EXPLORING THE FACTORS OF CUSTOMER ACCEPTANCE OF DIGITAL PAYMENT: TECHNOLOGICAL AND SECURITY FACTORS

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DECLARATION

"I hereby admit that this is my own work except as cited in the reference. 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 “Exploring the factors of customer acceptance on digital payment: technological and security factors” and in my opinion, this thesis complies the partial fulfilment for awarding the award of the degree of Bachelor of Technology Management with Honours.

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ABSTRACT

Recent reports highlight a growing trend in the usage of mobile payment services (m-payment), yet their adoption in Malaysia still lags, contributing to unclear attitudes toward the system. This slow adoption, attributed to factors like perceived usefulness (PU), perceived ease of use (PEOU), and perceived security (PS), poses challenges for the potential progress of digital payment systems. Therefore, this research examines the relationships between PU, PEOU, PS, and customer acceptance of m-payment. It was conducted in Ayer Keroh, Melaka, and used explanatory research purposes. The researcher employed a structured quantitative research design, and the strategy utilised was a survey strategy targeting 320 m-payment users in Ayer Keroh, using the Likert Scale for data collection. The results of the empirical analysis revealed that all three hypotheses were accepted, underscoring the significant relationships of PU, PEOU, and PS in influencing customer acceptance. The findings of this study contribute to the existing knowledge on m-payment systems, providing insights that can inform industry practices, enhance user experiences, and address the slow adoption challenges. By understanding consumer behaviours and the factors influencing continuous adoption, businesses and service providers can adapt strategies to drive more comprehensive acceptance of digital payment systems. In conclusion, this research not only sheds light on the current state of m-payment adoption in Malaysia but also offers practical implications for stakeholders navigating the evolving landscape of digital financial technologies. The critical factors in this research are perceived usefulness, perceived ease of use (TAM) and security.

Keywords: *Factors, customer acceptance, m-payment adoption, e-wallet, mobile banking, TAM, security.*

ABSTRAK

Laporan terkini menekankan *'trend'* yang semakin meningkat dalam penggunaan perkhidmatan pembayaran mudah alih (*m-payment*), tetapi penggunaannya di Malaysia masih ketinggalan, menyumbang kepada corak sikap yang tidak jelas. Penggunaan yang perlahan ini, disebabkan faktor seperti persepsi kebergunaan (PU), persepsi kemudahan penggunaan (PEOU), dan persepsi keselamatan (PS), mewujudkan cabaran terhadap potensi kemajuan sistem pembayaran digital. Oleh itu, penyelidikan ini mengkaji hubungan antara PU, PEOU, PS dan penerimaan pelanggan terhadap *m-payment*. Ianya dijalankan di Ayer Keroh, Melaka, dan menggunakan tujuan penyelidikan '*explanatory*'. Pengkaji menggunakan reka bentuk kajian kuantitatif berstruktur, dan strategi yang digunakan ialah strategi *'survey'* menyasarkan 320 pengguna *m-payment* di Ayer Keroh, dan menggunakan Skala Likert untuk pengumpulan data. Keputusan analisis empirikal mendedahkan ketiga-tiga hipotesis kajian ini diterima, menggariskan hubungan signifikan antara PU, PEOU, PS dan penerimaan pelanggan. Penemuan kajian ini menyumbang kepada pengetahuan sedia ada tentang sistem pembayaran mudah alih, memaklumkan amalan industri, meningkatkan pengalaman pengguna dan menangani cabaran penerimaan yang perlahan. Dengan memahami gelagat pengguna dan faktor yang mempengaruhi penggunaan berterusan, perniaga dan penyedia perkhidmatan boleh menyesuaikan strategi untuk menambah penerimaan sistem pembayaran digital yang lebih meluas. Kesimpulannya, penyelidikan ini bukan sahaja menerangkan tentang keadaan semasa penggunaan *m-payment* di Malaysia, tetapi juga menawarkan implikasi praktikal dalam membentuk landskap teknologi kewangan digital yang berkembang. Faktor utama dalam penyelidikan ini ialah persepsi kebergunaan, persepsi kemudahan penggunaan (TAM), dan persepsi keselamatan (PS).

Katakunci: *Faktor, penerimaan pelanggan, pengunaan m-payment, e-dompet, perbankan mudah alih, TAM, keselamatan*

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ABBREVIATION	MEANING
M-payment	Mobile Payment
E-Wallet	Electronic Wallet
E-banking	Electronic Banking
QR	Two-Dimensional Quick Response
TAM	Technology Acceptance Model
PU	Perceived Usefulness
PEOU	Perceived Ease of Use
PS	Perceived Security
FinTech	Financial Technology
NFC	Near Field Communication
TNG	Touch ‘n Go
e-hailing	Intermediation Business
CA	Customer Acceptance
e-cash	Electronic Cash
MYR	Malaysian Ringgit
MCMC	Malaysian Communications and Multimedia Commission
BNM	Bank Negara Malaysia
e-commerce	Electronic Commerce
MY	Malaysia
USA	United States of America
SMS	Short Message Service

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter will discuss the background of the study, problem statement, research questions and objectives, scope and limitations, significance of the study and the thesis outline. It sets the stage for the subsequent chapters, laying the foundation for a comprehensive and focused investigation. This outline will help navigate the thesis and understand how each chapter contributes to the research objectives.

1.1 Background of Study

The widespread use of the internet and mobile phones has significantly shaped the modern digital revolution (Alam, M. M., Awawdeh, A. E., & Muhamad, A. I. B., 2021). One illustration is the development of innovative payment programs, such as contactless payment systems made possible by the internet and mobile phones working together (Alam et al., 2021). This new technology has attracted much attention and revolutionised how we communicate, access information, and do business during the last few decades (Hassan, A., Shukur, Z., & Hasan, M. K., 2021). Contactless payment system integrates widely used mobile payment methods (m-payment) such as e-wallet and mobile banking (Handoko, I., 2022; Karjaluoto, H., Shaikh, A. A., Leppäniemi, M., & Luomala, R., 2019).

E-wallets, also known as ‘digital wallets’, are one of the most prominent elements of the digital payment ecosystem (Ariffin, S. K., Rahman, M. Z. A., Muhammad, A., & Zhang, Q., 2021). Mobile banking or E-banking is also becoming increasingly popular because it offers customers a reliable and secure way to manage their finances (Salem, M. A., Baidoun, S., & Tang, M, 2019; Leong, C., Tan, K., Puah, C., & Chong, S. H., 2020). Mobile payment typically involves multiplatform collaboration between mobile operators (like Maxis or Telekom Malaysia) and financial institutions (such as banks and payment service providers). This collaboration allows the integration of mobile communication technology with electronic money, making transactions smoother and more accessible. (Jahan, N., & Shahria, G., 2021).

The digital payment system is increasingly gaining popularity and will substantially influence a country's financial sector in the future (Cao, Y., Tham, J., Azam, S. M. F., & Khatibi, A., 2021; Kalinic, Z., Liébana-Cabanillas, F., Muñoz-Leiva, F., & Marinković, V., 2019). E-wallet and mobile banking are appropriate examples of m-payment, which has become the top-notch platform for enabling payment transactions (Leong et al., 2020). Customers can also pay for their purchases in various ways, including scanning the QR code (*two-dimensional quick-response code*) using those appropriate m-payment apps (e-Wallet or online banking) (Alam et al., 2021; Ariffin et al., 2021; Subaramaniam, K., 2020).

Zhao & Bacao (2021) claimed that m-payments made up 22% of all point-of-sale spending worldwide in 2019 and are projected to reach 29.6% by 2023. Furthermore, nearly half (48%) of all point-of-sale payments in China were made using QR codes in 2019 because of the popularity of m-payments (Alipay and WeChat Pay). Many countries have embraced m-payment as a convenient option for making daily purchases. For instance, E-wallets have been popular in several countries, such as Japan, since 2004 (Hassan et al., 2021). Malaysia has likewise prioritised the development of cashless societies. The national bank, Bank Negara Malaysia (BNM), intends to transform the country into a cashless society by 2020, with mobile payments playing a pivotal role. The government recognises the advantages of m-payment and is also actively working to encourage its widespread adoption. In the past few years, only 40 e-wallet licences have been granted (Alam et al., 2021). As part of these efforts, eligible Malaysians who use mobile payments received a one-time RM 30 incentive in 2020 (Yan, L., Tan, G. W., Loh, X., Hew, J., & Ooi, K., 2021).

We can conclude that people finally switched from a traditional payment gateway to a new payment technology to expedite their transactions (Alam et al., 2021). What kind of factors influence their acceptance of utilising m-payment? Thus, this paper aims to study the factors of customer acceptance of digital payment, specifically in Ayer Keroh, Melaka. This research will study two types of variables in depth: technology and security factors. Technological factors will emphasise the technology acceptance model (TAM), which is a multidimensional construct with two major dimensions: perceived usefulness (PU) and perceived ease of use (De Oliveira Santini, F., Ladeira, W. J., Sampaio, C. H., Perin, M. G., & Dolci, P. C., 2019; Leong et al., 2020; Zhao & Bacao, 2021). The framework emphasised the security element that could influence their decision to accept m-payment and why it is more tempting than cash payment (Handoko, 2022).

1.2 Problem Statement

Recent reports indicate a rising trend in the usage of mobile payment services (Johnson, V., Kiser, A. I. T., Washington, R., & Torres, R., 2018). Although m-payment offers many advantages, its adoption in Malaysia is lower compared to other countries, contributing to unclear attitudes toward the system (Cao et al., 2021). This means that m-payment is still in the early phases of development in Malaysia, and its usage is limited (Yan et al., 2021). Due to the slow adoption of digital payment, there is an uncertainty of its potential for future progress. One of the reasons is due to the lack of a clear understanding of its benefits, PU (Çobanoğlu, C., Yang, W., Shatskikh, A., & Agarwal, A., 2015). The perceived usefulness strongly influences customers' attitudes towards adoption. It suggests that users always prioritise the practical benefits of the technology in order to adopt them.

Additionally, perceived ease of use also significantly shapes perceived usefulness (Chuang, S., Denan, Z., Singh, JS., Kamaruddin, J., 2021). Despite the convenience offered, 52.2% of individuals do not opt for m-payments because they perceive them as troublesome to operate (PCAC 2018). In Indonesia, many consumers are hesitant to use m-payment systems compared to credit and debit cards, primarily due to a lack of understanding of how to use them (Anggoro, A., 2019). This shows that user-friendly interfaces are important to drive the acceptance of mobile payments, as these factors strongly influence users' willingness to embrace such services.

Wang (2019) stated that m-payment might lead to fewer fraudulent transactions and a decreased risk of data violation. However, some customers remain apprehensive about potential security breaches, including unauthorised access, data theft, privacy and fraud. The majority of consumers in China utilise m-payments due to their ease of use and convenience. However, 64.7% of them expressed a significant concern about security and requested an enhancement in that management aspect (Zhang, J., Luximon, Y., & Song, Y., 2019). In Malaysia, a 2022 news headline from The Star captured the attention of E-wallet users: "Got an SMS saying your Touch 'n Go account has been suspended? Company says it is a scam" (Yeoh, 2022). It shows that perceived security plays a pivotal role in user's behaviours regarding this technology. Therefore, this study seeks to dig into how these three factors (PU, PEOU, PS) can influence the acceptance of m-payment. Through this, we can understand how new technology and innovation take time to be adopted and accepted, regardless of any issues.

1.3 Research Questions & Objectives

1.3.1 Research Questions:

1. What is the correlation between customer acceptance of digital payment and perceived usefulness (PU)?
2. What is the correlation between customer acceptance of digital payment and perceived ease of use (PEOU)?
3. How does the perceived security of m-payment influence the customer acceptance of digital payment?

1.3.2 Research Objectives:

1. To study the relationship between customer acceptance of digital payment and perceived usefulness (PU).
2. To study the relationship between customer acceptance of digital payment and perceived ease of use (PEOU).
3. To study the relationship between customer acceptance of digital payment and perceived security (PS).

1.4 Scope & Limitation

The scope and limitation of this study would be determined by several criteria, including the research objectives, location and duration of the study, types of respondents and instruments used. In addition, this study investigates the key determinants impacting customer acceptance of mobile payments, including perceived ease of use, perceived usefulness (technological factors) and perceived security. The study occurred in Ayer Keroh, Melaka, and involved target respondents in that region. The respondents are the people who use m-payment as their primary method of daily transactions. The specific types of m-payment included are e-wallets, such as Touch n' Go and Boost App, and mobile banking, such as RHB banking, MAE and Go by Bank Islam**.** The instrument undertaken to conduct this study is quantitative methodology. Due to time constraints, the study may be challenging with a cross-cultural variation factor.

1.5 Significance of Study

With the technology advancing, the researcher is aware of the possibility of mobile app payments as an alternative to traditional payment systems that are more convenient and quicker. It has become popular since they need less physical touch between the customer and the payment terminal (Handoko, 2022). Understanding consumer behaviours is useful for researchers and stakeholders who want to analyse innovative technology and formulate effective business strategies (De Oliveira Santini et al., 2019). Therefore, it is significant to study how customers willingly accept m-payment as a new payment option in today's life.

By identifying and analysing technological and security factors, this study seeks to understand how these factors can persuade people to accept m-payment, persevering all the risks and ultimately contributing to the broader understanding of consumer behaviour in the digital financial landscape. This study can offer helpful insights to all Malaysian companies to improve their services. It also provides valuable insights for policymakers, businesses, and practitioners in enhancing customer acceptance of digital payment systems. Thus, the researcher wishes to study the factors of customer acceptance and evaluate how they help users accept m-payment or deal with its risks.

1.6 Thesis Outline

The research will be about customer acceptance of digital payment: a technological and mooring factor.

- Chapter One: Discuss the background of the study, problem statement, research questions and objectives, scope and significance of the study.
- Chapter Two: Discuss the overall literature review of the study, such as the electronic wallet and the study's theoretical framework.
- Chapter Three: Discuss the research methodology (strategy, techniques, MRA.)
- Chapter Four: Discuss the pilot test and analysis of the data.
- Chapter Five: Discuss the conclusion of the study, summary and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This literature review will discuss previous sections (Background of Study, Problem Statement) in detail by explaining and developing a framework overview. Theoretical frameworks will also be developed to discuss relevant theories for this study.

2.1 Digital Payment

Digital or mobile payments can be classified into several forms, including mobile wallets, mobile banking, QR code payments and in-app purchases (Karjaluoto et al., 2019; Leong et al., 2020). Two types of m-payment that will be emphasised in this study are mobile wallets (e-wallets) and mobile banking, as both are among the most frequently utilised payment methods among Malaysians. M-payment refers to making financial transactions using electronic devices like smartphones or tablets. It enables users to make electronic payments without the use of actual cash or other traditional payment methods such as credit cards and checks (Dang, T., Tan, G. W., Aw, E. C., Ooi, K., Metri, B., & Dwivedi, Y. K., 2023). With the development of FinTech (Financial Technology), mobile payment is now widely used in various contexts, including retail stores, restaurants, online shopping, transportation services, bill payments, and peer-to-peer transfers (Alam et al., 2021; Hassan et al., 2021). Compared to traditional payment systems, m-payment is more convenient since users can make payments anytime and from any location, removing the need to carry actual currency or credit cards (Alam et al., 2021; Shao, Z., Zhang, L., Li, X. and Guo, Y., 2019).

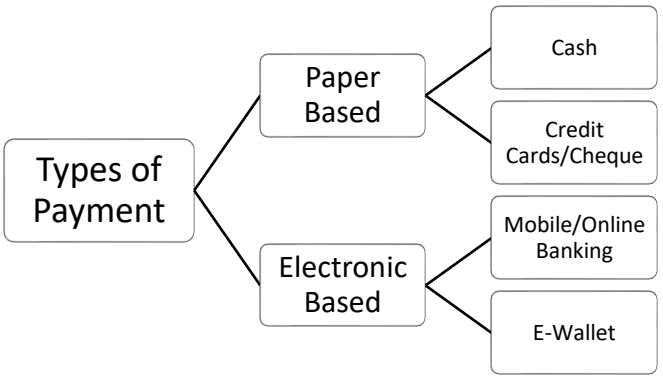

Figure 2.1: Types of Payment System. Source: Hassan et al., 2021

The reviewed literature regarding the adoption of digital payment shows that most scholarships highlight several topics. Among them are factors impact consumer's persistence in using m-payment (Gupta, A. K., Yousaf, A., & Mishra, A. K., 2020), security (Wu, D., Moody, G. D., Zhang, J., & Lowry, P. B., 2020), intention for post and pre-adoption continuation (Gupta et al., 2020) and users' satisfaction (Ariffin et al., 2021).

2.2 Electronic Wallet (e-wallet)

The e-wallet has been widely recognised as a significant innovation in Financial Technology (Chawla, D., & Joshi, H., 2019). Fintech involves the use of technology in various sectors, including finance, transportation, telecommunications, and e-commerce. E-wallets are digital applications that securely store payment information, such as credit card details or bank account information, on a mobile device (Ariffin et al., 2021; Alam et al., 2021; Alhassan, M. D., Kolog, E. A., & Boateng, R., 2020). It is becoming more popular with the integration of QR codes and NFC (Near Field Communication), where users can pay by simply tapping their devices or scanning their smartphones (Alam et al., 2021). Examples include Boost, Touch 'n Go, Alipay, Samsung Pay, and Grab Pay.

Boost App

Grab Pay

TNG

Consumers must install these apps to make payments and use the services if they choose this method (Subaramaniam et al., 2020). E-wallets allow users to make payments for goods and services electronically. They can conveniently link their payment methods to the e-wallet app and securely initiate transactions with a few taps or clicks. These digital wallets also support various payment options, including bank transfers, credit/debit cards, QR code scanning and NFC technology for contactless payments.

It is worth noting that e-wallets can be used by people who purchase both in physical stores and online. So, whether someone is buying a product in-store or making an online purchase, they can utilise an e-wallet for their payment. Leong et al. (2020) said that the top three reasons people use e-wallets are convenience, digital receipts (paperless trends) and promotions like cashback.

Furthermore, e-wallets offer more than just payment capabilities. They provide comprehensive services that add value to the user experience. These services include fund transfers between individuals and integration with credit cards (Alam et al., 2021). It offers a smart, single card that combines all the features of a traditional wallet, eliminating the need for multiple cards. Additionally, it streamlines the transaction process and reduces costs by eliminating the need for intermediaries.

2.3 Electronic Banking

The researcher also focuses on mobile banking services in this study. Mobile banking, also known as electronic banking, has become an important part of digital e-commerce, playing a vital role in its execution. With the continued global expansion of e-commerce, the involvement of banks in facilitating financial transactions has become crucial. It is essential to acknowledge that e-commerce can only work effectively with the support provided by electronic banking services (Danyali, A. A., 2018). In other words, effective e-commerce relies heavily on the infrastructure of mobile banking services. Examples of well-known online banking services are RHB Bank, MAE, and GO by Bank Islam.

RHB Online Banking

Maybank2u (MAE)

GO by Bank Islam

The growing adoption of mobile banking provides a significant prospect for the banking industry to grow and expand its operations. Mobile banking is a digital banking service that enables users to access financial services online and perform transactions using mobile devices (Ariffin et al., 2021). In many developed countries, banks now offer online banking services through the Internet, allowing customers to conveniently manage their banking needs without physically visiting the bank. By accessing the bank's website or online banking apps, customers can easily perform a wide range of banking activities from their homes (Danyali, 2018). Various terms have been utilised to describe customers' access to mobile banking, such as e-banking, internet banking, and online banking (Salem et al., 2019).

2.4 M-payment adoption in Malaysia

In Malaysia, people commonly use credit cards, direct debit, cash, cheques, and online banking as their primary payment methods. The rapid advancement of telecommunication technology has substantially increased the number of mobile phone users nationwide. The domestic smartphone user base in Malaysia has experienced a growth of 38% since 2015 (Cham, T. H., Cheah, J., Cheng, B. L., & Lim, X., 2021). According to a report by Lee and Khaw (2018), Malaysia has one of the highest smartphone user populations in the region, reaching 12 million (Yan et al., 2021). By the year 2020, the popularity of smartphones had become closely intertwined with the importance of information sharing and transfer.

Considering these trends, various states in Malaysia have implemented plans to accelerate digitalisation efforts, aiming to promote digital technologies across different sectors. One notable area of interest is m-payment, which has garnered increasing recognition from the public (Lew, S., Tan, G. W., Loh, X., Hew, T., & Ooi, K., 2020). The widespread availability of smartphones and the increasing internet usage have contributed to the adoption of mobile payment solutions among Malaysians (Ariffin et al., 2021). Jung et al. (2020) defines m-payment as using portable devices to purchase goods and services or pay bills. This payment method provides consumers with added convenience, flexibility, and familiarity. In Malaysia, well-known local e-wallet applications such as Boost, Touch 'n Go, and Grab Pay are widely used.

For example, Boost MY, developed by Axiata Digital, is a mobile wallet that allows users to perform various tasks, including paying bills, shopping online, buying movie tickets, and even transferring money to friends and family. Touch ‘n Go (TNG) is Malaysia’s widely recognised contactless payment system. Initially used for toll payments, it has evolved into a comprehensive e-wallet that enables users to pay for various services. These services include transportation, such as public transit fares and e-hailing services. Another popular digital wallet is Grab Pay, Southeast Asia’s leading ride-hailing and on-demand services platform. It allows users to make cashless payments for Grab services, including rides, food, and parcel delivery. However, Grab Pay has expanded its reach beyond the Grab ecosystem and can now be utilised for payments at many online and offline merchants.

Additionally, the Malaysian government began its fintech development initiative in 2011 as part of a 10-year plan called the Blueprint Financial Masterplan. The primary goal of this initiative was to modernise the country’s financial system and drive Malaysia towards becoming a highly developed nation (Alam et al., 2021). Despite the ongoing efforts to transform Malaysia into a cashless society, cash and cards remain the predominant payment methods, even though the number of m-payment users in the country is increasing (Yan et al., 2021). According to a 2018 statistic by MCMC, the user base for m-payments in Malaysia is just 3.2 million, with a penetration rate of only 9.9% (Cao et al., 2021). However, there was an increase in 2019, representing around 10% of total payments (a 1% increase) (Yan et al., 2021).

This indicates that the growth of mobile payment is not rapidly gaining momentum. Thus, to encourage the use of m-payments, the government implemented incentive programs in 2020, offering RM30 in the first half of the year and RM50 in the second half. These incentives were distributed through three of Malaysia’s top m-payment platforms: Touch ‘n Go e-wallet, Boost, and Grab Pay. (Loh, X.M., Lee, V.H., Tan, G. W.H., Ooi, K.B., Dwivedi, Y. K., 2020; Yan et al., 2021). However, recent studies have highlighted the accelerated adoption of m-payments due to the COVID-19 pandemic (Mu, H., & Lee, Y., 2022). Despite gaining popularity in several countries, mobile payment (m-payment) is still in its early stages of adoption in Malaysia.

2.5 Customer Acceptance

Customer acceptance refers to the willingness and readiness of customers to use a particular product, service, or technology. It measures customers' positive response and receptiveness towards the offering, reflecting their satisfaction, trust, and intention to adopt or continue using it. Moreover, considering the transformative impacts of smartphones on human interactions, there is a continuous rise in demand and adoption of these devices (m-payment). Responding to the pandemic, consumers have also preferred digital payment over traditional payment methods (Daragmeh, A., Sági, J., & Zéman, Z., 2021).

Various factors influence customer acceptance, including perceived value, usability and reliability, convenience, compatibility with existing practices, and the overall benefits or advantages of the product or service. Nevertheless, this study will select only a few crucial factors for the m-payment industry. These critical factors (technological and security) play a pivotal role in the success and sustainability of m-payment businesses. It is because customer acceptance ultimately determines the market adoption and profitability of a given offering.

2.6 Technology Acceptance Model (TAM)

Numerous scholars have conducted extensive research to investigate the adoption of various technological innovations, including Internet banking, fintech, m-payment, e-marketing, and e-commerce (Liu, Y., Wang, M., Huang, D., Ceccarelli, M., Yang, H. G., & Li, Z.,2019; Leong et al., 2021). Several theoretical models have been put forward to explain and predict user's adoption of both broad and specific technologies. The theoretical model employed in this study is the Technology Acceptance Model or TAM. The willingness to adopt technology, known as the TAM, involves a multifaceted concept comprising two main elements: perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989). Based on a study conducted by Liu et al. (2019), it is found that users' acceptance of m-payments is strongly influenced by perceived usefulness and perceived ease of use. Below is the TAM's theoretical model:

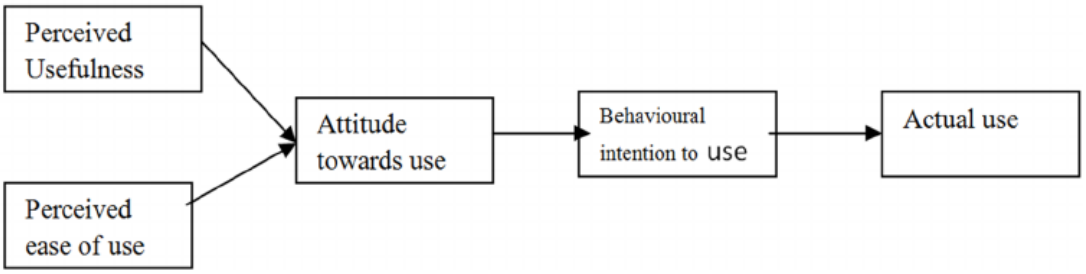

Figure 2.6: TAM Model (Davis 1989). Source: ResearchGate

The Technology Acceptance Model, proposed by Davis in 1989, is widely used to investigate consumers' intentions to adopt a particular technology (Liu et al., 2019). Among the other models for understanding technology adoption, TAM stands out as a valuable framework for explaining customer acceptance in different contexts. It has also been adapted to include technology-related factors to analyse users' attitudes and behavioural control (Leong et al., 2020). Therefore, this study employs the TAM model as the fundamental theoretical framework to examine users' behaviour in adopting m-payment. Under this category, the researcher will discuss in depth how perceived usefulness (PU) and perceived ease of use (PEOU) are related to customer acceptance of cashless payments in Malaysia.

2.6.1 Perceived Usefulness (PU)

According to TAM, the perceived usefulness of new technology plays a crucial role in shaping users' intention to use it. Davis et al. (1989) defined perceived usefulness as the subjective likelihood of a particular system to enhance performance. De Oliveira Santini et al. (2019) explained that perceived usefulness is related to how consumers perceive technology and its ability to improve technical performance and their experience. It is also essential for understanding users' attitudes, along with another factor known as perceived ease of use (De Oliveira Santini et al., 2019). According to TAM, PU strongly influences an individual's intention to use a particular innovation, indicating their belief that the innovation offers unique advantages compared to existing alternatives (Davis et al., 1989). Various studies supported this perspective. For example, Yap and Ng (2019) found that PU significantly predicts m-payment usage among Malaysians (Leong et al., 2020).

Perceived usefulness refers to the extent to which individuals believe that using m-payment systems will enhance their overall banking and financial experiences. Several empirical studies (Cao et al., 2021; Mun, Y. P., Khalid, H., & Nadarajah, D., 2017) have highlighted PU as a crucial factor influencing consumers' acceptance of these services. In the context of m-payment, customers in Malaysia may perceive it as a convenient and efficient method for conducting transactions, managing finances, and accessing various banking services. People who believe mobile payment benefits them are more likely to accept the service as their preferred payment method. Hence, a positive perception of the usefulness of m-payment can strongly influence customer acceptance of this technology (Flavián, C., Guinalíu, M., & Lu, Y., 2020). A negative perception of its usefulness can significantly impact customer resistance to accept it.

2.6.2 Perceived Ease of Use (PEOU)

Previous studies have identified significant factors contributing to the mobile payment systems acceptance, including perceived usefulness (Liébana-Cabanillas, F., Muñoz-Leiva, F., & Sánchez-Fernández, J., 2018), perceived ease of use (Liu et al., 2019), and perceived security (Johnson et al., 2018). Perceived ease of use refers to individuals' beliefs about the effort required to use a system, as defined by Davis in 1989. In the TAM model, PEOU focuses on the system's ease of use, setup, and learning. Although individuals believe using m-payment could enhance their financial performance, they may find it challenging to master (Cao et al., 2021).

Perceived ease of use is an individual's belief that adopting a system will require minimal effort (Davis, 1989). It encompasses the idea that systems should be user-friendly and allow users to perform tasks quickly and efficiently, resulting in enhanced productivity and performance. Several researchers, such as Johnson et al. (2018), emphasised that PEOU directly impacts users' intention to adopt m-payment services. In addition, perceived ease of use also has an immediate and indirect impact on perceived usefulness (Davis, 1989). In simpler terms, PEOU directly influences adoption intention and indirectly affects it through its impact on perceived usefulness (PU). Numerous research studies have highlighted the significance of perceived usefulness in explaining users' intentions to use m-payments (Liu et al., 2019).

Considering all these factors, the researcher contends that these issues significantly influence the perceived usefulness (PU) and perceived ease of use (PEOU) of m-payment, subsequently impacting the behavioural intention to adopt it. Last but not least, this theory has garnered significant attention in dynamic business environments due to its correlation with an individual's willingness to embrace innovation (De Oliveira Santini et al., 2019).

2.7 Perceived Security

In light of this, this study addresses the call made by researchers like Liébana-Cabanillas et al. (2018) by examining the influence of privacy and security on the acceptance of m-payment. Security in m-payment refers to the measures and protocols implemented to protect users' personal and financial information. It ensures confidentiality, integrity, and availability of user data throughout the payment process. Perceived security refers to the belief that the service providers will undertake the necessary measures to guarantee the technology's safety. As Johnson et al. (2018) mentioned, the barrier to accepting m-payment services is a security concern.

Security is a major customer concern, making privacy protection and information security management essential in instilling user confidence (Tsai, S. C., Chen, C. H., Shih, K. C., 2022). Keni et al. (2020) emphasised that perceived security (PS) significantly impacts user's acceptance of m-payment. This means that consumers are only willing to use m-payment when they feel assured about the security of their transactions (Tsai et al., 2022). Both senders and receivers need to be confident about the identity of the person they are interacting with. This is especially crucial in situations where important decisions need to be made and data integrity is important. Users require comfort and safety when using a technology or service (Al-Khowaiter, W. A., 2020). Malaysians have shown higher comfort when using digital technology to interact with government organisations. This indicates that strong authentication provides more certainty when verifying a user's identity, which builds trust and confidence for both parties involved.

However, Malaysians are less confident in accessing mobile banking or financial services from multiple providers, such as allowing payments through mobile devices. The primary reason for this scepticism is their concerns about data security (Unisys Asia Pacific, 2018).

In 2018, there are three major security concerns stood out for Malaysians:

a. ***Identity Theft:*** An overwhelming 86% of Malaysians expressed extreme or high concern regarding unauthorised access or misuse of their personal information. This apprehension is driven by the fear of identity theft, where individuals' details could be misused.

b. ***Bank Card Fraud:*** Similarly, 86% of Malaysians were worried about others obtaining or using their credit/debit card details without permission. The fear of being a victim of bank fraud was a significant concern for Malaysians.

c. ***Internet Virus/Hacking:*** About 80% of Malaysians expressed their concerns about the risks associated with internet viruses and hacking incidents. They were aware of the potential threats and wanted to ensure the security of their online activities (Unisys Asia Pacific, 2018).

These findings suggest that while Malaysians are generally inclined towards digital engagement, they require reassurance from financial service providers regarding data security. Addressing these security concerns will be crucial to gaining consumer confidence, particularly as open banking and integrated financial services become more prevalent. Providers that effectively address data security concerns can use it as a competitive advantage to attract and retain customers in the digital landscape (Unisys Asia Pacific, 2018).

In this study, the researcher refers to the confidentiality and data security on the Internet emphasised by Lanford, D., (1996). The authors draw upon the "Secure Electronic Transaction" framework released in 1996, adapting the transaction security constructs to meet specific research needs relevant to the context of m-payment transactions. The five transaction security constructs, including confidentiality, integrity, authentication, transaction non-repudiation, and privacy, along with other security requirements, are summarised as follows:

1. **Confidentiality:** In an e-commerce environment, all transactions are kept confidential to ensure unauthorised intermediaries cannot trace or access transaction information over public networks.

2. **Integrity:** Transactions must remain intact and free from interference. The content of electronic transactions should be verified to ensure that it remains unchanged during transmission between the client and the server. No unauthorized additions, deletions, or modifications should occur during transaction processing.

3. **Authentication**: There must be a means of ensuring the credibility of the identity of individuals, resources, programs, and systems involved in the transactions. Authentication assures that the declared identity aligns with the actual subject or resource.

4. **Transaction non-repudiation:** Each transaction sender possesses a unique electronic signature, making it impossible to deny sending the document. This ensures that the fact of sending the transaction cannot be refuted.

5. **Privacy:** Transactions should be securely protected, ensuring that messages sent and received over the Internet cannot be read, modified, or intercepted by any other parties. Privacy measures guarantee the inviolability of the transaction process.

Therefore, it is rational to believe that the stronger the consumer's perception of the security of m-payment, the more inclined they are to accept this technology. Furthermore, any factors that positively influence perceived security would also enhance the likelihood of the adoption (Johnson et al., 2018).

2.8 Empirical Analysis:

This study examines the association between customer acceptance of m-payment and the Technology Acceptance Model (TAM), as well as explores the relationship between customer acceptance and perceived security. First, by applying the principles of TAM to the context of m-payment, the researcher can better understand how users' behavioural intentions towards adopting m-payment technologies are influenced. The study proposes that PU, PEOU and PS are three significant factors shaping users' intentions regarding accepting and utilising m-payment services.

2.8.1 Relationship between CA & PU

Perceived usefulness refers to how customers perceive m-payment as beneficial and advantageous in facilitating financial transactions. This could include convenience, timesaving, accessibility, and making efficient payments. Their perceptions of usefulness influence customer's acceptance of m-payment. Customers who perceive m-payment as useful in meeting their needs are likelier to adopt and continue using m-payment services.

2.8.2 Relationship between CA & PEOU

Perceived ease of use in m-payment refers to the extent to which customers perceive the technology as easy to understand, learn, and use. It includes factors such as the user interface, simplicity of the payment process, navigation, and the overall user experience with m-payment applications. Perceived ease of use may positively influence the attitude toward m-payment services and positively impact perceived usefulness. Additionally, TAM suggests that PU and PEOU are influenced by external variables such as facilitating conditions and individual characteristics. If users perceive m-payment as easy to use, they are more likely to accept it as their payment method. Consequently, they are less likely to adopt it if they find it challenging.

2.8.3 Relationship between CA & PS

As stated by Sreelakshmi and Prathap (2020), prior research has highlighted the significance of security and trust in mobile-based financial transactions, such as online banking, in influencing the adoption of m-payment. Perceived security, in particular, emerges as a crucial factor influencing users' trust, positively affecting their intentions to adopt m-payment (Zhao & Bacao, 2021). It is evident from existing literature that security concerns are a critical factor affecting consumer attitudes towards m-payment (Liébana-Cabanillas et al., 2018). Thus, if customers perceive m-payment as secure and safe, they are more likely to adopt it. On the other hand, customers who have a negative perception of security factors are more likely to reject m-payment as a reliable method.

2.9 Research Development & Framework

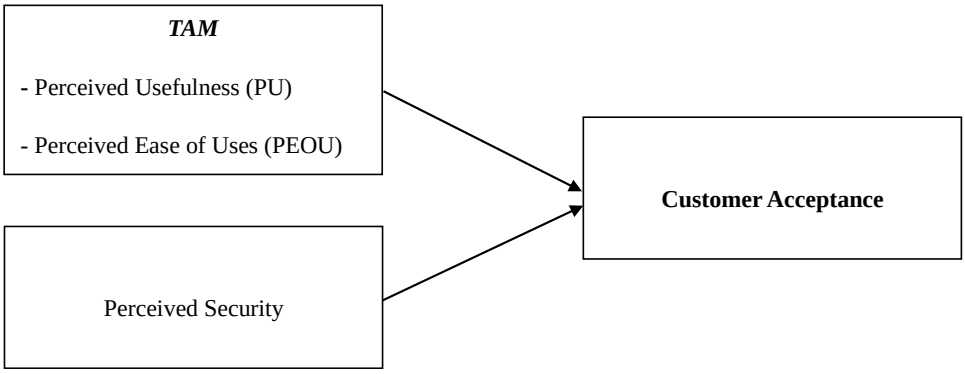

Figure 2.9: Research Framework

2.10 Hypotheses Development

Perceived Usefulness

H1: Customers' perceived usefulness positively influences their acceptance of m-payment.

H_0: Customers' perceived usefulness does not influence their acceptance of m-payment.

Explanation 1: This hypothesis suggests that when customers perceive m-payment as useful in facilitating their financial transactions, they are more likely to accept and adopt it as a payment method.

Perceived Ease of Use

H2: Customers' perceived ease of use positively influences their acceptance of m-payment.

H_0: Customers' perceived ease of use does not influence their acceptance of m-payment.

Explanation 2: This hypothesis suggests that the perceived ease of use of mobile payment has indirectly affected customers' behavioural intentions to use it, mediated by their acceptance and adoption of the technology.

When customers perceive m-payment as easy to use, it increases their acceptance and adoption of the technology, which, in turn, positively influences their behavioural intentions to use it. In other words, customers' acceptance is influenced by how m-payment's perceived ease of use translates into their behavioural intentions.

Perceived Security

H3: Perceived security strongly influences customer acceptance of mobile payment.

H_0: Perceived security does not influence customer acceptance of mobile payment.

Explanation 3: This hypothesis suggests that concerns about privacy and security significantly influence customer acceptance of m-payment. Customers who positively perceive security factors are more inclined to view mobile payment as a viable and preferable option than traditional methods.

2.11 Summary

In summary, the relationship between customer acceptance of digital payment and TAM revolves around customers' perceptions of usefulness and ease of use (TAM). Additionally, the relationship between customer acceptance of digital payment and security factors can be understood as follows: Security factors also shape customers' general attitudes, trust, and comfort towards mobile payment. By understanding these factors, businesses and service providers can design mobile payment systems that align with users' needs and preferences, increasing the likelihood of adoption and sustained usage. The hypothesis developed outline the expected relationships between key factors and customer acceptance.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, it will serve the researcher as a comprehensive guide to planning and carrying out the study effectively. It covers the overall approach, strategies and methods that will be used to answer the research questions and hypotheses. Additionally, the chapter emphasises the study's structure and framework, highlighting important elements such as research design and philosophy, methodological choices, primary and secondary data sources, research strategy and location, sampling designs and a few others. Generally, each researcher may utilise different methodologies based on their specific objectives (Hassan et al., 2021).

3.1 Research Designs

As stated by Saunders, M. N. K., Lewis, P., & Thornhill, A. (1996), the research design is a broad plan that outlines how research questions are addressed. It identifies the sources from which data will be collected and analyses them. The first decisions the researcher must consider involve choosing between quantitative, qualitative, or mixed methods research projects. The nature of the research design can fall into different categories: exploratory, descriptive, explanatory, evaluative, or a combination of them. However, the purpose of the research may change over time. To give an overview of research purposes, an exploratory approach is valuable for posing open-ended questions, allowing researchers to gain insights into a particular topic.

On the other hand, descriptive research aims to obtain an accurate profile of events, individuals, or circumstances (Saunders et al., 1996). Meanwhile, evaluative research, as the name suggests, seeks to assess the effectiveness or performance of something. Its primary focus is determining how well a particular phenomenon or system functions. Lastly, an explanatory study delves into a situation or problem to explain the relationships between variables and aims to establish causal relationships (Saunders et al., 1996).

In this study, explanatory purpose is chosen because explanatory research aims to investigate and understand the relationships between variables and explain for the phenomena under study. In this case, the research seeks to study the factors influencing customer acceptance of mobile payment systems. The explanatory research purpose aligns well with the research objective as it aims to establish causal relationships between variables. The variables include technological factors (TAM: PU & PEOU) and security factor: perceived security.

By employing an explanatory research design, the researcher can delve deeper into the reasons behind customer acceptance of digital payment. The technological factors encompass elements such as perceived usefulness and ease of use. Through explanatory research, the study can examine how these technological factors interact and influence customer acceptance. Additionally, the security also plays a crucial role in shaping customer acceptance. Explanatory research can explore how this factor can directly impact customer acceptance.

It can investigate how positive or negative perceptions of technological and security factors influence customers' decision to adopt m-payment methods. Also, the explanatory approach can move beyond merely identifying factors. Instead, it allows researchers to provide a deeper understanding of the underlying mechanisms and causal relationships between technological and security factors and customer acceptance of digital payment.

3.2 Methodological choices

Methodological choices consist of 3 distinctive methods: quantitative, qualitative, or mixed methods research designs. A key distinction between quantitative and qualitative research lies in the types of data they focus on. Quantitative research deals with numerical data, such as statistics and numbers, whereas qualitative research deals with non-numerical data, such as images, video clips, words, audio recordings, and other similar materials. Qualitative research includes data collection techniques like interviews and analysis procedures (such as categorising data), which generate non-numerical data (Saunders et al., 1996).

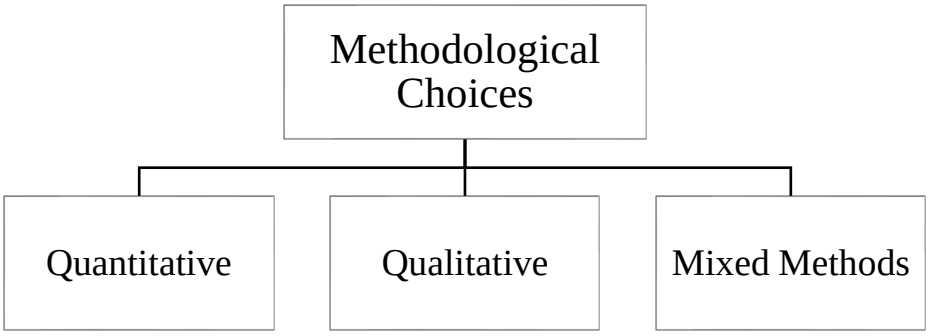

Figure 3.2: Types of Methodological Choices. Sources: Saunders (1996)

3.2.1 Quantitative Research

In this study, the researcher will use the quantitative research design. The main difference between qualitative and quantitative research design is that quantitative research is based on numbers, while qualitative research is based on non-numerical meanings. The quantitative designs can be structured, semi-structured and unstructured. The choice between these three forms depends on the research questions and objectives. This study uses a structured design because it requires opinion data. (Saunders et al., 1996). In a structured design, the data collection method is organised and standardised, typically involving close-ended questions like multiple-choice questions.

This design aims for consistency in gathering opinion data. Quantitative research involves the collection of both primary and secondary data. It aimed to capture responses from consumers to examine the research variables. Some other studies that employed quantitative methodology include Jahan & Shahria, 2021, Zhao and Bacao (2021), Ariffin et al. (2021), Kejela, A., & Porath, D. (2022), Danyali (2018) and many others.

This study chooses quantitative design because the data is collected from customers, and the target respondents are prone to be numerical data. Most importantly, the researcher's ability to collect data rationally will influence the choice of research designs and methodology. In the context of customer acceptance of m-payment, numerical data can be collected through surveys or questionnaires to measure and quantify variables such as customer preferences, attitudes, and behaviours towards m-payment methods. This quantitative approach provides a standardised and measurable way to examine customer acceptance factors.

Secondly, quantitative research facilitates statistical analysis, which allows for the identification of patterns, trends, and correlations among variables. By analysing the collected data using statistical techniques, the researcher can determine the strength and direction of relationships between technological and customer acceptance and also between security factors and customer acceptance.

This analysis helps draw objective conclusions and generalise about the larger population. Furthermore, quantitative research enables the researcher to conduct comparisons and make statistical inferences. They can compare customer acceptance across different demographic groups, such as age or income levels, and examine if there are significant differences in acceptance levels based on technological or security factors. These comparisons provide valuable insights into understanding variations in customer acceptance and inform strategies for targeting specific customer segments.

TAM, which includes the concepts of perceived usefulness (PU) and perceived ease of use (PEOU), can be operationalised through quantitative measures such as Likert-scale surveys. These surveys enable the researcher to collect numerical data on customers' perceptions of the usefulness and ease of use of digital payment systems. Statistical analysis can then be employed to identify the extent to which these factors influence customer acceptance. Lastly, quantitative research allows for a larger sample size. With a larger sample, this study can obtain more representative and accurate data, ensuring that the findings are applicable to a broader population of customers. It will help in making evidence-based decisions and recommendations regarding m-payment acceptance.

In quantitative research, there are two main types of research designs based. The first is a mono-method quantitative study, where only a single data collection technique is utilised. The second is a multi-method, which involves the use of more than one quantitative data collection technique. For this study, the researcher will use the mono method quantitative because only one data collection technique (questionnaire) is employed.

One of the examples of studies that apply the quantitative technique is conducted by Subaramaniam (2020), titled "The Impact of E-Wallet for Current Generation", where the researcher decided to gather data through an online survey. The researcher chose the quantitative method (surveys) because of the ease of measuring and categorising the data.

3.3 Primary and Secondary Data

3.3.1 Primary Source

Two types of data sources are commonly used in most research: Primary and Secondary. Primary data is collected directly from m-payment users to address specific research questions. Hassan et al. (2021) states that primary data is newly generated from primary sources, specifically tailored to address the needs of a particular research project. It involves obtaining new and unique information through methods like questionnaires, interviews, or observations. In this case, a questionnaire method can be used to gather primary data and collect information related to technological and security factors. A questionnaire will be carefully designed, pre-tested, and distributed to gather primary data.

3.3.2 Secondary Source

On the other hand, secondary data refers to information that has already been collected by someone else for a different purpose. It can include data from official censuses, government records, or previous research projects. According to Hassan et al. (2021), secondary data is collected from available sources such as publications, databases, and internal records, which can be accessed in hard copy or soft copy (digital) form. Secondary data is valuable across various research designs, as it can offer additional insights, interpretations, or conclusions when analysed. It is commonly used in both descriptive and explanatory research. In order to study the topic of digital payment in Malaysia, this research conducted a systematic literature review to gather secondary data. However, it was found that there is limited published research available on this significant phenomenon. As a result, relevant secondary data were gathered from reputable sources such as Bank Negara Malaysia (Alam et al., 2021).

The researcher also gathers secondary data from Google as a valuable resource for reference and guidance purposes. Google was chosen due to its ability to provide a wealth of helpful information through the latest articles available on the web. The researcher collected and utilised data from various official articles that were relevant to the research topic and accessible online. In addition, to ensure accuracy, the researcher also checks and verifies the data first to avoid any inaccuracies (Subaramaniam, 2020).

3.4 Research Strategy

3.4.1 Classification of Research Strategies

Within the chosen research design, the study should incorporate one or more research strategies to ensure consistency throughout the research process. This will be discussed in this part, Chapter 3.4. The research questions and objectives will influence the choice of research strategy, as well as other practical considerations like the depth of existing knowledge, time, and other resources available. (Saunders et al., 1996). According to Yin (1984), three factors can influence the selection of research strategies: (1) The types of research questions, (2) The degree of control over behavioural events and (3) The level of desired concentration on current events. The researcher in this study applies the survey strategy, and the justifications are explained below.

3.4.2 Survey Strategy

A common approach to using a questionnaire is to employ a survey strategy. This strategy is strongly associated with the quantitative research method and is particularly useful for addressing questions related to "what," "who," "where," "how much," and "how many." The popularity of survey strategies lies in their ability to collect standardised data from a large number of respondents in an efficient and cost-effective manner (McCombes, S., 2023). By opting for a survey strategy, researchers gain greater control over the research process (Saunders et al., 1996). A survey strategy systematically collects data from a group of individuals or respondents to gather information about their opinions, attitudes, behaviours, or characteristics. It involves using surveys or questionnaires as the primary data collection method.

Survey research offers several advantages. It allows for collecting large amounts of data from diverse participants, providing a broader perspective on the research topic. Surveys can be administered quickly and efficiently, making them cost-effective compared to other data collection methods. Additionally, surveys often employ standardised questionnaires, ensuring consistency in data collection and enabling comparison across different populations or studies. In summary, it offers the researcher a powerful tool to collect standardised data, analyse it quantitatively, explore relationships between variables, and generate statistically representative findings at a reduced cost compared to data collection from the entire population.

3.5 Research Location

Research location refers to a research study's specific physical or geographical setting. It is the place or site where data collection activities take place. The research location can vary depending on the research's nature and objectives. In general, it could be a specific laboratory, a field site, a workplace, a community, a school, a hospital, or any other relevant setting where data can be collected, or observations can be made. It can be a single location or multiple locations, depending on the scope and requirements of the research study.

In this case, the researcher chose Melaka because it is one of the states in Malaysia with an impressive implementation of digital payment compared to the others besides Kuala Lumpur. The researcher has carefully considered factors such as accessibility, feasibility, relevance to the research topic, ethical considerations, and the availability of resources and facilities when selecting the research location. As a result, Melaka is a suitable location to conduct this study, and the researcher will concentrate on the Ayer Keroh districts due to some limitations. The limitations include accessibility and time constraints.

The research location adds depth and context to the research findings, contributing to the overall understanding and significance of the study. Melaka, known for its historical significance and vibrant tourism industry, provides a unique context to investigate the factors influencing customer acceptance of digital payment. As a popular tourist destination in Malaysia, Melaka attracts a diverse range of visitors, including both domestic and international tourists. This diverse population offers an opportunity to explore how each customer segment perceives and adopts digital payment methods.

Additionally, Melaka has been actively promoting digital transformation and embracing technology advancements in recent years. The local government and businesses have been implementing various initiatives to encourage the adoption of m-payment solutions, creating an environment conducive to studying customer acceptance. For instance, Melaka Sentral, a transportation hub in Melaka, has started to adopt and embrace e-cash payment systems (The Star, 2020). By focusing on Melaka, the research can provide insights relevant to the local context and potentially contribute to the ongoing efforts in promoting m-payment in the region.

Overall, selecting Melaka (Ayer Keroh) as the research location offers a rich setting to investigate the technological and security factors influencing customer acceptance of m-payment, combining its tourism industry, technological advancements, and local initiatives in embracing digital transformation. The choice of research location is crucial as it can impact the data collection process, the validity of the findings, and the generalisability of the results.

3.6 Target Population

The target population is the population the researcher targets to study and draw conclusions from. In other words, it is a group of individuals eligible for data analysis. The researcher must clearly define and describe the target population to select the appropriate sampling methods (McCombes, S., 2023). The researcher emphasises gender, age, and income level in this study. The researcher will then find the total population range to estimate the sample size.

To describe the population of m-payment users in Malaysia, the researcher refers to some official statistics released and available on the Internet. According to Bank Negara Malaysia, from January to July 2022, there were 395.7 million credit card-based payment transactions, of which 179.9 million were related to e-commerce transactions. Also, Bank Negara Malaysia reported that debit card transactions rose from 371 million in 2019 to 736.8 million in 2021. From January to July 2022, there were 642.2 million debit card-based payment transactions, with 152.1 million associated with e-commerce transactions.

The value of debit card-based payments experienced a notable value growth, from MYR 52,394.1 million in 2019 to MYR 78,212 million in 2021 (Malaysia Payments Market Insights). Furthermore, the COVID-19 outbreak has also led to an increase in the number of e-wallet users due to the movement restriction order, which restricts people from going out and engaging in their regular activities. It shows that the number of m-payment users has increased over the years. In theory, a population can be the whole country's population or the population of some specific area. The researcher should have the ability to reach the target sample.

The target population needs to be deeper and more detailed. Thus, the researcher chooses to be more specific by selecting one area (in this case, Ayer Keroh, Melaka) and focusing on the potential respondents. More importantly, the researcher shall be able to reach the potential respondents in the selected area. This study's target population must be those using m-payment based in Ayer Keroh, Melaka.

In terms of age, usually, there are two basic populations used to determine the target age group: - (i) Adults: Those over the age of 18 (ii) Children: Those under the age of 18. There is another four-age group for adults which is young adults (18-25), adults (26-44), middle-aged (45-59), and elderly (60+). This age stratification is used because anyone can utilise the m-payment system despite their age. This payment system is typically used in a general aged population (mostly 18 and above).

Income level is a criterion that helps the researcher better identify the target population. The researcher is interested in determining whether there is a difference for each income group in perceiving the use of m-payment. In Malaysia, the social classes are divided into three main income groups: B40, M40, and T20. B40 represents the bottom 40%. The group with a lower income is the monthly household less than MYR4,850. Middle 40% or M40 is the middle-class population with family income ranging from MYR4,851 to MYR10,959 monthly. T20, or the top 20%, is the hierarchy's upper classes earning more than MYR10,960 monthly (Team, C., 2022). All three income groups can act as determinants to answer questions like: "Are there one or more income groups that frequently use m-payment?"

3.7 Sampling

Sampling methods are divided into probability and non-probability sampling (McCombes, S., 2023). In this section, the researcher will justify which techniques best suit the research questions and objectives. Probability sampling, often known as representative sampling, selects a sample based on the randomisation principle to ensure generalisability. It is most commonly used in survey research strategies and experiments (Quantitative).

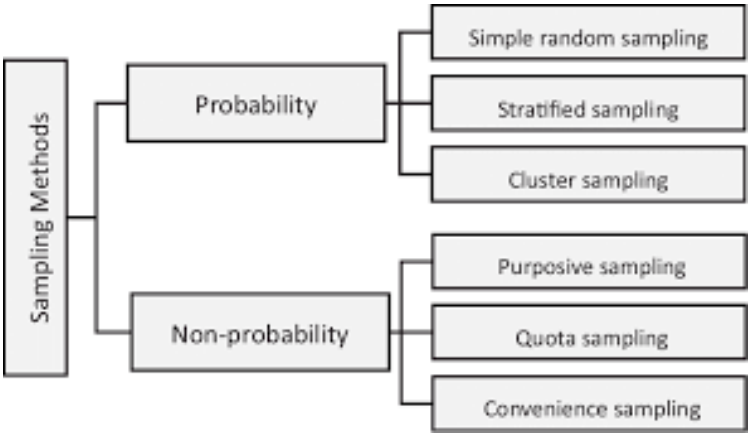

Figure 3.7: Types of Sampling Methods. Source: Research Gate

3.7.1 Probability Sampling

According to Saunders et al., 1996, probability sampling involves a systematic process divided into four stages. The first is identifying a suitable sampling frame. It ensures accurate representation; a sampling frame is created based on the research question and objectives. This frame includes a list or description of the target population.

Second, determining the sample size. This stage will determine the appropriate sample size by considering factors such as the confidence level and variability within the population. It helps ensure that the sample is large enough to provide reliable statistical estimates. The third is selecting the sampling technique and sample. The most suitable sampling technique is chosen based on the characteristics of the population and research objectives.

Under probability sampling, there are four main techniques: simple random, systematic random, stratified random and cluster. The sample is then selected using the chosen technique. Lastly is checking representativeness. Verifying that the selected sample accurately represents the target population is essential. It involves assessing key demographic or characteristic variables to ensure the sample aligns with the population's distribution. However, it is worth noting that for target populations with fewer than 50 cases, probability sampling may not be recommended, according to Henry (1990).

Following these stages, the researcher in this study can employ probability sampling to obtain a representative sample and draw valid conclusions about the broader population. This method enhances the reliability and generalisability of research findings, contributing to more accurate and meaningful outcomes.

3.7.2 Stratified Random Sampling

In this study, the researcher will use stratified random sampling. Stratified sampling involves dividing the target population into subgroups (stratum) based on certain characteristics relevant to the research objectives. From each stratum, a random sample is drawn using either a simple or systematic random sampling method. As a result, stratified random sampling offers advantages and disadvantages similar to simple random or systematic random sampling methods. Each stratum represents a homogeneous (similar) subset of the population, and a sample is then drawn from each stratum in proportion to its representation in the overall population (Saunders et al., 1996; Thomas, L., 2022). The research aims to explore the factors influencing customer acceptance of m-payment, specifically focusing on technological and security factors.

By using stratified sampling, the researcher can ensure that the sample includes individuals from various demographic and behavioural groups relevant to these factors. For example, age, income level, education level and experience with digital payment can be used as stratification variables. Stratified sampling allows for greater precision in estimating the characteristics and relationships within each subgroup. By including representative samples from each stratum, the findings can provide insights into specific subgroups and enable comparisons between them. This helps understand how different factors may vary across demographic or behavioural segments.

3.7.3. Sample Size

The term “sample” refers to a smaller data set selected from a larger population through a sampling method. A sample, known as a subset of population, is the research questions’ real focus (McCombes, S., 2023). Studying an entire population is often difficult, expensive, or time-consuming. For instance, 327 million people live in the United States (USA population). However, it is impractical in market research to consider all of them. As a result, studying a sample offers researchers data that can be used to understand the entire population.

Creating a sample is a productive way to conduct research. When choosing a sample, it should reflect the population from which it is drawn and be justifiable based on how it will help to answer research questions and achieve research objectives. As previously mentioned, the researcher must be as detailed as possible when describing the total population.

Researchers must begin with a decision about who they are interested in (target population). Now, the researcher needs to determine who belongs to the target population and how to reach them (sample). In this study, the target population has already been decided: m-payment users in Melaka (age, education and income level). As defined above, a sample is a group drawn from the total population. Selecting a sample should be deliberate and depend on the research goal. Most importantly, it must be a group to which the researcher can gain access.

Table 3.7 (c): Sample Size. Source: Krejcie & Morgan (1970)

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

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

For this study, the sample is (i) people with experience using the m-payment system and (ii) based in Ayer Keroh, Melaka. In order to guarantee a sufficient sample for the research, several conditions need to be calculated. The researcher must first include everyone who belongs to the target population. Second, exclude all individuals who do not belong to the target population. According to Cybo's website, the population of Ayer Keroh is 37,716. Based on Krejcie & Morgan (1970) in Table 3.7 (c), the number of respondents that the researcher should target is around 380 respondents (sample size).

However, it might not be possible for the researcher to reach 380 people as not all target respondents are serious and willing to complete the questionnaire. It is logical for the research to get around 200-300 respondents, which is already enough due to that area's large population (m-payment users). The researcher may use any social media (to distribute the internet questionnaires) to gain access to the sample size. In this manner, the researcher can exclude anyone who does not belong to the sample frame and target population. However, this study will still be able to represent groups outside of the Ayer Keroh district due to the large population of mobile payment users (in Malaysia), and their opinions are easy to generalise.

To make it short, the sample in this study is the m-payment users based in Ayer Keroh, Melaka. The sample frame will be reached by using social media. For example, the researcher will send the questionnaires through Ayer Keroh's community on the Facebook page (including acquaintances such as friends and neighbourhood) and inform them of the purpose of the questionnaire. Next, a sample of 320 people will be taken from this sample frame by using a sampling method (stratified random sampling).

3.8 Questionnaire Design (Technique)

Research techniques can be divided into three main techniques: observation, questionnaire, and interviews. The researcher will utilise the questionnaire technique and distribute the questionnaire to 320 target respondents (sample). This selection is based solely on respondents with experience of m-payment and living in Ayer Keroh. This technique was chosen because the research questions can be answered more easily through structured questionnaires than interviews. The questionnaire is the best option as it is more convenient and faster to collect the data. It is also suitable for gathering quantitative data from customers as the sample size is easy to determine. A questionnaire can be employed as long as the researcher is confident in their ability to collect the data.

A questionnaire gathers information about an individual's attitudes, experiences, or opinions. As mentioned in the previous section, 3.5, surveys are the research strategy employed to collect and analyse data from a specific group of people. A questionnaire is a specific instrument or tool for collecting the data. Consequently, conducting a survey entail defining the target population of interest, selecting a suitable sampling method, administering the questionnaires, performing data analysis, and interpreting the findings.

The questionnaire can be applied in the survey strategy because this study is quantitative. A structured questionnaire consists of standardised closed questions. Closed questions are classified into six types: list, category, ranking, rating, quantity, and matrix. It is easier and quicker to answer and is suitable for Internet questionnaires. In this study, the researcher will use Likert Scale (rating scale), which involves multiple-choice questions (Liu et al., 2019).

Table 3.8: Likert Scale: 5 points rating scale

Strongly Disagree	Disagree	Neither Disagree/Agree	Agree	Strongly Agree
1	*2*	*3*	*4*	*5*

The Likert Scale is a rating scale that allows individuals to express their level of agreement or disagreement with a series of statements related to a specific topic (Bhandari, P., 2023; Liu et al., 2019). It consists of a set of statements or questions presented in a questionnaire format, where respondents are asked to indicate their degree of agreement or disagreement on a numeric scale. The Likert Scale can be used to assess respondents' perceptions, attitudes, or opinions towards various factors related to technology and security factors (Bhandari, P., 2023). The Likert Scale is valuable in this research because it provides a structured and standardized approach to measuring subjective attitudes or opinions.

It allows the researcher to capture the nuances of respondents' perceptions of m-payment, providing valuable insights into customer acceptance factors. However, it is important to note that Likert scales can be susceptible to response bias. It occurs when respondents consistently agree or disagree with all the statements, potentially influenced by factors such as fatigue, social desirability, or a tendency towards extreme responses. Demand characteristics or other factors may also impact how individuals respond on the Likert scale (Bhandari, P., 2023).

The questionnaire includes face-to-face, telephone, postal, delivery and collection, internet, and SMS. In this study, the data collection mode will be an internet questionnaire. The researcher does not prefer a telephone questionnaire since the researcher's competence will influence the research. Some respondents may not answer the phone, forcing the researcher to do a call-back call. It is critical to remember that the modes of data collection will determine the extent to which the researcher is confident in collecting data (Saunders et al., 1996).

Internet questionnaires are used because the method facilitates quantitative analysis of the collected data. By using closed-ended questions with pre-determined response options, researchers can assign numerical values to the responses. It allows for statistical analysis, such as calculating frequencies, means, correlations, and regression analyses, to examine the relationships between variables and determine the significance of the factors influencing customer acceptance. Questionnaires can be distributed to diverse participants across different demographics, ages, and incomes. It broadens the study's scope and enhances the findings' generalisability.

How the researcher designs the questionnaire will affect the validity and reliability of the data collected and response rates. To ensure higher data quality and response rates, the researcher should carefully design individual questions, provide clear and attractive presentations, provide detailed explanations of the purpose and conduct pilot tests. Unlike in-depth interviews, a structured questionnaire must be precisely defined before data collection. In addition, the questionnaire in this study only provides one chance to collect data because it is often impossible to identify respondents or to return to collect more data. To address the research questions fully, the researcher must take the time to carefully consider what data must be gathered, how to analyse them, and how to develop the questionnaire (Saunders et al., 1996).

Most data collected using a questionnaire will be used for descriptive or explanatory purposes. Specific to this study, three relationships exist, and the researcher uses some variables to get reliable and accurate data. The variables are the same as described in the previous chapter, Chapter 2: perceived usefulness (PU), perceived ease of use (PEOU), and perceived security (PS). All these are used to explore the variations in customers' behaviour, attitudes, opinions, and occurrences, allowing them to adopt m-payment. The researcher will generalise the population due to the confidence in respect where one person may represent others because their opinions do not vary much.

Other variables may be considered, but they can be studied separately. The types of questions that will be asked in the structured questionnaire (Likert Scale) include rating and closed questions. Closed questions are typically answered faster and more easily. However, the answers would only sometimes be considered reliable if the respondents understand them. Thus, investigating closed questions is included to make the data more definitive.

3.9 Pilot Test

Before conducting the online survey to collect data from the public, the researcher will do a pilot test to identify potential mistakes before embarking on the main survey. A pilot test is a small-scale trial or preliminary investigation conducted before the main research study. It involves testing the research methods, procedures, and instruments on a smaller sample or a subset of participants similar to the target population. A pilot test aims to identify and address any potential issues, refine the research design, and ensure the feasibility and effectiveness of the research approach (Saunders et al., 1996).

It provides an opportunity to assess the feasibility, reliability, and validity of the methods and instruments, ensuring they are appropriate and effective for capturing the desired data. By conducting a pilot test, researchers can increase the chances of obtaining accurate and meaningful results in the main study while minimising potential risks and errors. The pilot test consisted of two key phases: a research design review and participant pilot testing. In the research design review phase, the researcher will brainstorm to develop a set of questions.

After finalising the questionnaire, the researcher will give the questions to 30 participants. The 30 participants are selected from Universiti Teknikal Malaysia Melaka students (UTeM) because they have utilised m-payment almost entirely in their daily transactions on campus. For instance, all student's matric cards are linked with RHB Bank accounts (Mobile Banking Usage). The campus's cafes also provide the students and staff with QR Code payments to pay for their food and beverages. Thus, the 30 students are the most suitable to test the questionnaires, similar to the target sample size. During the pilot test, they will try to answer the questions and gather the responses.

The data will be collected to evaluate various aspects of the study, such as the clarity of the research questions, the suitability of questionnaires, the adequacy of the sampling technique, the efficiency of data collection procedures, and the appropriateness of data analysis methods. The findings from the pilot test are used to make necessary adjustments and improvements before implementing the study on a larger scale. Based on the participants' feedback, the researcher will make necessary adjustments before distributing the main questionnaire to the target sample size (respondents).

This iterative process may identify any issues or areas of improvement. The researcher can identify and rectify potential problems or shortcomings by conducting a pilot test, ensuring a smoother and more effective main survey among the public. The pilot test participants' feedback helps ensure that the online survey would yield accurate and reliable data.

3.10 Time Horizon

Time horizon refers to the period a research study is conducted or the data collection timeframe. It represents the duration or span of the research project, from the initiation of data collection to the completion of data analysis and reporting. In research, the time horizon helps define the scope and limitations of the study, as well as the temporal context in which the findings are applicable. The time horizon can vary depending on the nature of the research topic, objectives, and available resources.

There are two types of time horizons:

1. **Cross-Sectional Time Horizon**
   This type of time horizon involves collecting data at a single point. It provides a snapshot of the research variables and their relationships at that specific moment.

2. **Longitudinal Time Horizon**
   This type of time horizon involves collecting data from the same participants over an extended period. It allows for examining changes, trends, or patterns over time. In the given scenario, a longitudinal time horizon could be applied only if the researcher collects data from the participants multiple times throughout the two semesters, enabling the study of customer acceptance of m-payment factors to be changed over several months.

Due to time constraints, the researcher will apply Cross-Sectional Time Horizon. The amount of time adequate for the study to be conducted is only 6-10 months. Therefore, a cross-sectional time horizon could be applied since the researcher collects data from the participants during a specific period within the two semesters without tracking changes over time.

The advantage of using a cross-sectional time horizon in this research is that it provides a comprehensive understanding of the factors affecting customer acceptance at a specific moment in Ayer Keroh. It allows the researcher to analyse the data from the questionnaire and explore the relationships between different variables within that timeframe. Furthermore, considering the constraints of being a student and the limited duration of 2 semesters, a cross-sectional time horizon is practical and feasible. It allows the researcher to gather valuable insights within a defined timeframe, making the research manageable and efficient.

This study will be completed from March 2023 to January 2024. From around August 2023 until November 2023, the questionnaires will be distributed through online Google Forms, and the respondents will be reached through social media. Finally, in February 2024, the results will be analysed, and the data will be gathered to complete this research.

3.11 Reliability and Validity

Reliability and Validity are important considerations in research to ensure the quality and accuracy of the findings. Cronbach's Alpha is a commonly used measure of reliability, specifically internal consistency reliability.

3.11.1 Reliability

Reliability in a study refers to the consistency and stability of the instruments used. It indicates the extent to which the measurement items or instruments are free from random error and produce consistent results over time. In this study, reliability would focus on the consistency of the questionnaire instrument used to assess customer acceptance and the identified factors. *Cronbach's Alpha* is a statistical measure that evaluates the internal consistency or reliability of a questionnaire's items, measurements, or ratings. The researcher uses Cronbach's Alpha to measure how much the items or questionnaire correlate. (Bujang, M. A., Omar, E. D., & Baharum, N. B., 2018)

Firstly, after the researcher designed the questionnaire with questions aimed at measuring factors of customer acceptance of mobile payment, the researcher will continue to ensure that the questions are clear, concise, and relevant to the topic studied. Secondly, it will be tested (pilot test) on sample groups of intended respondents, and the responses to each question from the participants will be collected. Then, Cronbach's Alpha will be used to calculate the reliability of each question answered by each participant.

The concept of Cronbach's Alpha was introduced by Cronbach (1951), and its value typically ranges from 0 to 1. Higher values indicate strong internal consistency, suggesting that the items consistently measure the same underlying construct. On the other hand, if Cronbach's Alpha value is low (close to 0), it suggests that some or all of the items are not effectively measuring the same dimension (Bujang et al., 2018). In the research on customer acceptance of m-payment, Cronbach's Alpha can be used to assess the internal consistency of the measurement items related to technological and security factors.

Table 3.11: Cronbach's Alpha. Source: Statistic How to

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

For example, suppose the questionnaire includes items of perceived usefulness and ease of use. In that case, Cronbach's Alpha can be calculated to determine whether these items measure the construct of technological factors reliably (TAM). To establish the reliability of the questionnaire, the researcher will conduct a pilot test on a small sample of participants (30 UTeM students). The collected data would then be analysed to calculate Cronbach's Alpha. A value of 0.7 or higher is generally considered acceptable for internal consistency reliability.

3.11.2 Validity

Validity, on the other hand, refers to the instrument's accuracy. In the context of this study, validity would focus on whether the questionnaire effectively captures the factors that influence customer acceptance of m-payment. A valid measure represents the phenomenon of interest and ensures that the obtained results are meaningful and relevant to the research objectives.

This research has two types of validity: internal and external. Internal validity focuses on establishing a cause-and-effect relationship between the independent and dependent variables. External validity refers to the degree to which the findings of a study can be generalised to different settings, individuals, and periods (Middleton, F., 2023).

Reliability and validity are crucial aspects of research design, and Cronbach's Alpha is a useful tool to assess the internal consistency and reliability of a measurement instrument such as a questionnaire. By ensuring a reliable and valid measurement instrument, the researcher can have confidence in the accuracy and consistency of the data collected for this study.

3.12 Data Analysis Method

Data analysis encompasses a series of tasks essential in research, such as gathering, refining, and structuring the data (Maryville University, 2021). Data analysis refers to the researcher's use of a statistical instrument. The data analysis process can be facilitated using statistical software like SPSS (Statistical Package for the Social Sciences). SPSS provides a user-friendly interface that allows the researcher to input, manage, and analyse the data efficiently. With SPSS, this study can perform various statistical analyses, including Pearson Correlation Analysis and Multiple Regression Analysis, which are relevant to this research.

The collected data, obtained through questionnaires, must be organized and prepared for analysis. It includes checking for missing or erroneous data and ensuring it is properly coded and formatted. Next, **descriptive analysis** is often conducted to summarize and describe the characteristics of the data. It can involve calculating measures such as frequencies, percentages, means, and standard deviations to provide an overview of the responses and identify trends or patterns (Mishra, P., Pandey, C. K., Singh, U., Gupta, A., Sahu, C., & Keshri, A., 2019)

3.12.1 Pearson's Correlation Analysis

Pearson's correlation analysis is a statistical technique used to measure the strength and direction of the relationship between two continuous variables. For this study, Pearson's correlation analysis can help explore the relationship between technological factors, security factors, and customer acceptance (Bhandari, P., 2022). By applying Pearson's correlation analysis, the researcher can determine whether there is a positive or negative correlation between variables.

For example, it can assess whether a positive correlation exists between the ease of use of mobile payment systems (a technological factor) and customer acceptance. Similarly, it can examine the correlation between security and customer acceptance. The analysis will produce a correlation coefficient, often denoted as "r," which ranges from -1 to +1. A value of +1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 indicates no correlation. The strength of the correlation is interpreted based on the absolute value of the coefficient (r), where values closer to 1 indicate a stronger relationship (Saunders et al., 1996; Bhandari, P., 2022).

Pearson's correlation analysis provides valuable insights into the degree and direction of the relationship between variables, helping the researcher understand the influence of technological and security factors on customer acceptance. It enables the researcher to identify significant associations and make informed conclusions about factors contributing to customer acceptance of m-payment.

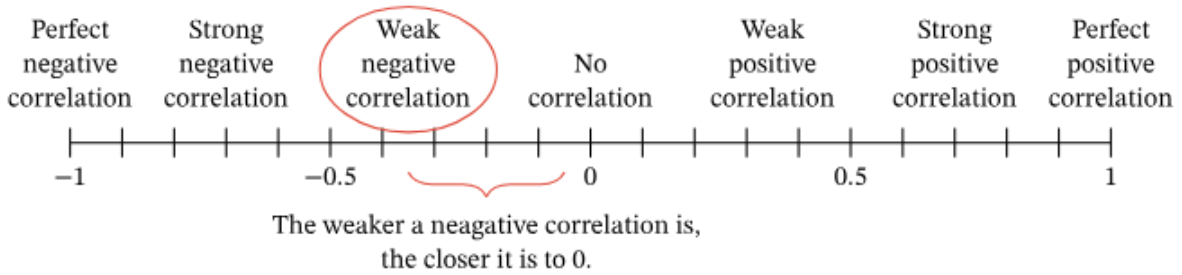

Figure 3.12 (a): Pearson's Correlation

Source: Nagwa

In the context of relationships between variables, a negative relationship refers to a situation where an increase in one variable is associated with a decrease in another variable, or vice versa. In other words, as one variable goes up, the other tends to go down, and vice versa. This negative association suggests an inverse or opposite connection between the two variables.

Meanwhile positive relationships refer to a situation where an increase in one variable is associated with an increase in another variable, or a decrease in one variable is associated with a decrease in the other variable. In simpler terms, as one variable goes up, the other variable also tends to go up, and vice versa. This positive association suggests a direct or similar trend between the two variables.

3.12.2 Regression Analysis

Regression analysis is a statistical method used to examine the relationship between dependents and independent variables (Saunders et al., 1996; Bevans, R., 2022). Regression analysis can help explore the influence of technological and security factors on customer acceptance. Regression analysis aims to understand how changes in the independent variables (PU, PEOU, PS) are associated with changes in the dependent variable (customer acceptance). It allows the researcher to assess these relationships' strengths, direction, and significance.

In this research, multiple regression analysis can be applied to analyse the combined effect of multiple independent variables on customer acceptance. By considering various technological factors (PU and PEOU) and security concerns (PS), the researcher can determine which factors mostly impact customer acceptance of mobile payment systems. Below is the equation of Multiple Regression Analysis (Bevans, R., 2022)

$$\boldsymbol{Equation\ MRA}: \boldsymbol{\gamma} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 X_1 + \boldsymbol{\beta}_2 X_2 + \boldsymbol{\beta}_3 X_3$$

γ = Dependent Variable (Customer Acceptance of Digital Payment)

β_0 = ***y***-intercept value (Constant Value)

$\beta_1 X_1$ = The Regression Analysis (**β_1**) of first independent variables (**X_1**) – PU

$\beta_2 X_2$ = Second independent variables (**X_2**) – PEOU

$\beta_3 X_3$ = Third independent variables (**X_3**) – Security

The regression analysis provides coefficients for ***each independent variable***, indicating their contribution to the ***prediction of the dependent variable***. Additionally, it yields a regression equation that allows the researcher to estimate the value of the dependent variable based on the values of the independent variables.

The researcher can gain insights into the relative importance of different factors in influencing customer acceptance through regression analysis. It helps identify the key drivers that significantly impact customer acceptance and provides a quantitative understanding of the relationships between these factors and customer behaviour.

3.13 Summary

In summary, this chapter lays the foundation for the research study, providing a clear understanding of the research design, methodology, data collection, and analysis procedures. It demonstrates a systematic and rigorous approach to investigating the factors influencing customer acceptance of mobile payment systems, which will contribute to the existing body of knowledge in this field. It also highlights the rationale behind the chosen research design, which is explanatory, aiming to understand the relationships between variables and provide explanations for customer acceptance. The chapter emphasizes the quantitative research approach, as it aligns with the nature of the data and research objectives. The target population is individuals aged 18 and above using mobile payment systems in Ayer Keroh, Melaka. Stratified random sampling is identified as the sampling method, ensuring representation from various demographic and behavioural groups. Overall, it establishes a solid foundation for the study and its contribution to understanding customer acceptance of mobile payments.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION

4.0 Introduction

In Chapter 4, the researcher will conduct a comprehensive data analysis and discussion. Previous chapters have explained the overall research methodology, literature review and the development of the questionnaires based on the research framework. With the data gathered through Google Forms shared online, the power of statistical analysis will be harnessed by using SPSS (Statistical Package of Social Science) Version 29.0 to examine the collected data. This chapter showcases the validation process through pilot tests and descriptive analysis, Pearson's correlation analysis to understand the relationships within the data and Multiple Regression Analysis to explore the complexity of various factors studied. As the researcher navigates the results and their implications, this chapter explains the core findings and the significance of the context of the research questions, providing a solid understanding of the study.

4.1 Pilot Test

Before using the survey to gather the data, it is crucial to test it first with people similar to the sample size targeted. This practice, called a pilot test, helps modify the questionnaire to ensure that questions are easy to answer. It guarantees there will not be any issues in collecting or recording data. Also, this test gives the researcher an idea about the validity of the questions and the reliability of the data. As subsection 3.9 (Chapter 3) mentioned, conducting a pilot test allows researchers to evaluate whether their methods are practical, trustworthy, and valid for gathering the necessary data. This step ensures that the chosen approaches are suitable and efficient, while reducing the likelihood of mistakes and risks. In this study, the researcher gave the survey (using Google Forms) to 30 UTeM students who are similar to the intended group to ensure everything works smoothly. Suppose there are any issues regarding the data collected on the students. In that case, we can modify the questionnaire to enhance its clarity, effectiveness and reliability based on the feedback received during the rehearsal (pilot test).

4.1.1 Reliability

As said in the prior chapter, the reliability of this research focuses on internal consistency. Calculating the reliability of a questionnaire is essential to ensure that it consistently measures what it intends to measure. The researcher used Cronbach's alpha to test the internal consistency of responses within a specific set of questions (known as scale items). It produces an alpha coefficient ranging from 0 to 1. A value of 0.7 or higher suggests that the questions grouped are internally consistent in their measurement.

After collecting the responses from the participants, the researcher will extract the data into a statistical software program, SPSS. Using the SPSS, the researcher calculated the Cronbach's alpha. Most statistical software packages, including SPSS, have built-in functions to compute Cronbach's alpha.

Table 4.1.1 (a): Cronbach's Alpha for Pilot Test. Source (SPSS Output)

Reliability Statistics	
Cronbach's Alpha	N of Items
.959	18

The table above indicates a high level of internal consistency in the questionnaire with a calculated Cronbach's alpha value of 0.959, which significantly exceeds the recommended threshold of 0.7. This result was derived from a questionnaire comprising 30 items distributed among 30 respondents, all students from UTeM. This value of Cronbach's alpha signifies that the questions in the questionnaire are strongly correlated and reliably measure the intended construct. In simpler terms, the questions consistently capture the concept they were designed to measure. This robust internal consistency suggests that the questionnaire is a reliable tool for assessing the specific concept among similar populations, providing confidence in the accuracy and consistency of the collected data.

4.1.2: Cronbach's alpha for each variable (Pilot Test)

Table 4.1.2: Cronbach's alpha for Perceived Usefulness.

(Source: SPSS)

Variables	*Dimensions*	*No. of Items*	*Cronbach's alpha value*
DV	Customer Acceptance (CA)	3	0.907
IV	Perceived Usefulness (PU)	5	0.888
IV	Perceived Ease of Use (PEOU)	5	0.904
IV	Perceived Security (PS)	5	0.898

The table above provides an overview of the variables and the Cronbach's alpha value for each dimension. Cronbach's alpha is a measure of internal consistency or reliability and it assess the correlation between items within each variable. A high Cronbach's alpha value (closer to 1) indicates a high level of internal consistency. In the table, all the Cronbach's alpha values are relatively high, suggesting good internal consistency for each variable. For example, the value of 0.907 for dependent variable suggest a high degree of reliability for all 3 items measuring Customer Acceptance.

4.1.3 Validity

In this research, a validity test was conducted, and all 18 items included in the survey were valid. Hence, the internal validity can be observed in the pilot test above to examine the internal consistency between the independent and dependent variables.

4.2 Descriptive Analysis

Descriptive Analysis or Statistics are important as they help explain the basic details of the data being studied. They offer straightforward summaries of the sample and the measurements taken. Descriptive analysis comes in three fundamental forms: measures of frequency (frequency and percentage), measures of central tendency (mean, median, mode), and measures of dispersion or variation (variance, standard deviation, standard error, quartiles, percentiles, range, and coefficient of variation [CV]) (Mishra et al., 2019). In this study, the researcher is using frequency analysis because it allows the researcher to understand the occurrence and distribution of various variables within the sample.

For example, frequency analysis would help the researcher to determine how many respondents prefer online banking, e-wallet, or other payment options. This kind of analysis provides valuable insights into the popularity and acceptance of different payment methods among the participants. Measures of frequency simply tally how often each variable appears, like the count of males and females in a sample or population. This type of analysis is vital in statistics, as it deals with the occurrence numbers (frequency) and their percentages (Mishra et al., 2019).

In this research, descriptive analysis will be used to analyse the demographic background of respondents. The questions included gender, age, educational level, income level, types of m-payment frequently used (online banking/e-wallet/others) and experience of using m-payment. Questionnaires are distributed through online Google Forms to target respondents, which are 320 in total. Percentage and frequency were generated to describe the demographic background of respondents.

Measures of dispersion will be used in the descriptive analysis to delve into the independent and dependent variables. This other approach helps in understanding the distribution and variability of responses related to perceived usefulness (PU), perceived ease of use (PEOU), perceived security (PS), and customer acceptance (CA).

4.2.1 Demographic Profile

A. Gender

Table 4.2.1 (a): Gender of Respondents. (Source: SPSS)

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	135	42.2	42.2	42.2
	Female	185	57.8	57.8	100.0
	Total	320	100.0	100.0	

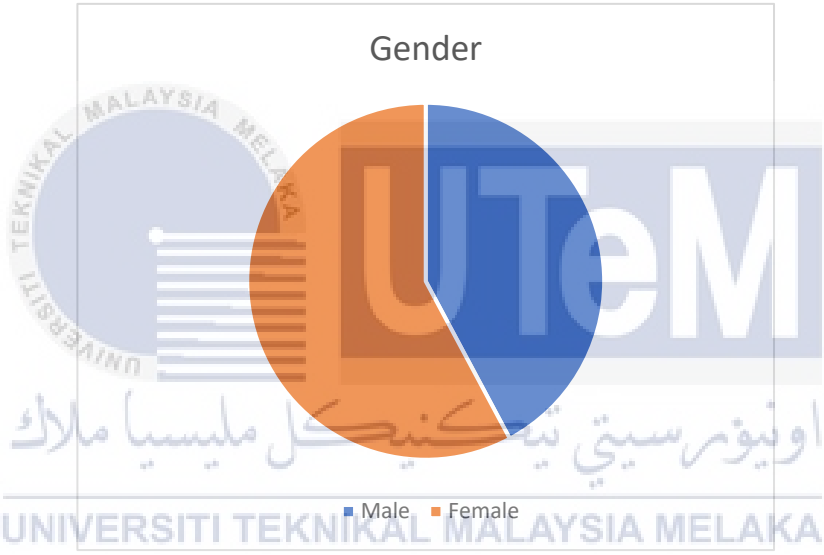

Figure 4.2.1 (a) Gender of Respondent

Table and Figure 4.2.1 (a) above show the distribution of all 320 respondents based on their gender, derived from data analysed using SPSS. Out of 320 respondents, 135 (42.2%) were identified as male, while 185 (57.8%) as female. This finding suggests that the number of females answering the questionnaire is higher than the number of males. The gender diversity within the surveyed population enhances the study's potential for capturing a wide range of experiences and opinions, ultimately strengthening the validity of the research findings.

B. Age

Table 4.2.1 (b): Age of Respondents. (Source: SPSS)

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 – 28	203	63.4	63.4	63.4
	29 – 39	81	25.3	25.3	88.8
	40 – 50	26	8.1	8.1	96.9
	50 years old and above	10	3.1	3.1	100.0
	Total	320	100.0	100.0	

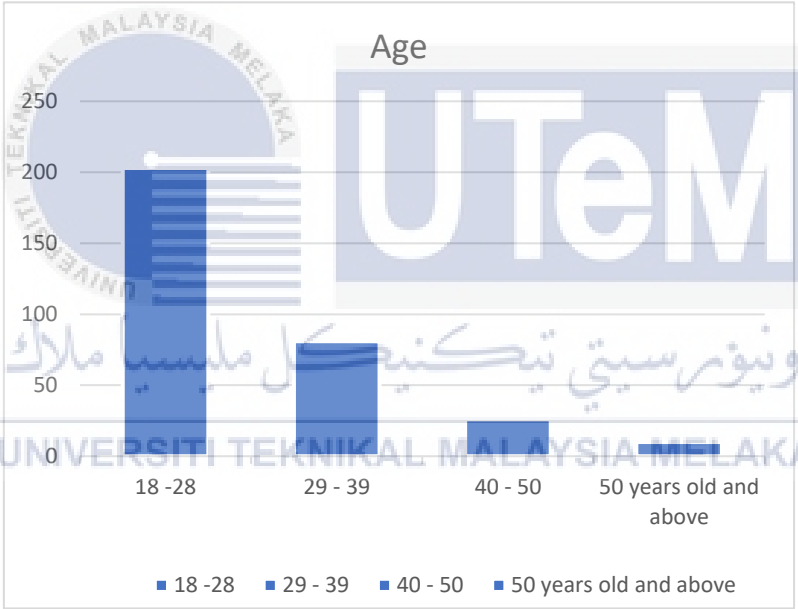

Figure 4.2.1 (b) Age of Respondent

Next, table and Figure 4.2.1 (b) present the age distribution of the 320 respondents. The majority of the respondents, 63.4% (203 respondents), fall within the age of 18 – 28 group, followed by 25.3% (81 respondents) in the 29 – 39 group, 8.1% (26) in the 40 – 50 range, and 3.1% (10 respondents) aged 50 and above. This distribution reflects a predominantly younger respondent base, with a significant representation of individuals in the 18 – 28 age range.

C. Educational Level

Table 4.2.1 (c): Educational Level of Respondents. (Source: SPSS)

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SPM or less	32	10.0	10.0	10.0
	STPM/Matriculation/ Diploma	65	20.3	20.3	30.3
	Bachelor's Degree	171	53.4	53.4	83.8
	Master/PhD	51	15.9	15.9	99.7
	SKM	1	.3	.3	100.0
	Total	320	100.0	100.0	

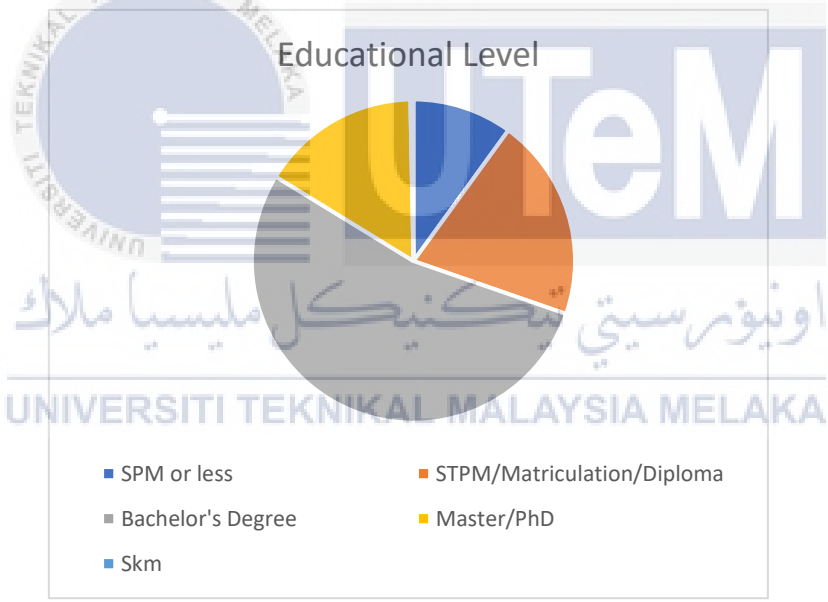

Figure 4.2.1 (c) Educational Level of Respondent

Based on table 4.2.1 (c) outlines the education distribution of 320 respondents with a small percentage (0.3%), which is only one respondent indicated SKM (Sijil Kemahiran Malaysia) as their highest educational qualification. The largest segment comprises 171 individuals with a bachelor's degree, accounting for 53.4%. Other academic categories include 65 respondents (20.3%) with STPM/Matriculation/Diploma and 51 respondents holding a master's or PhD (15.9%).

D. Income Level

Table 4.2.1 (d): Income Level of Respondents. (Source: SPSS)

Income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than RM, 3000	193	60.3	60.3	60.3
	RM 3,000 – 5,000	81	25.3	25.3	85.6
	RM 5,100 – 10,000	38	11.9	11.9	97.5
	RM 10,000 and above	8	2.5	2.5	100.0
	Total	320	100.0	100.0	

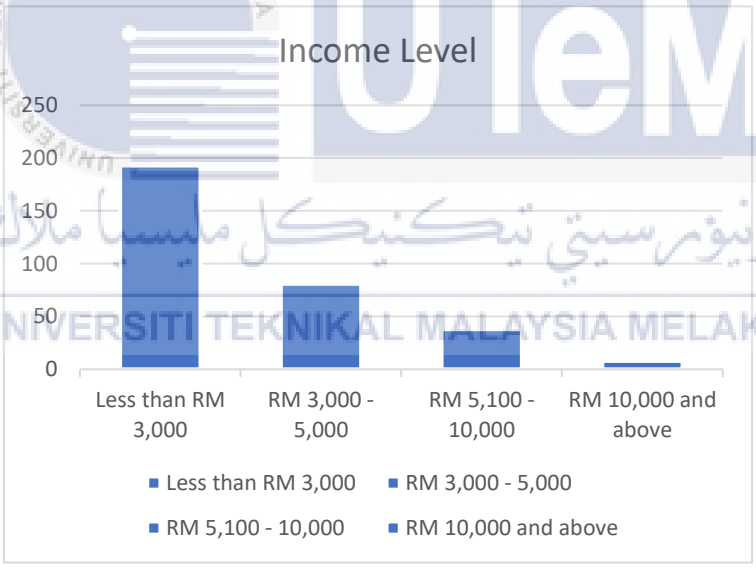

Figure 4.2.1 (d) Income Level of Respondents

The income distribution among the 320 respondents is outlined in table and figure 4.2.1 (d). The majority, representing 60.3% (193 respondents), falls into the 'Less than RM 3,000' income category, while 25.3% (81 respondents) report an income range of RM 3,000 – 5,000. Additionally, 11.9% (38) fall within the RM 5,100 – 10,000 range, and a smaller proportion, which is 2.5% (8 respondents), indicates an income of RM 10,000 and above. This breakdown showcases economic diversity within the study population.

E. Types of M-Payment Frequently Used

Table 4.2.1 (e): Types of M-Payment Frequently Used. (Source: SPSS)

Types					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Online banking	202	63.1	63.1	63.1
	E-Wallet	112	35.0	35.0	98.1
	Both	6	1.9	1.9	100.0
	Total	320	100.0	100.0	

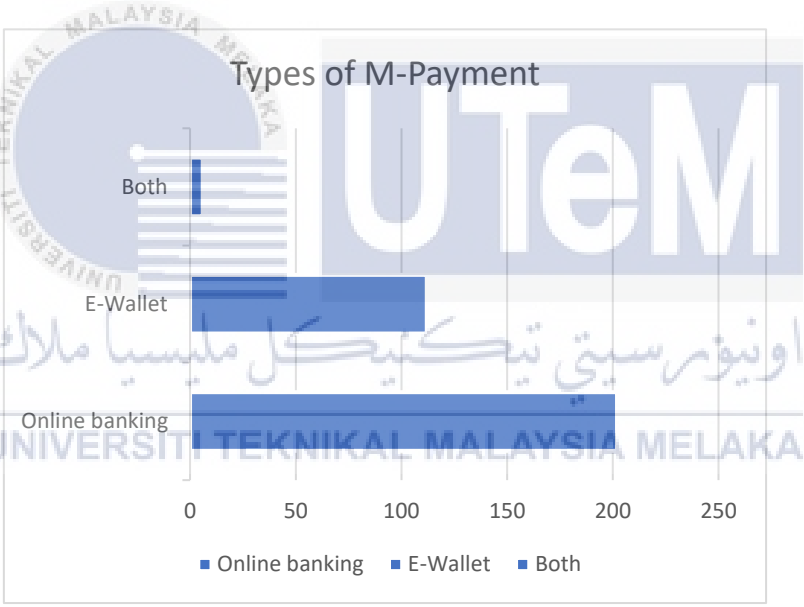

Figure 4.2.1 (e) Types of M-Payment

Next, table 4.2.1 (e) outline types of m-payment usage among the respondents. The most frequent m-payment that has been or recently used is online banking, with the majority of number 202 respondents (63.1%) and 112 respondents reporting using an e-wallet. The remaining six respondents, with minor percentage (1.9%), expressed a preference for using 'Both'. This information is valuable for drawing insights into the preferences and adoption trends with distinct income categories.

F. Experience of Using M-Payment

Table 4.2.1 (f): Experiences of Using M-Payment (Source: SPSS)

Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 3 years	98	30.6	30.6	30.6
	3 – 5 years	162	50.6	50.6	81.3
	Over than 5 years	60	18.8	18.8	100.0
	Total	320	100.0	100.0	

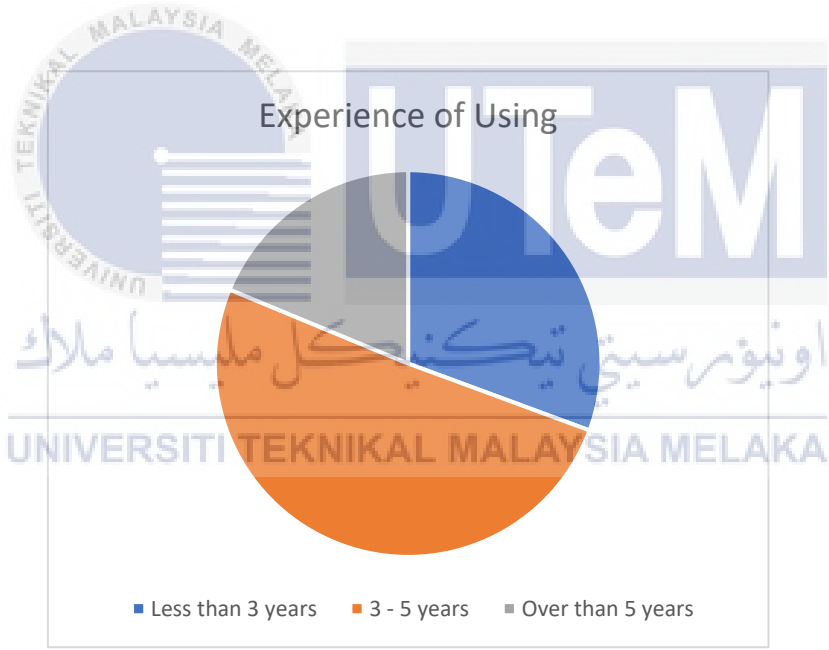

Figure 4.2.1 (f) Experience of Using

The table and Figure 4.2.1 (f) show the number of experiences (in years) of using m-payment among 320 respondents in this research. There were 98 respondents, or 30.6%, who reported having less than three years of experience in using mobile payment, while 162 respondents (50.6%) indicated a usage experience of 3 – 5 years. In addition, 18.8% or 60 respondents reported having used m-payments for more than five years. This shows a multiple range of familiarity and usage durations that contribute to these research findings.

4.2.2 Independent Variable and Dependent Variable (IV & DV)

The descriptive analysis is also used to analyse the independent and dependent variables in this research. This approach helps in understanding the characteristics of each variable, aiming to uncover the potential relationships and patterns in the dataset. The data will be determined by key statistical metrics such as minimum, maximum, mean and standard deviation. This analysis aims to provide a comprehensive overview of the central tendencies and variability within the variables. Besides that, the researcher utilises a 5-point Likert scale in the questionnaire for measuring a total of 18 items related to the study of the research.

Table 4.2.2 Descriptive Statistics of IVs & DV (Source: SPSS)

Statistics

		Perceived Usefulness	Perceived Ease of Use	Perceived Security	Customer Acceptance
N	Valid	320	320	320	320
	Missing	0	0	0	0
Mean		22.0219	21.6281	20.6781	13.7469
Std. Error of Mean		.13516	.14174	.17952	.07099
Median		22.0000	22.0000	21.0000	14.0000
Mode		25.00	20.00[a]	20.00	15.00
Std. Deviation		2.41783	2.53548	3.21139	1.26998
Minimum		12.00	13.00	5.00	9.00
Maximum		25.00	25.00	25.00	15.00

a. Multiple modes exist. The smallest value is shown

Table 4.2.2 describes the descriptive analysis for the independent variables (Perceived Usefulness, Perceived Ease of Use, and Perceived Security) and the dependent variable (Customer Acceptance). It illustrates that the highest mean among all three independent variables is perceived usefulness, with a value of 22.0219. This means that most respondents agree with the statement that PU has the most impact on their acceptance of mobile payment. The perceived ease of use, with a mean value of 21.6281, ranked second and was followed by the lowest mean score, perceived security, with a value of 20.6781. Notably, this suggests there is a lower perception or a few respondents who are concerned about this security variable compared to the others. The mean value for the dependent variable, which is customer acceptance, is 13.7469.

According to the table, perceived usefulness, ease of use and perceived security share the same maximum score, which is 25.00. In contrast, the minimum scores are different for each other, which are PU = 12.00, PEOU = 13.00 and PS = 5.00, respectively. A similar pattern is seen for customer acceptance, in which the maximum score is 15.00 and the minimum score is 9.00 (because it has only three questions). The standard deviation for each variable varies, which is 2.41 for PU, 2.53 for PEOU, 3.21 for PS (highest one) and 1.26 for customer acceptance (DV).

4.3 Pearson Correlation Coefficient Analysis

Table 4.3 (a): Pearson Correlation Coefficient (Source: SPSS)

Correlations

		Perceived Usefulness	Perceived Ease of Use	Perceived Security	Customer Acceptance
Perceived Usefulness	Pearson Correlation	1	.621**	.527**	.645**
	Sig. (2-tailed)		.000	.000	.000
	N	320	320	320	320
Perceived Ease of Use	Pearson Correlation	.621**	1	.508**	.582**
	Sig. (2-tailed)	.000		.000	.000
	N	320	320	320	320
Perceived Security	Pearson Correlation	.527**	.508**	1	.537**
	Sig. (2-tailed)	.000	.000		.000
	N	320	320	320	320
Customer Acceptance	Pearson Correlation	.645**	.582**	.537**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	320	320	320	320

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

The researcher employs Pearson Correlation Coefficient Analysis to examine the relationship between different variables. The Pearson Correlation Analysis is a statistical method that measures the strength and direction of a linear relationship between two continuous variables. According to Saunders, it quantifies the degree to which a change in one corresponds to a change in another, ranging from -1 (perfect negative correlation) to 1 (perfect positive correlation), with 0 indicating no linear correlation. Table 4.3 (a) above shows the positive correlations between independent and dependent variables.

4.3.1 Perceived Usefulness (Independent Variable 1)

Table 4.3.1: Correlation between PU & CA (Source: SPSS)

Correlations			
		Perceived Usefulness	Customer Acceptance
Perceived Usefulness	Pearson Correlation	1	.645**
	Sig. (2-tailed)		.000
	N	320	320
Customer Acceptance	Pearson Correlation	.645**	1
	Sig. (2-tailed)	.000	
	N	320	320

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

The table above presents the correlation between Perceived Usefulness (PU) and Customer Acceptance (CA). The Pearson correlation coefficient (r) between these two variables is 0.645, indicating a strong positive correlation. The correlation is statistically significant at the 0.01 level (2-tailed), as evidenced by a p-value of 0.000. It suggests that as perceived usefulness increases, customer acceptance tends to increase as well. This finding aligns with the notion that customers are more likely to accept mobile payment services when they perceive them to be useful.

4.3.2 Perceived Ease of Use (Independent Variable 2)

Table 4.3.2: Correlation between PEOU & CA (Source: SPSS)

Correlations			
		Perceived Ease of Use	Customer Acceptance
Perceived Usefulness	Pearson Correlation	1	.582**
	Sig. (2-tailed)		.000
	N	320	320
Customer Acceptance	Pearson Correlation	.582**	1
	Sig. (2-tailed)	.000	
	N	320	320

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

The table above reveals the correlation between Perceived Ease of Use (PEOU) and Customer Acceptance (CA). The Pearson correlation coefficient (r) between these PEOU and CA is 0.582, indicating a moderate positive correlation. This correlation is statistically significant at the 0.001 level (2-tailed), with a p-value of 0.000. The positive relationship implies that as perceived ease of use increases, there is a tendency for customer acceptance to also increase. In simpler terms, when individuals find mobile payment services easy to use, they are more likely to accept and adopt them.

4.3.3 Perceived Security (Independent Variable 3)

Table 4.3.3: Correlation between PS & CA (Source: SPSS)

Correlations

		Perceived Security	Customer Acceptance
Perceived Security	Pearson Correlation	1	.537**
	Sig. (2-tailed)		.000
	N	320	320
Customer Acceptance	Pearson Correlation	.537**	1
	Sig. (2-tailed)	.000	
	N	320	320

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

The table above illustrates the correlation between Perceived Security (PS) and Customer Acceptance (CA). The Pearson correlation coefficient (r) between these two variables is 0.537, indicating a moderate positive relationship. The correlation is statistically significant at the 0.001 level (2-tailed), with a p-value of 0.000. In practical terms, as perceived security increases, there is a tendency for customer acceptance to also increase. Similarly, the positive correlation coefficient (r = 0.537) implies that when individuals perceive mobile payment services as secure, they are more likely to accept them.

4.4 Multiple Regression Analysis (MRA)

Next, the Multiple Regression Analysis will be used in this research to explore the relationships between independent and dependent variables, as well as define the key determinants that most significantly impact user's acceptance of mobile payment technologies. The researcher conducted Multiple Regression Analysis because it allows for the exploration of the relationship between multiple independent variables (Perceived Usefulness, Ease of Use and Security concern) and dependent variable (Customer Acceptance). The estimated regression coefficient was calculated by using the equation formula, which was explained in Chapter 3.

Table 4.4 (a): Model Summary of Multiple Regression Analysis (Source: SPSS)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.708[a]	.501	.496	.90165

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

The model summary above provides the results of the regression analysis for the relationship among independent and dependent variables. Based on the table above, the correlation coefficient (R) has a value of 0.708, which signifies a moderate to strong positive correlation between the independent variables and dependent variable. The positive correlation suggests that when the values of the independent variable increase, there is a tendency for the values of the dependent variable to increase as well. Moreover, the r-square value for this research is 0.501, indicating that the dependent variable (Customer Acceptance) is affected by 50.1% of the independent variables. The remaining percentage (100% - 50.1% =49.9%) was influenced by other factors that were not included in the research.

These metrics offer insights into the model's effectiveness in capturing the relationships between independent and dependent variables. The standard error of the estimate (0.901) represents the average difference between observed and predicted values. The predictors in this model include perceived usefulness, perceived ease of use, and perceived security. The observed values, also known as the actual values, are the real data points for the dependent variable, which is customer acceptance.

Table 4.4 (b): ANOVA (Source: SPSS)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	257.596	3	85.865	105.619	.000[b]
	Residual	256.901	316	.813		
	Total	514.497	319			

a. Dependent Variable: CA

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

Table 4.4 (b) shows the ANOVA analysis of this research. According to the table, the regression sum of squares is 257.596, with 3 degrees of freedom for the independent variables (PU, PEOU and PS). Additionally, the mean square of the regression is 85.865, and the F-statistics is calculated to assess the overall good fit of the regression model. The F-test value is 105.619, while the associated p-value (Sig.) is 0.000 (remarkably low). A higher F-test value and a lower Sig. Value indicates that the regression model is statistically significant. Thus, the independent variables (Perceived Usefulness, Perceived Ease of Use, Perceived Security) are significantly affecting the dependent variable (Customer Acceptance). The residual sum of squares is 256.901, representing unexplained variance.

Table 4.4 (c): Coefficient of Multiple Regression Analysis (Source: SPSS)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.990	.501		9.967	.000
	Perceived Usefulness	.203	.028	.387	7.255	.000
	Perceived Ease of Use	.116	.026	.232	4.404	.000
	Perceived Security	.085	.019	.215	4.434	.000

a. Dependent Variable: Customer Acceptance

The table above illustrates the degree of beta (β) values for each of the independent variables that affected on the dependent variable. The results show the values of beta for perceived usefulness = 0.387, perceived ease of use = 0.232 and perceived security = 0.215, respectively, for all independent variables. The significances (p-values) for all independent variables are 0.000 which is less than 0.005. When compared to other variables, perceived usefulness has the highest beta value which is 0.387 with the t value = 7.255. It indicates that the perceived usefulness had the greatest impact on the customer acceptance of mobile payment. Then, followed by second significant which is perceived security with the t-value = 4.434. While the smallest coefficient beta value goes to perceived ease of use with the t value = 4.404.

The relationship can be revealed through the equation of multiple regression, which was developed below:

$$\boldsymbol{Equation\ MRA}: \boldsymbol{\gamma} = \boldsymbol{\beta}_0 + \boldsymbol{\beta}_1 X_1 + \boldsymbol{\beta}_2 X_2 + \boldsymbol{\beta}_3 X_3$$

γ = Dependent Variable (Customer Acceptance of Digital Payment)

β_0 = ***y***-intercept value (Constant Value)

$\beta_1 X_1$ = The Regression Analysis (**β_1**) of first independent variables (**X_1**) – PU

$\beta_2 X_2$ = Second independent variables (**X_2**) – PEOU

$\beta_3 X_3$ = Third independent variables (**X_3**) – Security

Thus, the ***Equation MRA will be:***

Customer Acceptance of Digital Payment = 4.990 + 0.387PU + 0.232PEOU + 0.215PS

Based on the linear equation above, there were three independent variables used to determine the Customer Acceptance of Digital Payment (M-payment), which are Perceived Usefulness, Perceived Ease of Use and Perceived Security. From the linear equations, there was a positive relationship between the independent variables on the Customer Acceptance of M-Payment. The positive coefficients (0.387 for PU, 0.232 for PEOU and 0.215 for PS) indicate the positive impact of each independent variable on the dependent variable. Therefore, as the levels of perceived usefulness, perceived ease of use, and perceived security increase, there is a positive impact on the customer's acceptance of digital payment.

4.5 Hypothesis Testing

In section 4.5, the researcher will assess the significance of the relationships by using hypothesis testing. Hypothesis testing is the statistical method used to evaluate the results according to the proposed hypotheses established in Chapter 2. The goal is to determine whether there is enough evidence to reject the null ($_0$) hypothesis by using the significance (p-values) in Table 4.4 (c). If the significance is higher than 0.05, H_0 will be accepted, and H_1 will be rejected. However, if the significance is lower than 0.05, H_0 will be rejected, while H_1 will be accepted.

Perceived Usefulness

H1: Customers' perceived usefulness positively influences their acceptance of m-payment.
H_0: Customers' perceived usefulness does not influence their acceptance of m-payment.

Accept H1:

Table 4.4 (c) shows the result of the regression analysis for perceived usefulness and its relationship with customer acceptance. The significant value of this independent variable (factor 1) is 0.000, which is lower than 0.005. This shows the statistical evidence to reject the null hypothesis (H_0). Consequently, the alternative hypothesis (H1) is accepted, indicating that customers' perceived usefulness positively influences their acceptance of mobile payment.

Perceived Ease of Use

H2: Customers' perceived ease of use positively influences their acceptance of m-payment.
H_0: Customers' perceived ease of use does not influence their acceptance of m-payment.

Accept H2:

Table 4.4 (c) shows the result of the regression analysis for perceived ease of use and its relationship with customer acceptance. The significant value of this independent variable (factor 2) is 0.000, which is lower than 0.005. Therefore, there is statistical evidence to reject the null hypothesis (H_0) and the alternative hypothesis (H1) is accepted, indicating that the customers' perceived ease of use positively influences their acceptance of mobile payment.

Perceived Security

H3: Security strongly influences customer acceptance of mobile payment.

H_0: Security does not influence customer acceptance of mobile payment.

Accept H3: Table 4.4 (c) shows the result of the regression analysis for perceived security and its relationship with customer acceptance. The significant value of the independent variable (factor 3) is 0.000, which is lower than 0.005. Therefore, there is statistical evidence to reject the null hypothesis (H_0) and accept the alternative hypothesis (H1). This indicates that the customers' perceived security positively influences their acceptance of mobile payment.

Table 4.5: Summary of Hypothesis Testing results (Source: SPSS)

Hypothesis	Results
H1: Customers' perceived usefulness positively influences their acceptance of m-payment.	**Accepted** p-value = .000 ($p < 0.05$)
H2: Customers' perceived ease of use positively influences their acceptance of m-payment.	**Accepted** p-value = .000 ($p < 0.05$)
H3: Perceived security strongly influences customer acceptance of mobile payment.	**Accepted** p-value = .000 ($p < 0.05$)

4.6 Summary

In this chapter, the researcher has analysed the data that was collected from the respondents through a survey questionnaire. Data analysis was done by using SPSS software version 27.0. Analyse methods include reliability and validity analysis for the pilot test, descriptive analysis, Pearson's Correlation Coefficient analysis and Multiple Regression Analysis (including ANOVA test and Coefficient). The result shows that all the independent variables (perceived usefulness, perceived ease of use and perceived security) are found to have a significant relationship with the dependent variable, the customer acceptance of mobile payment in Ayer Keroh, Melaka. Lastly, the following chapter will discuss the explanation of the results outcome, limitations, and recommendations.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.0 Introduction

In Chapter 5, the researcher will thoroughly discuss the conclusions of the overall result and summarise the research findings. The summary of the findings is elaborated in the first section of this chapter and followed by the justification of research objectives explained in the last section. This chapter also provides unique perspectives on the analysed data, highlighting the research's interpretation and comprehension. It will encompass discussions on the demographic backgrounds, analysis of data, exploration of research objectives, research's limitations, and recommendations for future endeavours.

5.1 Summary of the Findings

The purpose of the summary of findings is to present the key results and insights derived from the research study. It serves as an overview of the primary outcomes, trends, and relationships identified through data analysis. This section provides a quick understanding of the study's contributions, grasping the essential findings without the detailed data and analysis (chapter 4). The summary of findings also acts as a bridge between the research objectives and the implications or recommendations, offering a clear view of what the study has uncovered.

5.1.1 Summary of Demographic findings

In Chapter 4, the researcher analysed demographic data from 320 respondents, focusing on gender, age, education level, income level, types of m-payments used, and experiences of using m-payments (in years). Most of respondents were female, comprising 57.8% (185 respondents). While another 42.2% are male, accounting for 135 respondents.

Besides, there are four categories of age groups in this research, which span from 18 years old to 50 years old and above. The prominent age group that participated in the survey was between 18 - 28, comprising 203 participants or 63.4% of the total respondents. This research also studied the educational level of respondents, of whom the majority are from the bachelor's degree level, representing 171 respondents (53.4%). For the income level, most of the respondents are from an income level of less than RM 3,000, with 193 respondents (60.3%), and for the types of m-payment used, 202 respondents (majority with 63.1%) opt for online banking. Lastly, experience using m-payment, which is a total of 162 respondents, equivalent to 50.6%, have been using m-payment for 3 – 5 years. In response to the question regarding "Are there one or more income groups that are frequently used m-payment", the study findings indicate that there are multiple income segments engage with m-payment service. Notably, a significant portion of users predominantly falls within the B40 and M40 categories.

5.1.2 Summary of Data Analysis

In this research, the analysis for the Pearson Correlation Coefficient revealed strong positive correlations between perceived usefulness (PU), perceived ease of use (PEOU), perceived security (PS), and customer acceptance of m-payment (CA). High values in PU, PEOU, and PS were associated with increased CA, indicating that users are more likely to accept mobile payment services when they perceive them as useful, easy to use, and secure. Consequently, lower values in PU, PEOU, and PS were associated with decreased CA, indicating that users are less likely to accept mobile payment services when they perceive them as less useful, less easy to use, and less secure. Although this interpretation is not the outcome of this study, it still emphasises that all three variables have significant impacts (as it has a positive relationship) on customer acceptance. It highlights the importance of these factors in influencing users' decisions to adopt mobile payment services.

The MRA demonstrated a significant relationship between the independent variables (PU, PEOU, PS) and the dependent variable (CA). The model's R-square value of 0.501 suggests that the independent variables can explain approximately 50.1% of the variance in customer acceptance. The predictors (independent variables) all contributed significantly to customer acceptance.

Furthermore, ANOVA results indicated the overall statistical significance of the regression model, affirming that the independent variables collectively impact customer acceptance. The F-test value of 105.619 and a low p-value of 0.000 underscored the model's goodness of fit, emphasising the significant relationships between these variables. It also illustrates the importance of the independent variables in explaining the variability in customer acceptance.

Next, the beta coefficients for PU, PEOU, and PS were 0.387, 0.232, and 0.215, respectively. It indicates their respective contributions to customer acceptance. Perceived usefulness had the greatest impact, followed by perceived security and ease of use. All coefficients were statistically significant ($p < 0.005$). Last but not least is the hypothesis testing. The regression analysis supported the acceptance of alternative hypotheses, indicating that perceived usefulness, ease of use, and security positively influence customer acceptance of mobile payment. The rejection of null hypotheses (H_0) was based on low p-values (0.000), providing strong statistical evidence for the positive impact of these factors on acceptance.

5.2 Discussion of the Findings

In this discussion, the researcher will provide a comprehensive justification for the research objectives based on the analysed data collected and processed using the SPSS software. The researcher will elaborate and discuss the relationship between independent and dependent variables to give justification or reasons for the data obtained and the objectives of this study. The three research objectives are developed and discussed in detail in Chapter 1. Through the exploration of this relationship, the researcher aims to provide a robust rationale for the formulated objectives.

Fulfillment of Research Objectives:

1. To study the relationship between customer acceptance of digital payment and perceived usefulness (PU).
2. To study the relationship between customer acceptance of digital payment and perceived ease of use (PEOU).
3. To study the relationship between customer acceptance of digital payment and security.

Research Objective 1: To study the relationship between customer acceptance of digital payment and perceived usefulness

Fulfillment of the First Objective

The first research objective examines the relationship between customer acceptance of mobile payment and perceived usefulness (PU). This examination becomes essential in prevailing challenges highlighted in the problem statement, where the slow adoption of m-payments in Malaysia is attributed to a lack of clear understanding of the benefits associated with digital transactions. In the previous chapter, the researcher mentioned that perceived usefulness significantly impacts customer acceptance of m-payment, according to prior research done by many researchers.

Based on the results discussed, it is clear that the vast majority of 320 respondents perceive mobile payment (m-payment) as beneficial in their daily lives. The strong positive correlation between perceived usefulness and customer acceptance, as indicated by the Pearson correlation coefficient of 0.645, underscores a robust association between these two variables. The significance level .000 provides compelling evidence to reject the null hypothesis (H_0). Consequently, the conclusion is that perceived usefulness significantly and positively influences customer acceptance of m-payment. This suggests that users who perceive m-payment as valuable and advantageous are more likely to accept this digital payment method.

This is supported by Liu et al. (2019), where the belief that mobile payments are useful has a positive impact on the tendency to use them. This finding also aligns with earlier research by Driediger and Bhatiasevi (2019) and Naglis and Bhatiasevi (2019). The performance and efficiency of m-payment play a crucial role in accepting these services. As we can see through the results of this research, perceived usefulness is the most significant factor that makes customers accept payment. This finding aligns with prior research by (Chuang, S., Denan, Z., Singh, JS., and Kamaruddin, J., 2021), where perceived usefulness emerged as the most significant factor impacting user's attitudes toward adoption. This suggests that mobile payment users prioritise the practical benefits of the technology, such as highly convenient payment processes.

Another research (Cao et al., 2021) also emphasised that Malaysians acknowledge the numerous advantages of m-payments compared to traditional methods like cash and credit cards. The time-saving aspect of m-payments has a significantly positive impact on user performance. To promote the widespread adoption of m-payments, operators should consistently enhance the consumer experience and deliver improved services. Cultivating user habits can be achieved by enhancing the perceived usefulness of m-payments.

Research Objective 2: To study the relationship between customer acceptance of digital payment and perceived ease of use (PEOU).

Fulfilment of the Second Objective

The second research objective examines the relationship between customer acceptance of mobile payment and perceived ease of use (PEOU). This objective directly addresses concerns highlighted in the problem statement, where despite the convenience offered by m-payments, a significant portion of individuals find them troublesome to operate. Many scholars have emphasised the importance of perceived usefulness and ease of use as crucial factors in interpreting users' acceptance of utilising m-payments.

To justify this, the robust positive correlation, denoted by the Pearson correlation coefficient of 0.582 between perceived ease of use and customer acceptance, underscores a notable association between these variables. The rejection of the null hypothesis, supported by the significance level .000, shows that PEOU significantly shapes customer acceptance. This strengthens the notion that users who perceive m-payments as user-friendly are more inclined to accept this digital payment method. Liu (2019) revealed that the user's willingness to embrace m-payments is indirectly influenced by the ease of use, which enhances their perception of the technology's usefulness. Previous literature about this finding (Cao et al., 2021) also suggests that the belief that m-payments are easy to use has a positive impact on consumer acceptance. People are more likely to accept mobile payment services if the payment process is user-friendly. Simplifying the learning curve and making functions easily accessible further enhances user acceptance.

Similar results have been observed by other researchers in m-payment studies, such as (Chuang et al. and Kamaruddin et al. 2021); when consumers view m-payment as a straightforward application, they are inclined to consider it a useful and user-friendly service that enhances their overall performance. In addition, PEOU, based on the findings of the results, is the least significant factor in customer acceptance of m-payments, supported by (Johnson et al., 2018).

Research Objective 3: To study the relationship between customer acceptance of digital payment and security.

Fulfilment of the Third Objective

The third research objective examines the relationship between customer acceptance of mobile payment and perceived security (PS). This objective directly addresses concerns highlighted in the problem statement, where potential security breaches, unauthorised access, data theft, and fraud pose anxieties among users despite the benefits associated with m-payments. It delves into understanding the dynamics of perceived security in influencing customer acceptance.

According to the results in Chapter 4, a majority of 320 respondents show different perspectives on the security of the m-payment and agree that the security impacts on their acceptance. The Pearson correlation coefficient between perceived security and customer acceptance is 0.537, with a significance level .000, suggesting a significant relationship between PS and CA. This aligns with the prior research finding (Laksamana et al., 2022), which affirms that consumer acceptance or attitudes are indeed influenced by perceived security, aligning with prior research findings. Given the prevalent concerns related to fraud, hacking, and unauthorised transactions, it becomes imperative for consumers to be reassured about the security of m-payments. Consequently, firms should prioritise addressing issues related to the security of customer data to foster greater trust and acceptance among users. Consistent with previous studies, this research found that perceived security positively affects the adoption of m-payments (Johnson et al., 2018).

5.3 Limitations of study

The study encounters several limitations throughout the process. The foremost was a time constraint, as the data collection period was confined to 3 to 4 months. This limitation arises from the need to complete the entire report within two academic semesters, with data collection limited to one semester. This condensed timeframe may impact the study's capacity to gather comprehensive insights into user perceptions and acceptance regarding mobile payment adoption. Despite this challenge, the researcher aimed to make the most of the available time, adopting a diligent and thorough approach to ensure meaningful insights were obtained within the given timeframe.

Another limitation involves data collection challenges, as some respondents displayed unwillingness or indifference. This issue is common in survey-based research, where participants differ in their willingness to engage. The positive aspect is acknowledging that many respondents actively participated, contributing valuable data and insights to this research. The researcher utilised different strategies, including leveraging social media platforms such as Facebook, to reach the target audience in Melaka. However, the rate of responses gathered per day did not match the anticipated speed or volume. This slower response rate may be attributed to various factors, including the saturated nature of social media platforms and the potential reluctance of users to participate in online surveys. Despite the non-participation of some individuals, the study recognises the diverse perspectives gathered, adding to a comprehensive understanding of the subject.

Moreover, achieving a sample size precisely aligned with Krejci and Morgan's theoretical recommendation of 384 respondents posed a formidable challenge given the available time constraints. However, considering the expansive population of m-payment users in Melaka and Malaysia as a whole, practical and logical considerations led the researcher to target a more feasible sample size of 320 respondents. While specific statistics and literature may suggest that mobile payment usage is still relatively low (as stated in the problem statement, Chapter 1), the researcher contends that obtaining insights from this subset remains valuable and contributes to a broader understanding of the subject. The decision to balance practicality with the research objectives reflects the research dynamics and the constraints encountered during the data collection.

5.4 Recommendations for Future Study

Future research should explore mediating factors that may influence the relationship between perceived usefulness, perceived ease of use, perceived security, and customer acceptance of m-payments. Investigating these intermediary elements could provide a more nuanced understanding of the mechanisms at play in users' acceptance decisions. The suggestion to incorporate moderating variables arises from recognising that additional factors may influence the relationship between independent and dependent variables. Moderating variables act as conditional factors that can strengthen, weaken, or even reverse the relationship between the independent and dependent variables.

Additionally, addressing the current research's findings, there is a crucial need for m-payment service providers to enhance their security measures, considering that perceived security received the lowest score in the study. Mobile payment platforms should also improve consumers' perception of usefulness, emphasising the convenience that sets mobile payments apart from traditional methods. To address the lingering questions of why some individuals still prefer cash, future research must highlight usefulness and security concerns in mobile payment promotions and establish industry standards that could enhance consumer trust and foster widespread acceptance of mobile payments. Such future research provides a better understanding of future demand, especially in the increasingly digital world, significantly influencing their acceptance of m-payments.

Future researchers could also conduct a longitudinal study to observe and analyse the evolution of m-payment adoption trends over an extended period. It would provide a more dynamic perspective since this current study was conducted as a cross-sectional time horizon. Tracking changes in user behaviours, preferences, and concerns over time can offer valuable insights into the maturation and stabilisation of the m-payment ecosystem. Longitudinal data can help identify patterns, shifts, and sustainability factors in the accepting of m-payments, allowing researchers to assess the long-term impact of interventions, innovations, and external influences.

5.5 Contributions of the Study

The study highlights the prevalence of particular perceptions, such as concerns about security, which can inform m-payment service providers on areas that need improvement. Strengthening encryption protocols, implementing multi-factor authentication, and proactively addressing potential vulnerabilities can contribute to building users' comfort and trust. As security remains a critical factor in users' acceptance, this study positions itself as a catalyst for industry stakeholders to improve the security infrastructure of m-payment systems, fostering a more secure and trustworthy environment for customers.

Moreover, the findings emphasise the importance of enhancing the convenience and efficiency of m-payments. Digital payment companies can leverage these insights to design and promote user-friendly interfaces, streamline transaction processes, and communicate the overall convenience of m-payments. By addressing user concerns and optimising the user experience, m-payment service providers can increase user adoption rates and foster a positive perception of the technology. This study, therefore, serves as a guide for industry players seeking to enhance their offerings and align them more closely with user expectations, ultimately driving the widespread acceptance of m-payment solutions.

As a recommendation for future research, the study suggests exploring potential mediating variables that may influence the relationship between perceived factors and digital payment acceptance. Investigating variables that mediate or moderate these relationships can provide a more nuanced understanding of user behaviour and guide further refinements in m-payment system design and implementation. This approach for exploration opens doors to ongoing research endeavours to uncover additional insights, contributing to the continuous evolution and improvement of digital payment technologies.

The recommendation also suggests including a longitudinal examination of adoption trends. Examining the trajectory of adoption trends could assist industry stakeholders and policymakers in making informed decisions based on the evolving landscape of consumer preferences. This recommendation encourages researchers to explore the dynamics of mobile payment acceptance and how these dynamics interact with external variables such as technological advancements, regulatory changes, and societal shifts.

5.6 Concluding Remark

In conclusion, this research journey delved into the dynamics of customer acceptance of digital payment systems. The relationships explored between customer acceptance and the key factors of perceived usefulness, perceived ease of use (as outlined in the TAM model), and perceived security (security factor) have yielded insightful findings. This study provided a comprehensive overview of these relationships, emphasising the impact of customers' perceptions on the acceptance and sustained usage of m-payment systems. Recognising the pivotal role of security factors in shaping customer's attitudes, trust, and comfort has implications for businesses and service providers. The insights gained underscore the importance of aligning digital payment systems with users' needs and preferences to enhance adoption.

The emphasis on an explanatory approach with a quantitative focus established a robust foundation for understanding customer acceptance factors. The researcher meticulously analysed collected data, employing various statistical methods. The results revealed significant relationships between perceived usefulness, perceived ease of use, perceived security, and customer acceptance of mobile payment in Ayer Keroh, Melaka. This empirical evidence provides valuable insights into the factors shaping users' decisions regarding digital payment acceptance.

The findings serve as a concise outline of the critical outcomes and trends derived from data analysis. The research objectives were through explored, centred on the relationships between customer acceptance and perceived usefulness, perceived ease of use, and perceived security. This section acts as a bridge, connecting the study's objectives to the broader implications and recommendations. This study contributes to the existing body of knowledge in the field. It offers practical insights for businesses and service providers seeking to enhance customer acceptance of digital payment systems. As the digital landscape evolves, understanding and addressing these factors become increasingly crucial for fostering the widespread adoption of mobile payment technologies.

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APPENDIX

SURVEY QUESTIONNAIRE

Dear [Sir/Madam/Mr./Ms],

I hope this message finds you well. I am Saidatina Naelah binti Mohammad Arshad, a final year student at Universiti Teknikal Malaysia Melaka (UTeM), currently working on my final-year project (FYP). I would like your valuable participation in my research by completing a brief questionnaire.

The focus of my research is to understand the factors of customer acceptance of mobile payment, and the factors studied are technology and security factors. Your participation will help gather valuable insights and contribute to the success of the project.

Rest assured that all the information will be kept confidential and used solely for research purposes.

The questionnaire comprises three sections: A, B, and C. Section A pertains to gathering brief details about the respondents. Section B is about the technological and security aspects of m-payment that influence customer acceptance, while Section C focuses on customer acceptance. Please take your time to read the questions attentively. To respond, mark your answers in the provided boxes.

Thank you in advance for your willingness and time to participate in this survey. Your support is highly valued.

[Tuan/Puan/Encik/Cik],

Saya Saidatina Naelah binti Mohamad Arshad, pelajar akhir tahun di Universiti Teknikal Malaysia Melaka (UTeM), sedang menjalankan Projek Akhir Tahun (FYP). Saya dengan hormatnya memohon pernyertaan anda dalam menyelesaikan satu soal selidik ringkas.

Fokus kajian saya adalah untuk memahami penerimaan pelanggan terhadap pembayaran mudah alih *(m-payment)*, dan faktor-faktor yang dikaji adalah faktor teknologi dan keselamatan pengguna. Penyertaan anda sangat membantu dalam mengumpul data dan menyumbang kepada kejayaan projek ini.

Semua maklumat akan dirahsiakan dan digunakan demi tujuan penyelidikan semata-mata.

Soal selidik ini mengandungi tiga bahagian: A, B, dan C. Bahagian A berkaitan dengan butiran ringkas responden. Bahagian B adalah mengenai aspek teknologi dan sekuriti pada pembayaran mudah alih *(m-payment)* yang mempengaruhi penerimaan pelanggan, manakala Bahagian C memfokuskan kepada penerimaan pelanggan. Luangkan masa secukupnya untuk membaca soalan dengan teliti. Tandakan jawapan pada Skala Likert di dalam kotak yang disediakan sebagai respon anda.

Terima kasih kerana sudi meluangkan masa anda untuk mengambil bahagian dalam tinjauan ini. Sokongan anda amat dihargai.

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Questionnaire

SECTION A

BAHAGIAN A

DEMOGRAPHIC RESPONDENTS

(DEMOGRAFI RESPONDEN)

The following questions are designed to collect personal information that will be used to determine the profile of the respondents. Please tick (✓) to your answers in the appropriate boxes. / *Soalan-soalan berikut bertujuan untuk mendapatkan maklumat peribadi yang akan digunakan untuk menentukan profil responden. Sila tandakan* (✓) *untuk jawapan anda di dalam kotak yang tersedia.*

1) Gender / *Jantina*

☐ Male/*Lelaki*

☐ Female/*Perempuan*

2) Age / *Umur*

☐ 18 – 28

☐ 29 – 39

☐ 40 – 50

☐ 50 years old and above/*50 tahun ke atas*

3) Educational Level / *Tahap Pendidikan*

- ☐ SPM or less/ *SPM atau kurang*
- ☐ STMP/Matriculation/Diploma
- ☐ Bachelor's degree
- ☐ Master/PhD
- ☐ Others/*Lain-lain*:

4) Income Level / *Tahap Pendapatan*

- ☐ Less than RM 3,000/*Kurang dari RM 3,000*
- ☐ RM 3,000 – 5,000
- ☐ RM 5,100 – 10,000
- ☐ RM 10,000 and above/*RM 10,000 ke atas*

5) Types of m-payment that are frequently in use or have used? / *Jenis pembayaran mudah alih yang sering atau pernah digunakan?*

- ☐ Online banking/*Perbankan dalam talian*
- ☐ E-Wallet/*e-Dompet*
- ☐ Others/*Lain-lain:*

7) Experience of using m-payment. / *Pengalaman penggunaan pembayaran mudah alih.*

- ☐ Less than 3 years/*Kurang dari 3 tahun*
- ☐ 3 – 5 years/*3 – 5 tahun*
- ☐ Over than 5 years/ *Lebih dari 5 tahun*

SECTION B

BAHAGIAN B

FACTORS OF CUSTOMER ACCEPTANCE ON M-PAYMENT

(FAKTOR PENERIMAAN PELANGGAN TERHADAP PEMBAYARAN MUDAH ALIH)

This section provides the statements that identify the technological and security aspects of mobile payment (online banking/e-Wallet) that facilitate your acceptance of adopting them. All the statements use a 5-point interval scale. Please tick (✓) in the appropriate boxes to what extent you agree with each statement. / *Bahagian ini menyediakan pernyataan bagi mengenalpasti aspek teknologi dan sekuriti pada pembayaran mudah alih yang memudahkan penerimaan anda. Semua pernyataan menggunakan skala 5 mata. Sila tandakan* (✓) *dalam kotak yang tersedia, sejauh mana anda bersetuju dengan setiap pernyataan.*

1 = Strongly Disagree/Sangat Tidak Setuju

2 = Disagree/Tidak Setuju

3 = Neither disagree nor agree/Tidak Setuju atau Setuju

4 = Agree/Setuju

5 = Strongly Agree/Sangat Setuju

PERCEIVED USEFULNESS - Indepedent Variable 1

Usefulness relates to how you perceive m-payment technology and its ability to improve technical performance or enhance your daily activities. / *Kebergunaan adalah berkaitan dengan tanggapan anda terhadap teknologi pembayaran mudah alih dan keupayaannya untuk meningkatkan prestasi teknikal atau membantu aktiviti harian anda.*

PART I / *BAHAGIAN I*

	PERCEIVED USEFULNESS	**1**	**2**	**3**	**4**	**5**
PU1	Mobile payment helps me save time when making purchases or transactions. / *Pembayaran mudah alih membantu menjimatkan masa saya ketika membuat pembelian atau transaksi.*					
PU2	Mobile payment provides added convenience compared to other payment options. / P*embayaran mudah alih memberikan kemudahan yang lebih berbanding dengan yang lain.*					
PU3	Mobile payment now offers more useful features or benefits that improve financial management. / *Pembayaran mudah alih kini semakin banyak menawarkan ciri berguna yang dapat meningkatkan prestasi pengurusan kewangan.*					
PU4	Mobile payment service contributes to a more organized approach and increases my productivity. / *Perkhidmatan pembayaran mudah alih menyumbang kepada pendekatan yang lebih teratur dan meningkatkan produktiviti saya.*					
PU5	Overall, I think that mobile payment service is an advantageous and useful tool for my financial tasks. / *Secara keseluruhan, saya berpendapat bahawa perkhidmatan pembayaran mudah alih adalah alat yang berguna untuk aktiviti kewangan saya.*					

PART II / *BAHAGIAN II*

PERCEIVED EASE OF USE - Indepedent Variable 2

Ease of use relates to how far do you believe that m-payment is easy to use (user-friendly), efficient and allow you to perform tasks **easily** compared to traditional payment. / Kemudahan penggunaan berkaitan dengan sejauh mana anda percaya bahawa pembayaran mudah alih adalah senang digunakan (mesra pengguna), cekap dan membolehkan anda melaksanakan tugas dengan mudah berbanding pembayaran tradisional.

	PERCEIVED EASE OF USE	**1**	**2**	**3**	**4**	**5**
PEOU1	Learning to use mobile payment features would be easy and quick. / *Belajar menggunakan pembayaran mudah alih akan menjadi mudah dan cepat*					
PEOU2	The process of setting up and adapting to mobile payments is straightforward and user-friendly. / *Proses memulakan dan menyesuaikan diri dengan pembayaran mudah alih adalah mudah dan mesra pengguna.*					
PEOU3	Using mobile payment services does not require a lot of mental effort. / *Menggunakan perkhidmatan pembayaran mudah alih tidak memerlukan banyak usaha mental.*					

PEOU4	Mobile payment services are clear and understandable without facing significant challenges or complications. / *Perkhidmatan pembayaran mudah alih adalah jelas dan boleh difahami tanpa menghadapi cabaran atau komplikasi yang ketara.*					
PEOU5	The user interface is easy to use, just like the previous or other payment options I have used before. / *Pembayaran mudah alih mudah digunakan sama seperti pilihan pembayaran lain yang pernah saya gunakan sebelum ini.*					

PART III / ***BAHAGIAN III***

PERCEIVED SECURITY **-** ***Indepedent Variable 3***

Security refers to the measures and protocols implemented to protect users' personal and financial information. These statements are designed to reflect your confidence, comfort and trust level on a 5-point scale. / *Keselamatan merujuk kepada langkah dan protokol yang dilaksanakan untuk melindungi maklumat peribadi dan kewangan pengguna. Penyataan berikut ini direka untuk menilai persepsi anda, mencerminkan keyakinan, keselesaan dan tahap kepercayaan anda pada skala 5 mata.*

	PERCEIVED SECURITY	**1**	**2**	**3**	**4**	**5**
PS1	I feel secure performing my transaction using a third-party platform (m-payment service provider). / *Saya berasa selamat melakukan transaksi dengan menggunakan platform pihak ketiga (pembayaran mudah alih).*					
PS2	I am sure that the provider takes security measures to protect my payment. / *Saya berasa yakin bahawa pembekal mengambil langkah keselamatan untuk melindungi pembayaran saya.*					
PS3	The risk of abuse of usage information (e.g. payment amount, personal details) is low when using mobile payment services. / *Kebarangkalian penyalahgunaan maklumat penggunaan (e.g, jumlah bayaran, maklumat peribadi) adalah rendah apabila menggunakan perkhidmatan pembayaran mudah alih.*					
PS4	The risks of unauthorised third parties overseeing the transaction process are low. / *Risiko pihak ketiga yang tidak berdaftar untuk mengawasi proses transaksi adalah rendah.*					
PS5	I believe that my money is safe in the account of the third-party platform. / *Saya percaya bahawa wang saya selamat dalam akaun platform pihak ketiga.*					

SECTION C

BAHAGIAN C

CUSTOMER ACCEPTANCE OF M-PAYMENT APPLICATION

(PENERMINAAN PELANGGAN TERHADAP APLIKASI PEMBAYARAN MUDAH ALIH

This section provides the statements that evaluate your perceptions about m-payment services (online banking/e-Wallet). It will reflect your acceptance of mobile payment. All the statements use a 5-point interval scale. Please tick (✓) in the appropriate boxes to what extent you agree with each statement. / *Bahagian ini menyediakan pernyataan bagi menilai persepsi anda terhadap perkhidmatan pembayaran mudah alih. Semua pernyataan menggunakan skala 5 mata. Sila tandakan* (✓) *dalam kotak yang tersedia, sejauh mana anda bersetuju dengan setiap pernyataan.*

1 = Strongly Disagree/Sangat Tidak Setuju

2 = Disagree/Tidak Setuju

3 = Neither disagree nor agree/Tidak Setuju atau Setuju

4 = Agree/Setuju

5 = Strongly Agree/Sangat Setuju

Depedent Variable

	CUSTOMER ACCEPTANCE	**1**	**2**	**3**	**4**	**5**
CA1	I think it is necessary to have mobile payment services as an alternative platform besides to traditional payment. / *Saya berpendapat adalah perlu untuk mempunyai perkhidmatan pembayaran mudah alih sebagai platform alternatif selain daripada pembayaran tradisional.*					
CA2	I recommend others to use mobile payment platforms. / *Saya mengesyorkan orang lain untuk menggunakan platform pembayaran mudah alih.*					
CA3	I have used mobile payment platform for various transactions, such as shopping, bill payments, and money transfers. / *Saya telah menggunakan pembayaran mudah alih untuk pelbagai transaksi, seperti membeli-belah, pembayaran bil dan pemindahan wang.*					

Thank You For Your Participation.

Terima Kasih Atas Penglibatan Anda

Gantt Chart of Final Year Project (FYP) 1

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

MID SEMESTER BREAK

Gantt Chart of Final Year Project (FYP) 2

WEEK/ ACTIVITIES	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Create Questionnaire									MID SEMESTER BREAK							
Distribute Questionnaire																
Collect Questionnaire																
Analysis Data																
Submission Chapter 4																
Submission Chapter 5																
Proposal Correction																
Slide Preparation																
Submission of FYP 2																
Presentation 2																