

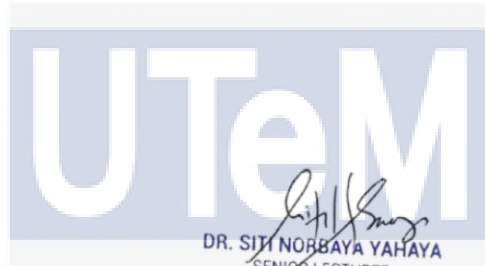
**THE ROLE OF MOBILE BANKING IN DETERMINING
CUSTOMERSATISFACTION.**



SUPERVISOR'S APPROVAL

“I/ We hereby declared that I/ We had read through this thesis and in my/ our opinion that this thesis is adequate in terms of scope and quality which fulfil the requirements for the award of Bachelor of Technopreneurship with Honours (Hons)”

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“I hereby declare that the work has been done by myself and no portion of the work in this research project proposal has been submitted in support of any application for any other degree or qualification of this or any other university or institute of learning.”



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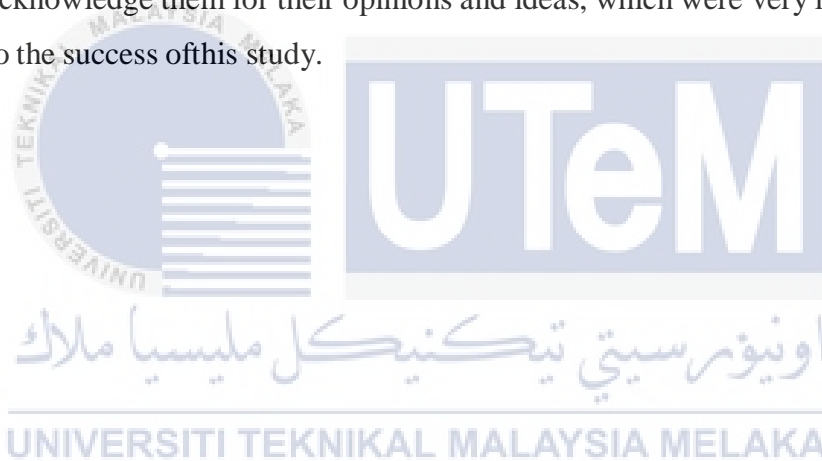
DEDICATION

I want to thank everyone who has supported me in my journey to academic excellence. I sincerely thank my parents, my siblings, and my significant other for their constant love and support during my entire academic career. They have never left my side, and their support and encouragement have been invaluable to me whenever I have needed it most. Additionally, I am grateful to Dr. Siti Norbaya binti Yahya, my adviser, for her guidance and advice. I owe a great deal of gratitude to her for assisting me in putting the finishing touches on my thesis. She has been a very helpful resource. Without the help of every one of you, I would not have been able to accomplish this goal. I am grateful to you for having faith in me and for assisting me in achieving my objectives.



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ABSTRACT

Banking services and technology have undergone significant expansions in recent years due to the proliferation of mobile devices like smartphones and tablets as well as the increasing complexity of the banking business. Even while mobile banking offers multiple advantages, this is not a guarantee that all customers will continue to use the new mobile banking services that have been offered. The mobile banking that is used needs to be able to fulfill our requirements to our satisfaction by those specifications. Customers will be able to use mobile banking with a sense of satisfaction once this is implemented. Therefore, the primary objective of this research is to determine the variables that impact the degree of consumer satisfaction with mobile banking services. Convenience and affordability, ease of use, and relative advantage all have a major influence on customer satisfaction, according to the study's findings about the impact of mobile banking services on customer satisfaction. Furthermore, mobile banking has been found to provide a comparative advantage. The variables influencing customer satisfaction with mobile banking services are mostly determined by the mobile banking services used. Quantitatively, 386 people will be given a standardized questionnaire. Descriptive statistics, Pearson correlation analysis, and multiple regression modeling were used to examine the 386 responses. Self-administered questionnaires were used to compile the data. The results of the study show that convenience and accessibility play a key role in determining customer satisfaction among those who use mobile banking in Selangor, Malaysia. Subsequent research can investigate the provided conceptual framework or integrate other factors for a more complete analysis.

Keyword: Mobile banking, customer satisfaction, smartphones

ABSTRAK

Perkhidmatan dan teknologi perbankan telah mengalami perkembangan yang ketara dalam beberapa tahun kebelakangan ini disebabkan oleh percambahan peranti mudah alih seperti telefon pintar dan tablet serta peningkatan kerumitan perniagaan perbankan. Walaupun perbankan mudah alih menawarkan pelbagai kelebihan, ini bukan jaminan bahawa semua pelanggan akan terus menggunakan perkhidmatan perbankan mudah alih baharu yang telah ditawarkan. Perbankan mudah alih yang digunakan perlu dapat memenuhi keperluan kami sehingga kami berpuas hati dengan spesifikasi tersebut. Pelanggan akan dapat menggunakan perbankan mudah alih dengan rasa puas setelah ini dilaksanakan. Oleh itu, objektif utama penyelidikan ini adalah untuk menentukan pembolehubah yang memberi kesan kepada tahap kepuasan pengguna terhadap perkhidmatan perbankan mudah alih. Keselesaan dan kemampuan, kemudahan penggunaan dan kelebihan relatif semuanya mempunyai pengaruh besar terhadap kepuasan pelanggan, menurut penemuan kajian tentang kesan perkhidmatan perbankan mudah alih terhadap kepuasan pelanggan. Tambahan pula, perbankan mudah alih didapati memberikan kelebihan perbandingan. Pembolehubah yang mempengaruhi kepuasan pelanggan terhadap perkhidmatan perbankan mudah alih kebanyakannya ditentukan oleh perkhidmatan perbankan mudah alih yang digunakan. Secara kuantitatif, 386 orang akan diberikan soal selidik piawai. Statistik deskriptif, analisis korelasi Pearson, dan pemodelan regresi berganda digunakan untuk memeriksa 386 respons. Soal selidik yang ditadbir sendiri digunakan untuk menyusun data. Hasil kajian menunjukkan bahawa kemudahan dan kebolehpai memainkan peranan penting dalam menentukan kepuasan pelanggan dalam kalangan mereka yang menggunakan perbankan mudah alih di Selangor, Malaysia. Penyelidikan seterusnya boleh menyiasat rangka kerja konseptual yang disediakan atau menyepadukan faktor lain untuk analisis yang lebih lengkap.

Kata kunci: Perbankan mudah alih, kepuasan pelanggan, telefon pintar.

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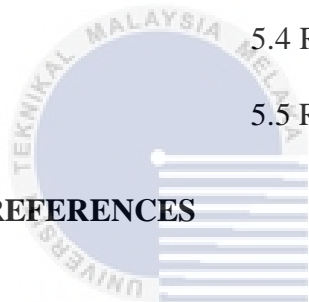
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CHAPTER 1

1.1 Introduction

Mobile banking has completely changed the way customers engage with financial institutions by making banking more convenient, and accessible, and offering a greater variety of banking services. The purpose of this research is to evaluate the relationship between mobile banking and levels of customer satisfaction. If financial institutions take the time to get a knowledge of the elements that influence customer satisfaction in the context of mobile banking, they will be able to enhance their services and alter their tactics in order to more successfully fulfill the expectations of their customers. In addition, the introduction to inquiry was broken down into more detail in this chapter. In the introduction to the research, we discuss and analyze the relevance of the research, as well as the significance of the research's background, issue statement, research goals, research queries, scope, and constraints of the study.

1.2 Research flow

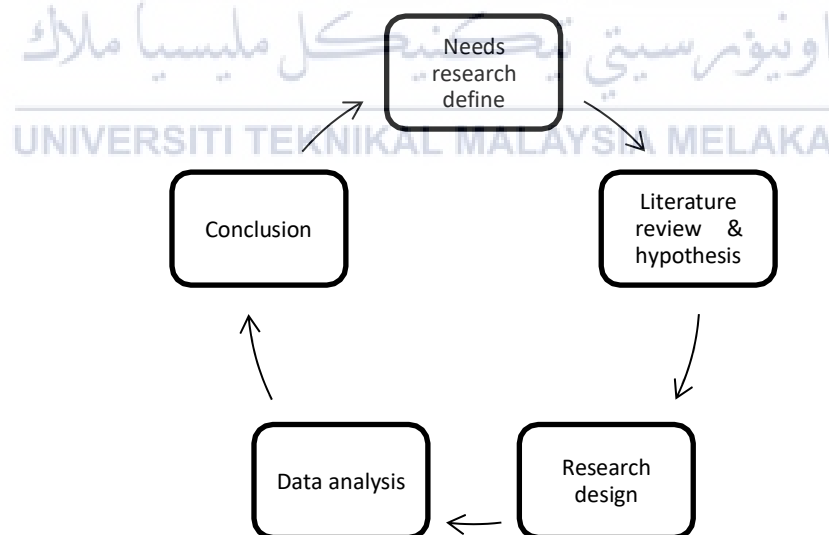


Figure 1.2: Research flow

1.3 Background of Study

The banking sector has been one of the many industries that mobile technology has transformed in recent years. Mobile banking is a cost-effective approach that helps banks and account holders equally. For users, it saves money and time while improving comfort and convenience and lowering the costs of maintaining physical space. Shahid, S., Islam, J. U., Malik, S., & Hasan, U. (2022). The practice of using mobile devices, such as smartphones and tablets, in order to carry out financial transactions and get remote access to banking services is referred to as mobile banking, which is also referred to as m-banking. According to Elhajjar & Ouaida (2019), the banking industry has begun using mobile banking in order to make it easier for customers to carry out successful financial transactions using their mobile phones. This user-friendly and easily accessible mode of banking has recently seen a meteoric rise in popularity among clients all over the world, leading to a paradigm change in the way that individuals engage with their respective banks.

Another definition of m-banking is supplied by Shaikh & Karjaluoto (2015), which indicates that it is a service that banks offer to their customers who have access to mobile phones. It is becoming increasingly important for financial institutions to understand the influence that mobile banking has on the pleasure of their customers as it continues to spread across global markets. According to Jayantari & Seminari (2018), mobile banking is a service provided by banks that enables consumers to acquire information, connect with one another, and also carry out banking transactions through the use of the Internet network. The level of pleasure a company's customers experience has a direct bearing on the loyalty and lifetime of those customers, as well as the amount of money those customers spend with the company. As a result, investigating the function that mobile banking plays in determining the level of customer satisfaction has emerged as a study issue that is both pertinent and topical.

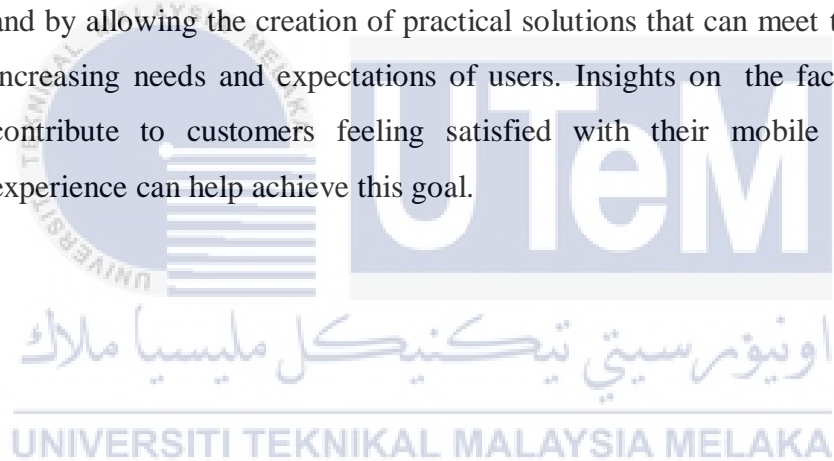
Previous research focusing on the banking sector suggests that financial organizations should aim to increase customer satisfaction to create loyal customers (Guruwo, 2020). Customers may benefit from mobile banking in a number of ways, including having access to their account information around the clock, making it easier to pay bills and transfer funds, and even submitting checks without physically being there. Banks hope that by making these services available to customers through mobile applications, they would be able to increase consumer convenience, streamline their processes, and improve their position as market competitors. However, empirical research is necessary in order to determine whether or not mobile banking is beneficial in meeting the requirements and preferences of clients.

Although many studies have been conducted to assess the impact of mobile banking on customer satisfaction, the body of knowledge about the methods and variables that affect this link remains limited. When it comes to mobile banking, having an understanding of the underlying causes of consumer satisfaction may help financial institutions plan and put into action successful strategies to improve the customer experience and achieve a competitive advantage.

In addition, usage and consumption of mobile banking services change across various demographic groups and geographical locations. Customers' opinions and levels of satisfaction can be affected by a variety of factors, including their age, income level, level of education, and degree of technical competence. Because of this, it is very necessary to investigate these possible moderating elements to get a thorough knowledge of the function that mobile banking plays in influencing the level of pleasure experienced by customers.

This study aims to close a gap in the literature by examining the role that mobile banking plays in customer satisfaction and identifying the critical elements that affect customer satisfaction in the setting of mobile banking. To increase customer satisfaction in the mobile banking sector, this study aims to offer empirical data and useful insights to banks and policymakers. It does so by applying a quantitative research approach and making use of survey data from a varied sample of mobilebanking users.

In simple terms, it is essential for both the academic community and the banking sector to acquire an awareness of the function that mobile banking plays in determining the level of consumer satisfaction. This research will contribute to the current body of knowledge by shedding light on the variables that affect how customers feel when using mobile banking and by allowing the creation of practical solutions that can meet the ever-increasing needs and expectations of users. Insights on the factors that contribute to customers feeling satisfied with their mobile banking experience can help achieve this goal.



1.4 Problem Statement

Even though mobile banking is used by a lot of people, not much research has been done on the exact factors that affect how customers use mobile banking services and how they affect the satisfaction of users. Customers do not have to do their daily banking during bank hours or when customer service is available. Shahid, S., Islam, J. U., Malik, S., & Hasan, U. (2022). These things include transferring money, checking your account amount, paying bills, seeing your transactions and statements, investing, setting up account alerts, and many more Osman, S., & Tan, P. K. (2020). Despite the fact that mobile banking is becoming more popular, there are still some customers who are unwilling to utilize it. This is because mobile banking has a variety of disadvantages, such as poor transaction times, a lack of convenience, and other concerns. Some customers are unsatisfied because the mobile banking services they use do not fulfil all of their requirements and provide the level of satisfaction they want in all cases. In addition to this, there are also worries over the safety and privacy of their financial information. People may not trust mobile banking because they are worried about possible security risks, tech problems, and extra fees for services.

Thus, it is important to investigate and quantify the impact of mobile banking on customer satisfaction in addition to recognizing and understanding the key variables influencing mobile banking customers. By addressing this research void, this study intends to provide banks and financial institutions with valuable insights for enhancing mobile banking services. Specifically, the study will investigate the impact of the factors of convenience, accessibility, perceived usefulness, and trust, as well as the user experience dimensions of usability, navigation, design, responsiveness, and personalization, on customer satisfaction and intention to recommend. This study's findings will contribute to the improvement of customer satisfaction in the digital era and guide banks in customizing their mobile banking offerings to meet customer requirements and expectations.

1.5 Research Objective

Research objectives have been listed in line with the needs of the research in order to achieve the study's goal. The goals of the research are listed below:

- 1) To identify the role of mobile banking in determining the customer satisfactions.
- 2) To measure the relationship between the role of mobile banking in determining customer satisfactions.
- 3) To examine the most critical role of mobile banking in determining customer satisfactions.

1.6 Research Question

The researcher's goals determined the principal research question. Researcher inquiries are below:

- 1) What is the role of mobile banking in determining the customer satisfactions?
- 2) What is the relationship between the role of mobile banking in determining customer satisfactions?
- 3) What is the most critical role of mobile banking in determining customer satisfactions?

1.7 Research Statement

The increasing popularity of mobile banking has fundamentally revolutionized the way in which we manage our money and made financial services more accessible than they have ever been before. Despite the growing popularity of mobile banking, there are substantial questions about the ways in which it will influence the behaviour of consumers, the extent to which it will promote financial inclusion, and the financial services industry as a whole. The goal of this study is to find out how widely accepted and used mobile banking is among different groups of people, as well as what factors affect mobile banking usage so that we can learn more about how mobile banking affects financial inclusion and the future of the banking industry.

1.8 Significance of Study

This study is likely to be relevant in terms of variables influencing the widespread use of mobile banking in Malaysia and encouraging more. This study will be done in poor countries to find out how close it is. This study will also help banks because it can be used as a guide to help them handle this mobile banking application better and learn more about the people who use mobile banking in Malaysia. With the increasing use of mobile banking, this study may identify elements that will affect how consumers are satisfied when it comes to bank usage.

1.9 Scope and Limitation of Study

The purpose of this research is to determine the factors that have an effect on the use of mobile banking services by customers. Customers' use of mobile banking platforms comes within the scope of this investigation. This study is going to be conducted in Selangor, Malaysia, and the respondents will be chosen from the 32.7 million individuals in Malaysia who are dependent on mobile banking. Taking into account the fact that Malaysia is one of the developing countries in Asia that is experiencing the fastest rate of economic expansion, the objective of this study is to analyze Malaysia from a different and innovative perspective point with respect to the method of progressing toward a more advanced state.

1.10 Important of Study

- 1) Improved knowledge of customer behavior: Mobile banking has transformed how consumers engage with financial institutions. knowledge how consumers embrace and utilize mobile banking can reveal consumer preferences and behavior.
- 2) Security and trust: As mobile banking becomes more widespread, users' security and privacy concerns must be addressed. This knowledge can assist financial organizations and policymakers design mobile banking trust initiatives.
- 3) Banking future: Mobile banking can reveal how traditional banks can respond to competition and innovation. Understanding banking's future can help financial institutions stay competitive in a fast-changing market.



1.11 Summary

The importance of mobile banking on customers' relationships with financial institutions cannot be overstated. An examination of how people of all ages and socioeconomic backgrounds use mobile banking, the variables that impact that adoption, and what it means for financial inclusion and the future of banking are all part of a study's stated goals. Adoption and usage trends, effects on consumer behavior, financial inclusion, security and trust, and the prospects for the banking industry in the future may all fall under the study's purview. Sample bias, self-selection bias, data quality, generalizability, technology changes, and other factors may all be obstacles to the study's accuracy. However, research into mobile banking is vital for advancing goals like financial inclusion, strengthening consumer trust, and spotting new areas for growth in the financial services sector.

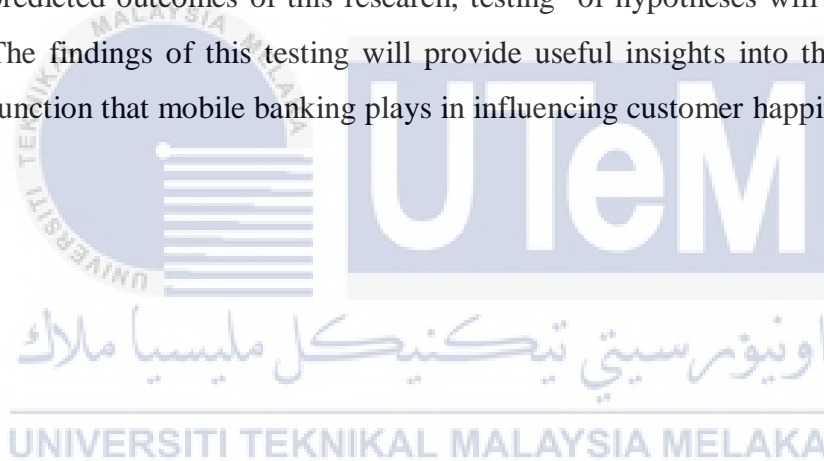


CHAPTER 2

Literature Review

2.1 Introduction

This chapter examines current empirical research on both the dependent variable, customer satisfaction, and the independent variable, mobile banking. The purpose of the literature review is to investigate research that is significant to the fields of relationship factors between the function of mobile banking in influencing customer satisfaction. In addition, a conceptual framework will be established in this part to explain the link between the many aspects that impact customer satisfaction and the function of mobile banking. In order to anticipate and forecast the predicted outcomes of this research, testing of hypotheses will be done. The findings of this testing will provide useful insights into the unique function that mobile banking plays in influencing customer happiness.



2.2 Overview of mobile banking

Through the use of a mobile device, customers of mobile banking services are able to access and manage their banking accounts as well as conduct financial transactions. According to Jebarajakirthy & Shankar (2021), education is another variable that plays a role in a person's choice about whether or not to utilize mobile banking. With mobile banking apps or mobile- optimized websites, users can check account balances, transaction records, and statements in real-time. They can handle multiple accounts, transfer money, and make payments without the need for physical checks or visits to a bank. People may do a wide range of business, both financial and otherwise, using their mobile banking apps at any time and from any location (Sharma, 2019, Zhou, 2020). Mobile banking apps often include features for check deposits and bill payments, along with tools for financial planning and management. Security measures, such as encryption and two-factor authentication, are implemented to protect user information. Overall, mobile banking offers convenience, control, and accessibility for users to stay connected with their finances and manage their money effectively.

2.3 Overview of customer satisfaction

According to their experiences and expectations, customers' perceptions and emotions towards a product, service, or brand are referred to as being satisfied. In the financial sector, Deloitte (2019) surveyed digital banking customers in 17 countries to learn more about their attitudes and habits about online banking. Deloitte's 2019 survey of consumers' banking behaviors found that 73% of them use Internet banking at least once a month, while 59% use mobile banking. It illustrates how successfully a business satisfies and exceeds customers' expectations. Thusi & Maduku (2020) stated that age had an effect on the relationships between different types of technology acceptance. The satisfaction of customers is influenced by elements including convenience, ease of use, and affordability. Customer satisfaction has become a key and necessary aspect of business for growing and fostering service-oriented businesses Cheshin, A., Amit, A., & van Kleef, G. A. (2018). While unsatisfied consumers may have negative effects, satisfied customers are more likely to stick with the business and suggest it to others. Businesses can strengthen customer loyalty and find areas for development by measuring and tracking customer happiness. In the end, a company's success and expansion depends on its ability to satisfy its clients.

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2.4 Theories of Each Variable

2.4.1 Convenience and Accessibility

Accessibility is the ease with which something, like a product, service, or setting, can be used by everyone, even people with disabilities or different needs. When a customer logs in to the mobile banking app without being restricted by time or place, the very first thing that they come into contact with is the operation interface. This interface includes a variety of components, some of which are business function prompts and service menu classifications, among other things. Customers will have a better experience and be more satisfied if they are able to understand the functions of mobile banking in a short amount of time (Muluka, 2015), obtain key information in a short amount of time, and have their needs for a simple interface and easy operation met (Anderson & Robey, 2017; Chen & Wu, 2021). It means getting clear of difficulties and using inclusive design so that people of all abilities can see, move around, and use the item or setting well and without trouble. Convenience, on the other hand, means that something is easy to use, access, or get and requires not much trouble or work. It focuses on making it easy and quick for people to get things, services, or information.

2.4.2 Ease of Use

According to Arvidsson (2014), the ease of use of mobile banking refers to the simplicity of both the understanding and the use of new technological goods and services. The perception held by customers regarding the convenience of obtaining a mobile banking account and carrying out day-to-day transactions is what is meant by the term "ease of use." According to Carlos & Tiago (2016), mobile banking is an innovative form of financial service software that is founded on research and development in the field of high technology. It is a way to measure how easy it is for people to understand, use, and move around in a tool, device, software, or service without having to deal with too much difficulty, misunderstanding, or trouble. The idea of ease of use is to give the user an experience that has a short learning curve and requires less mental work to do chores or get the results they want. It includes things like the style of the user interface, how easy it is to use, and how intuitive it is.

2.4.3 Affordability

Affordability refers to an individual's or household's ability to acquire or access products, services, or resources without considerable financial pressure or hardship. Accordingly, White, Mesner & Collopy (2019) say that making things more affordable may require both organizational and societal changes. In different situations, the word "affordable" means different things, so there are many different versions (White, Mesner, & Collopy, 2019). It includes the capacity to comfortably pay bills while also having enough financial resources for other critical necessities and discretionary spending.

2.5 Related literature of each variable

2.5.1 Convenience and Accessibility and Customer Satisfaction

Mobile banking provides customers with a high level of convenience and accessibility by allowing them to conduct banking operations anytime and anywhere through the use of their mobile devices. Shankar & Rishi (2020) say that customers who use banking services want to spend less time and effort doing so. Because of this, banks focus on making things easier for customers. This enables mobile banking to provide users with a high level of convenience and accessibility. According to Jebarajakirthy & Shankar (2021), customers of conventional banks are required to go to the bank in order to complete their transactions, which takes both time and effort. Customers of m- banking, on the other hand, are able to complete bank transfers whenever they want and with only a swipe of their finger.

Customers using conventional banking techniques are often required to visit physical bank offices during limited hours of operation, which may be time-consuming and difficult for customers. Customers have the ability to access their accounts, check their balances, conduct transactions, and perform various other banking-related tasks with just a few taps on their mobile devices thanks to mobile banking. Due to this useful facility, users can manage their finances on the go, whether they are travelling, working or just going about their daily lives. Convenience also plays a big role in strengthening the relationship between customers and service providers Duarte, P., Costa e Silva, S., & Ferreira, M. B. (2018). They no longer need to be anchored in a physical place or depend on the accessibility of a bank branch. Customers are more satisfied as a result of the bank's flexibility and accessibility, which helps them save time and provides a more streamlined banking experience that better fits their busy lifestyles.

2.5.2 Ease of use and Customer Satisfaction

One of the most breakthrough developments in mobile communications, mobile banking has become increasingly important to people's lives as both the information technology industry and the banking business has expanded rapidly in recent years (Jebarajakirthy & Shankar, 2021; Sharma, 2019). The ease of use of mobile banking relates to how simple the technology involved in mobile banking services is for customers to understand and apply. It is about giving them the impression that creating a mobile banking account and using the mobile banking app is simple. Mobile banking is an innovative type of financial service that employs complex technology, which might be difficult for users to use at times.

Customers' ability to establish an account and use the app to perform banking tasks determines the ease of use of mobile banking. When evaluating ease of use, we consider the convenience and efficiency of activating and downloading the mobile banking app, the compatibility of the app's design with what consumers are accustomed to, and the simplicity of performing various banking tasks within the app. Banks hope to guarantee customers are satisfied with their mobile banking interactions and find it useful to manage their money by making mobile banking simple to use. Johnson, V. L., Kiser, A., Washington, R., & Torres, R. (2018).

They have been exposed to the Internet, social networks, and mobile systems since they were young. This has made them a hyper-cognitive generation that is very good at collecting and cross-referencing a lot of different information and combining online and offline experiences (Francis & Hofel, 2018). Customers of all ages can use mobile banking because it is portable and easy to use.

The user interface for mobile banking has been simplified and refined to make it easier for users to do their desired actions. Customer satisfaction and service quality both rise when AI tools like speech recognition and smart recommendations are incorporated into the process. Customer satisfaction may be increased by catering to their emotions and making it easier to use key mobile banking features. Mobile banking service providers may better serve their customers' requirements and expectations by listening to and learning from their consumers. Therefore, the ease of use of mobile banking services is a factor in consumer satisfaction.



2.5.3 Affordability and Customer Satisfaction

Mobile banking's affordability relates to the customer's perceived savings in financial and non-financial expenses. Digital banks charge less than traditional banks or free features. Mobile banking online accounts earn better interest than banks and can withdraw cash anytime. Customers will pay less in processing fees if the service is affordable (Rajan & Nadu, 2019). Mobile banking transactions reduce time and transit costs. Customers can save money on shipping costs by doing business online. Through third-party payment systems and banks, the digital method in the financial world also has lower priority and transaction fees. Third-party payment processors, on the other hand, may provide more competitive exchange rates and costs. Third-party payment platforms may attract more users since they charge consumers less than banks do to transfer money from customers' accounts to their own.

From the bank's point of view, they need to lower their fee rates and handling fees in order to be more competitive with third-party payment systems and get a bigger share of the market. On the other hand, banks are getting rid of point-based payment goods as they try to stay alive in a market with no or low-interest rates through rate rebates, cash, etc. Overall, with to advancements in digital technology, users may now enjoy cheaper transaction costs and lower rates than ever before. Some have argued that mobile banking improves customer affordability and satisfaction because it allows for lower transaction fees through third-party payment platforms and lower bank rates and fees to survive (Gomachab & Maseke, 2018).

2.6 Theoretical Review

TAM was created with this end in mind by first identifying a small set of fundamental variables based on recommendations from earlier studies that aimed to model the cognitive and emotional factors that contribute to computer acceptance. All of this operates in service of the stated aims. Davis et al. (Wikipedia, 2016) said that two elements that drive the acceptance of technology are the perceived simplicity of use and the perceived utility of technology. Dialling systems, electronic mail, hospital information systems, decision-making systems, and others are just a few examples of how the TAM model has been put to use in real-world research and surveys. Additionally, two additional models have been distinguished from this one: the Theory of Reasoned Action and the Theory of Planned Behaviour. Perceived utility and perceived simplicity of use are highlighted as ensuring a person's behaviour intention, which in turn leads to system utilisation (Richa Priya, Aradhana Vikas Gandhi, 2018).



Figure 2.6 Technology Acceptance Model (TAM) by Davis Version

*Source: Riantini, R. E., &
Wandrial, S. (2018)*

2.7 Proposed Conceptual Framework

In this study, the conceptual framework is meant to show an illustration of the ideas and variables, as well as how the variables are related to each other. Convenience and Accessibility, Ease of Use, and Affordability are all parts of the independent variable. The diagram below shows the relationship between variables that are independent and variables that are dependent.

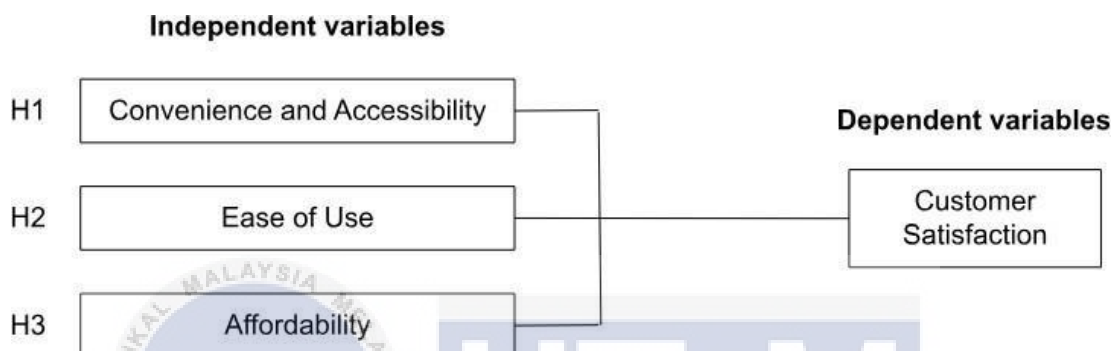


Figure 2.7: Conceptual Framework

H1. The convenience and accessibility of mobile banking services have a significant impact on customer satisfaction.

H2. The ease of use of mobile banking services has a significant impact on customer satisfaction.

H3. The affordability of mobile banking services has a significant impact on customer satisfaction.

2.8 Summary

This part takes a look at the theories that are related to the study issues. In this part, the focus is on the role of mobile banking in determining customer satisfaction. Literature review is one of the most important parts of a research project. It is used as a reference to gain new ideas and a better understanding by looking at studies that other researchers have already looked at. Literature reviews explain both the dependent and independent variables, as well as how they relate to each other.



2.9 Operational Definition of the Study

Table 2.9: Operational Definition of the Study

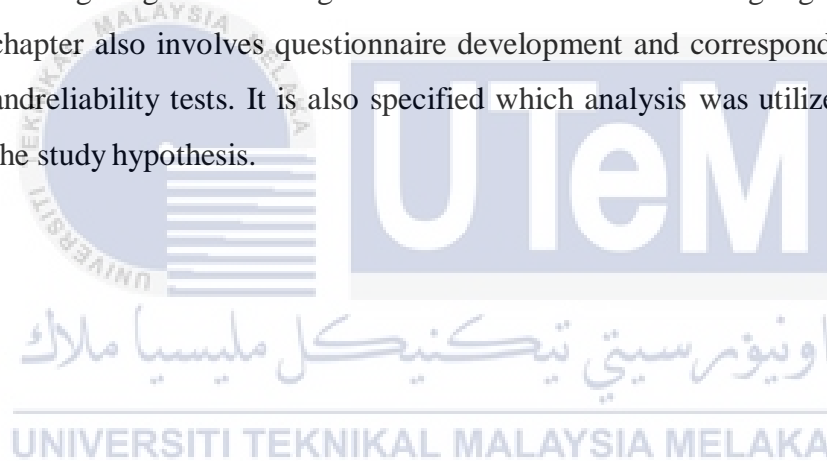
Variables	Descriptions	Authors
Customer satisfaction	It is defined as the level of the perceived condition of a customer or individual that results from comparing items or perceived performance that exceeds expectations.	(Afthanorhan, 2019).
Convenience	Customer convenience may be characterized as both speed and convenience, with the time flexibility, space flexibility, website accessibility, and product availability through online platforms serving as the primary components that go into making customer convenience a reality.	(Shankar and Rishi, 2020).
Accessibility	Accessibility is a factor that shows how happy people are with a product or service.	(Muluka,2015)
Ease of use	The degree to which users can utilize a specific Internet technology (IT) without much effort or difficulty is referred to as "ease of use."	Kim, S., Kwon, H., & Kim, H. (2023).
Affordability	The affordability of mobile banking is based on how much money and other costs customers think they will save by using new technology goods.	Yu, J., & Nuangjamnong, C. (2022)

CHAPTER 3

3.1 Introduction

A research methodology is a set of procedures for conducting an investigation. It is the study of the methodology behind scientific inquiry. Methodology analysis delves into the reasoning behind the standard procedures used by researchers when examining their research problems. The researcher has to be well-versed in both research methods and methodologies (Creswell, J. W. 2022).

The researcher describes the methodology used and how to answer research concerns such as study design and research strategy in this chapter. Furthermore, data gathering methods for the crucial significance of mobile banking usage in assessing consumer satisfaction will be highlighted. This chapter also involves questionnaire development and corresponding pilot and reliability tests. It is also specified which analysis was utilized to test the study hypothesis.



3.2 Hypothesis development

Based on the suggested conceptual framework, the hypotheses for this study are listed below.

Hypothesis 1:

H0: There is a significant relationship between the convenience and accessibility of mobile banking and customer satisfaction in Malaysia.

H1: There is no significant relationship between the convenience and accessibility of mobile banking and customer satisfaction in Malaysia.

Hypothesis 2:

H0: There is a significant relationship between ease of use in mobile banking and customer satisfaction in Malaysia.

H2: There is no significant relationship between ease of use in mobile banking and customer satisfaction in Malaysia.

Hypothesis 3:

H0: There is a significant relationship between the affordability of mobile banking and customer satisfaction in Malaysia.

H3: There is no significant relationship between the affordability of mobile banking and customer satisfaction in Malaysia.

3.3 Research Design

Research design is the plan for how data will be gathered and analyzed for a study or research project as a whole. It describes the research's framework, including the procedures and strategies for data collection and analysis. The research method also helps make sure that the study's results are valid, reliable, and generalizable by reducing the number of possible sources of bias or mistakes. The plan of a study is very important to its success because it lets researchers collect data in a systematic way and come to conclusions based on actual evidence. Furthermore, the form of a research project depends on the nature of the research question and the kind of data being gathered. There are different ways to do research, such as experimental, correlational, descriptive, and quantitative methods. Design-based research is another way that suggests that research, design, and engineering studies work well together. (Fouche, I., Dison, L., Andrews, G., & Prozesky, M.. (2021). It is a practical, grounded, structured, and fluid method that aims to improve educational practices by examining, designing, developing, and putting them into action in small steps. (Fouche et al., 2021)

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3.4 Methodological Choices

The term "methodological choice" describes the process of selecting the approaches and procedures that will be utilized in a research study or project. It entails selecting the technique for data collection and analysis that is best suitable for the research question and aims, as well as the resources that are at one's disposal at the time of the study. Because the choice of research technique may have a considerable influence on the quality and validity of the findings of the study, it is essential to give serious consideration to and provide justification for, the methodology that will be utilized. The nature of the research topic, the sort of data that will be gathered, the study design, and the audience that the research is meant for are all factors that should be taken into consideration when deciding on a methodological approach.

In addition to this, the choice of technique can also have an impact on the manner in which the findings are understood and conveyed to a variety of different audiences (Braun & Clarke, 2021). Consequently, picking the research approach that is the best fit for the problem at hand is an essential part of carrying out thorough and trustworthy research.

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3.5 Data Collection

According to Guest & Namey (2019), "The process of data collection is the process of systematically gathering and measuring information from a variety of sources in order to answer research questions or evaluate outcomes." The gathering of data is a crucial component of every research project. The process entails the collection of information or data regarding certain phenomena or areas of study of interest. The research objectives, overall study design, and the nature of the phenomena being investigated all have a role in determining the kind of data that are gathered and the techniques that are utilized to collect them.

Quantitative methods of data collection involve the gathering of numerical data using organized methods such as surveys, questionnaires, experiments, and statistical analysis. This type of data collection is also known as "big data." The information gathered through this method of data collection is extremely well organized and standardized. Based on this research, the researcher would utilize two categories of data collections: primary data and secondary data. Its primary goal is to get information that is objective and quantifiable so that it may be analyzed through the application of statistical tools.

3.6 Questionnaire Development

According to Zhang, Y., Wildemuth, B. M., & Zhu, Q. (2020) questionnaire development is the process of creating a set of questions or items that are used to collect data from a sample of individuals. The questions or items should be clear, concise, and relevant to the research question or topic being studied. The process of questionnaire development involves several steps, including identifying the research question or topic, reviewing the literature, writing and refining the questions, and pilot testing the questionnaire to ensure its validity and reliability. The form of the questionnaire is made up of three parts. Section A was meant to collect personal information, like gender, age, level of income, and level of schooling. The next part, Section B, asks questions about the things that affect consumers who use mobile banking. The factors include convenience and accessibility, ease of use, and affordability. The individuals being interviewed had to answer the questions using the Likert scale, which goes from 1 to 5 to show how much they agreed. Part C of the study is about how happy people are with mobile banking.

Statement

Academic detailing is a useful form of education that aligns providers' prescribing behavior with evidence-based practice.

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

Figure 3.6.1: Likert scale

(Source: Google Image)

3.7 Sampling Technique

The term "sampling technique" refers to the procedure that researchers use in order to collect information from a particular segment of the overall population, which may be persons or subjects. Convenience sampling, expert sampling, stratified random sampling, and non-probability sampling are some of the sampling approaches that may be employed in research. (Himoonga & Phiri, 2020). Non-probability sampling is employed in this study. Data gathering can be completed more quickly with non-probability samples. It makes it possible to pick participants who have particular qualities. Non-probability sampling is a form of sampling technique, it varies from probability sampling in that it does not choose individuals or instances at random from the population. The survey's target respondents are Malaysians who utilize mobile banking. According to the researcher, the survey was intended for 384 people.

TABLE 1
Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
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	100000	384

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

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Figure 3.7.1: Sample Size Determination from a Given Population

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(Source: Google Image, 2023)

3.8 Location of Research

The research location is mainly in Malaysia. According to the Statista Research Department report, a survey on digital banking conducted in Malaysia in September 2021 revealed that 71 percent of respondents had installed banking applications on their mobile devices previously to the Covid-19 pandemic. One percent of respondents said they were unaware of mobile banking applications. Focusing on Selangor in Malaysia allows for a deeper understanding of the factors that influence the use of mobile banking. This is because the majority of individuals in Selangor have mobile banking applications that they utilize wherever they go. The acceptance and impact of sustainability e-banking among this people may be influenced by convenience and accessibility, ease of use, and affordability. Therefore, Selangor is a suitable place to conduct research.

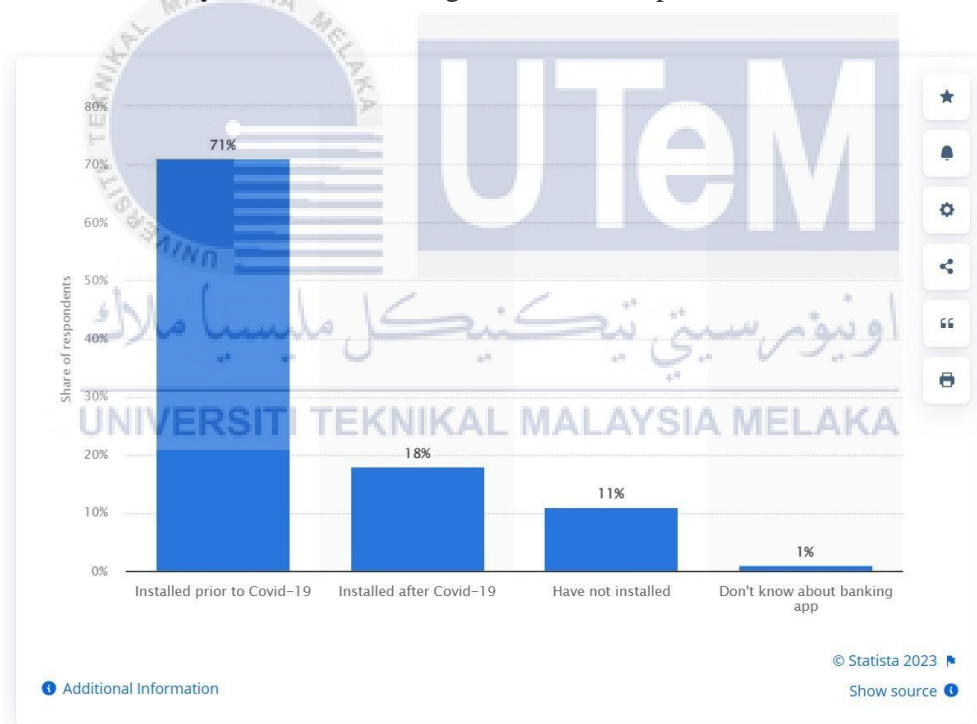


Figure 3.8.1: Percentage of Malaysians who installed mobile banking apps in 2021

(Source: Statista 2023)



Figure 3.8.2: Map of Malaysia

(Source: Google Maps, 2023)



Figure 3.8.3: Map of Selangor

(Source: Google Maps, 2023)

3.9 Data Analysis

The process of systematically analyzing data by applying statistical or logical methods is referred to as data analysis. In this investigation, several different types of data analysis methods, such as the pilot test, Cronbach's alpha, and descriptive statistics for respondents' demographic data, are utilized in order to demonstrate and describe the data that were gathered. After that, we go on to the next step of the data analysis process, which involves using Pearson's correlation coefficient and multiple regression analysis.

3.9.1 Pilot Test

Reliability is one of the most important ideas in study methods. It means that the results are reliable and can be repeated. Reliability is how consistent and stable study results are over time, with different groups of people, and when measured by different people. This survey will be done on mobile banking customers to determine consumer satisfaction. The researcher chose about 10 percent of the 384 people who are using mobile banking filled out the survey to take the required pilot test. This means that on average, about 38 people must answer in a pilot test. At a Cronbach's alpha number between 0.7 and 0.9, the reliability coefficient is considered to be good. The dependability will be increased according to the degree of Cronbach's alpha, which measures consistency. The researcher will assess the dependability of each independent variable and dependent variable.

3.9.2 Reliability

Reliability is one of the most important ideas in study methods. It means that the results are reliable and can be repeated. Reliability is how consistent and stable study results are over time, with different groups of people, and when measured by different people. This feature makes sure that the study tool used gives reliable and trustworthy results. At a Cronbach's alpha number between 0.7 and 0.9, the reliability coefficient is thought to be good. Cronbach's alpha shows how reliable something is. The higher the number, the more reliable it is. The researcher will check the dependability of each independent variable and dependent variable.



Cronbach Alpha Criteria	Classification
$a \geq 0.9$	Very good
$0.8 \leq a < 0.9$	Good
$0.7 \leq a < 0.8$	Be accepted
$0.6 \leq a < 0.7$	Doubtful
$0.5 \leq a < 0.6$	Bad
$a < 0.5$	Not acceptable

Figure 3.9.2: Cronbach's Alpha coefficient range

(Source: Google Image, 2023)

3.9.3 Validity

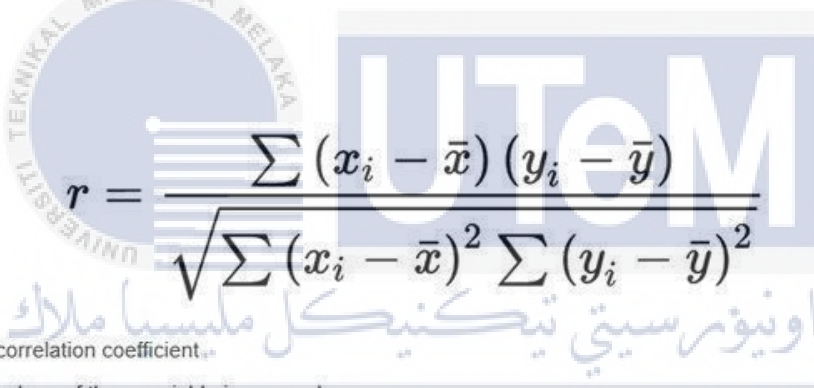
The degree to which a piece of testing equipment provides an accurate measurement of the variable for which it was meant to be used is referred to as its validity. A high validity grade suggests that the study results are reliable. In this study, convenience and accessibility, ease of use, and affordability serve as independent factors, while user spending as analysed by the usage of mobile banking serves as the dependent variable to determine customer satisfaction. Exploratory Factor Analysis, which is sometimes referred to as EFA in some circles, is the method that is used to evaluate the validity of a questionnaire.

3.9.4 Descriptive Statistics

The purpose of descriptive statistics is to provide a meaningful description of a variable through the use of statistical analysis. The measures of tendency (mean, mode, and median) and the measures of dispersion (range, standard deviation, and variance) are used to characterize the variables. The mean, mode, and median are examples of measures of tendency. Statistics that are descriptive break down huge amounts of data into smaller parts. In this study, descriptive statistics are utilized to conduct an analysis of the demographic data of respondents as well as the data related to the independent variables, which include convenience and accessibility, ease of use, and affordability.

3.9.5 Pearson's Correlation Coefficient

Pearson's correlation coefficient is used to quantify the linear connection between two numerical variables in this field of study. Using this coefficient requires a normal distribution of the dependent variable and the existence of independent causes in the independent variable, as well as a connection between the two variables. Pearson's correlation coefficient may take on a value between plus one and minus one. If the value is positive, then the two variables are positively correlated; if it is negative, then they are negatively correlated. However, when the coefficient value approaches 0, there is a greater difference between the data and the line that best fits them. The absence of a correlation between the two variables is shown by a coefficient value of 0.


$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

r = correlation coefficient
 x_i = values of the x-variable in a sample
 \bar{x} = mean of the values of the x-variable
 y_i = values of the y-variable in a sample
 \bar{y} = mean of the values of the y-variable

Figure 3.9.5.1: Pearson's correlation coefficient formula

(Source: Google Image, 2023)

Correlation Coefficient (r)	Description (Rough Guideline)
+1.0	Perfect positive + association
+0.8 to 1.0	Very strong + association
+0.6 to 0.8	Strong + association
+0.4 to 0.6	Moderate + association
+0.2 to 0.4	Weak + association
0.0 to +0.2	Very weak + or no association
0.0 to -0.2	Very weak - or no association
-0.2 to - 0.4	Weak - association
-0.4 to -0.6	Moderate - association
-0.6 to -0.8	Strong - association
-0.8 to -1.0	Very strong - association
-1.0	Perfect negative association

Figure 3.9.5.2: Pearson’s correlation coefficient table

(Source: Google Image, 2023)

3.9.6 Multiple Regression Analysis

A statistical method called multiple regression is used to forecast the association between a particular dependent variable and a group of independent variables by applying the analysis of variance (ANOVA) technique. An explanation of the strength of the relationship between one continuous dependent variable and two or more independent variables can be obtained via the use of multiple regression analysis. These aspects include variables such as affordability, convenience, and accessibility, as well as ease of use and convenience. The objective of developing the regression equation is to demonstrate how well the independent variables fit together as a whole and to investigate the proportional contribution of each predictor to the overall variance.

Formula

$$Y_i = f(X_i, \beta) + e_i$$

Y_i = dependent variable

f = function

X_i = independent variable

β = unknown parameters

e_i = error terms

Figure 3.9.6: Multiple regression analysis formula

(Source: Google Image, 2023)



3.9.7 Statistical Package for Social Sciences (SPSS)

SPSS, which stands for "Statistical Package for the Social Sciences" and is also called "IBM SPSS Statistics," is a set of software programs used to analyze statistical data. Even though the name SPSS suggests that it was first used in the social sciences, it is now used in many other data markets as well. SPSS is often used for study in healthcare, marketing, and education. SPSS can be used to analyze many different kinds of data. Survey results, customer databases, Google Analytics, the results of scientific studies, and server log files are all common sources. SPSS can analyze and change a wide range of data types and almost all structured data files. Spreadsheets, plain text files, and relational databases like SQL, SATA, and SAS can all be used with this program. SPSS can analyze data for summary and bivariate statistics, prediction of numeric outcomes, and predictions for figuring out who is in a group. The software also has tools for changing data, making graphs, and direct marketing. The main view of the software screen looks like a spreadsheet and shows open data. The metadata that explain the variables and data entries in the data file are shown in the secondary variable view. The software package was made by SPSS Inc. in 1968. In 2009, IBM bought the company. Even though the software is now called IBM SPSS Statistics, most people still just call it SPSS.

3.10 Summary

In this chapter, the researcher outlined the procedures that were followed for acquiring information and carrying out data collection. The decision was made to conduct the investigation using a quantitative approach. Both primary and secondary sources were used to compile the information used in this study. Concerning the methodology of the research, the survey is going to be conducted, and in order to do so, a structured questionnaire is going to be employed. In order to complete the research goal and understand the findings of the study, data analysis is used to conduct pilot tests, reliability analyses, descriptive statistics, Pearson's correlation coefficient, multiple regression analysis, and SPSS.



3.11 Research framework

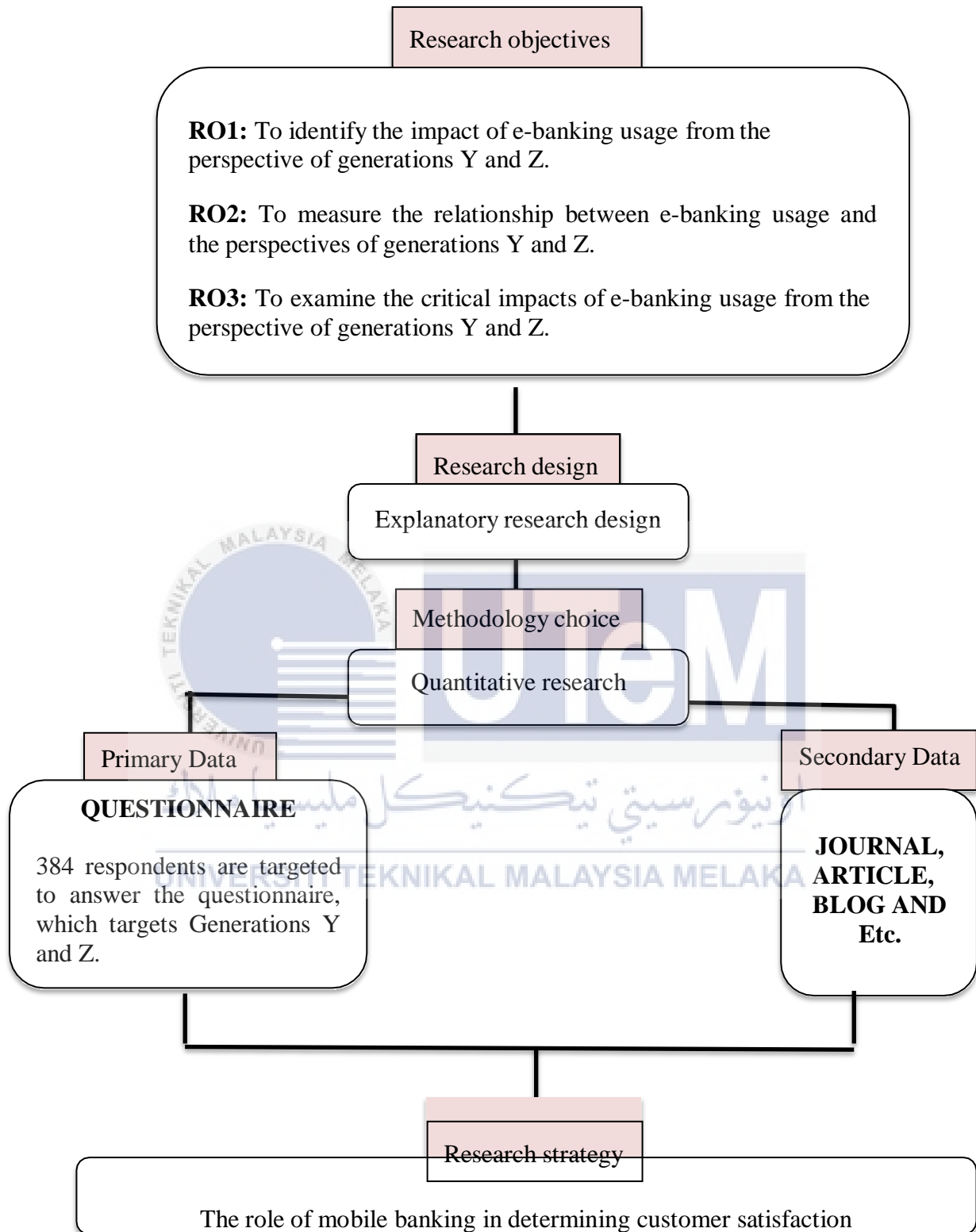


Figure 3.11 Research framework

CHAPTER 4

DATA ANALYSIS AND RESULTS

4.1 Introduction

The results and conclusions from the data analysis are presented in Chapter 4 of this study project. Over two months, data was collected from 386 participants. The data will be analyzed using the Statistical Package for Social Sciences (SPSS) to determine the outcomes of the research objectives and to assess the validity of the research hypotheses. The findings will be presented in graphical and tabular formats. Furthermore, this chapter summarizes the results of the pilot test and expands on them using descriptive statistics. These statistics include the respondents' demographic information as well as their responses to the specified questions. The analysis of the Pearson Correlation Coefficient is used to describe the extent of the association between independent factors and the dependent variable. This is followed by a regression analysis to verify the hypothesis. Finally, a summary of the chapter is provided.

4.2 Pilot Test

The primary objective of the pilot test is to assess the viability of a questionnaire by evaluating the respondents' ability to comprehend the questions. In this study, the researcher has chosen a sample size of 40 respondents, representing 10% of the total respondents. Cronbach's alpha is a statistical metric used to assess the internal consistency of data. A result equal to or greater than 0.7 indicates that the questionnaire shows reliable consistency.

4.2.1 Reliability

Internal consistency defines the degree to which each component in the test refers to the same concept, which is connected to the interrelated nature of components inside the test. Cronbach's Alpha values vary from 0 to 1. Internal consistency is greater when the coefficients of dependability are closer to 1.

There are a total of 26 items of questions that are measured using a Likert scale ranging from 1 to 5 where **1= strongly disagrees, 2= disagree, 3= neutral, 4= agree and 5= strongly agree**. Cronbach's Alpha coefficient reveals the degree of correlation between each item in the independent variable and the dependent variable.

4.2.1.1 Convenience and Accessibility

Table 4.2.1.1.1: Case Processing Summary of Convenience and Accessibility

Source: (Develop from Research)

		N	%
Cases	Valid	41	100.0
	Excluded ^a	0	0.0
	Total	41	100.0

Table 4.2.1.1.2: Reliability Statistics of Convenience and Accessibility

Source: (Develop from Research)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.865	0.866	5

Table 4.2.1.1.2 illustrates Cronbach's Alpha for five questions for convenience and accessibility. The reliability statistic has a value of 0.865 which is greater than 0.7. Therefore, the question for these independent variables are reliable and can be used for real questionnaires.

4.2.1.2 Ease of Use

Table 4.2.1.2.1: Case Processing Summary of Ease of Use

Source: (Develop from Research)

		N	%
Cases	Valid	41	100.0
	Excluded ^a	0	0.0
	Total	41	100.0

Table 4.2.1.2.2: Reliability Statistics of Ease of Use

Source: (Develop from Research)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.863	0.865	5

Table 4.2.1.2.2 shows Cronbach's Alpha for five questions in ease of use. The result of the reliability statistics possessed Cronbach's Alpha value is more significant than 0.7 which is 0.863. The independent variable is reliable and can be used for the actual questionnaire.

4.2.1.3 Affordability

Table 4.2.1.3.1: Case Processing Summary of Affordability

Source: (Develop from Research)

		N	%
Cases	Valid	41	100.0
	Excluded ^a	0	0.0
	Total	41	100.0

Table 4.2.1.3.2: Reliability Statistics of Affordability

Source: (Develop from Research)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.912	0.912	5

Table 4.2.1.3.2 demonstrates the outcome of Cronbach's Alpha for five questions in an affordability. The value of Cronbach's Alpha is 0.912 which is higher than 0.7. Therefore, the questions construct can be used for the actual questionnaire.

4.2.1.4 Customer Satisfaction

Table 4.2.1.4.1: Case Processing Summary of Customer Satisfaction

Source: (Develop from Research)

		N	%
Cases	Valid	41	100.0
	Excluded ^a	0	0.0
	Total	41	100.0

Table 4.2.1.4.2: Reliability Statistics of Customer Satisfaction

Source: (Develop from Research)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.762	0.766	5

Table 4.2.1.4.2 illustrates that Cronbach's Alpha value is higher than 0.7 which is 0.762 for the dependent variable, customer satisfaction in using mobile banking. Therefore, the questions construct can be used for the actual questionnaire.

4.2.1.5 Reliability Analysis

Table 4.2.1.5.1: Case Processing Summary

Source: (Develop from Research)

		N	%
Cases	Valid	386	100.0
	Excluded ^a	0	0.0
	Total	386	100.0

Table 4.2.1.5.2: Reliability Statistics

Source: (Develop from Research)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.924	0.927	20

Cronbach's Alpha values for the total number of independent and dependent variables are shown in Table 4.2.1.5.2. Cronbach's Alpha is 0.924, which is larger than 0.7 and is regarded to be of good dependability. Overall, the Cronbach's Alpha result is reliable.

4.2.2 Validity

Validity is defined as the degree of accuracy in measuring what it is planned to measure. A high validity value specifies a high extent of trustworthiness in the research result. According to Chan & Idris (2017), Exploratory Factor Analysis is conducted to identify a structure of dormant dimensions of the variables in the objects of the instrument. Therefore, EFA is used to determine the validity of the questionnaire.

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4.2.2.1 Validity of Independent Variables

Table 4.2.2.1.1: Table for KMO and Bartlett's Test for Independent Variables

Source: (Develop from Research)

<i>KMO and Bartlett's Test</i>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.911
Bartlett's Test of Sphericity	Approx. Chi-Square	3706.134
	df	105
	Sig.	0.000

From table 4.1.2.1.1, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is excellent, 0.911 because the value is higher than 0.6 (Yong & Pearce, 2013). When the value is closer to 1, the more suitable the method to analyze the data, and the factors are reliable to each other. Then, Bartlett's test of sphericity is significant χ^2 (df=105) because the p-value is less than 0.000 hence the items listed in independent variables have pattern relationships among the variables because the p-value is less than 0.05 with approximate Chi-Square value 3706.134.

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Table 4.2.2.1.2: Table for Component Matrix Independent Variables

Source: (Develop from Research)

Independent Variables	Items	Component			Valid	KMO value	Sig.
		1	2	3			
Convenience and accessibility	CA1	Easy to complete transactions through mobile banking.	0.637		Valid	0.741	0.000
	CA2	Mobile banking offers a variety of services that meet my financial needs.	0.857		Valid		
	CA3	Mobile banking provides clear information about my accounts.	0.945		Valid		
	CA4	I can use mobile banking platforms anytime, anywhere.	0.892		Valid		
	CA5	Mobile banking improves my whole banking experience by providing more convenience.	0.977		Valid		
Ease of use	EOU1	The mobile banking platform's menu and options are user-friendly.		0.887	Valid	0.783	0.000
	EOU2	Be able to learn quickly to use mobile banking platforms.		0.865	Valid		
	EOU3	Easy to download the mobile banking app on my mobile device.		0.921	Valid		

	EOU4	Using mobile banking services in Malaysia requires little effort.	0.714	Valid		
	EOU5	Mobile banking responds quickly to transactions and loading processes.	0.847	Valid		
	A1	The charges involved in using mobile banking services are reasonable.	0.741	Valid		
	A2	Mobile banking is a cost-effective way to make payments.	0.702	Valid		
Affordability	A3	The process for getting a loan or credit using mobile banking services is easy.	0.873	Valid	0.749	0.000
	A4	Mobile banking is more cost-effective than using other banking methods, such as ATMs or branches.	0.673	Valid		
	A5	Credit cards and personal loans are all more affordable with mobile banking.	0.867	Valid		

From Table 4.2.2.1.2, a total of 15 items were examined, and the results show that no items were deleted because the total value was greater than 0.4 and contributed to the factor structure (Chan & Idris, 2017). As a result, all of its independent variables are valid and will be used in the questionnaire. For the independent variables, the KMO test values are 0.741, 0.783, and 0.749, respectively. Hair et al. (2010) state that if the value is more than 0.6, the factorability of the correlation matrix is significant.



4.2.2.2 Validity for Dependent Variables

Table 4.2.2.2.1: Table for KMO and Bartlett's Test for Dependent Variables

Source: (Develop from Research)

<i>KMO and Bartlett's Test</i>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.780
Bartlett's Test of Sphericity	Approx. Chi-Square	126.255
	df	10
	Sig.	0.000

From table 4.2.2.2.1, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is excellent, 0.780 because the value is higher than 0.6 (Yong & Pearce, 2013). When the value is closer than 1, the more suitable the method to analyze the data and the factors are reliable to each other. Then, Bartlett's test of sphericity is significant χ^2 (df=10) because the p-value is less than 0.001 hence the items listed in independent variables have the pattern relationships among the variables because the p-value is less than 0.05 with an approximate Chi-Square value of 126.255.

Table 4.2.2.2: Table for Component Matrix Dependent Variable

Source: (Develop from Research)

Independent Variables	Items	Component 1	Valid	KMO value	Sig.	
Customer satisfaction	CS1	The e- banking services in Malaysia are useful to meet financial needs.	0.839	Valid		
	CS2	Using e- banking services in Malaysia enhances my financial management capabilities.	0.856	Valid		
	CS3	I will recommend the e- banking services in Malaysia to others based on their usefulness.	0.883	Valid	0.780	0.000
	CS4	The effectiveness of e- banking services in Malaysia can simplify financial transactions.	0.813	Valid		
	CS5	I am confident that e- banking services in Malaysia are valuable for managing financial activities	0.757	Valid		

From table 4.2.2.2.2, a total of 5 items were examined, and the results show that no items were deleted because the total value was greater than 0.4 and contributed to the factor structure (Chan & Idris, 2017). As a result, all of the questions built in independent variables are legitimate and will be used in the actual questionnaire. The dependent variable's KMO test result is 0.780. Hair et al. (2010) state that if the value is more than 0.6, the factorability of the correlation matrix is significant.



4.3 Respondents' Profile

4.3.1 Respondents Gender

Table 4.3.1: Respondents' Gender

Source: (Develop from Research)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	228	59.1	59.1	59.1
	Male	158	40.9	40.9	100.0
	Total	386	100.0	100.0	

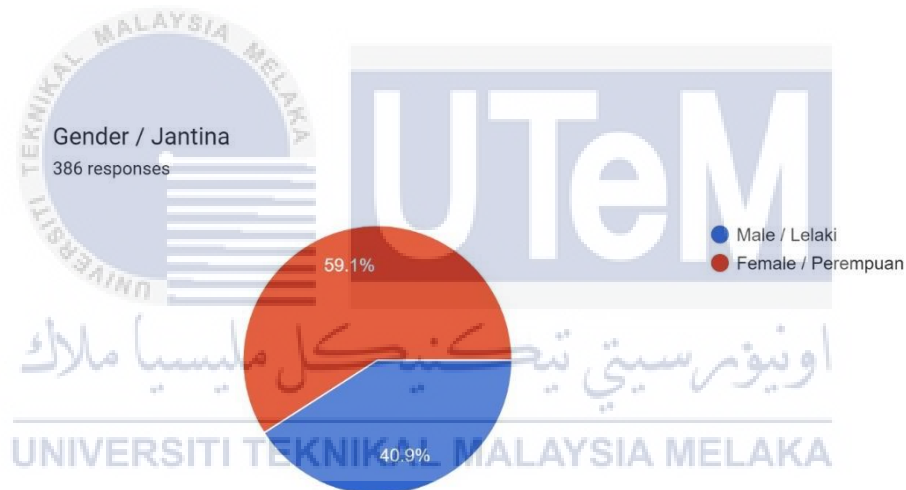


Figure 4.3.1: Respondents' Gender

Source: (Develop from Research)

Table shows the frequency and percentage of respondents' demographic of gender. There are total 386 respondents and among the respondents, male respondents consist of 158 which are 40.9% while female respondents consist of 228 which are 59.1% as shown in the figure.

4.3.2 Respondents' Age Group

Table 4.3.2: Respondents' Age Group

Source: (Develop from Research)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	217	56.2	56.2	56.2
	25-34	72	18.7	18.7	74.9
	35-44	33	8.5	8.5	83.4
	45-54	52	13.5	13.5	96.9
	55-64	12	3.1	3.1	100.0
	Total	386	100.0	100.0	

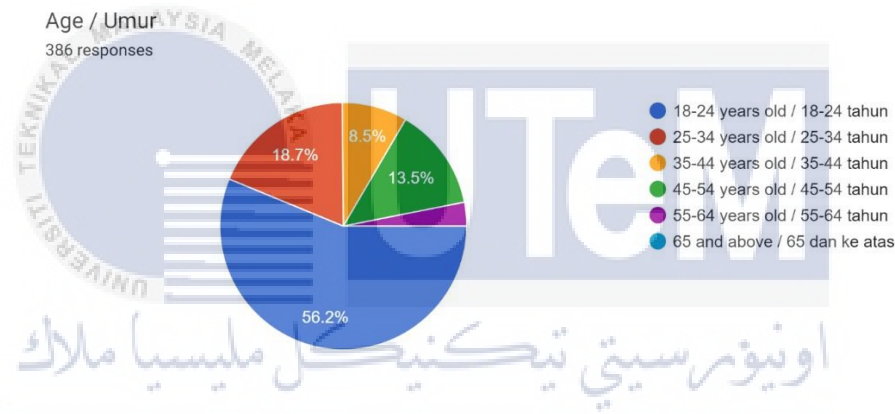


Figure 4.3.2: Respondents' Age

Source: (Develop from Research)

Table 4.3.2 shows the data of the range on the age of respondents. Among 386 respondents, there are 217 respondents (56.2%) the range from 18 – 24 years which is the highest age group among the respondents. The respondents who are aged between 25 – 34 years old consist of 72 respondents (18.7%). Besides, the range from 35 – 44 years old has 33 respondents (8.5%). There are 52 respondents (13.5%) who aged between 45 – 54 and 12 respondents (3.1%) aged 55 – 64 which is the lowest age group among the respondents.

4.3.3 Respondents' Employment Status

Table 4.3.3: Respondents' Employment Status

Source: (Develop from Research)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government employees	35	9.1	9.1	9.1
	Private employees	94	24.4	24.4	33.4
	Self-employment	12	3.1	3.1	36.5
	Student/internship	245	63.5	63.5	100.0
	Total	386	100.0	100.0	

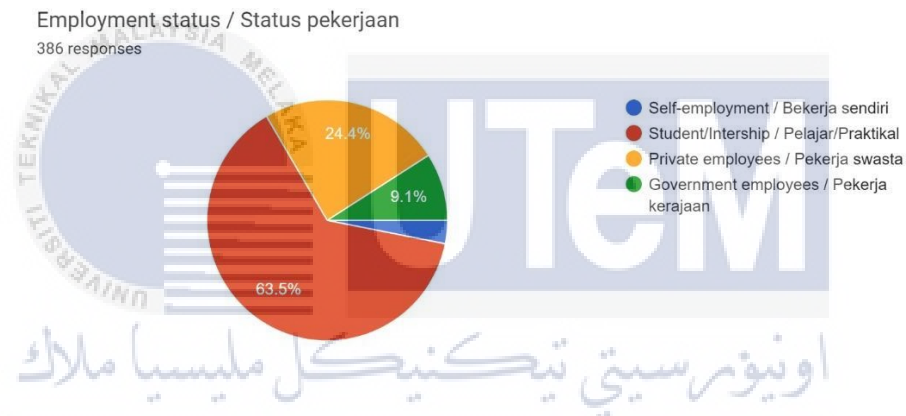


Figure 4.3.3: Respondents' Employment Status

Source: (Develop from Research)

Table demonstrates employment status of respondents. The largest category, representing 63.5% (245 respondents) of the total 386 consists of students or interns. The following categories were government employees (9.1% or 35 respondents), private employees (24.4% or 94 respondents), and self-employed individuals (3.1% or 12 respondents).

4.3.4 Respondents of Mobile banking users

Table 4.3.4: Respondents' of Mobile Banking users

Source: (Develop from Research)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	2	0.5	0.5	0.5
	Yes	384	99.5	99.5	100.0
	Total	386	100.0	100.0	



Source: (Develop from Research)

In a survey of 386 participants, 99.5%, or 384 persons, reported that they used mobile banking services. Only two (0.5%) of those who responded did not use mobile banking. This large figure demonstrates how widely and frequently used mobile banking is.

4.4 Descriptive Analysis

4.4.1 Descriptive Analysis for Independent Variable (Convenience and Accessibility)

Table 4.4.1: Summary of Convenience and Accessibility

Source: (Develop from Research)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
CA1	Easy to complete transactions through mobile banking.	244 (63.2%)	133 (34.5%)	7 (1.8%)	2 (0.5%)	0 (0%)
CA2	Mobile banking offers a variety of services that meet my financial needs.	140 (36.3%)	237 (61.4%)	8 (2.1%)	1 (0.3%)	0 (0%)
CA3	Mobile banking provides clear information about my accounts.	144 (37.3%)	232 (60.1%)	10 (2.6%)	0 (0%)	0 (0%)
CA4	I can use mobile banking platforms anytime, anywhere.	150 (38.9%)	225 (58.3%)	9 (2.3%)	1 (0.3%)	1 (0.3%)
CA5	Mobile banking improves my whole banking experience by providing more convenience.	136 (35.2%)	239 (61.9%)	11 (2.8%)	0 (0%)	0 (0%)

Table 4.4.1 shows the responses of 386 people to the independent variables, convenience and accessibility aspects that influence their mobile banking spending. Item E1 states that mobile banking transactions are easy. According to the results, 63.2% of respondents strongly agree with the statement, 34.5% agree with the statement, and 1.8% are neutral. However, 0.5% of respondents disagree with the statement, and 0% strongly disagree with it.

Item E2 describes mobile banking, which provides a variety of services to satisfy my financial needs. According to the results, the majority of respondents (36.3%) strongly agree with the statement, and 61.4% agree with the statement. There are 2.1% of respondents claim to be neutral, however, 1% disagree and 0% strongly disagree with the statement.

Next, describe in item E3 how mobile banking gives clear information about my accounts. According to the table, 37.3% strongly agree and 60.1% agree on the statement, with 2.6% neutral on the statement and 0% disagreeing and strongly disagreeing on the statement.

Furthermore, item E4 specifies that I can utilize mobile banking platforms at any time and from any location. There are 38.9% of respondents who strongly agree, 58.3% of respondents who agree, and 2.3% of respondents who are neutral on the statement. On the other hand, 0.3% of respondents disagree or strongly disagree with the statement.

Finally, item E5 argues that mobile banking enhances my overall banking experience by providing greater convenience. There are 35.2% of respondents who strongly agree, 61.9% who agree, and 2.8% who are neutral about the statement. On the other hand, 0% of respondents disagrees or strongly disagrees with the statement.

4.4.2 Descriptive Analysis for Independent Variable (Ease of Use)

Table 4.4.2: Summary of Ease of Use

Source: (Develop from Research)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
EOU 1	The mobile banking platform's menu and options are user-friendly.	199 (51.6%)	175 (45.3%)	11 (2.8%)	1 (0.3%)	0 (0%)
EOU 2	Be able to learn quickly to use mobile banking platforms.	144 (37.3%)	228 (59.1%)	12 (3.1%)	2 (0.5%)	0 (0%)
EOU 3	Easy to download the mobile banking app on my mobile device.	203 (52.6%)	174 (45.1%)	8 (2.1%)	1 (0.3%)	0 (0%)
EOU 4	Using mobile banking services in Malaysia requires little effort.	194 (50.3%)	162 (42%)	28 (7.3%)	2 (0.5%)	0 (0%)
EOU 5	Mobile banking responds quickly to transactions and loading processes.	138 (35.8%)	229 (59.3%)	18 (4.7%)	1 (0.3%)	0 (0%)

Table 4.4.2 presents the responses from a total of 386 respondents on the factor of ease of use. Item E1 specifies that the menu and options on the mobile banking platform are user-friendly. According to the results, 51.6% of respondents strongly agree with the statement, 45.3% agree with the statement, and 2.8% are neutral. However, 0.3% of respondents disagree with the statement, and 0% strongly disagree with it.

Item E2 describes the ability to quickly learn how to use mobile banking applications. According to the results, the respondents (37.3%) strongly agree with the statement, and the majority (59.1%) agree with the statement. There are 3.1% of respondents claim to be neutral, however, 0.5% disagree and 0% strongly disagree with the statement.

Next, item E3 describes how simple it is to download the mobile banking app on my mobile device. According to the table, 52.6% strongly agree and 45.1% agree on the statement, with 2.1% neutral, 0.3% disagreeing, and 0% strongly disagreeing.

Furthermore, item E4 claims that using mobile banking services in Malaysia needs little effort. 50.3% of respondents strongly agree, 42% agree, and 7.3% are neutral about the statement. On the other hand, 0.5% of respondents disagree and 0% strongly disagree with the statement.

Finally, item E5 claims that mobile banking performs transactions and loading procedures quickly. There are 35.8% of respondents who strongly agree, 59.3% who agree, and 4.7% who are neutral about the statement. On the other hand, 0.3% of respondents disagree with the statement, and 0% strongly disagree with it.

4.4.3 Descriptive Analysis for Independent Variable (Affordability)

Table 4.4.3: Summary of Affordability

Source: (Develop from Research)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
A1	The charges involved in using mobile banking services are reasonable.	62 (16.1%)	252 (65.3%)	65 (16.8%)	5 (1.3%)	2 (0.5%)
A2	Mobile banking is a cost-effective way to make payments.	84 (21.8%)	254 (65.8%)	43 (11.1%)	4 (1%)	1 (0.3%)
A3	The process for getting a loan or credit using mobile banking services is easy.	71 (18.4%)	212 (54.9%)	90 (23.3%)	11 (2.8%)	2 (0.5%)
A4	Mobile banking is more cost-effective than using other banking methods, such as ATMs or branches.	73 (18.9%)	241 (62.4%)	69 (17.9%)	1 (0.3%)	2 (0.5%)
A5	Credit cards and personal loans are all more affordable with mobile banking.	67 (17.4%)	251 (65%)	62 (16.1%)	5 (1.3%)	1 (0.3%)

Table 4.4.3 shows 386 respondents' responses to the independent variable, affordability considerations influencing their spending on mobile banking applications. According to Item E1, the charges for using mobile banking services are acceptable. As a result, 16.1% of respondents strongly agree with the statement, 65.3% agree with the statement, and 16.8% expressed neutrality. However, 1.3% of respondents disagree with the statement, and 0.5% strongly disagree with it.

Item E2 describes mobile banking as a cost-effective payment method. According to the results, 21.8% of the respondents strongly agree with the statement, and 65.8% agree with the statement. There are 11.1% of respondents who claim to be neutral, however, 1% disagree and 0.3% strongly disagree with the statement.

Following that, item E3 illustrates how simple it is to obtain a loan or credit through mobile banking services. According to the table, 18.4% strongly agree and 54.9% agree on the statement, whereas 23.3% are neutral to the statement and 2.8% disagree and 0.5% strongly disagree.

Furthermore, item E4 claims that mobile banking can be more affordable than conventional financial options such as ATMs or branches. There are 18.9% of respondents who strongly agree with the statement, 62.4% who agree with the statement, and 17.9% who are neutral regarding the statement. On the other hand, 0.3% of respondents disagree with the statement, and 0.5% strongly disagree.

Finally, item E5 states credit cards and personal loans are all more affordable with mobile banking. There are 17.4% of respondents who strongly agree, 65% who agree, and 16.1% who are neutral about the statement. On the other hand, 1.3% of respondents disagree and 0.3% strongly disagree with the statement.

4.4.4 Descriptive Analysis for dependent Variable (Customer satisfaction as an effect of using mobile banking platforms)

Table 4.4.4: Summary of Customer Satisfaction

Source: (Develop from Research)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
CS1	Mobile banking is accessible, which is really convenient.	204 (52.8%)	174 (45.1%)	7 (1.8%)	1 (0.3%)	0 (0%)
CS2	Mobile banking is very affordable, with excellent overall service quality.	128 (33.2%)	187 (48.4%)	67 (17.4%)	4 (1%)	0 (0%)
CS3	Mobile banking is very efficient, including transaction processing times.	121 (31.3%)	221 (57.3%)	41 (10.6%)	3 (0.8%)	0 (0%)
CS4	The usage of mobile banking is very easy to use.	192 (49.7%)	185 (47.9%)	8 (2.1%)	0 (0%)	1 (0.3%)
CS5	I will suggest mobile banking platforms to others.	125 (32.4%)	233 (60.4%)	24 (6.2%)	4 (1%)	0 (0%)

Table 4.4.4 presents the responses from a total of 386 respondents on the element of consumer satisfaction with mobile banking. Item E1 mentions that mobile banking is available, which is useful. As a result, 52.8% of respondents strongly agree with the statement, 45.1% agree with the statement, and 1.8% indicate neutrality. However, 0.3% of respondents disagree with the statement, and 0% strongly disagree with it.

Item E2 defines mobile banking as being highly affordable, with an overall high level of service quality. According to the results, respondents (33.2%) strongly agree with the statement, and 48.4% agree with the claim. 17.4% of respondents claim to be neutral, 1% disagree and 0% strongly disagree with the statement.

Following that, item E3 explains how mobile banking is particularly efficient in terms of transaction processing times. According to the table, 31.3% strongly agree and 57.3% agree with the statement, while 10.6% are neutral. However, 0.8% disagree and 0% strongly disagree with the statement.

Furthermore, item E4 claims that mobile banking is easy to use. There are 49.7% of respondents who strongly agree with the statement, 47.9% who agree with the statement, and 2.1% who are neutral about the statement. On the other hand, 0% of respondents disagree with the statement, and 0.3% strongly disagree.

Finally, item E5 states that I will recommend mobile banking platforms to others. There are 32.4% of respondents who strongly agree, 60.4% who agree, and 6.2% who are neutral about the statement. On the other hand, 1% of respondents disagree with the statement, and 0% strongly disagree.

4.5 Descriptive Statistics

Table 4.5: Descriptive Statistics for Each Independent Variable

Source: (Develop from Research)

Independent Variable	N	Minimum	Maximum	Mean	Standard Deviation
Convenience and accessibility	386	2.80	5.00	4.39	0.44
Ease of use	386	1.00	5.00	3.98	0.57
Affordability	386	1.00	5.00	3.98	0.57

The table shows the descriptive statistics of each independent variable (economic, social and technological). Based on the table, all of the independent variables have almost similar value of mean. Convenience and accessibility role has the highest mean at 4.39 subsequently followed by ease of use and affordability role both at 3.98. From the table obtained, it can be clearly seen that majority of the respondents rated agree on the questionnaire that the independent variable role in determining customer satisfaction that used mobile banking.

In contrast, standard deviation specifies how the data spread from the mean. From the study, ease of use and affordability role has the highest standard deviation at 0.57 followed by convenience and accessibility role at 0.44. The standard deviation value indicate that the data are not deviate from the mean.

4.6 Person's Correlation Analysis

Table 4.6: Correlations of Independent Variables and Dependent Variable

Source: (Develop from Research)

Correlations		Convenience and accessibility	Ease of use	Affordability	Customer satisfaction
Convenience and accessibility	Pearson Correlation	1	.393**	.393**	.642**
	Sig. (2-tailed)		.000	.000	.000
	N	386	386	386	386
Ease of use	Pearson Correlation	.393**	1	1.000**	.479**
	Sig. (2-tailed)	.000		.000	.000
	N	386	386	386	386
Affordability	Pearson Correlation	.393**	1.000**	1	.479**
	Sig. (2-tailed)	.000	.000		.000
	N	386	386	386	386
Customer satisfaction	Pearson Correlation	.642**	.479**	.479**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	386	386	386	386

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

Table 4.6 illustrate the relationship between convenience and accessibility, ease of use and affordability roles influencing consumer satisfaction by using mobile banking through Pearson's Correlation Analysis.

The strength of the linear connection between the independent and dependent variables is evaluated using Pearson's Correlation Analysis. Pearson's Correlation Coefficient has a value between +1 and -1. Variables display a positive correlation when values are positive, and a negative correlation when values are negative. A coefficient value of 0 indicates that there is no relationship between the variables. Pearson's Correlation Coefficient is represented by the symbol r .

Significant correlations varied from 0.642 to 0.479 in the table. The convenience and accessibility roles had the greatest coefficient value of 0.642 among the three independent variables. The value reflects a strong positive relationship between the role of convenience and accessibility and customer satisfaction. The p-values for all variables are less than 0.01 at the two-tailed test, showing that there is a statistically significant relationship.

Next, ease of use and accessibility roles has the second highest correlation coefficient value, r at 0.479. It indicates that ease of use and affordability roles which clearly shows strong moderate positive relationship between ease of use and accessibility roles and consumer satisfaction.

Therefore, there is significant relationship between independent variables which consist of convenience and accessibility role, ease of use role and affordability and dependent variable which is the role in determining consumer satisfaction by using mobile banking. Thus, the researcher conducts further analysis on the independent variables with multiple linear regression analysis.

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4.7 Simple Linear Regression Analysis.

The impact of each independent variable on the dependent variable will be determined by the researcher using linear regression analysis. The linear regression analysis's hypothesis testing result will be utilized for investigating the relationship between independent and dependent variables.

4.7.1 Simple Linear Regression for Convenience and Accessibility

Table 4.7.1.1: Model Summary of Convenience and Accessibility

Source: (Develop from Research)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.642 ^a	0.412	0.410	0.34228

a. Predictors: (Constant), Convenience and Accessibility

Table 4.7.1.1 shows how the roles of convenience and accessibility are described by the linear regression model. The value of R represents the relationship between accessibility and convenience and customer satisfaction. With an R-value of 0.642, the table demonstrates that there is a considerable correlation between accessibility and convenience and customer satisfaction. The R-squared number indicates the proportion of the dependent variable's variance that can be explained by the independent variables. The table's R-square value of 0.412 indicates that convenience and accessibility explain approximately 41.2% of the variation in customer satisfaction.

Table 4.7.1.2: ANOVA^a of Convenience and Accessibility*Source: (Develop from Research)*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.482	1	31.482	268.719	0.000 ^b
	Residual	44.988	384	0.117		
	Total	76.470	385			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Convenience and Accessibility

Analysis of Variance (ANOVA) is used for hypothesis testing to see whether how well the model fits into the data. The significant of p-value is 0.000 which is lesser than 0.05 indicate that convenience and accessibility well explained customer satisfaction. Therefore, alternative hypothesis is accepted at $\alpha = 0.05$.

Table 4.7.1.3: Coefficients^a of Convenience and Accessibility*Source: (Develop from Research)*

Model		Unstandardized Coefficients B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.429	0.177		8.096	0.000
	Convenience and Accessibility	0.656	0.040	0.642	16.393	0.000

a. Dependent Variable: Customer Satisfaction

Beta values are used to predict the dependent variable from the independent variable based on the table. Convenience and accessibility coefficients demonstrate a strong correlation with consumer happiness. The findings show that the p-value is 0.000 and β is 0.642, showing that customer satisfaction with mobile banking is influenced by convenience and accessibility. Hence, the alternative hypothesis (H1) is accepted and the null hypothesis (H0) is rejected.

4.7.2 Simple Linear Regression for Ease of Use

Table 4.7.2.1: Model Summary of Ease of Use

Source: (Develop from Research)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.479 ^a	0.230	0.228	0.39166

a. Predictors: (Constant), Ease of Use

By referring to the table, the value of R equals to 0.479 which indicate strong correlation between ease of use and customer satisfaction. The coefficient determination, R square has value at 0.228 which indicates that there is 22.8% of variation in customer satisfaction in explained by ease of use role.

Table 4.7.2.2: ANOVA^a of Ease of Use

Source: (Develop from Research)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.565	1	17.565	114.504	0.000 ^b
	Residual	58.905	384	0.153		
	Total	76.470	385			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Ease of Use

The table 4.7.2.2, the p-value is equal to 0.000 is less than 0.05 represents there is significant relationship between ease of use role and customer satisfaction in using mobile banking. Therefore, alternative hypothesis (H2) is accepted at alpha equal to 0.05.

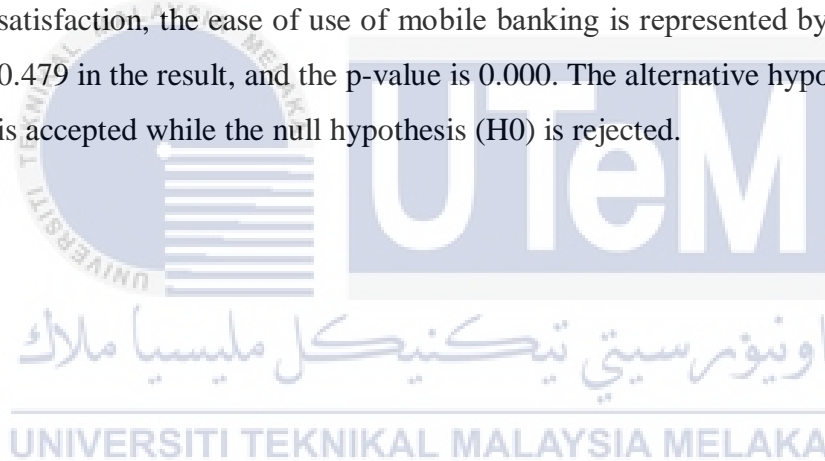
Table 4.7.2.3: Coefficients^a of Ease of Use

Source: (Develop from Research)

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	2.825	0.140		20.158	0.000
	Ease Of Use	0.373	0.035	0.479	10.701	0.000

a. Dependent Variable: Customer Satisfaction

Given the p-value of less than 0.05, it can be concluded from table 4.7.2.3 that the independent variable's coefficient of satisfaction with mobile banking has a significant relationship with ease of use. In terms of customer satisfaction, the ease of use of mobile banking is represented by β , which is 0.479 in the result, and the p-value is 0.000. The alternative hypothesis (H2) is accepted while the null hypothesis (H0) is rejected.



4.7.3 Simple Linear Regression for Affordability

Table 4.7.3.1: Model Summary of Affordability

Source: (Develop from Research)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.479 ^a	0.230	0.228	0.39166

a. Predictors: (Constant), Affordability

Based on the table above, the R-value is at 0.479 which indicate strong relationship between affordability role and customer satisfaction in using mobile banking. The coefficient determinant, R square valued at 0.230. There are 23.0% of variation in affordability role of mobile banking in determining customer satisfaction.

Table 4.7.3.2: ANOVA^a of Affordability

Source: (Develop from Research)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.565	1	17.565	114.504	0.000 ^b
	Residual	58.905	384	0.153		
	Total	76.470	385			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Affordability

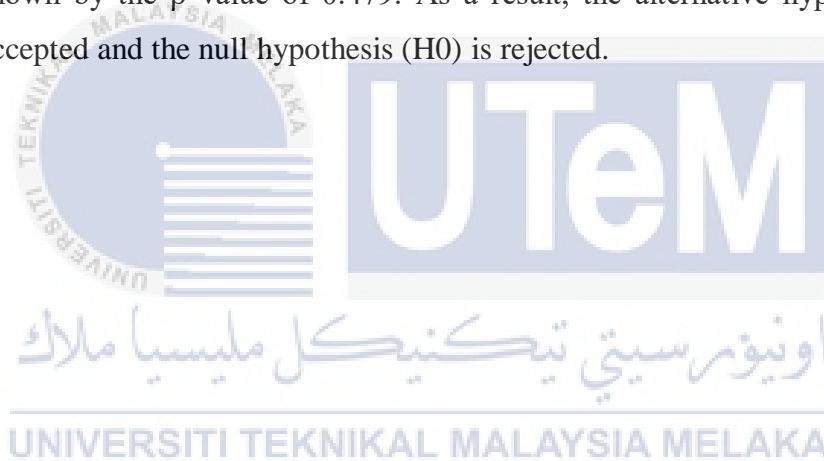
From the table 4.7.3.2, ANOVA shows that affordability role is significant as the p-value is 0.000 (less than 0.05). It represents that there is significance relationship between affordability role and customer satisfaction in using mobile banking. Therefore, alternative hypothesis (H3) is accepted at alpha equal to 0.05.

Table 4.7.3.3: Coefficients^a of Affordability*Source: (Develop from Research)*

Model		Unstandardized		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	2.825	0.140		20.158	0.000
	Affordability	0.373	0.035	0.479	10.701	0.000

a. Dependent Variable: Customer Satisfaction

The affordability role and customer satisfaction have a significant connection, as indicated by the coefficient of independent variable in Table 4.7.3.3, with a p-value of less than 0.05. The outcome shows that the affordability factor has an impact on customers' satisfaction when using mobile banking, as shown by the β value of 0.479. As a result, the alternative hypothesis (H3) is accepted and the null hypothesis (H0) is rejected.



4.8 Multiple Linear Regression

Table 4.8.1: Model Summary of Multiple Linear Regression

Source: (Develop from Research)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.687 ^a	0.473	0.470	0.32448

a. Predictors: (Constant), Affordability, Convenience and Accessibility

The model summary from multiple linear regression analysis is shown in Table 4.8.1. The value of R is 0.687, showing that all three independent variables are correlated. The coefficient of determination, R square, is 0.473, showing that the independent variables (convenience and accessibility, ease of use, and affordability) explain 47.3% of the total variation in customer satisfaction with mobile banking. R Square is less than 0.5, which is a low value caused by weak relationships. A linear model may not accurately represent the relationships between the independent variables chosen and the dependent variable. However, 52.7% of the variation remains unexplained. Hence, there are other significant reasons that the role of mobile banking in determining customer satisfaction not included for this research.

Table 4.8.2: ANOVA of Multiple Linear Regression

Source: (Develop from Research)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.144	2	18.072	171.638	0.000 ^b
	Residual	40.326	383	0.105		
	Total	76.470	385			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), Affordability, Convenience and Accessibility

According to the table, the p-value is 0.000, which is less than the alpha value of 0.05, which is statistically significant. The F-value of 171.638 is significant because alternative hypotheses are well fit in the model and accepted when the F-value is greater. As a result, the total model's significance is $F(2,383) = 171.638, p < 0.05$. It demonstrates that the overall multiple regression model is significant at the 5% significance level.

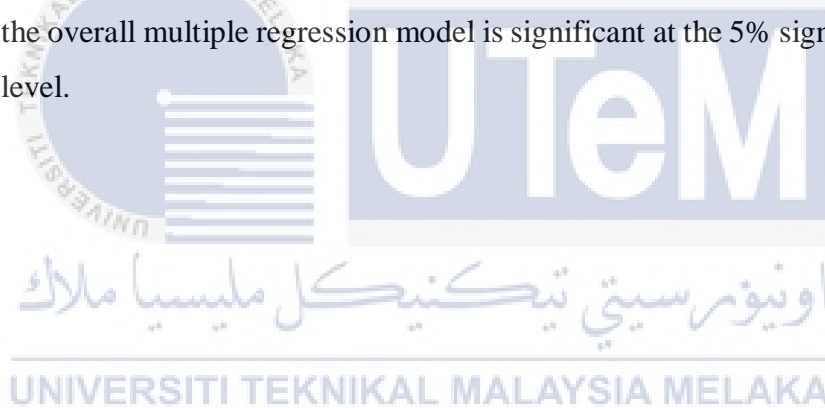


Table 4.8.3: Coefficients of Multiple Linear Regression*Source: (Develop from Research)*

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.071	0.176		6.095	0.000
	Convenience and Accessibility	0.548	0.041	0.536	13.284	0.000
	Affordability	0.209	0.031	0.269	6.654	0.000

a. Dependent Variable: Customer Satisfaction

According to the table, each independent variable in the study had an impact on customer satisfaction with mobile banking. The importance of convenience and accessibility is the most powerful predictor variable, with $\beta = 0.548$, $t(386) = 13.284$, $p < 0.05$. When compared to other independent variables, the unstandardized beta has the largest value. It is apparent that the role of convenience and accessibility has the greatest beneficial influence on consumer satisfaction while using mobile banking.

Next, affordability role has subsequent stronger predictor where $\beta = 0.209$, $t(386) = 6.654$, $p > 0.05$. The unstandardized beta, β of affordability role is the second highest positive value among the variables. From the result, affordability role is the second highest role in determining the customer satisfaction that using mobile banking.

Table 4.8.4: Excluded Variables^a of Multiple Linear Regression

Source: (Develop from Research)

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Ease Of Use	. ^b	.	.	.000

a. Dependent Variable: Customer Satisfaction

b. Predictors in the Model: (Constant), Affordability, Convenience and Accessibility

According to the table, ease of use role is excluded variable in multiple linear regression. This is because of the multicollinearity, or high correlation among variables, makes it harder to isolate individual effects in a regression model. This relationship causes less stable regression coefficients, which makes them sensitive to small changes in the data and poses challenges to the results' trustworthy behavior and the ability to be general.

Table 4.8.5: Equation of Multiple Regression Analysis

Source: (Saunders et al., 2016)

Where;

Y	Dependent variable (Consumer spending by using credit cards)
a	Constant or other influence
b	Influence of X_1 (Economic)
c	Influence of X_2 (Social)
d	Influence of X_3 (Technology)
X_1, X_2, X_3	Independent variables

From the multiple regression equation, there is positive relationship between all independent variables and dependent variable. The regression equation formed to predict the value of consumer spending by using credit cards for new case, multiply independent variables score and add values to the constant. For every increase in unit in independent variable, the researcher expects value increase in dependent variable holding all the variables in constant. Convenience and accessibility role is the strongest predictor from the result obtained as $\beta = 0.548, t(386) = 13.284, p < 0.05$. Therefore, the most significant role in determining customer satisfaction in using mobile banking is convenience and accessibility.

In conclusion, the regression equation is:

Customer satisfaction in using mobile banking = $1.071 + 0.536$ (Convenience and accessibility) + 0.269 (Affordability) + 0.000 (Ease of use). Therefore, the regression equation is established to show how the variables are associated to each other.

4.9 Hypothesis Testing

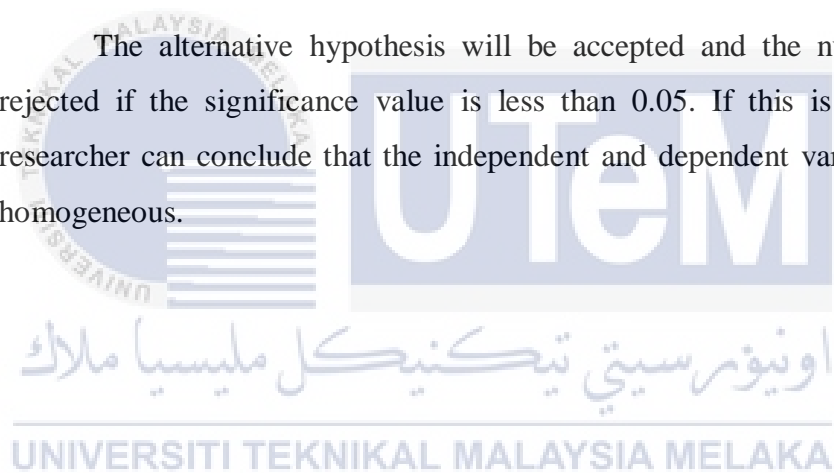
Hypothesis testing enables researchers to come to conclusions about a population by examining samples from the population (Applegate et al., 2003). The hypothesis is chosen between the alternative hypothesis and the null hypothesis.

Where:

H_0 is a null hypothesis

H_1 is an alternative hypothesis

The alternative hypothesis will be accepted and the null hypothesis rejected if the significance value is less than 0.05. If this is the case, the researcher can conclude that the independent and dependent variables are not homogeneous.



4.9.1 Hypothesis Testing 1

H0: There is a significant relationship between the convenience and accessibility of mobile banking and customer satisfaction in Malaysia.

H1: There is no significant relationship between the convenience and accessibility of mobile banking and customer satisfaction in Malaysia.

The significance value in Table 4.7.1.2 is less than 0.05, showing that the alternative hypothesis, H1, is accepted and the null hypothesis, H0, is rejected. As a result, there is a considerable relationship between the role of convenience and accessibility in mobile banking and customer satisfaction. The findings are consistent with previous studies, which revealed that convenience and accessibility play a key impact on customer satisfaction while using mobile banking. Customers can utilize mobile banking to perform transactions at any time and to participate in a variety of online activities such as bill payment, financial management, and shopping. (Nabity-Grover and colleagues, 2020). According to the surveys, convenience, and accessibility have an impact on consumer satisfaction while using mobile banking.

4.9.2 Hypothesis Testing 2

H0: There is a significant relationship between ease of use in mobile banking and customer satisfaction in Malaysia.

H2: There is no significant relationship between ease of use in mobile banking and customer satisfaction in Malaysia.

Based on Table 4.7.2.3, the significance value is less than 0.05 which indicates the alternative hypothesis, H2 is accepted and the null hypothesis, H0 is rejected. Therefore, there is a significant relationship between ease of use role and customer satisfaction in using mobile banking.

4.9.3 Hypothesis Testing 3

H0: There is a significant relationship between the affordability of mobile banking and customer satisfaction in Malaysia.

H3: There is no significant relationship between the affordability of mobile banking and customer satisfaction in Malaysia.

Table 4.7.3.3 shows that the null hypothesis, H0, is rejected and the alternative hypothesis, H3, is accepted when the significance value is less than 0.05. As a result, there is a strong correlation between customer satisfaction with mobile banking and affordability.



4.9.4 Hypothesis Testing Result

Table 4.9.4: Hypothesis Testing Result

Source: (Developed for research)

Independent Variables	P Value	Result
Convenience and accessibility	0.000	Accepted H1
Ease of use	0.000	Accepted H2
Affordability	0.000	Accepted H3

The hypothesis result shows that all of the independent factors and the dependent variable have significant connections (table 4.9.4). The result demonstrates that, for $p < 0.05$, every significant value is below 0.05. Consequently, each independent variable's null hypothesis (H_0) is rejected and each independent variable's alternative hypothesis is accepted.

4.10 Summary

As summary, this chapter discussed data analysis and result of the research. SPSS Version 27.0 was used to obtain data and result from 386 respondents to study the most important role influencing the customer satisfaction in using mobile banking. There are several different statistical tools used for the data analysis.

In a pilot test, reliability analysis was performed to assess the questionnaire's internal consistency using Cronbach's Alpha. The researcher uses the same questions in the questionnaire to collect information. Data and variables for respondent profiles are projected in pie charts, calculated in tables, and illustrated in figures. The researcher determined that all alternative hypotheses were accepted. In contrast, the null hypothesis was rejected using linear regression analysis because there was a significant relationship between the independent variables (convenience and accessibility, ease of use, and affordability) and people using mobile banking. Meanwhile, Pearson's Correlation Coefficient analysis reveals that the study's independent and dependent variables have a strong positive relationship. Finally, the multiple regression analysis showed that technology is the most important role influencing the customer satisfaction in using mobile banking.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This part is where the researcher discusses the main points of the study's results. Based on the research goals, an overview of the study results, a literature review, a conclusion, and some suggestions are made. The suggestions come from a study that has been done and are meant to help with more research. Other research can use the data and findings of this one for studying the future use of mobile banking.

5.2 Summary of Findings

The previous chapter outlines the study's objectives, which include determining the variables that influence users' spending when they use mobile banking, looking into the connections between affordability, accessibility, and ease of use, as well as evaluating the significance of customer satisfaction when using mobile banking.

5.2.1 Research Objective 1

RO 1: To identify the role of mobile banking in determining the customer satisfactions.

The first objective of this study is to identify the role of mobile banking in determining the customer satisfactions. In previous chapter, the researcher had suggested three critical role influencing consumer satisfaction by using mobile banking which are convenience and accessibility, ease of use and affordability. The first objective had been achieved through Literature Review in Chapter 2. The critical role had been proved by previous researchers. Therefore, the researcher comes out with the independent variables (convenience and accessibility, ease of use, and affordability) influencing consumer satisfaction in using mobile banking.

As digital platforms become more popular and mobile banking becomes more common, it is essential to know how this affects the satisfaction of customers. Customer satisfaction is an important factor in the highly competitive banking business, and the goal of this study is to fill the gap in knowledge in the academic community about how mobile banking affects customer expectations. The researchers anticipate that their findings will have implications for the industry, supporting financial institutions in improving the mobile banking services they offer and the overall level of happiness experienced by their consumers. This research contributes to the advancement of knowledge in the subject of banking and technology, assisting in the advancement of broader academic goals.

5.2.2 Research Objective 2

RO2: To measure the relationship between the role of mobile banking in determining customer satisfactions.

The Statistical Package for Social Sciences (SPSS) software can be employed to accomplish the second research objective using Pearson's Correlation Coefficient Analysis. The findings display that all the independent variables which are convenience and accessibility, ease of use and affordability role are positively associated to the dependent variable which is the consumer satisfaction in using mobile banking. Furthermore, the analysis's findings indicate that each independent variable has a significant connection with customer satisfaction with mobile banking. The independent variables (convenience and accessibility, ease of use and affordability) has moderate strong to strong positive relationship with customer satisfaction in using mobile banking because they have respective value between 0.642, 0.479 and 0.479 based on table 4.6. Convenience and accessibility role has highest association followed by both ease of use and affordability roles.

As mobile banking becomes increasingly widespread, it is critical to measure its influence on customer satisfaction. Customer service is essential in any organization, but it is especially important in the banking industry due to the strong competition. This research aims to produce information that not only expands our understanding of mobile banking and customer satisfaction but also provides banks with insights to help them improve their services. In the fast-changing world of digital banking, it also wants to bridge a knowledge gap and enable informed decision-making. It satisfies the needs of the industrial sector as it expands.

5.2.3 Research Objective 3

RO3: To examine the most critical role of mobile banking in determining customer satisfactions.

The third research objective is to examine the most critical role of mobile banking in determining customersatisfactions. This objective can be achieved through Multiple Linear Regression analysis from SPSS. Based on table 4.8.3, convenience and accessibility role is the most significant role in determining customer satisfaction in using mobile banking.

The goal of this study is to identify the most important components of mobile banking and evaluate them in order of significance. Through an assessment of these complications, the study not only advances academic understanding but also provides banks with important suggestions that can be implemented to improve the quality of their mobile banking support. It is expected that the findings would enable the industry to strategically boost customer satisfaction, strengthen connections, and achieve a competitive advantage in the ever- changing digital financial ecosystem.

5.3 Research Implication

The purpose of this study is to gain a better understanding of how mobile banking affects customer satisfaction. Although the survey only looked at three characteristics, the researcher thinks mobile banking has a larger influence in determining customer satisfaction. Therefore, the researcher proposed a fresh framework that other researchers may find useful.

The researcher in this study was able to meet the objectives of the research through a review of the literature, an analysis of Pearson's Correlation Coefficient, and a test of the hypothesis regarding the relationships between the independent variables (convenience and accessibility, affordability, and ease of use) and the role that mobile banking plays in determining customer satisfaction. In summary, convenience and accessibility, ease of use and affordability factors influence customer satisfaction by using mobile banking and convenience and accessibility role is the most significant role of mobile banking in determining customer satisfactions.

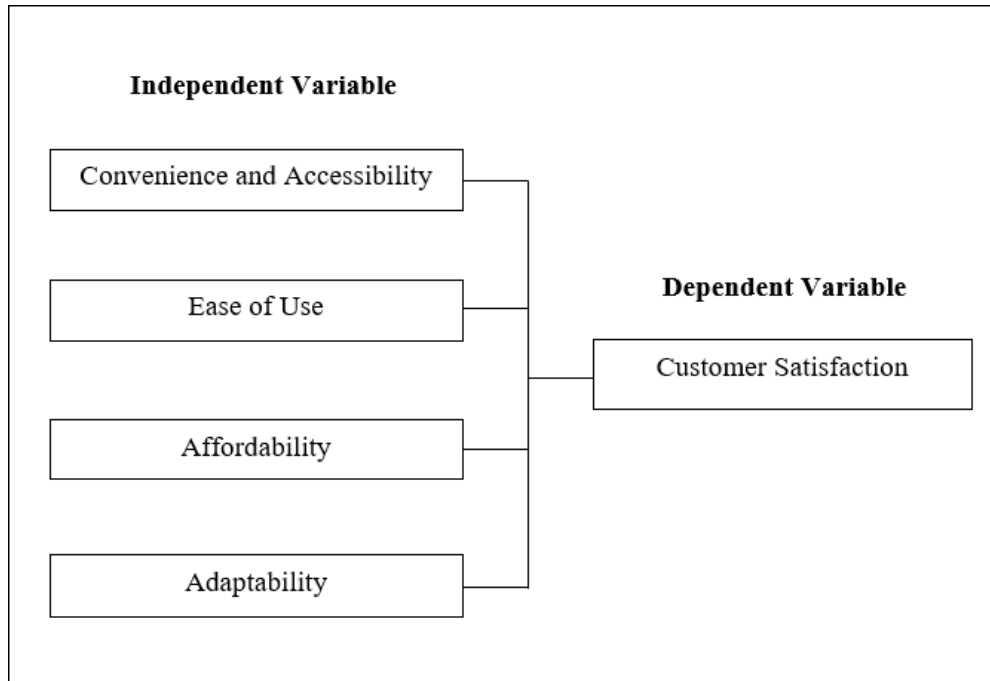
Understanding the crucial role of mobile banking in shaping customer satisfaction in the financial landscape is critical. Mobile banking is an essential component impacting customer satisfaction since it provides convenience and accessibility, as well as ease of use and affordability. The simplicity of managing finances using mobile platforms considerably contributes to overall satisfaction levels. Customers increasingly depend on mobile banking services, and institutions must recognize and improve this digital experience to increase consumer satisfaction. Meeting and exceeding customer needs through effective mobile banking capabilities is crucial to maintaining a good and engaging banking experience.

5.4 Research Limitation

There are several limitations that have been met by researcher during the study. The limitation could be improved for future study. The first limitation is time constraint where the researcher only able to select three independent variables which are convenience and accessibility, ease of use and affordability factors to be studied. However, the researcher knows that there are other critical role of mobile banking in determining customer satisfactions. For future research, the mobile banking study can focus on more variables in order to obtain better and precise result. Next, the limitation is the responses from consumers. The potential respondents may refuse to answer the questionnaire due to personal reasons. Some of the respondents may not answer the questionnaire based on their own experiences and may not understand the questions well before they answer. This can cause the data may not able to provide enough evidence on the role of mobile banking in determining customer satisfactions. The researcher designed the questionnaire based on problem statement to obtain precise and accurate data to make significant study. Hence, the data may not be supportive enough to represent mobile banking consumers in Selangor.

5.5 Recommendation for Future Research

For future research, the researcher proposed a new conceptual framework as this study only consists of three independent variables (convenience and accessibility, ease of use, and affordability). However, the researcher believed that there are other critical roles of mobile banking in determining customer satisfaction. Future researchers may do qualitative research on mobile banking studies to gain deeper insights into customer satisfaction in using mobile banking. Future researchers can increase the sample size of the study to generalize on mobile banking consumers. Future research should look into how specific elements of mobile banking apps, such as user interface design and transaction speed, affect consumer satisfaction. Furthermore, it is necessary to examine how educating customers about the benefits of mobile banking affects their general level of satisfaction. Another area of investigation is the relationship between how satisfied customers are with mobile banking services and loyalty. These studies are critical for influencing strategic improvements and improving the overall consumer experience in mobile banking. Therefore, adaptability role can be used in future research on mobile banking studies. The researcher constructs a new research framework for future research as below.



5.5 New Conceptual Framework



Appendices

Appendices A: Questionnaire



THE ROLE OF MOBILE BANKING IN DETERMINING CUSTOMER SATISFACTION

Dear participants, I am Nur Batrisyia Aznie Binti Abu Zamri, currently enrolled at Universiti Teknikal Malaysia Melaka (UTeM) in the Faculty of Technology Management and Technopreneurship (FPTT). This survey serves the purpose of acquiring primary data for my Final Year Project under the supervision of Dr Siti Norbaya Binti Yahaya. I sincerely appreciate your involvement in this survey focused on the role of mobile banking in determining customer satisfaction. Your accurate and well-informed answer would significantly improve my understanding of the role of mobile banking in determining customer satisfaction.

The survey is expected to require a time commitment of approximately 3 to 4 minutes. Please rest assured that your responses will remain confidential, and no individual answers will be disclosed or published. Therefore, please feel free to provide your responses without hesitation. Thank you once again for your participation.

Should you require additional clarification or have any inquiries regarding the questionnaire, please feel free to contact the following:

NUR BATRISYIA AZNIE BINTI ABU ZAMRI

UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)

Email: B062010033@student.utm.edu.my

Tel: 011-3935 4640

SECTION A: GENERAL INFORMATION

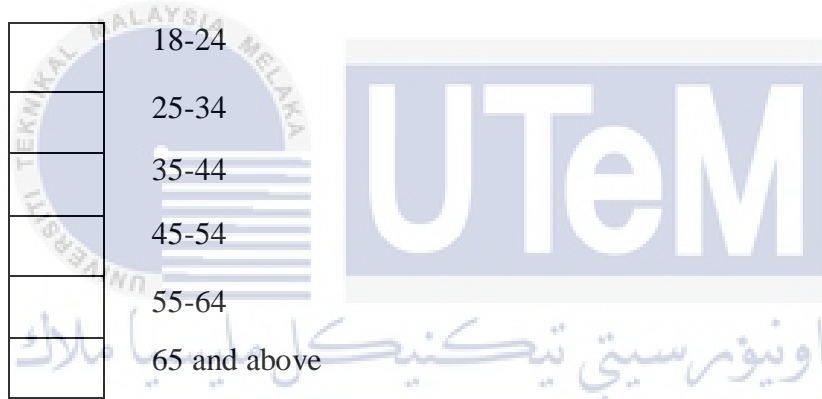
Instructions: This section seeks for respondents' personal profiling. Please tick (✓) on the space given.

Gender

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female

Age

<input type="checkbox"/>	18-24
<input type="checkbox"/>	25-34
<input type="checkbox"/>	35-44
<input type="checkbox"/>	45-54
<input type="checkbox"/>	55-64
<input type="checkbox"/>	65 and above



What is your current employment status?

<input type="checkbox"/>	Self-employment
<input type="checkbox"/>	Student/internship
<input type="checkbox"/>	Private employees
<input type="checkbox"/>	Government employees

Do you use mobile banking?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

SECTION B: INDEPENDENT VARIABLES

Instruction: Please tick (/) the most suitable answer for the following statement by using the appropriate scale.

(1-Strongly Disagree, 2-Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree)

Independent Variable: Mobile banking convenience and accessibility

Mobile banking makes it easy to access and manage your bank accounts on your phone. It is helpful since you can check your balance, fund transfers, pay bills, and receive account notifications 24/7 from anywhere.

	Convenience and Accessibility	1	2	3	4	5
1	Easy to complete transactions through mobile banking.					
2	Mobile banking offers a variety of services that meet my financial needs.					
3	Mobile banking provides clear information about my accounts.					
4	I can use mobile banking platforms anytime, anywhere.					
5	Mobile banking improves my whole banking experience by providing more convenience.					

Independent Variable: Ease of Use of Mobile Banking

The term "ease of use" for mobile banking refers to how easy it is to do banking tasks on your phone. It is all about making things easy and quick.

	Ease of Use	1	2	3	4	5
1	The mobile banking platform's menu and options are user-friendly.					
2	Be able to learn quickly to use mobile banking platforms.					
3	Easy to download the mobile banking app on my mobile device.					
4	Using mobile banking services in Malaysia requires little effort.					
5	Mobile banking responds quickly to transactions and loading processes.					

Independent Variable: Mobile banking's affordability

Mobile banking is affordable. Mobile applications for checking accounts, making transactions, and managing money should be free or affordable.

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	Affordability	1	2	3	4	5
1	The charges involved in using mobile banking services are reasonable.					
2	Mobile banking is a cost-effective way to make payments.					
3	The process for getting a loan or credit using mobile banking services is easy.					
4	Mobile banking is more cost-effective than using other banking methods, such as ATMs or branches.					
5	Credit cards and personal loans are all more affordable with mobile banking.					

**SECTIONC: CUSTOMER SATISFACTION AS AN EFFECT OF USING
MOBILE BANKING PLATFORM**

Instruction: Please tick (/) the most suitable answer for the following statement by using the appropriate scale.

(1-Strongly Disagree, 2-Disagree, 3- Neutral, 4- Agree, 5- Strongly Agree)

Dependent Variable: Customer Satisfaction

Customer satisfaction with mobile banking shows that customers are satisfied with the application experience. Customers appreciate and trust the application because it makes them feel good and meets their requirements.

Customer satisfaction		1	2	3	4	5
1	Mobile banking is accessible, which is really convenient.					
2	Mobile banking is very affordable, with excellent overall service quality.					
3	Mobile banking is very efficient, including transaction processing times.					
4	The use of mobile banking is very easy to use.					
5	I will suggest mobile banking platform to others.					

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Gantt Chart PSM 1

Year	2023/2024														
Task / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Briefing PSM 1															
PSM 1 and title briefing															
Title confirmation & Discussion with supervisor															
Chapter 1 briefing															
Chapter 1 draft submission: Problem statement, Research question & Research objectives															
Chapter 2 briefing: Literature review & Conceptual framework															
Chapter 2 draft submission															
Correction of Chapter 2															
Chapter 3 briefing: Methodology choice, Research design & Research framework															
Correction Chapter 3															
Preparation & Submission of proposal															
Amendment of proposal															
PSM 1 drafting preparation for proposal presentation submission															
Presentation & Q&A															

Gantt Chart PSM 2

Year	2023/2024														
Task / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Constructing of Questionnaire	█														
Revised for Questionnaire		█													
Questionnaire Distribution			█	█	█	█									
Data Collection			█	█	█	█	█								
Data Analysis							█	█	█						
Chapter 4- Findings and Discussion								█	█						
Revised Chapter 4										█					
Chapter 5 – Conclusion										█	█				
Revised Chapter 5										█	█				
Final Edit FYP Report 2											█	█			
FYP Presentation 2											█	█			
FYP Report Submission 2											█	█			