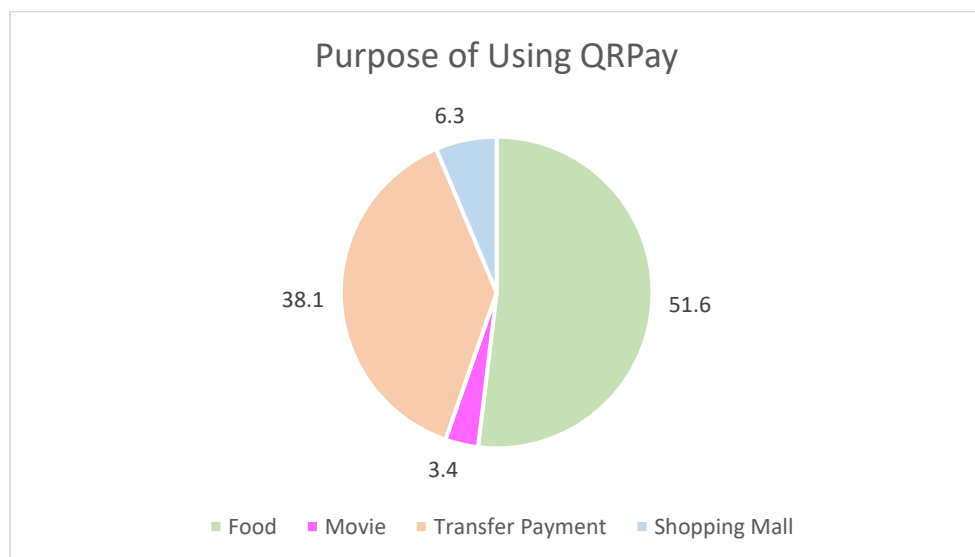


Figure 4.4.7: Respondent Demographic of Purpose of Using QRPay

Based on the table 4.4.7 and Figure 4.4.7, it involved the purpose of using QRPay used by respondents in this study. It was resulted the majority the highest used with 165 respondents for food when paid using QRPay. For movie, only 11 respondent used it when make a payment. Followed by the second highest is for transfer payments with 122 respondents. Next is, shopping mall only 20 respondents used to paid and last one is other for 2 respondents only stated that using QRPayment for others option.

4.4.8 Reason for Adopting QRPay

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Convenience	184	57.5	57.5	57.5
Discount / Cashback	36	11.3	11.3	68.8
Reward				
Easy Track	53	16.6	16.6	85.3
Shortage of Currency Notes	47	14.7	14.7	100.0
Total	320	100.0	100.0	

Table 4.4.8: Respondent Demographic of Reason of Adopting QRPay

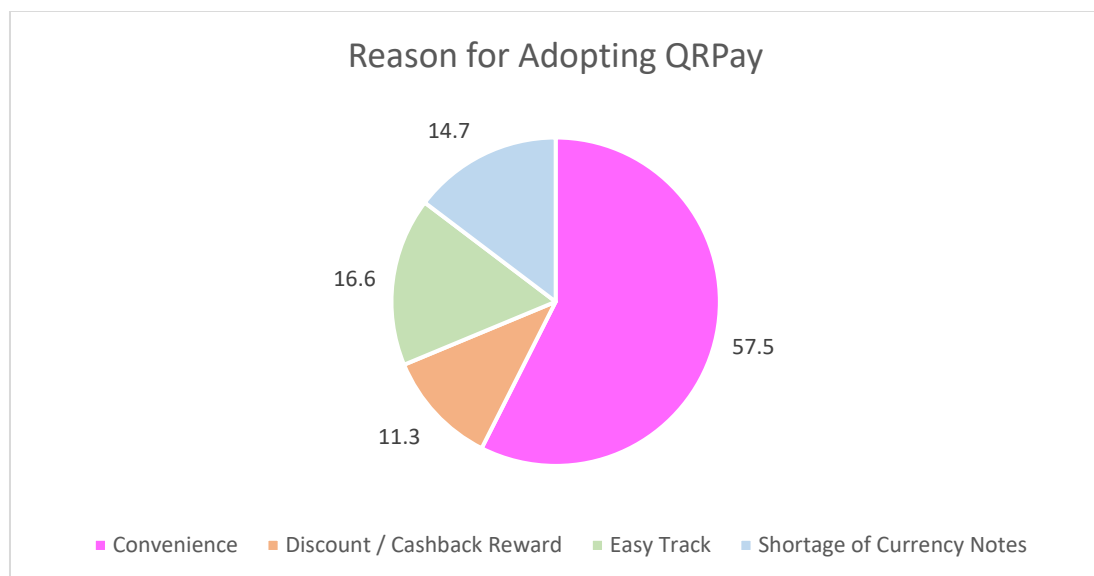


Figure 4.4.8: Respondent Demographic Reason of Adopting QRPay

Based on the Table 4.4.8 and Figure 4.4.8 it involved the reason of adopting QRPay by respondents in this study. It was resulted the majority reason of adopting QRPay is because the convenience with 184 respondents. The discount and cashback reward also had 36 respondents in using this QRPay technology. For easy track is the second highest with 53 respondents. Lastly, 47 respondents is answered for the shortage of the currency notes.

4.5 Descriptive Analysis

The researcher used the descriptive statistics to describe the data collected by the google form questionnaire. Descriptive statistics are one of the methods that used table, graph and overview the study. 320 respondents had answered the questionnaire which involved the results factors influencing UTeM students in the adoption of using QRPay will be defined by the data analysis.

4.5.1 Independent Variable (Section B)

4.5.1.1 Perceived Security

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PS1	320	1.00	5.00	4.4219	.72580
PS2	320	1.00	5.00	4.3687	.72676
PS3	320	1.00	5.00	4.4156	.70315
PS4	320	1.00	5.00	4.4844	.66701
PS5	320	1.00	5.00	4.4469	.66506
Valid N (listwise)	320				

Table 4.5.1.1.1: shows the descriptive statistic for perceived security

	Highest
	Lowest

According to finding and investigation based on the table 4.5.1.1.1 shows the descriptive analysis of independent variable which is the factor that influence UTeM students in the adoption of using QRPay based on 320 respondents. The respondents agreed with the item of PS4, “I am concerned about the privacy of my personal and financial information when using QRPay” which its mean value is the highest 4.48 and standard deviation 0.667. The second highest that agreed by respondents is item PS5, “Overall, I feel that QRPay is secure and reliable payment method” make a mean 4.44 and standard deviation 0.665. Followed by the item of PS1, “I feel confident about the security of QRPay when making payments” and followed by PS3, “QRPay provides security and trustworthy transaction (e.g., PIN, Biometric authentication”, which has the mean value of 4.42 and 4.41 as well as standard deviation of 0.725 and 0.703. Lastly, an item of PS2, “I believe that QRPay is more secure than traditional cash/card” had the lowest mean value with 4.36 and standard deviation is 0.726.

NO	ITEM	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%	F	%	F	%	F	%	F	%
1	I feel confident about the security of QRPay when making payments	3	9%	5	1.50%	12	3.80%	134	41.90%	166	51.90%
2	I believe that QRPay is more secure than traditional cash/card	2	6%	5	1.60%	20	6.30%	139	43.4	154	48.1%
3	QRPay provides security and trustworthy transaction (e.g., PIN, Biometric authentication)	2	6%	5	1.60%	13	4.10%	138	43.10%	162	50.6%
4	I am concerned about the privacy of my personal and financial information when using QRPay.	2	6%	3	9%	10	3.10%	128	40%	177	55.3%
5	Overall, I feel that QRPay is secure and reliable payment method	1	3%	6	1.90%	7	2.20%	141	44.10%	165	51.60%

Table 4.5.1.1.2: shows the descriptive frequencies for perceived security

Based on the table 4.5.1.1.2 for first question perceived security item 1 is “I feel confident about the security of QRPay when making payments” had 3 respondents that answered strongly disagree, 5 respondents answered disagree, 12 respondent answered neutral, 134 respondents answered agree and 166 answered strongly agree. Next, for item question 2 is “I believe that QRPay is more secure than traditional cash/card” had the lowest strongly agree rather than others items which is 154 respondents answered strongly agree, 139 respondents answered agree, 20 respondents answered disagree and 2 respondents answered strongly disagree. Followed by items 3 “QRPay provides security and trustworthy transaction (e.g., PIN, Biometric authentication)” had 2

respondents answered strongly disagree, 5 respondents answered disagree, 13 respondents answered neutral, 138 answered agree and 162 answered agree. For item 4 “I am concerned about the privacy of my personal and financial information when using QRPay” had the highest respondents answered strongly agree with 177 respondents, 128 respondents answered agree, 10 respondents answered neutral, 3 respondents answered disagree and 2 respondents answered strongly disagree. Lastly, for item 5 “Overall, I feel that QRPay is secure and reliable payment method” had 1 respondent answered strongly disagree, 6 respondents answer disagree, 7 respondents answered neutral, 141 respondents answered agree and 165 respondents answered strongly agree.

4.5.1.2 Perceived Usefulness

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PU1	320	1.00	5.00	4.4656	.68486
PU2	320	1.00	5.00	4.4031	.71482
PU3	320	1.00	5.00	4.4844	.69010
PU4	320	1.00	5.00	4.5281	.60755
PU5	320	1.00	5.00	4.5375	.61728
Valid N (listwise)	320				

Table 4.5.1.2.1: shows the descriptive statistic for perceived usefulness

	Highest
	Lowest

Table 4.5.1.2.1 above revealed that descriptive statistics of independent variable perceived usefulness among 320 respondents. The respondents agreed with the statement of item PU5, “Overall, I find QRPay to be a useful and valuable method” with a mean 4.53 and standard deviation 0,617. Whereas, a statement PU2, “I can easily find QR codes or payment option for QRPay at most places I shop” has the lowest mean value of 4.40 and standard deviation 0.714. Next, for the statement of item PU4, “Using QRPay is the trend of the modern lifestyle” has the second highest mean value of 4.52 and standard deviation 0.607. The statement item PU1 and PU3 I find “QRPay to be time-saving when making transactions” and “QRPay allows me to make various types of transaction easily” have mean value of 4.46 and 4.48 with standard deviation 0.684 and 0.690 respectively.

NO	ITEM 2	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%	F	%	F	%	F	%	F	%
1	I find QRPay to be time-saving when making transactions	4	1.3%	2	0.6%	5	1.6%	139	43.4%	170	53.1%
2	I can easily find QR codes or payment option for QRPay at most places I shop	3	9%	5	1.6%	10	3.1%	144	45.0%	158	49.4%
3	QRPay allows me to make various types of transaction easily	4	1.3%	2	0.6%	6	1.9%	131	40.9%	177	55.3%
4	Using QRPay is the trend of the modern lifestyle	1	0.3%	2	0.6%	7	2.2%	127	39.7%	183	57.2%
5	Overall, I find QRPay to be a useful and valuable method	1	0.3%	3	0.9%	6	1.9%	123	38.4%	187	58.4%

Table 4.5.1.2.2: shows the descriptive frequencies for perceived usefulness

Based on the table 4.5.1.2.2 for first question perceived security item 1 is “I find QRPay to be time-saving when making transactions” had 4 respondents answered disagree, 2 respondents answered disagree, 5 respondents answered is neutral, 139 respondents answered agree and 170 answered strongly agree. Next, for items 2 “I can easily find QR codes or payment option for QRPay at most places I shop” had the lowest answered strongly agree with 158 respondents, 144 respondents answered agree, 10 respondents answered neutral, 5 respondents answered disagree and 3 strongly disagree. Followed by, items 3 “QRPay allows me to make various types of transaction easily” 4 respondents answered strongly disagree, 2 respondents answered disagree, 6 respondents answered neutral. For items 4 “Using QRPay is the trend of the modern lifestyle” 1 respondent answer strongly disagree, 2 respondents answered disagree, 7 respondents answered neutral, 127 respondents answered agree and 183 respondents answered strongly agree. Lastly, for items “Overall, I find QRPay to be a useful and valuable method” had the highest strongly agree that had 187 respondents answered, 123 respondents answer agree, 6 respondents answered neutral, 3 respondents answered disagree and 1 respondent answered strongly disagree.

4.5.1.3 Perceived Ease of Use

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PE1	320	1.00	5.00	4.6563	.61381
PE2	320	1.00	5.00	4.6219	.65113
PE3	320	1.00	5.00	4.6156	.62277
PE4	320	1.00	5.00	4.5969	.63096
PE5	320	1.00	5.00	4.5937	.66997
Valid N (listwise)	320				

Table 4.5.1.3.1: shows the descriptive frequencies for perceived ease of use

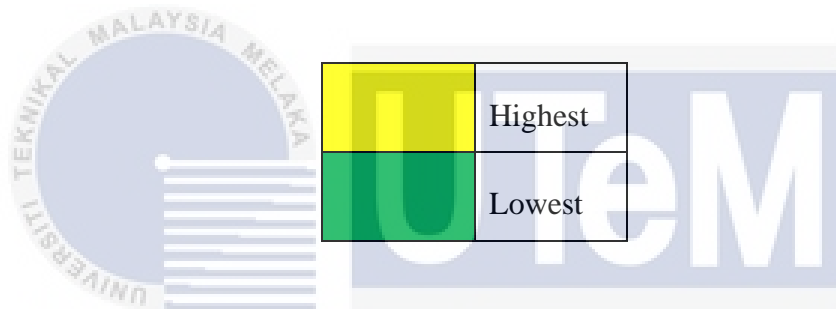


Table 4.5.1.3.1 shows the descriptive statistics of all items of Perceived Ease of Use among 320 respondents. According to Table 4.5.1.3.1, the respondents agreed with statement PE1, “I can easily learn how to use QRPay” with the highest mean of 4.65 and standard deviation of 0.613. Next, PE5 “Overall, I find QRPay to be easy to use and user-friendly” had the lowest mean with 4.59 and standard deviation 0.669. Followed by the statement PE2, “I can quickly become proficient in using services of QRPay” had the second highest mean value of 4.62 and standard deviation is 0.651. Lastly, respondent agreed on the statement PE3 and PE4, “The procedures of QRPay are simple to me” and “The process of making a with QRPay is straightforward” with a mean 4.61 and 4.596 and standard deviation of 0.622 and 0,630.

NO	ITEM 3	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%	F	%	F	%	F	%	F	%
1	I can easily learn how to use QRPay	2	0.6%	3	0.9%	3	0.9%	87	27.2%	225	70.3%
2	I can quickly become proficient in using services of QRPay	3	0.9%	2	0.6%	6	1.9%	91	28.4%	218	68.1%
3	The procedures of QRPay are simple to me	2	0.6%	2	0.6%	6	1.9%	97	30.7%	213	66.6%
4	The process of making a with QRPay is straightforward	2	0.6%	2	0.6%	7	2.2%	101	31.6%	208	65%
5	Overall, I find QRPay to be easy to use and user-friendly	3	0.9%	3	0.9%	6	1.9%	97	30.3%	211	65.9%

Table 4.5.1.2.3: shows the descriptive frequencies for perceived ease of use

Based on the Table 4.5.1.2.3 for first question perceived ease of use the items no 1 is “I can easily learn how to use QRPay” had the highest respondents for strongly agree with 225 (70,3%) respondents, 87 respondents answered agree, 3 respondents answered disagree, 2 respondents answered strongly disagree. Next, items 2 “I can quickly become proficient in using services of QRPay” had 3 respondents answered strongly disagree, 2 respondents answered disagree, 6 respondents answered neutral, 91 respondents answered agree and 218 respondents answered strongly agreed. Followed by items 3 “The procedures of QRPay are simple to me” had 2 respondents answered strongly disagree, 2 respondents answered disagree, 6 respondents answered neutral, 97 respondents answered agree and 213 answered strongly agree. For items 4 “The process of making a with QRPay is straightforward” had the lowest agree for strongly agree with 208 respondents answered, 101 respondents answered agree, 7 respondents answered neutral, 2 respondents answered disagree and 2 respondents answered strongly disagree. Lastly, items 5 “Overall, I find QRPay to be

easy to use and user-friendly” had 3 respondents answered for strongly disagree, 3 respondents answered disagree, 6 respondents answered neutral, 97 respondents answered agree and 211 answered strongly agree.

4.5.1.4 Adoption of Using QRPay

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
A1	320	1.00	5.00	4.4656	.74620
A2	320	1.00	5.00	4.4469	.72807
A3	320	1.00	5.00	4.4969	.64326
A4	320	1.00	5.00	4.5438	.65147
A5	320	1.00	5.00	4.5281	.67593
Valid N (listwise)	320				

Table 4.5.1.4.1: shows the descriptive frequencies for adoption of using QRPay

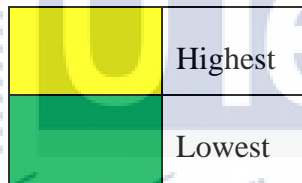


Table 4.5.1.4.1 shows the descriptive statistics of all items about adoption of using QRPay among 320 respondents. According to Table 4.5.1.4.1, the respondents agreed with statement A4, “QRPay suits my lifestyle because I always carry my mobile phone with me” with the highest mean of 4.54 and standard deviation 0.651. Next, A2 “I will always try to use QRPay during purchasing things” had the lowest mean with 4.44 and standard deviation 0.728. Followed by A5, “QRPay payments would be one of my favourite technologies for payment” the second highest mean 4.52 and standard deviation 0.675. Lastly, A1 and A3 “I intend to use QRPay for my payments in the future” and “I will recommend others to use QRPay for purchasing” with mean 4.46 and 4.49 and standard deviation is 0.746 and 0.643.

NO	ITEM 3	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		F	%	F	%	F	%	F	%	F	%
1	I intend to use QRPay for my payments in the future	4	1.3%	3	0.9%	16	5.0%	114	35.6%	183	57.2%
2	I will always try to use QRPay during purchasing things	4	1.3%	4	1.3%	9	2.8%	131	40.9%	172	53.8%
3	I will recommend others to use QRPay for purchasing	2	0.6%	2	0.6%	8	2.5%	131	40.9%	177	55.3%
4	QRPay suits my lifestyle because I always carry my mobile phone with me.	2	0.6%	3	0.9%	7	2.2%	115	35.9%	193	60.3%
5	QRPay payments would be one of my favourite technologies for payment	3	0.9%	3	0.9%	6	1.9%	118	36.9%	190	59.4%

Table 4.5.1.4.2: shows the descriptive frequencies of adoption using QRPay

Based on the Table Table 4.5.1.4.2 for first item “I intend to use QRPay for my payments in the future” had 4 respondents answered strongly disagree, 3 respondents answered disagree, 16 respondents answered neutral, 114 respondents answered agree and 183 answered strongly agree. Next, items 2 “I will always try to use QRPay during purchasing things” had a lowest answered strongly agree with 172 among other items, 131 respondents answered agree, 9 respondents answered neutral, 4 respondents answered disagree and 4 respondents answered strongly disagree. Followed by items 3 “I will recommend others to use QRPay for purchasing” had 2 respondents answered strongly disagree, 2 respondents answered disagree, 8 respondents answered neutral, 131 respondents answered agree and 177 respondents answered strongly agree. For items 4

“QRPay suits my lifestyle because I always carry my mobile phone with me” had the highest answered for strongly agree among others items with 193 respondents, 115 respondents answered agree, 7 respondents answered neutral, 3 respondents answered disagree and 2 respondents answered strongly disagree. Lastly, item 5 “QRPay payments would be one of my favourite technologies for payment” had 3 respondents answered strongly disagree, 3 respondents answered disagree, 6 respondents answered neutral, 118 respondents answered agree and 190 respondents answered strongly agree.

4.6 Correlation Analysis of All Variable

		PS	PU	PE	A
PS	Pearson Correlation	1	.802**	.722**	.891**
	Sig. (2-tailed)		.000	.000	.000
	N	320	320	320	320
PU	Pearson Correlation	.802**	1	.829**	.941**
	Sig. (2-tailed)	.000		.000	.000
	N	320	320	320	320
PE	Pearson Correlation	.722**	.829**	1	.918**
	Sig. (2-tailed)	.000	.000		.000
	N	320	320	320	320
A	Pearson Correlation	.891**	.941**	.918**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	320	320	320	320

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

Table 4.6 shows the Pearson Correlation Analysis

Table 4.6 had shown the Pearson Correlation Analysis of independent variables which is (Perceived Security, Perceived Usefulness And Perceived Ease Of Use) and a dependent variable, which is (Adoption Of Using Qrpay) in this research. Based on the result, shows that all the independent variables positively correlate with dependent

variable. Firstly, the correlation between the perceived security and adoption of QRPay was a very strong relationship with r value 0.891, $n=320$, $p<0.01$. Besides, there was a very strong relationship between perceived usefulness and adoption of QRPay with r value 0.941 with $n=320$ and $p<0.01$. Next, the coefficient of the perceived security, $r=0.918$, $n=320$, $p<0.01$ also showed a very strong. In general, all the independent variables had showed positive relationship towards the dependent variable.

From the results of correlation analysis, it showed that factor influencing of using QRPay perceived usefulness very much impactful when forming adoption of using QRPay had showed the highest coefficient value of 0.941. This result has been proved by Sariyon et al. (2020) perceived usefulness was specifically mentioned by the respondents, indicating that achieving a critical mass is imperative for mobile payment service providers. When it comes to payment methods, consumers are open to embracing mobile payment services that employ QR codes, provided they are informed of the benefits of doing so over traditional methods.

The next subtopic in this study is likewise multiple regression analysis, which was employed to investigate the factors influencing the dependent variable (Adoption Of Using Qrpay) and three independent variable on (Perceived Security, Perceived Ease Of Use, And Perceived Usefulness). Additionally, it can assist researchers in determining the extent to which changes in the independent variable affect the dependent variable.

4.7 Multiple Regression Analysis (MRA)

A statistical technique called multiple regression, sometimes referred to as multiple linear regression, was used to forecast the value of a response variable by taking into account many independent explanatory factors. Another name for this technique is multiple linear regression. This goal might be achieved in multiple linear regression by linearly modelling the independent variables (often referred to as the explanatory factors) and the response variables.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.991 ^a	.982	.982	.07297

a. Predictors: (Constant), PE, PS, PU

Table 4.7.1 Multiple Regression Analysis

Table 4.7 shows, the result of R was 0.991 which was relatively strong. Independent variables were perceived security, perceived ease of use and perceived usefulness and dependent variable was adoption of using QRPay. The value of R square was 0.982 which shows that the objective of three independent variables in this research was accomplished. The adjusted R square shows 0.982 which is the same as the actual R square and lastly the standard error of estimate was 0.07297.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93.758	3	31.253	5869.383	.000 ^b
	Residual	1.683	316	.005		
	Total	95.441	319			

a. Dependent Variable: A

b. Predictors: (Constant), PE, PS, PU

Table 4.7.2 ANOVA

[Source: Data Analysis of SPSS]

Based on the Table 4.7.2 Anova, the f-test valued was 5869.383 and the significance leveled was $<.001$. The total number of sum of squares were 95.441. The mean square for regression and residual was 31.253 and 0.005. The researcher apply the multiple regression analysis into all variables that gave the impact of factors influencing UTeM students in the adoption of using QRPay because it were significant with each independent and dependent variable.

4.8 Regression Coefficient

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.005	.034		.139	.890
	PS	.293	.012	.323	25.437	.000
	PU	.367	.013	.384	28.297	.000
	PE	.337	.015	.364	23.138	.000

a. Dependent Variable: A

Table 4.8 Coefficient

[Source: Data Analysis of SPSS]

Based on Table 4.8, the strongest predictor is perceived usefulness which is $\beta = 0.367$ and the beta is 0.384 with significant value 0.000. So, this analysis shows that have a positive gesture towards adoption using QRPay. Secondly, the second highest is perceived ease of use $\beta = 0.337$ and the beta is 0.364 with the significant 0.000. Lastly, is perceived security $\beta = 0.293$ and the beta is 0.323 with the significant 0.000. To sum up, all the variables have positive relationship with one another. There is no independent variable that has negative relationship with dependent variable.

$$y = a + bx_1 + cx_2 + dx_3$$

$$a = 0.005,$$

$$b = 0.293,$$

$$c = 0.367,$$

$$d = 0.337,$$

$$\text{Adoption using QRPay} = 0.005 + 0.293 (\text{Perceived Security}) + 0.367 (\text{Perceived Usefulness}) + 0.337 (\text{Perceived Ease of Use})$$

Based on the linear equation above, showed that a positive relationship between all the factors which are perceived security, perceived usefulness and perceived ease of use. All factors have significant 0.000, 0.000 and 0.000 which p value lesser than 0.05. That's means, all factors have a significant with adoption in using QRPay.

4.9 Hypothesis Testing

	Hypothesis	p-value	Result
H1	H1: There is no significant factor that influence perceived security and adoption QRPay H2: There is significant factor that influence perceived security and adoption using QRPay.	0.000	Strong (accepted)
H2	H1: There is no significant factor that influence perceived usefulness and adoption QRPay H2: There is significant factor that influence perceived usefulness and adoption using QRPay.	0.000	Strong (accepted)
H3	H1: There is no significant factor that influence perceived ease of use and adoption QRPay H2: There is significant factor that influence perceived ease of use and adoption using QRPay.	0.000	Strong (accepted)

Table 4.9: show the hypothesis test

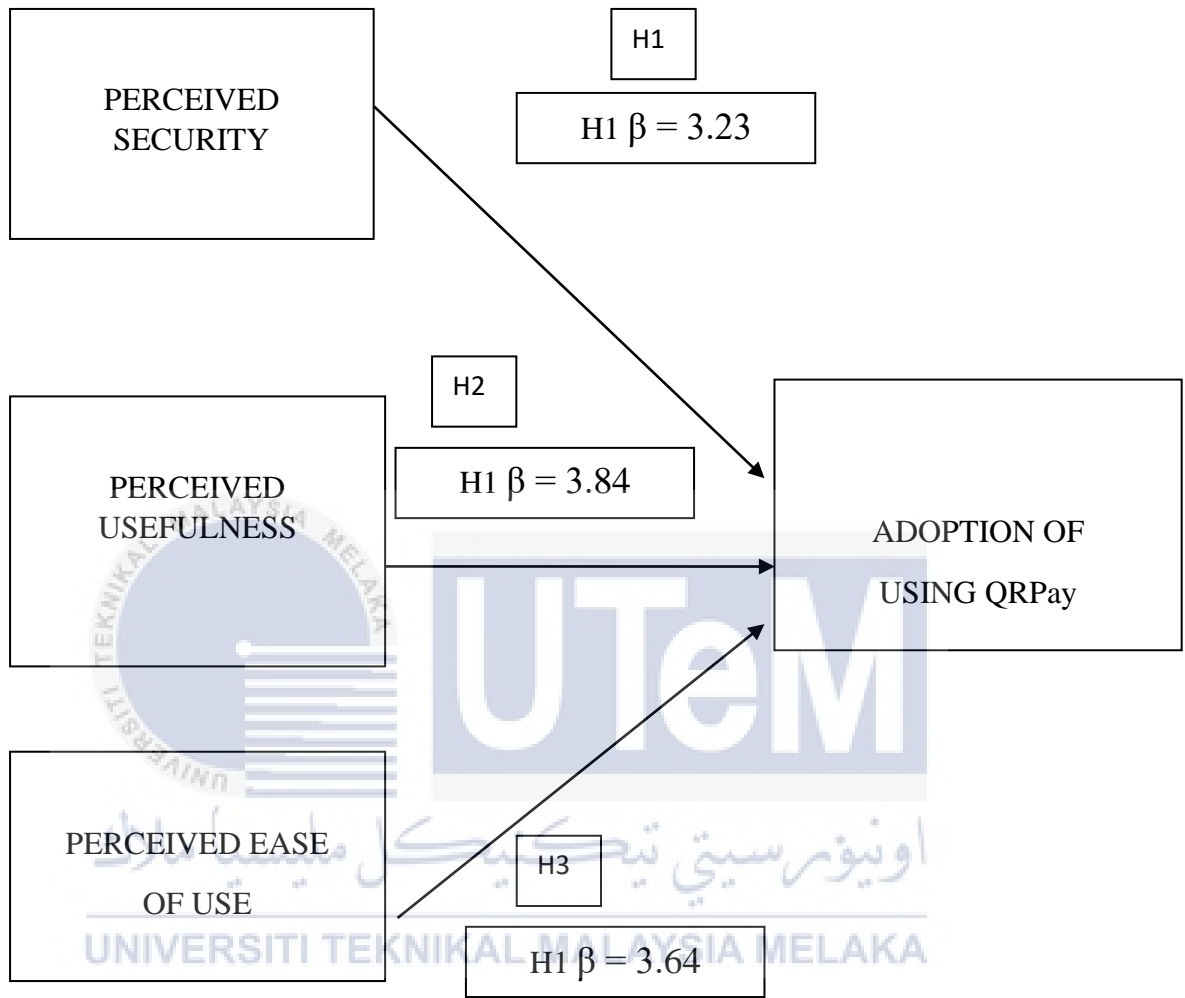


Figure 4.9: shows the significant β on framework

4.10 Summary

In conclusion, the researcher had discussed the results in this chapter. The reliability analysis, descriptive analysis, pearson correlation analysis, and multiple linear regression analysis have been calculated by using SPSS version 23. After the analysis, the researcher had identified the relationship between the dependent and three independent variables. Furthermore, the researcher had also done the hypothesis testing, which is accept all three hypotheses in this research. In the next chapter, the researcher will discuss recommendation and conclusion of the research



CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter explain the result calculated in previous chapter and all the research objective and research question. This chapter also will addresses the rationale for the acceptance for the or rejection of the hypothesis. Additionally, the researcher provides future researchers with recommendation for pertinent studies.

5.2 Summary of Descriptive Analysis

Demographic	Demographic Details	Frequency	Percentage (%)
Gender	Female	196	61.3
Age	21-23	146	45.6
Year	4	119	37.2
Course	Btmm	107	33.5
Degree of Awareness on QRPay Technology Adoption	Strongly Aware	266	83.4
Types of QRpay Used	Maybank2e	138	43.1
Frequency used for QRPay for a week	5-8 times	115	35.9
The Purpose of Using QRPay	Food	165	51.6

Reason for Adopting QRPay	Convenience	184	57.5
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Table 5.1: Summary of Descriptive Analysis of Demographic Respondents

A total of 320 respondents have been involved in collecting this data for this research. According to Table 5.1 the majority of respondents in this study are female and the age range is 21-23 years old. Most of them are year 4 and a btmm students. The majority respondents' answers strongly aware about the degree of awareness on QRPay technology adoption. Next, the most respondents answered for the types of QRPay used is Maybank2e. Furthermore, the frequency used for QRPay for a week 5-8 times. Lastly, the purpose of using QRPay most respondents used for making a payment for food and the reason for adopting QRPay is convenience.

5.3 Summary of Findings

The focus of this research was to identify the factors influencing UTeM students in the adoption of using QRPay. There were three independent variable that form from the previous research which are perceived security, perceived usefulness and perceived ease of use that has been selected to identify the factors influencing UTeM students in the adoption of using QRPay. These variables are to identify the solution that describe in the research problem statement. The hypotheses were developed to investigate the relationship between three independent variables (perceived security, perceived usefulness, and perceived ease of use).

RO1: To determine the factor that influence perceived security on adoption QRPAY among FPTT students.

RO2: To examine the factor that influence how the perceived usefulness on adoption QRPAY among FPTT students.

RO3: To examine the factor that influence perceived ease of use intention on adoption QRPAY among FPTT students.

5.4 Justification of Research Objective

In this section, the researcher's hypothesis was evaluated in order to analyze the relationship between the independent and dependent variables in order to achieve the study's research objectives. Therefore, the findings were examined to determine whether the research managed to meet the objectives.

5.4.1 Fulfillment of first RO1: To determine the factor that influence perceived security on adoption QRPAY among UTeM students.

Hypothesis 1: There is a relationship between perceived security and adoption using QRPay.

To determine objective 1, H1 is supported in influencing the UTeM students in the adoption of using QRPay since the p-value (<0.000) is lesser than value 0.05. The relationship between perceived security and adoption of QRPay is significant. In addition, on the result of correlation coefficient of perceived security has value of 0.891 which falls under correlation range from ± 0.71 to ± 0.90 . Therefore, the relationship between perceived security and adoption is strong.

The independent variable is perceived security proved to be significant in defining adoption of QRPay. Based on Muhammad Anas Mustafa (2022) the perceptions of security and privacy are important factors in their adoption to use e-services and e-payments. Any security breach will impact users' confidence in and adoption of the QRPay. Thus, while implementing systems like using a transaction, an organization's must always be mindful of security and privacy issues (Pikkarainen et al., 2004). Previous studies have consistently shown that consumers' perception of security a crucial requirement for trust and had an impact on their views towards the adoption of technologies and system.

Based on the question from independent variable question 4 “I am concerned about the privacy of my personal and financial information when using QRPay” which is the highest respondents answered. It means before adopting QRPay, the customer will think about how secure it is and how solid the security is. If the organization does not bolster protection, the hacker could be able to access the account with ease. As a result, the consumer will lose both money and essential information. Thus, the study's findings indicate that QR mobile payments should be viewed as having the fewest possible dangers, such as the possibility of interference from encourage more individuals to utilise the technology, there is a danger of exploitation of billing or personal information by an unauthorised third party. To had a safeguard from a bank example like a Maybank device such as biometric, PIN or pattern.

4	I am concerned about the privacy of my personal and financial information when using QRPay.	2	6%	3	9%	10	3.10%	128	40%	177	55.3%
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Figure 5.4.1.1 Perceived Security Question

	Frequency	Percent	Valid Percent	Cumulative Percent
Maybank2e	138	43.1	43.1	43.1
TouchNGo	87	27.2	27.2	70.3
GrabPay	17	5.3	5.3	75.6
Boost	13	4.1	4.1	79.7
WechatPay	5	1.6	1.6	81.3
Other	60	18.8	18.8	100.0
Total	320	100.0	100.0	

Table 5.4.1.2: Respondent Demographic of Types Of QRPay Used

In Table 5.4.1.2 had already stated that the consumer had their own preference types of QRPay. Each applications had their own benefit and more trusted. As a consumer also gain from higher security. Accepting cashless payments had decreases losses notes currency iPay (2024).

5.4.2 Fulfillment of second RO2: To examine the factor that influence how the perceived usefulness on adoption QRPAY among FPTT students.

Hypothesis 2: Theres a relationship between perceived usefulness and adoption using QRPay.

To determine objective 2, based on the results coefficient Table 4.8 H2 is supported in influencing the UTeM students in the adoption of using QRPay since the p-value (0.000) is lesser than value 0.05. The relationship between perceived usefulness and adoption of QRPay is significant. In addition, on the result correlation coefficient of perceived security has value of 0.941 which falls under correlation range from ± 0.71 to ± 0.90 . Therefore, the relationship between perceived security and adoption is strong.

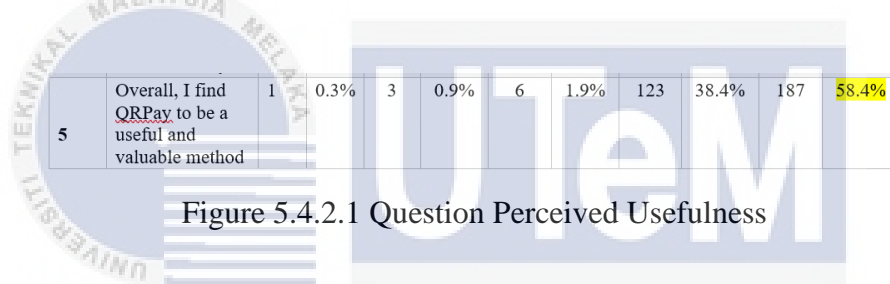


Figure 5.4.2.1 Question Perceived Usefulness

The Figure 5.4.1 is a fifth questioned “Overall, I find QRPay to be a useful and valuable method” with a highest 187 respondents that answered strongly agree. According to research conducted Bailey et al. (2017), perceived use in QRPay lead to users gaining advantages such as convenience and simplification. The consumer will think that the practicality of payment system at all times because when using QRPay, younger is more priorities convenience and time savings over those who are older. Indicator confidence that affect a person’s perception of ease affect the consistency usage. Based on Malik and Annuar (2021) the respondent claimed that because mobile phone readily available in their hands, they could complete transaction quickly. Moreover, QRPay have the benefit of offering digital invoice and easy to track.

		Purpose			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Food	165	51.6	51.6	51.6
	Movie	11	3.4	3.4	55.0
	Transfer Payment	122	38.1	38.1	93.1
	Shopping Mall	20	6.3	6.3	99.4
	Other	2	.6	.6	100.0
	Total	320	100.0	100.0	

Table 5.4.2.2: Respondent Demographic of The Purpose of Using QRPay

A lot of purpose can be used for QRPay at anywhere and anytime. Based on the Table 5.4.2.2 the highest purpose is for food payment. Other than that, QRPay systems can support small transactions and reduce the hassle of small quantities of money transactions for customers Aly (2020). Thus, this discovery is in line with the significance of individual innovation in technology adoption, which was initially highlighted by Rogers (1983)'s claim that an inventive individual is more likely to embrace a new technology.

5.4.3 Fulfillment of third RO3: To examine the factor that influence perceived ease of use intention on adoption QRPAY among FPTT students.

Hypothesis 3: Theres a relationship between perceived ease of use and adoption using QRPay.

To determine objective 3, based on the results coefficient Table 4.8 H3 is supported in influencing the UTeM students in the adoption of using QRPay since the p-value (0.000) is lesser than value 0.05. The relationship between perceived usefulness and adoption of QRPay is significant. In addition, on the result correlation coefficient of perceived security has value of 0.918 which falls under correlation range from ± 0.71 to ± 0.90 . Therefore, the relationship between perceived security and adoption is strong.

4	QRPay suits my lifestyle because I always carry my mobile phone with me.	2	0.6%	3	0.9%	7	2.2%	115	35.9%	193	60.3%
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Figure 5.4.2.1 Question Perceived Ease of Use

In addition, customers believe that using new services in their regular operations would be very effective and produce high-performing results. They are quite happy and want to use the QRPay for their lifestyle. Childers et al. (2001); Szymanski & Hise (2000) state that a higher rate of QRPay acceptance is caused by users' willingness to learn and ease of satisfaction. According to (Davis et al., 1992; Gefen & Straub, 2000; Deveraj et al., 2002), perceived usefulness is strongly influenced by perceived ease of use. Therefore, the simplicity of use of QRPay will also enhance acceptance when people consider their ease of use.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Convenience	184	57.5	57.5	57.5
	Discount / Cashback	36	11.3	11.3	68.8
	Reward				
	Easy Track	53	16.6	16.6	85.3
	Shortage of Currency Notes	47	14.7	14.7	100.0
	Total	320	100.0	100.0	

Table 5.4.2.2: Respondent Demographic of Reason for Adopting QRPay

Users will probably embrace the QRPay and use it to pay for products and services if the new system is user-friendly and convenient. For instance, users routinely utilise QRPay since they are straightforward and quick to use while making purchases at the store. This demonstrates how users' willingness to utilize it will be influenced by its high perceived ease of use. Convenience is described as easy to use and able to provide special benefits via the utilization of functionality and quick access. Digital payment

solutions are now seeing considerable market penetration because of their capacity to handle both restricted and flexible payment options. This suggests that using QR mobile payments is more common among respondents with greater levels of personal inventiveness

5.5 Implication of Research

Our study's findings suggest that this research could be able to help a few distinct parties. The first group would be the companies that offer QRPay service facilities as well as entrepreneurs that may want to create QRPay services in the future. The facts in this study can help entrepreneurs better understand QRPay concerns by serving as guidelines. The study indicated that factors like incentives, easy track, shortage of currency notes and convenience play a significant role in the adoption of QRPay. Consequently, this enables facility providers to give these crucial components greater attention in order to enhance the current QRPay services. Future business owners will also be more aware of what customers require in order for them to utilize cashless payment. It may result in a rise in the use of QRPay among students.

Lastly, the group that benefits from this study is governance. Governance is able to identify the important factors influencing customer adoption of QRPay. Governance may put certain strategies into place to encourage customers to use e-wallets. To encourage students to use cashless payment for QRPay, the government, for instance, established e-Tunai Rakyat, worth RM30, and e-Belia Rahmah, for RM100. To claim the money, students will download an application. Governance may learn additional strategies from this study to encourage users of cashless payment to keep using them after they have spent the allotted funds.

5.6 Limitation of Research

5.6.1 Narrow in demographic

The demographic for this study is very limited because its only for UTeM whom in The Faculty of Technology and Technopreneuership in from the 4 faculty which is from year one to year four need to answer this question. This finding is limited to UTeM (FPTT) students, but not intended for the general audience. Due to time less than 4 months the researcher need to narrow the scope. In actuality, all other students are also using QRPay. Every student will see QRPay in different ways. For examples, there's a student from others university also had a different perception with this adoption. As a result, it can have an impact on the study's accuracy.

5.6.2 Limited Outcome for Quantitative Research

The results in studies where the researcher used is a quantitative data by using online questionnaire survey. The researcher distributed to FPTT students and approach UTeM (FPTT) students. This is due to the fact that collecting questionnaires is more convenient and takes less time. The survey is designed with closed-ended questions in mind. The respondents have a limited responses from the selection question such as “strongly disagree”, “agree”, “neutral”, “agree”, and “strongly agree”. The absence of a qualitative approach means that respondents are unable to offer their thoughts and recommendations. This will only give a limited opinion for this study.

5.7 Recommendation for Future Research

5.7.1 Broaden in Demographic

Demographic for this research is narrow. The only targeted is for UTeM students. The result of the study is only based on UTeM students, but not for the public. Actually, the users of QRPay not only users for students but everyone can use it. For instance, many users are willing to accept adoption of QRPay. Thus, it may affect the result's accuracy of study.

5.7.2 Using both qualitative and quantitative

Researcher should combine the two methodologies a quantitative and qualitative for this research as well as interview to address the issue of restricted outcomes in quantitative research. There using the interview session where there will be direct communication between researcher and respondents. Respondents are able to provide their thoughts and recommendation on the adoption of QRPay. In addition to alternate option provided in the questionnaire, it contains additional data from respondents. This is a more trustworthy way to find out what customers think of QRPay.

5.8 Summary

As the conclusion of this chapter, the researcher had made a summary on descriptive analysis and inferential analysis. The researcher also making a discussion of major findings which interpret relationship between dependent and independent variables. The results shows that there is a significant relationship between adoption of QRPay with perceived security, perceived usefulness and perceived ease of use. Furthermore, limitations and recommendations are distributed for future research to review. The researcher hope that recommendation and limitations to have a better review before they start to conduct a new factors in influencing others that related with QRPay.

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APPENDICES

APPENDIX A GANTT CHART PSM 1

Year	2022/2023															
Activities/week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
First meeting with supervisor			█													
Topic discussion			█	█	█											
Topic Confirmation					█											
Read journal for literature review			█	█	█											
Forming chapter 1					█	█										
Identifying Variables and constructing conceptual framework						█										
Forming chapter 2						█	█									
Checking chapter 2 with supervisor							█	█								
Correction chapter 2								█								
Studying and finding secondary data, data collection									█	█						
Determining methodology used in the research										█	█					
Forming chapter 3											█	█				
Checking chapter 3 with supervisor												█				
Correction chapter 3													█			
Compile and edit report														█		
Preparing Slide															█	
Checking Slide by supervisor																█
Correction Slide presentation																█
Submission FYP 1 and slide presentation																█
Presentation of FYP 1																█

APPENDIX B

GANTT CHART PSM 2

Year	2022/2023														
Activities/week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Constructing of questionnaire															
Revised for Questionnaire															
Questionnaire Distribution															
Data Collection															
Data Analysis															
Chapter 4 – Findings and Discussion															
Revised Chapter 4															
Journal Discussion															
Chapter 5 – Conclusion															
Revised Chapter 5															
Final Edit FYP Report 2															
PSM Presentation 2															
PSM Report Submission 2 and Journal															



Bachelor of Technology Management (High Technology Marketing) with Honours

Faculty of Technology Management and Technopreneurship

Universiti Teknikal Malaysia Melaka (UTeM)

Research Project Survey Questionnaire:

FACTORS INFLUENCING UTeM STUDENTS IN THE ADOPTION OF USING QRPAY

Dear Participant,

I am Aina Najiha Binti Sharul Azar, a final year student pursuing a Bachelor of Technology Management (High Technology Marketing) with Honours at Universiti Teknikal Melaka Malaysia. Hereby, I am doing my final year project research on “Factors Influencing of Using QRPAY among UTeM students”.

I appreciate your participation in our survey about QR payments. This questionnaire is designed to gather information about your experiences, preferences, and perceptions of QR payment applications. Your valuable input will help us better understand the evolving landscape of digital payments and improve the services that matter most to you.

Statement of Confidentiality:

All of the information is confidential and only will be using for research purposes.

References:

AINA NAJIHA

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Technopreneurship

DR FAUZAN

Supervisor
Faculty of Technology Management and
Technopreneurship

SECTION A: DEMOGRAPHIC

This section will provide valuable demographic information about participants, which can be used to analyze responses in the context of different user profiles and segments. It can modify and expand this section as needed to align with our research objectives.

Instruction: This section request respondents to provide their personal information kindly mark (/) in the provided space

1. Gender

Male	
Female	

2. Age

18-20 years old	
22-25 years old	
26-30 years old	
31 years old and above	

3. Education

Diploma	
Bachelor Degree	
Bachelor Master	

4. Course

BTMM	
BTMI	
BTEC	
BTMS	

5. Year

Year 1	
Year 2	
Year 3	
Year 4	

6. Degree of awareness on the growth of technology

Strongly Aware	
Slightly Aware	
Not Aware	

7. Types of QrPay Used

Maybank2e	
TouchnGO	
Grabpay	
Boost	
Wechatpay	
Bank Islam	
Rhb	
Other (stated)	

8. Experience in using QR Pay

Never	
Less than 6 months	
6 months to < 1	
Years	
More than 1 year	

9. Frequency used for QR Pay for a week

1-4 times	
5-8 times	
9-12 times	
Over 12 times	

10. The purpose of using Qr Pay payments

Food	
Movie	
Transfer Payment	
Shopping Mall	
Other	

11. Reason for adopting QR Pay

Convenience	
Discount / Cashback Rewards	
Easy Track	
Shortage of currency notes	
Other	

SECTION B (INDEPENDENT VARIABLE)

Instruction: This section aims to obtain the opinion of the respondent regarding the factor influencing using QR Pay. To gauge the extent of agreement which each statement participants are kindly requested to indicate their level of agreement with each statement using a Likert scale by marking their chosen answer based on the provided scale

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

PERCEIVED SECURITY	1	2	3	4	5
I feel confident about the security of QRPay when making payments					
I believe that QRPay is more secure than traditional cash/card					
QRPay provides security and trustworthy transaction (e.g., PIN, Biometric authentication)					
I am concerned about the privacy of my personal and financial information when using QRPay.					
Overall, I feel that QRPay is secure and reliable payment method					

(Fred D. Davis, 1 B.C.E.)

PERCEIVED USEFULNESS	1	2	3	4	5
I find QRPay to be time-saving when making transactions					
I can easily find QR codes or payment option for QRPay at most places I shop					
QRPay allows me to make various types of transaction easily					
Using QRPay is the trend of the modern lifestyle					
Overall, I find QRPay to be a useful and valuable method					

Sources: Tu Nhat Vy. (2019)

PERCEIVED EASE OF USE QRPAY	1	2	3	4	5
I can easily learn how to use QRPay					
I can quickly become proficient in using services of QRPay					
The procedures of QRPay are simple to me					
The process of making a with QRPay is straightfoward					
Overall, I find QRPay to be easy to use and user-friendly					

Sources: Tu Nhat Vy. (2019)

SECTION C: Dependent Variable (Adoption Using Qr Payment)
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ADOPTION USING QR PAYMENT	1	2	3	4	5
I intend to use QRPay for my payments in the future					
I will always try to use QRPay during purchasing things					
I will recommend others to use QRPay for purchasing					
QRPay suits my lifestyle because I always carry my mobile phone with me.					
QRPay payments would be one of my favourite technologies for payment					

Sources: Tu Nhat Vy. (2019)