THE IMPACT OF E-BANKING USAGE FROM THE PERSPECTIVE OF GENERATION Y AND Z IN MALAYSIA

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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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

This study is dedicated to those who have inspired and supported me throughout my voyage. Their unwavering confidence in my abilities and constant encouragement have driven my pursuit of knowledge and comprehension. This investigation would not have been feasible without their assistance and support. I would like to begin by expressing my sincerest gratitude to my supervisor, Dr. Siti Norbaya binti Yahya. Her guidance, expertise, and dedication to academic excellence have been instrumental in determining the course of this research. Her incisive feedback and constructive criticism have prompted me to question my own assumptions and pursue greater clarity in my work. I am incredibly privileged to have had the opportunity to labor under her supervision. In addition, I would like to acknowledge the invaluable support of my colleagues and acquaintances, who have fostered a collaborative and stimulating environment throughout this research. This research has been a tremendously rewarding experience due to the innumerable hours spent generating ideas, participating in lively discussions, and offering assistance. I owe a debt of gratitude to my family that cannot be completely expressed in words. Their unwavering support, affection, and understanding have provided me with a constant source of fortitude. Their sacrifices and confidence in my abilities have provided me with the fortitude to pursue my pursuits and accept the challenges associated with conducting research. This dedication is a demonstration of their unwavering support and a token of my gratitude for everything they have done for me. Lastly, I would like to extend my sincere appreciation to everyone who participated in this research. Their willingness to contribute their time and insights was instrumental in defining the results of this study, especially in the pilot test session. Their commitment to advancing knowledge and their willingness to share their experiences have been genuinely inspiring. To everyone enumerated above and the countless others who have contributed in significant ways, I extend my sincerest gratitude. Without your assistance, this research would not have been possible. Your confidence in me and your support have strengthened my resolve to make a significant contribution to my field of study. As I conclude this research, I hope that it serves as a testament to the power of collaboration, tenacity, and the persevering spirit of inquiry. My sincere hope is that this work will contribute to the advancement of knowledge and serve as a basis for future research.

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I would like to extend my sincerest appreciation to everyone who has provided support and assistance throughout this research. Without their contribution, this research would not have been conceivable. First and foremost, I would like to offer my supervisor, Dr. Siti Norbaya binti Yahya, my sincere appreciation for their guidance, expertise, and unwavering support. Their incisive feedback, constructive criticism, and unwavering support have been instrumental in shaping the direction and quality of this research. I am incredibly appreciative of the opportunity to labor under their guidance. In addition, I would like to acknowledge the contributions of my research colleagues and fellow students, who have fostered a collaborative and stimulating environment. Numerous discussions, ideation sessions, and idea exchanges have significantly enriched my knowledge of the topic. Their support and companionship have made this research voyage more pleasant and fruitful. I would like to express my gratitude to the participants who generously contributed their time and shared their experiences, insights, and perspectives. The influence of their contributions on the outcomes of this study has been invaluable. Their willingness to engage in and contribute to the research process is greatly valued. In conclusion, I extend my deepest gratitude to everyone who has contributed in any way to this investigation, no matter how minor. People's contributions have been invaluable, and I am privileged to have had the chance to work with such remarkable people. They have been an integral part of this voyage.

ABSTRACT

This study investigates the influence of e- banking based on the perspective of Generations Y and Z, with a specific emphasis on their adeptness with technology. The research conducted a quantitative study with 384 Malaysian participants, which revealed that these generations exhibit a high level of familiarity with digital technology and enthusiastically use e-banking due to its convenient and time-saving advantages. Nevertheless, the implementation of the technology is impeded by issues over security, privacy, and trust. The research also evaluates the impact of age, education, and money on their viewpoints. The findings indicate that resolving these issues might improve the adoption of e-banking, which would be advantageous for banks, regulators, and academics. The study proposes the elimination of obstacles to enhance e-banking and promote financial inclusion among Generations Y and Z, providing valuable guidance for policymakers to formulate regulations that safeguard consumers. Subsequent studies may broaden the assessment of electronic banking among diverse client segments. Furthermore, the data collected from participants will be analyzed using the Statistical Package for Social Sciences (SPSS). The researcher used descriptive statistics, Pearson's correlation coefficient, and multiple regression analysis to examine the hypothesis. The study found that perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation all have a significant impact on the usage of e-banking among Generation Y and Z. Among these factors, perceived technology and innovation was found to be the most influential in driving the adoption of e-banking among Generation Y and Z. In future research, the researchers might use the suggested novel conceptual framework to conduct the investigation or incorporate other variables for examination.

Keywords: E- banking, usage, perspectives, generation Y and Z, Malaysia.

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INTRODUCTION

1.1 Introduction

This chapter examined the study's context and explained the significance of the impact of e-banking usage from the perspectives of generations Y and Z in Malaysia. In addition, the problem statement, research query, and research objective of this project's research are discussed. Moreover, it elaborated on the scope of the research that will be carried out.

1.2 Research flow

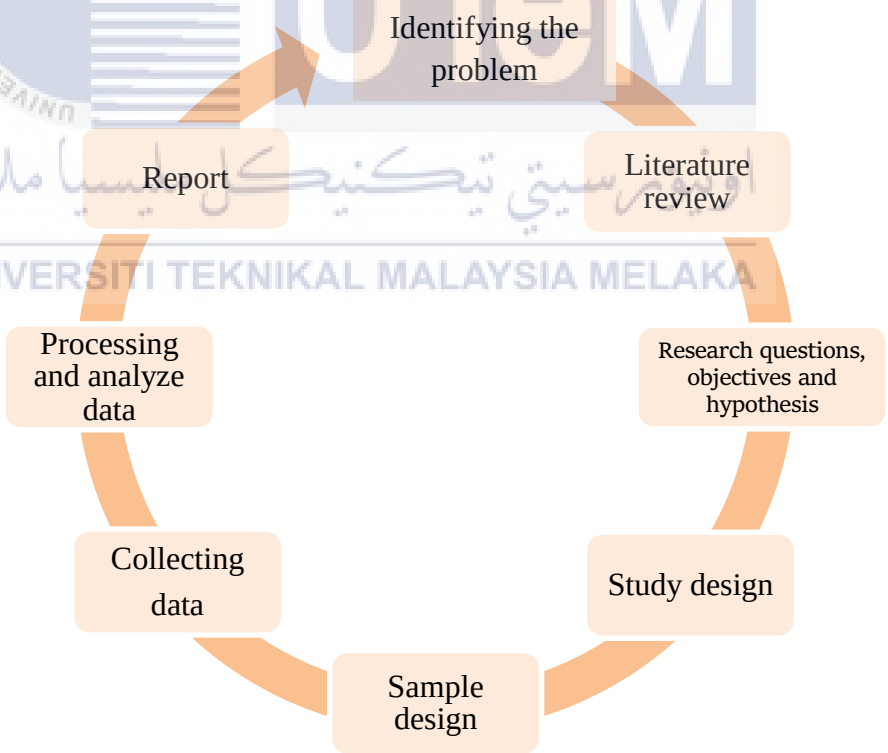

Figure 1.2: Research flow

1.3 Background of study

The rapid development of technology and the pervasive availability of the internet have revolutionised how individuals conduct financial transactions. Electronic banking, or e-banking, has emerged as one of the banking industry's most significant developments. E-banking is the distribution of various banking services, such as account management, fund transfers, and bill payment, via electronic channels such as websites, mobile applications, and ATMs. Computers, ATMs, the internet, telephones, mobile phones, and other electronically operated devices are all included in the category of electronic means of banking (Moses & Rajasekaran, 2023). Nowadays, the impact of e-banking usage and its influence on generations Y and Z in Malaysia are relevant and fascinating topics.

According to Khandelwal (2022), the future of banking is electronic, and customers will profit immensely from it in terms of transaction simplicity and cost. Access is rapid, simple, and always accessible, no matter where the consumer is, and banks can deliver services more efficiently and at much reduced costs. It is motivated by the increasing importance of e-banking adoption in the banking sector and the growing use of e-banking services by younger generations. The study aims to explore how e-banking usage by providers affects the satisfaction, loyalty, and trust of these generations. In this context, as a developing nation with a robust digital infrastructure, Malaysia has seen a significant increase in the number of financial institutions that offer e-banking services.

The main focus of this research focuses more on the perspective of generations Y and Z. The country has a sizable population of members of Generation Y and Generation Z, who are known for their affinity for technology and digital platforms. The millennials, or members of Generation Y, were born between the early 1980s and the mid-1994s. Generation Z refers to those born between the mid-1995s and the beginning of the 2012s. Both generations have experienced the proliferation of internet-based services and have grown up in an age of technological progress.

In addition, generations Y and Z grew up during a time of rapid technological advancement. They are early consumers of new digital technologies and are generally more at ease with the use of digital platforms for various activities, including e-banking. Understanding their preferences and behaviours enables financial institutions to create user-friendly and intuitive e-banking interfaces that resonate with this technologically sophisticated demographic. This study targets Gen Y and Gen Z clientele, which are 17–25 and 26–35, respectively (Windasari, Kusumawati, Larasati, & Amelia, 2022). Understanding their perspectives on the long-term viability of e-banking is essential for obtaining vital information regarding the potential impact of these services.

This comprehension may contribute to e-banking activities that support the objectives of Malaysia's banking sector. There are several reasons the researcher decided to choose both young generations to make the comparison. Generations Y and Z had different digital upbringings. Generation Y, or Millennials, saw the internet and early digital technologies grow up. Generation Z, or "digital natives," grew up with cellphones, social media, and digital technology. E-banking usage, expectations, and perceptions may vary according to their technology background. Generation Y and Generation Z vary in digital proficiency and platform familiarity. Generation Z, raised in a digital environment, is more comfortable using digital technology for financial transactions and other objectives. Despite their digital proficiency, Generation Y's early adulthood may have been distinctive for its digital adaptation. Understanding these digital fluency differences helps illuminate the problems and prospects of drawing Generations Y and Z to sustainable e-banking.

The increasing adoption of e-banking services has caused a significant transition towards digitalization in Malaysia's banking landscape. Generations Y and Z, constituting a significant portion of the population, play a crucial role in determining the viability of e-banking in Malaysia. According to a study by Ang and Buttle (2017), the youngest generations, including Generations Y and Z, are more inclined to implement and use digital banking services. They are more accustomed to using technology for financial transactions and seek convenience, swiftness, and individualised interactions with banks. In Malaysia, the e-banking preferences and behaviours of Generations Y and Z can have a substantial impact on the viability of digital banking services. Their high level of digital proficiency, reliance on mobile devices, and demand for seamless digital experiences influence the country's expectations and requirements for e-banking usage.

1.4 Problem statement

E-banking, often known as online banking, is a system that enables consumers to access and manage their bank accounts from anywhere in the world via the internet. According to data from the Central Bank of Malaysia (Bank Negara Malaysia), the number of internet banking customers registered in Malaysia reached 27.4 million by 2020 (Bank Negara Malaysia, 2020). It is a digital platform that allows consumers to execute numerous financial operations and services such as checking account balances, moving cash between accounts, paying bills, and applying for loans. E-banking usage also includes mobile banking and apps. According to a study conducted by Nielsen in 2020, 75% of Malaysian consumers use mobile banking, indicating a substantial uptake of mobile banking services in the country. Furthermore, E-wallets are a type of digital payment that is often used in e-banking. They are becoming more popular in Malaysia. As of 2020, Deloitte said that more than 60% of Malaysians had used an e-wallet. This shows that digital payment methods are becoming more popular (Deloitte, 2020). However, there are multiple issues that can arise in the context of e-banking that can negatively impact its efficacy and user experience.

The main problems in e-banking faced by generations Y and Z were securities issues and fraud. Due to the potential of cyberattacks, which may lead to money loss, identity theft, and other fraudulent actions, security is a major issue in e-banking. Cybercriminals may acquire consumers' personal and financial information, such as login passwords, credit card numbers, and account data, using a variety of strategies, including phishing schemes, malware, and social engineering. Moreover, cybercriminals often employ phishing to deceive victims into giving over their personal information. Phishing schemes entail sending phony emails or texts that look to be from a trustworthy source, such a bank or financial institution, in order to get clients to provide critical information. Cybercriminals also employ malware to access consumers' devices without their permission and steal their personal data. The term "malware" refers to a class of software, including viruses, worms, and Trojan horses, that is intended to damage or exploit targets. Based on these facts, Malaysian users should be more aware of phishing assaults and increase their efforts to avoid being victims of this cybercrime. Phishing is still considered a serious danger to internet banking in Malaysia, accounting for 94 percent of all complaints (Kassim, 2019).

Besides, another problem of e- banking is that customers might suffer great discomfort as a result of technical issues, which are a prevalent issue that can arise with e-banking systems. These errors may prevent clients from accessing their accounts, completing transactions, or doing other banking tasks. They can include system breakdowns, network outages, and server downtime. When the e-banking system has a hardware or software problem, system crashes may happen. Customers may not be able to access their accounts as a result of the system shutting down or becoming unresponsive as a result. Network interruptions might result in sluggish response times or broken connections when there is a problem with the internet connection or when the e-banking system is overburdened with traffic. According to Hussain, Das, Bhutto, Hammad-U-Salam, Talpur, & Rai (2017), ATMs, mobile phone banking, computer banking, telebanking, and, most recently, internet banking are instances of how distribution network variations have fueled the evolution of financial technology. Customers have reported a variety of problems as a consequence of inadequate ATM connection capacity and

connectivity, such as incorrect cash reporting, excessive cash deductions during transactions, late cash delivery, connections down, and inoperable ATMs.

Moreover, e-banking is very dependent on data centers, servers, and other IT infrastructure, all of which need a significant amount of energy to maintain their operation and maintain a cool temperature. The use of energy by these facilities is a contributor to the emissions of carbon and the effect they have on the environment, especially when that energy is obtained from sources that are not renewable. The growing demand for online banking services puts a pressure on data centers, which in turn leads to a rise in their consumption of energy and an amplified negative effect on the environment. In order to fulfill their environmental responsibilities, banks have made green initiatives their top priority in order to reduce their carbon footprints in banking operations and financial products. Additionally, green initiatives in institutions have grown in popularity. Establishing comprehensive banking regulations that foster long-term economic growth is known as "systemic banking reform." "Green banking." The financial industry's value has increased due to the adoption of environmentally friendly policies and initiatives. Within the realm of banking, they created a synergy that contributed to the growth of green trust and a green reputation (Sangisetti & Venkata, 2022).

Lastly, despite the fact that generations Y and Z are generally considered to be more familiar with digital technology than previous generations, they may still find it difficult to navigate e-banking systems. One reason for this is that e-banking systems are continuously evolving and introducing new features, making it difficult for customers to keep up. Some e-banking systems, for instance, may use different terminology or iconography than those familiar to Generations Y and Z, which can cause confusion and make it more difficult for them to navigate the system. Moreover, although they are commonly regarded as digital natives, there is still a range of digital literacy levels among these groups. Some members of Generation Y and Z may be less familiar with e-banking systems or have less experience with financial management, which can make navigating the system more difficult for them. Lastly, although e-banking systems are typically designed to be user-friendly, the design and layout of the system may not always correspond with the preferences and expectations of Generations Y and Z. For instance, they may prefer a more minimalist design with fewer options or features, whereas e-banking systems may offer an overwhelming number of functions and features. Every industry, including banking, must adapt to the sometimes-rapid rate of technological progress, as the digital era has given mobile banking a possibility to expedite transactional activity (Az-Zahra, Setiawati, Sosianika, & Senalasari, 2023).

Therefore, this study is conducted to identify the impact of e-banking usage from the perspectives of generations Y and Z. This research would also measure the relationship factors that influence generation Y and Z's perspectives on using e-banking. Lastly, this study would also be conducted to examine the critical factors in e-banking usage that influence generation Y and Z's perspectives on using e-banking. The study must be conducted for a variety of reasons, including the fact that generations Y and Z constitute a significant portion of the population. In addition, it evaluates the encounter with technological progress. Not only that, the report also identifies customers' satisfaction and loyalty towards e-banking and examines the industry's market competition in e-banking.

1.5 Research objectives

In order to accomplish the purpose of the study, research objectives have been enumerated in accordance with the requirements of the research. Below are the objectives of the research:

RO1: To identify the impact of e-banking usage from the perspective of generations Y and Z.

RO2: To measure the relationship between e-banking usage and the perspectives of generations Y and Z.

RO3: To examine the critical impacts of e-banking usage from the perspective of generations Y and Z.

1.6 Research questions

Based on the objectives of the researcher, the primary research question has been formulated. Below are the queries already formulated by the researcher.

RQ1: What is the impact of e-banking usage from the perspective of generations Y and Z?

RQ2: What is the relationship between e-banking usage and the perspectives of generations Y and Z?

RQ3: What are the critical impacts of e-banking usage from the perspective of generations Y and Z?

1.7 Scope of study

This essay examines the impact of generations Y and Z on e-banking usage, who are regarded as technologically knowledgeable. Generations Y and Z's perspectives on the impact of e-banking utilization will be investigated using a quantitative method. This study will investigate the attitudes, preferences, and behaviours of these generational cohorts regarding e-banking usage between the two cohort generations, which are generations Y and Z in Malaysia. It will investigate the impact and benefits of e-banking usage on environmental awareness, social responsibility, and ethical considerations that might change their perspective on the utilization of e-banking services among Malaysians of generations Y and Z. The research will also evaluate potential barriers and catalysts for e-banking adoption among these particular demographic categories. By examining the intersection of e-banking, this study aims to provide valuable insights and recommendations for banks, policymakers, and stakeholders in Malaysia to improve e-banking initiatives and meet the needs and expectations of younger generations and the future.

1.8 Significance of study

This research study was necessary to understand and explore the implications of e-banking usage based on the perspectives of generations Y and Z in Malaysia. Furthermore, this research helped the researchers identify the impact of e-banking usage on generation Y and Z's perspectives on e-banking. This study is intended to measure the relationship between the impact of e-banking usage and generation Y and Z's perspectives on using e-banking. This would help the researcher gain a better understanding of both generations perspectives whenever using e-banking services or systems. In addition, this study also aims to examine the critical impacts of e-banking usage that influence generations Y and Z's perspectives on using e-banking. Based on the predicted research through this paperwork, to aim the relationship between the impact of e-banking usage and generation Y and Z's perspective on using e-banking.

1.9 Limitation of study

In this research, the impact of e-banking usage from the perspectives of generations Y and Z in Malaysia will be discussed in depth since it has become an issue in this country. Based on the researcher's understanding, the limitations of a study are the factors or restrictions that may influence the validity, generalizability, and dependability of the research findings. These limitations highlight the potential deficiencies or shortfalls of the study and shed light on the areas that require additional research and improvement. In a nutshell, there are a few constraints that the researcher faces while doing research.

Firstly, the researcher needs to face the selection bias problem. Selection bias occurs when the participants in a study are not representative of the population being examined; as a result, the study's findings may not be applicable to the larger population. In the case of the study the researcher described, if the researchers only enlist participants who are interested in e-banking usage, the results may not accurately reflect the attitudes and behaviours of the Malaysian populace as a whole. For instance, the researcher knows that the selection bias would occur because she may only attract those who are interested in e-banking. The researcher just targeted 10 percent to answer the questionnaire physically, and the reminders would be to stay as online respondents. This could result in an unrepresentative and skewed sample of the population.

Besides, self-report bias is a form of response bias that occurs when survey participants provide inaccurate or untruthful answers. This restriction can affect the validity and reliability of the findings. This might happen as a result of social desirability bias, which is the propensity for participants to act in a way they think other people will like or that conforms to social norms. For instance, if the study the researcher describes includes questions about sustainable behaviour, participants may be hesitant to report non-environmentally friendly behaviours, or they may exaggerate their environmentally friendly behaviours to present themselves in a more favourable light. This could result in inaccurate or biassed results that do not reflect the actual behaviours or attitudes of the participants.

Moreover, the researcher also has time constraints. Time constraints play a crucial role in determining the duration of data collection in a research study, and they can influence the ability to capture long-term effects or changes over time. Due to a variety of factors, such as project deadlines, resource availability, or practical constraints, researchers frequently encounter time constraints. When examining phenomena that unfold or evolve over an extended period of time, these constraints can present obstacles. The researcher has a restricted amount of time to carry out a study. This is because, despite the fact that the majority of the research was conducted in Malaysia, the researcher was only able to analyse a small number of samples from a chosen number of states, such as Perak, owing to time constraints, and the researcher may also be located outside of the study region. Therefore, the researcher estimates that 10% of the 384 respondents, or 38 respondents, will respond to the questionnaire physically, while the remaining respondents will respond online to overcome the limitations.

1.10 Summary

The purpose of this study is to examine the impact of e-banking usage in Malaysia from the perspectives of generations Y and Z. It helps to understand the attitudes and behaviours of these generations regarding e-banking usage as well as identify crucial impacts that influence their perspective towards e-banking usage. The study is limited by selection bias and self-report bias, and the findings may not be generalizable beyond the Malaysian or e-banking industry context. Nonetheless, the study offers insights into the potential benefits and challenges of adoption for e-banking usage and emphasises the significance of understanding the perspectives of younger generations in influencing the future of e-banking usage. It also includes the background of the study, problem statements, research question, research objective, and scope of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This literature review seeks to examine and assess studies that investigate the impact of e-banking usage, with a focus on generations Y and Z in Malaysia. This section goes beyond simply summarising prior research by identifying the limitations of prior studies and proposing how current research can fill those gaps. Furthermore, this section will generate research-related hypotheses based on preliminary findings and observations.

2.2 Definition of study

2.2.1 E- banking.

The term "e-bank" refers to an electronic bank that offers online financial services to a single client (Kbalaji, 2023). E-banking, also known as electronic banking or online banking, is the provision of banking services and transactions over the internet and other electronic channels. It enables clients to conduct a variety of banking transactions without having to physically visit a bank branch. E-banking has acquired a substantial amount of popularity and is now an integral component of the modern banking system. According to Kbalaji (2023) note that, electronic banking is the process by which a consumer can conduct banking transactions electronically without visiting a traditional institution.

Kbalaji (2023) also stated that "the terms personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking all refer to one form or another of electronic banking." E-banking typically entails a bank or financial institution's secure website or mobile application. Customers can perform a broad array of banking operations via these platforms, including: Account management, Transfers of funds, Online bill payment, Electronic statements, Remote deposits, Online applications, and Customer service.

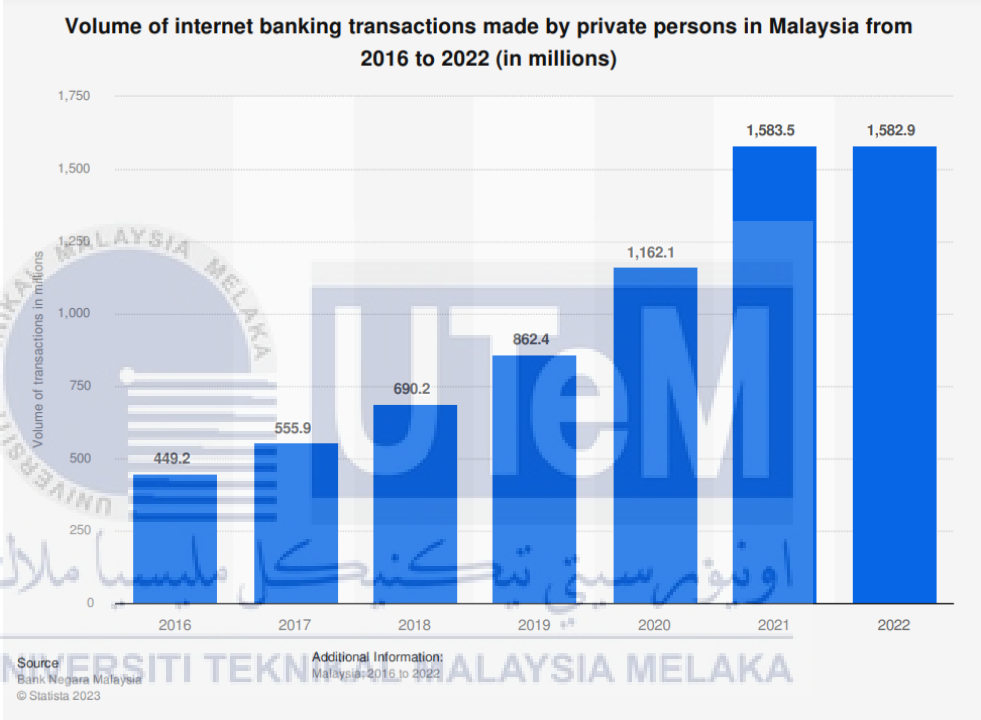

Figure 2.2.1: Volume of internet banking transactions made by private persons in Malaysia from 2016 to 2022.

(Source: Statista, 2023)

Based on the statistic above, it shows the volume of internet banking transactions made by private individuals in Malaysia starting from 2016 until 2022. The statistics prove that the increase in transactions year by year and data in 2022 is the highest ranking of internet banking transactions compared to previous years, which were 2021 and below. From interpreting the data above, it shows that Malaysia is very competitive in terms of technology and e-banking sectors.

2.2.2 E- banking usage that influences perspectives of generation Y and Z's in Malaysia

E-banking is known as the use of electronic channels and technology to execute banking operations such as account management, transactions, and financial services. Depending on how they use e-banking, Generation Y and Generation Z (also known as Millennials and Gen Z) may have distinct perspectives. It entails the incorporation, integration, and utilisation of online banking platforms, mobile applications, and other digital channels for various banking transactions and services. According to Qawasmeh, Alkhazali, and Sharari (2021), "e-banking refers to all systems that allow customers of financial institutions, whether individuals or organisations, to open accounts, conduct transactions, or gather information on financial products and services via a public or private network, such as the internet.

In recent years, customers have been progressively utilising electronic banking to conduct a variety of financial transactions at any time and from any location (Hammoud et al., 2018). Additionally, Llanes and Pino (2020) note that, as of 2014, the use of electronic banking services and consumer adoption have increased. A fundamental instrument for both the banking industry and the consumer since it facilitates the transfer of funds. It permits greater economic profitability and a competitive edge. Indirectly, it also has an effect on contemplating the environmental impact, social responsibility, and ethical aspects of banking operations, in addition to the technological advances in the digital banking sector. Customers who are in generations Y and Z typically adopt e-banking by opening online banking accounts, registering for mobile banking apps, and actively utilising digital platforms to perform tasks such as checking account balances, transferring funds, paying bills, applying for loans, managing investments, and gaining access to additional banking services. Adoption rates can vary based on variables such as technological capability, accessibility, confidence in online security, awareness of benefits, and usability.

Therefore, financial institutions play an essential role in promoting e-banking adoption by providing convenient and secure digital platforms, educating customers on the benefits and capabilities of e-banking, and resolving any concerns or barriers customers may have. Due to technological advancements, altering consumer expectations, and the demand for more convenient and accessible banking services, e-banking has become more prevalent in recent years. According to Ahanthem (2022), since the introduction of information technology, the operational environment of the banking industry has witnessed a significant and evident transformation due to the accelerated rate of change.

2.2.3 Generations Y and Z

Due to the research on millennial and digital native generations, Eastman, Iyer, and Thomas (2013) and Obal and Kunz (2014) predict that Generations Y and Z will have distinct consumption patterns, particularly on digital platforms, compared to prior generations. Therefore, this study needs to be conducted to identify the differences in behavior between users from the perspective of generation Y and Z. This is because both generations may have different exposures and opinions about technology, especially e-banking system. According to Ruangkanjanases & Wongprasopchai (2021), Individuals of Generation Y are well-grounded and mature for their years. They are born into an interconnected and technological environment. Transparency is increasing in a globalized society. Meanwhile, Generation Z places a high value on social acceptability because they were reared with technology and were born with access to e-books, music downloads, and websites (Ruangkanjanases & Wongprasertchai, 2020). This has demonstrated that these two generations play a significant role in the improvement of Malaysia's banking system.

Table 2.2.3 Types of generation

(Source: Robinson, 2023)

Which Generation are You?

Generation Name	Births Start	Births End	Youngest Age Today*	Oldest Age Today*
The Lost Generation The Generation of 1914	1890	1915	108	133
The Interbellum Generation	1901	1913	110	122
The Greatest Generation	1910	1924	99	113
The Silent Generation	1925	1945	78	98
Baby Boomer Generation	1946	1964	59	77
Generation X (Baby Bust)	1965	1979	44	58
Xennials	1975	1985	38	48
Millennials Generation Y, Gen Next	1980	1994	29	43
iGen / Gen Z	1995	2012	11	28
Gen Alpha	2013	2025	1	10

(*age if still alive today)

Based on table 2.2.3 above, it shows the years of birth for every type of generation. Typically, generations are defined by birth cohorts or particular time periods, and they consist of 10 types: the lost generation, interbellum, greatest, silent, baby boomer, generation x, xennials, millennials, generation z, and the latest, generation alpha. Based on the research, it focuses on generations Y and Z because both of the generations have a lot of exposure to technology, especially e-banking, in this era, even though there are still gaps and differences between both cohorts.

Generation Y and Generation Z prefer e-banking because of its simplicity, speed, and effectiveness. Growing up in the digital era, they are at ease with technology and value the opportunity to access and manage their accounts at any time and from any location through online platforms and mobile apps. E-banking fits their hectic lives by providing personalised experiences with specific financial information and advice. It also provides consumers with simple access to information, allowing them to keep track of their money and make sound choices. Understanding these generations' tastes and wants is critical for banks and financial institutions to provide smooth and personalised e-banking services. This knowledge includes their shopping patterns and preferred digital channels, like e-banking. The perspective of e-banking usage is likely to be better understood by Generations Y and Z. Both generations have seen the impacts of e-banking usage. They are more connected and tech-savvy, and they utilise internet platforms for banking and other duties.

2.3 The factors e- banking usage that affect generation Y and Generations Z's perspective on using e-banking.

According to Marisamy, Ridhikiruthi, Deepika, and Annamalai (2023), e-banking is the word used to describe carrying out financial transactions using a bank's secure internet, which enables consumers to do so over the internet and on mobile devices. Nowadays, Generation Y (Millennials) and Generation Z have considerably expanded their usage of electronic banking, often known as e-banking, in recent years. Usage factors have a significant impact on Generation Y and Generation Z's perspectives on e-banking. These generations, renowned for their consciousness, prioritise the functionality and importance of usage in numerous facets of their lives. Regarding e-banking, a number of usage-related factors influence their decision and perspective on implementing digital banking services in their daily lives.

There are few factors that influence the generation Y and Z perspectives in using e- banking. Firstly, generations Y and Z prioritize convenience and accessibility. They anticipate that e-banking platforms are user-friendly, accessible on multiple devices including smartphones and tablets, and available 24 hours a day, seven days a week. Sustainability in e-banking refers to the provision of a seamless and expedient user experience that allows users to conduct a variety of transactions and gain access to services without difficulty. Singh, Rani, K, & Assistant (2022) state that, banks have penetrated all facets of economic life. Significantly influencing the expansion and development of any economy are the operations of its financial institutions. In this regard, a solid financial system mobilizes and makes available the public's funds for the economic development of a nation. In addition, banking has become a crucial component of people's everyday lives. Banks and financial activity are essential for human survival.

Besides, both generations place an emphasis on security and privacy. It can be one of the main factors from the perspective of e-banking usage. They expect comprehensive security measures, such as encryption, multi-factor authentication, and fraud detection systems, to protect their financial information. A guarantee in e-banking necessitates the maintenance and continual enhancement of security protocols in order to protect the personal and financial data of users. Typically, the e-banking system must address a multitude of security controls and information system factors pertaining to access control, including identification and authentication, user authorization, and system and communications protection. Security control selection refers to a tailored set of security controls that are documented in the system security plan and authorised by the system's authorising official (Mogos & Jamail, 2021).

Next, Generations Y and Z are becoming increasingly conscious of their impact on the environment. They are likely to value the ability of e-banking to reduce paper waste and carbon emissions associated with traditional banking practices. By fostering digital statements and electronic transactions, they reduce the need for physical branches, and sustainable e-banking reduces the bank's environmental impact. Not only that, banks also have the authority to provide the financial resources and investment possibilities to support long-term projects. Banks may assist programs that promote sustainability by including ESG factors into their lending and investing choices, such as renewable energy projects, green infrastructure development, and sustainable agriculture. This financial aid is critical for achieving a more sustainable economic model. According to Sangisetti & Venkata (2022), in an effort to correct ecological imbalances brought about by accelerated industrialization, banks have modified their policies and procedures in response to the growing significance of environmental issues.

Generation Y and Z value business ethics and corporate social responsibility (CSR). They anticipate that banks will demonstrate a commitment to ethical behavior, equitable customer treatment, and transparent fee structures. Sustainability in e-banking involves harmonizing business practices with ethical and socially responsible principles, such as promoting sustainable investments and donating a portion of proceeds to charitable causes. According to Fernández-Kranz and Santaló (2010), Starks (2009), and others, investors and consumers pay greater attention to and put more pressure on enterprises' CSR actions in the market. Furthermore, investors' and customers' understanding of enterprises' CSR reputations may impact stock prices and profitability (Fukuda & Ouchida, 2020). CSR actions contribute to the establishment of a positive reputation and trust among customers, stakeholders, and the general public. In the e-banking market, where customers may be worried about security, privacy, and ethical practices, demonstrating a commitment to CSR may assist banks and their e-banking services acquire trust. Trust is essential for e-banking systems' long-term success and development.

Furthermore, technological innovation influences the perspectives of Generation Y and Z on using e- banking. Gen Y and Gen Z are early adopters of technology and are the driving force behind digital innovation. These generations' adoption of e-banking drives the development and enhancement of digital banking solutions. By introducing advanced features such as biometric authentication, personalized digital experiences, and AI-powered chatbots, banks cater to the preferences and requirements of Generation Y and Generation Z. This promotes technological innovation in the banking industry, to the benefit of all consumers, including the aforementioned generations. The ability of information technology has changed the way people move and impacts everyday human existence. The increased usage of communication devices such as mobile phones and smartphones has influenced regular human activity. Laukkanen (2016) state that, significant enhancements in technology also has an influence on financial services, causing changes in how customers engage with banking companies. The internet has evolved into a crucial platform for offering financial services and products. Technological advancements force banks to adapt the services they provide.

Internet innovation and expansion have altered how financial services are utilized (Az-Zahra, Setiawati, Sosianika, & Senalasari, 2023).

In conclusion, the study of Generation Y and Generation Z's views on e-banking is pertinent due to their increasing use and influence in the digital age. Convenience, accessibility, security, sustainability, ethical practises, and technological innovation all play significant roles in determining their attitudes towards and adoption of e-banking services. These generations place a premium on seamless user experiences, personalised features, and 24/7 device accessibility. They also emphasise the importance of robust security measures, such as encryption and fraud detection, to safeguard their financial data. In addition, their concern for the environment influences their preference for e-banking's digital transactions and reduced carbon emissions. These generations have a high regard for ethical business practises and corporate social responsibility, which contributes to their development of trust and reputation. Lastly, technological advances such as biometric identification and AI-powered features appeal to their early adopter mentality and promote digital innovation in the banking industry. Understanding these elements is essential for banks to meet the expectations of Generation Y and Generation Z, establish long-term client relationships, and remain competitive in the ever-changing digital banking landscape. By aligning with their preferences and beliefs, banks can ensure the long-term viability and success of e-banking services.

2.4 Types of e- banking in Malaysia

According to Marisamy, Ridhikiruthi, Deepika, & Annamalai (2023) notes that, digital banking is also commonly known as online banking or web banking. E-banking is an online banking product that offers convenient and secure access to one's bank account. E-banking is a secure, fast, uncomplicated, and efficient electronic service that provides access to bank accounts and online banking services 24 hours a day, seven days a week. There are few types of e-banking.

2.4.1 Online banking

Internet banking, also known as online banking, enables consumers to access their bank accounts and conduct financial transactions via a secure website or online portal. Customers can monitor account balances, transfer funds, pay expenses, and manage investments from the comfort of their own devices. It can be said that the greater the perceived value of Internet Banking services, the greater the probability that customers will use them again (Ahmad & Pambudi, 2014; Firman & Kamaluddin, 2020). Online banking provides consumers with convenience, accessibility, and adaptability, allowing them to manage their finances from any location with internet access. It provides access to account information and transactions in real time and reduces the need for physical bank visits.

2.4.2 Mobile banking

Mobile banking refers to banking services accessible through mobile devices, such as smartphones and tablets. Banks' mobile applications and mobile-optimized websites allow customers to conduct banking transactions on the go. Mobile banking functions include account management, mobile check deposit, peer-to-peer payments, and transaction alerts. Firman and Kamaluddin (2021) state that, mobile banking is simple to use, fast to complete transactions, secure, and offers a variety of additional benefits. Mobile banking provides consumers with convenience, adaptability, and on-the-go access to banking services, enabling them to manage their finances with mobile devices effectively. It has grown in prominence as the prevalence of smartphones has increased, allowing users to conduct banking transactions at their convenience.

2.4.3 ATM banking

Banking via ATM utilizes automated teller machines (ATMs) to provide options for self-service banking. Customers are able to extract cash, deposit checks and currency, transfer funds, and check account balances via automated teller machines. Some ATMs also offer bill payment and account statement services. (Marisamy et al., 2023) state that, a report of the account balance is also accessible from an ATM, also known as an automated teller machine. None of these duties require the assistance of a bank branch employee or clerk. Automated teller machine banking offers customers the ability to conduct basic banking transactions outside of normal banking hours and without the need for in-person assistance, thereby providing convenience and accessibility. The availability of ATMs in a variety of locations, such as bank branches, retail stores, airports, and other public areas, enables customers to easily access their accounts and conduct any necessary transactions.

2.4.4 Telephone banking

Telephone banking permits users to conduct banking transactions and access account information via a telephone network. Customers can use touch-tone or voice recognition systems to, among other banking duties, check their account balances, transfer funds, and pay bills. The use of telephone banking may involve interacting with an automated phone system or a customer service representative. Telephone banking is the second type of e-banking innovation, allowing bank customers to conduct a range of financial transactions over the phone without having to visit a physical location or an automated teller machine (Marisamy et al., 2023).

2.4.5 Electronic bill payment (EBP)

Online bill payment, often known as e-bill payment, is a digital way to pay bills over the internet and mobile devices. It lets people and companies pay for services and bills online without writing or mailing checks. Banks, financial institutions, and third-party payment providers provide electronic bill payment solutions. They allow direct payments from bank accounts or credit cards to billers through internet platforms or mobile apps. Marisamy et al. (2023) define EBP as an e-banking innovation that allows a financial institution or bank customer to send money to a creditor or vendor, such as a public utility, department store, or individual, to be credited against a particular account through a financial transaction or credit card account. Malaysia has launched the JomPAY electronic bill payment. It has been improving its payment system, including the 2015 implementation of JomPAY and the e-payment system (online bill payment). The BNM Deputy Governor noted during the JomPAY launch on April 9, 2015, that the launch is part of the gradual road to an e-payment system (Odimegwu, 2019).

2.4.6 Smart card

A smart card is a physical card with a microprocessor embedded within it. Marisamy et al., (2023) state that, a compact plastic card containing an embedded computer processor is also called an integrated circuit card (ICC) or a chip card. A microprocessor is concealed under a contact sensor on one surface of the card. Consider the microprocessor as replacing the conventional magnetic stripe found on credit and debit cards. The smart card's microprocessor is designed for security. Card reader and host computer "speak" with the microprocessor in real time. A microprocessor restricts access to the card's stored data. These cards' processors have a variety of capabilities, including the ability to withdraw currency, make deposits, and verify balances. It is designed to securely store and process data, enabling a wide range of applications and features. Smart cards are frequently used for identification, authentication, and secure transactions. In Malaysia, there are many smart card that has been introduce such as Touch n' Go, Mykad, bank cards, and public transport cards.

2.4.7 Debit cards

Debit cards are payment cards issued by financial institutions, typically banks, that allow cardholders to withdraw cash or make purchases directly from their bank accounts. When a debit card is used to make a purchase, the purchase amount is deducted immediately from the linked bank account. According to Marisamy et al., (2023), Debit cards are plastic payment cards that can be used in lieu of cash, but they only serve as a withdrawal method including currency and personal checks. They resemble credit or bank cards. In contrast to credit cards, debit cards allow you to "pay now," whereas credit cards do not. When a consumer uses a debit card, funds are deducted from their account immediately. When a debit card is used to make a purchase, the corresponding amount is immediately deducted from the cardholder's bank account.

2.5 Advantages and disadvantages of using e- banking.

2.5.1 Advantages of e – banking

There are few advantages of usage in e- banking services:

i. **Accessible**

E-banking enables consumers to access their accounts and conduct transactions whenever and wherever they have an internet connection. This convenience eliminates the need to visit physical bank branches during restricted hours, thereby making banking more accessible and adaptable. Firman and Kamaluddin state that, e-banking is a multichannel provider tool that can reduce the cost of bank transactions and provide customers with greater freedom, convenience, and security for 24/7, anywhere transactions.

ii. **Availability of Information**

E-banking grants consumers access to their account information, transaction history, and electronic statements in real time. This instant access permits improved financial management, expense tracking, and account activity monitoring. Through e-banking, banks provide their clients with information and services via the Internet (Firman & Kamaluddin, 2021).

iii. **Privacy and secure**

E-banking incorporates sophisticated security methods such as encryption, multi-factor authentication, and fraud detection systems to protect customer information and transactions. Secure login credentials and authentication processes give a better degree of security than paper-based banking. The empirical findings of Ally & Toleman (2005), Suh & Han (2003), and Chellappa (2002) indicate that perceived security has the potential to influence trust positively. Similarly, a number of other scholars have argued that the effect of perceived security can impact consumer trust (Attah et al., 2021).

2.5.2 Disadvantages of e- banking

There are few disadvantages of usage in e- banking services:

i. **Technical Issues and System Downtime**

E-banking is dependent on technological infrastructure; technical problems and system downtime can occur and temporarily impede access to accounts and services such as ATM machines. A malfunctioning ATM, for example, can cause inconvenience for those who rely on its services. According to Hussain, Bhutto, Hammad-U-Salam, Talpur, and Rai (2017), customers experienced a variety of problems as a result of the ATM links' inadequate capacity and connectivity, including inaccurate cash reporting, excessive cash deduction during transactions, delayed delivery of cash, downed links, and out-of-service ATMs.

ii. **Possibility of fraud and cons**

Despite the fact that e-banking incorporates security measures, fraud and schemes are still possible. Phishing attempts, malware, and social engineering tactics can compromise consumer data and lead to unauthorized transactions if users are not vigilant. Hussain, Bhutto, Hammad-U-Salam, Talpur, & Rai (2017) notes that, the extensive use of information technology applications associated with e-banking poses e-security risks, cyber-attacks on customer profiles, account takeovers, frauds involving data messages, theft of customer privacy, and loss of transaction confidentiality.

iii. Intricacy and Learning Curve

Online banking might be tough for non-technical people. These platforms sometimes need users to go through a range of features and understand security measures, which might be difficult for certain consumers, especially older individuals or those with little digital literacy. Older generations often struggle with modern technology and e-banking systems. They may not understand internet financial systems or digital technologies. Profiles, menus, and security may need help. Digital illiteracy might limit e-banking use. Digital literacy is the ability to use and navigate technology. Digitally illiterate people may difficulty with passwords, two-factor authentication, and encryption technologies. They may struggle to use e-banking platforms due to their unfamiliarity with online banking processes. According to Heinz, Martin, Margrett, Yearns, Franke, and Yang, et al. (2013), we explored older individuals' familiarity with and obstacles to utilising technology because understanding the advantages and downsides that older persons feel while using it is critical. Older individuals embrace new technologies at a slower pace than younger ones (Czaja, Charness, Fisk, Hertzog, Nair, Rogers, et al. 2006), but they will do so if they seem to be beneficial, such as for protecting their quality of life (Vaportzis, Clausen, and Grow, 2017).

2.6 Theoretical framework

Technology Acceptance Model (TAM) is a theoretical framework that attempts to explain and predict how consumers adopt and embrace new technologies. According to Carlsson et al. (2005), the TAM is well-known and has been utilized frequently in research investigating how consumers adopt new technologies (Riantini & Wandrial, 2018). It was first proposed by Fred Davis in 1989 and has since been widely adopted and expanded across a variety of research fields. According to the concept, two key criteria influence technology adoption and usage which are perceived utility (PU) and perceived ease of use (PEOU). According to Davis, Bagozzi, & Warshaw (1989) from Wikipedia (2016, TAM defines two factors that influence the user's adoption of technology: the perceived user perception of ease of use and the perceived utility of using the technology (Riantini & Wandrial, 2018).

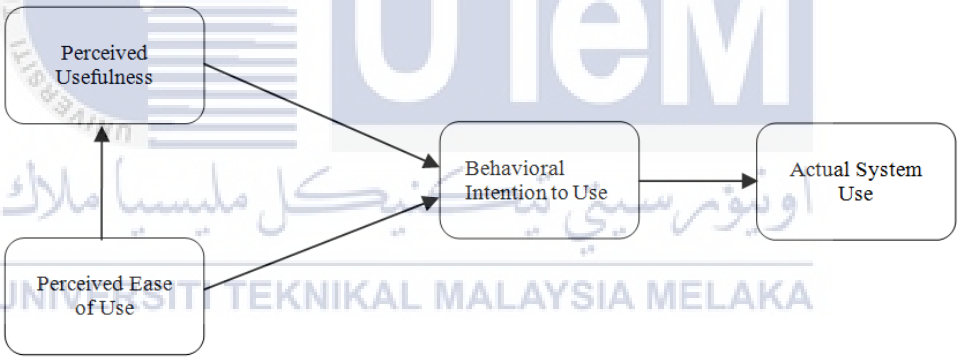

Figure 2.6.1: Technology Acceptance Model (TAM) developed by Davis,1989

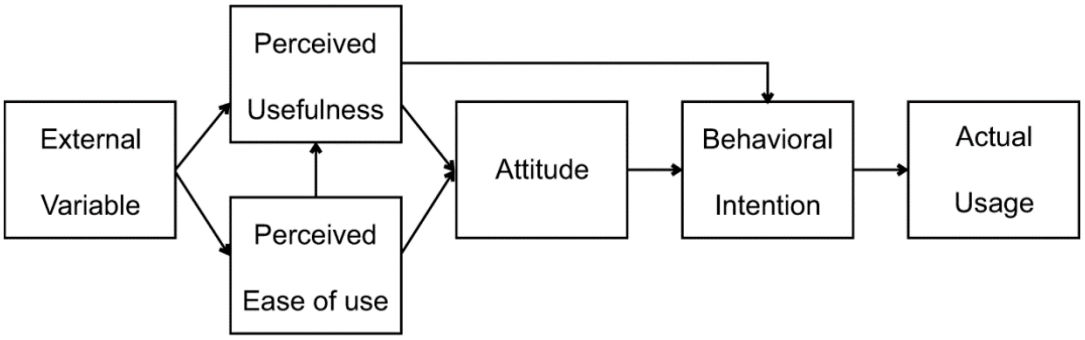

Figure 2.6.2: Technology Acceptance Model (TAM) developed by Malhotra and Galetta, 1999

(Source: Riantini & Wandrial, 2018)

According to Riantini & Wandrial (2018), the first variable, perceived efficacy, depicts people's propensity to use or avoid an application based on their belief that it will enhance their work. Theoretically, perceived ease of use influences usability or benefit in addition to usefulness. Thus, perceived ease of use influences usability or benefit in addition to usefulness. Riantini & Wandrial notes that, the Technology Acceptance Model (TAM) provides a significant theoretical contribution to understanding how to utilize and embrace new technology.

2.7 The impacts that influence the perspectives of generations Y and Z.

2.7.1 Perceived usefulness (PU)

Perceived usefulness is a crucial concept in research, particularly in the area of technology adoption and acceptance. It refers to an individual's subjective evaluation of how advantageous a particular technology, product, or system would be for meeting their requirements and enhancing their performance. According to Mulyati, Alfian, & Asnimar (2023), perceived usefulness is the extent to which a person believes that using a particular system will improve his ability to complete a task. Occasionally, the perceived utility of use has also been regarded as the perceived relative advantage and how it is perceived to be superior to its predecessors (Munoz-Leiva et al., 2017) (Mulyati et al., 2023).

In this context, generations Y and Z are known for their high usage of technology and e-banking services. Studying the impact of e-banking usage in this context could provide valuable insights into their preferences and behaviours. Generation Y (also known as Millennials) and Generation Z, which are important demographic groups in Malaysia, are specifically targeted. E-banking usage is currently a major concern on a global scale, including in the financial sector. Not only that, studying the impact of e-banking usage from the perspectives of Generations Y and Z can shed light on their attitudes towards the confidence gained by using e-banking and how these attitudes influence their use of e-banking services.

2.7.2 Perceived ease of use (PEOU)

Perceived ease of use refers to a person's subjective perception of the usability of a system, product, or technology. This is a fundamental principle of user experience and human-computer interaction. Perceived ease of use focuses on the user's perceptions of intuitiveness, simplicity, and overall effectiveness. Windasari, Kusumawati, Larasati & Amelia (2022) observe that perceived ease of use reduces consumer errors when utilizing a novel technology or product. The concept of perceived usability is closely related to that of usability. When a system is perceived as user-friendly, users believe that it requires minimal mental and physical exertion to learn, operate, and navigate. It consists of factors such as the interface's design, functionality, responsiveness, and the clarity of instructions or guidance provided.

The perceived usability of e-banking services has a significant impact on generations Y and Z's perspective and use of them. If these generations perceive e-banking as simple, intuitive, and user-friendly, this reduces entry barriers and encourages them to employ and utilize e-banking platforms. However, if they find e-banking systems to be complicated or difficult to navigate, this can hinder their adoption and reduce the potential impact of sustainability initiatives. As we know, generations Y and Z value positive user experiences highly. They anticipate technology that is seamless, efficient, and error-free especially generation Z. According to Gawda and Kornkiluk (202), The technological proficiency of Generation Z is quite high. The perceived efficacy of e-banking platforms has a direct bearing on user satisfaction with these platforms. If they find the systems easy to navigate, comprehend, and use, their user experience will be enhanced, and their perceptions of e-banking services will improve. This positive experience may result in increased participation and continued use.

2.7.3 Perceived data security and privacy (PDSP)

Data security and privacy refer to the prevention of unauthorized access, use, disclosure, or destruction of sensitive and personally identifiable information. It entails practices and procedures designed to protect data from potential threats and assure the protection of individuals' privacy rights. In recent years, electronic banking has grown in popularity because it enables individuals to conduct banking transactions via a web interface in a convenient, fast, and inexpensive manner (Attah, Ukawiululu, Onu, & Osisiogu, 2021). Information security is a fundamental concern for e-commerce business owners and consumers. Ally and Toleman (2005) state that, when interacting with virtual services, consumers raise security issues and concerns more frequently than usability, functionality, and other factors (Attah et al., 2021).

The successful incorporation of initiatives into e-banking usage depends on the confidence and trust of consumers, including the Millennial and Generation Z generations. For this trust to be established and maintained, security is essential. One would be more likely to use e-banking services if they already believe it is risk-free and secure based on past encounters and outside information; however, they would be less likely to use e-banking services if they already believe it is risky and unsafe based on past encounters and outside information (Attah et al., 2021). E-banking providers can demonstrate their commitment to safeguarding customer data and transactions by emphasising the security measures in place, such as encryption protocols, multi-factor authentication, and thorough data protection procedures.

This, in turn, contributes to a favourable perception of the impact of e-banking usage on the efforts of financial institutions. Security is indispensable for mitigating the negative effects of adoption initiatives. Financial institutions must prioritise security in order to protect the integrity and confidentiality of consumer data, minimise disruptions, and avoid reputational damage. Compliance with data protection and privacy regulations is essential for the sustainability of operations.

2.7.4 Perceived technology and innovation (PTI)

Perceived technological innovation refers to an individual's subjective impression and appraisal of a given technology or innovation's uniqueness, advances, and cutting-edge traits. It describes how people perceive and evaluate technical advances, features, and functions of a product, service, or system. According to Ahmed & Sajid (2021), online banking has a positive effect on customer satisfaction in addition to increasing consumer awareness of internet banking services. Individuals' attitudes, behaviors, and adoption decisions are significantly influenced by their perceptions of technological innovation. When people view a technology as innovative, they are more likely to view it as valuable, thrilling, and advantageous. Positive perceptions of technological innovation can stimulate the adoption, engagement, and acceptance of new products and services.

Typically, Generations Y and Z are early adopters of technology and inclined to embrace novel approaches. Tapscott (2009) notes that the modern generations of information technology known as Generation Y, or those born between 1980 and 1995, and Generation Z, or those born after 1995, grew up in a world of developing information technologies (Gawda & Korniluk, 2022). Thereby, their perception of technological innovation significantly influences their perceptions of e-banking services. The perceived value and desirability of e-banking platforms for these generations increases when adoption of e-banking initiatives and innovative technological features are combined.

Assessing their perception of technological innovation facilitates the determination of how adoption efforts in e-banking can be effectively integrated with advanced technological features to boost adoption and engagement. Generation Y, on the other hand, encountered these technological advancements as they approached maturity, whereas Generation Z grows up in a world of accelerated technological development (Gawda & Korniluk, 2022). In a nutshell, generations Y and Z have a significant impact on e-banking platforms' user experience, sustainability integration, competitive advantage, and consumer loyalty. Understanding their viewpoint facilitates the identification of innovative approaches and technologies that can improve sustainability initiatives and encourage sustainable behaviour. Financial institutions can obtain a competitive advantage in attracting and retaining consumers from Generation Y and Generation Z if they are perceived as technologically innovative leaders.

2.8 Proposed conceptual framework

In this study, the proposed conceptual framework depicts a diagram of the constructs, variables, and interrelationships between variables. The independent variables consist of perceived usefulness (PU), perceived ease of use (PEOU), perceived data security and privacy (PDSP), and technology and innovation(PTI). Based on the framework below, the relationship between independent variables may influence the dependent variables:

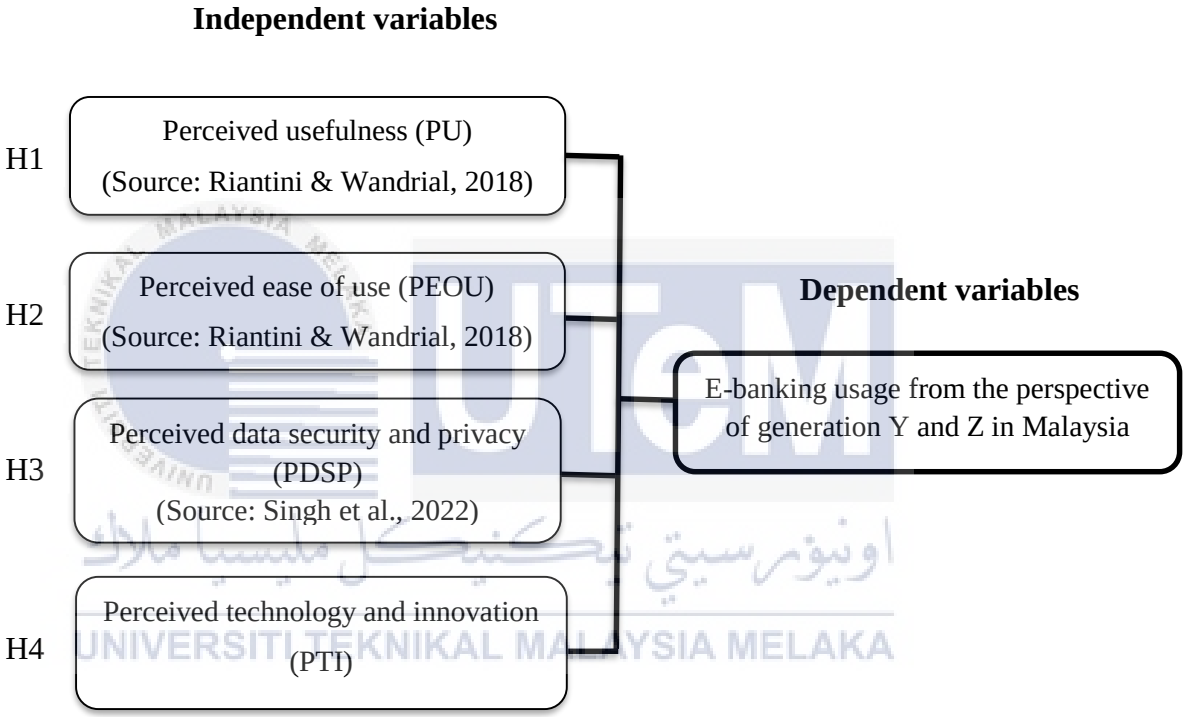

Figure 2.8: Proposed Conceptual Framework

2.9 Summary

This chapter examines the theories pertinent to the research topics. A few definitions are highlighted in this chapter to help readers understand this research article. A literature review plays a crucial role in research because it serves as a guide for gaining insights and a deeper understanding by examining previous studies examined by other researchers. Literature evaluations include an explanation of dependent and independent variables, as well as their relationship.

2.10 Operational Definition of Study

Table 2.10.1: Operational Definition of Study for Independent Variables

(Source: Developed from Research)

Independent Variables	Description	Authors
Perceived of usefulness (PU)	Perceived usefulness is the extent to which a person believes that using a particular system will improve his ability to complete a task.	Mulyati, Alfian, & Asnimar, (2023)
Perceived ease of use (PEOU)	Perceived ease of use refers to a person's subjective perception of the usability of a system, product, or technology	Windasari, Kusumawati, Larasati & Amelia, (2022)
Perceived data security and privacy (PDSP)	Data security and privacy refer to the prevention of unauthorized access, use, disclosure, or destruction of sensitive and personally identifiable information	Attah, Ukawiululu, Onu, & Osisiogu, (2021)
Perceived technology and innovation (PTI)	Perceived technological innovation refers to an individual's subjective impression and appraisal of a given technology or innovation's uniqueness, advances, and cutting-edge traits.	Gawda & Korniluk, (2022)

Table 2.10.2: Operational Definition of Study for Dependent Variable

(Source: Developed from Research)

Dependent variables (DV)	Description	Authors
E- banking	The term "e-bank" refers to an electronic bank that offers online financial services to a single client	Kbalaji, 2023
Perspectives	A particular way of considering something	Cambridge dictionary, 2023
Generation Y	Individuals of Generation Y are well-grounded and mature for their years. They are born into an interconnected and technological environment. Transparency is increasing in a globalized society.	Ruangkanjanases & Wongprasopchai, (2021)
Generation Z	Generation Z places a high value on social acceptability because they were reared with technology and were born with access to e-books, music downloads	Ruangkanjanases & Wongprasertchai, 2020

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology refers to the systematic approach researchers employ to collect, analyze, and interpret data in order to answer research queries or test hypotheses. It involves a variety of steps and techniques that assure the validity, reliability, and generalizability of research findings. Yavuz (2023) states that quantitative research emphasizes the use of numbers to solve problems. In this chapter, the researcher outlines the research methods used and the ways in which research questions are addressed, including research design and research strategy. Not only that, the researcher would also clarify the methods of data collection that would be collected on the impact of e-banking usage from the perspectives of generations Y and Z in Malaysia. This chapter also incorporates pilot test and questionnaire construction-related reliability. The analysis used to evaluate the study's hypotheses is also identified.

3.2 Hypothesis development

Using the proposed conceptual framework as a basis, the hypotheses for this study are listed below:

Hypothesis 1: Perceived usefulness (PU)

H_1: There is a significant relationship between perceived usefulness and e-banking usage from the perspectives of generations Y and Z in Malaysia.

H_0: There is no significant relationship between perceived usefulness and e-banking usage from the perspective of generations Y and Z in Malaysia.

Hypothesis 2: Perceived ease of use (PEOU)

H_1: There is a significant relationship between perceived ease of use and e-banking usage from the perspective of generations Y and Z in Malaysia.

H_0: There is no significant relationship between perceived ease of use and e-banking usage from the perspective of generations Y and Z in Malaysia.

Hypothesis 3: Perceived data security and privacy (PDSP)

H_1: There is a significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Y and Z in Malaysia.

H_0: There is no significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Y and Z in Malaysia.

Hypothesis 4: Perceived technology and innovation (PTI)

H_1: There is a significant relationship between perceived technology, innovation, and e-banking usage from the perspective of generations Y and Z in Malaysia.

H_0: There is no significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Y and Z in Malaysia.

3.3 Research design

Research design refers to the comprehensive plan or strategy developed by researchers to resolve their research queries or objectives. According to Creswell (2014), research design is comprised of the decisions made regarding the overarching structure and plan of the study. This includes determining the type of research to be conducted, whether qualitative, quantitative, or mixed-methods, formulating research queries or hypotheses, and choosing the most appropriate approach.

In this research, the researcher would highlight the experimental research design, also known as the explanatory design in the quantitative method, which involves manipulating one or more variables to determine their effect on a desired outcome. It attempts to determine the relationship between variables. The experimental group typically receives the intervention or treatment, whereas the control group does not. Assigning participants to groups at random decreases confounding variables.

3.4 Methodological choice

Methodological choices refer to the decisions made by researchers regarding the techniques and methodologies they will use to conduct their research. The researchers must decide whether their study will employ a quantitative, qualitative, or combined methods approach. These decisions entail selecting the most suitable approach, design, data acquisition methods, and data analysis techniques for addressing the research query or objective.

In this research, the researchers would employ a quantitative research design. This type of research design focuses on the collection and accurate analysis of numerical data to comprehend and explain phenomena. Yavuz (2023) notes that, as objectivists and positivists, quantitative researchers frequently emphasize the use of quantifiable data to draw conclusions. According to the statement, the researcher would be able to draw an accurate, measurable conclusion about the results based on the quantifiable data. Statistical analysis is employed to examine the relationship between variables utilizing quantitative methodologies.

3.5 Data collection

Data collection is the process of gathering information or data from various sources or individuals for research, analysis, or decision-making purposes. It is a crucial phase in the research process involving the systematic collection of relevant data to answer research questions or achieve research objectives. According to Douglas, M. (2015), the collection of data is of utmost importance for statistical analysis. There are a variety of information-gathering techniques used in research, which all fit into one of two categories: primary and secondary data (Ajayi, 2023).

Based on this research, the researcher would utilize two categories of data collections: primary data and secondary data. Primary data are those that are collected for the first time by the researcher, whereas secondary data are those that have already been collected or produced by others (Ajayi, 2023). In this study, the researcher would obtain data from surveys and questionnaires and some documents for analysis. Using the primary data, the researcher would collect the data from the survey by distributing questionnaires to generations Y and Z regarding their perspectives on the impact of e-banking usage in Malaysia. Besides, the secondary data would be obtained from books, articles, journals, and websites related to the study's research.

3.6 Questionnaire development

In this study, the researcher would use a survey method employing self-administered questionnaires to distribute questionnaires to respondents. three sections. The purpose of Section A is to collect demographic data, including gender, age, occupation, and educational background. Next, Section B poses concerns regarding the impact of e-banking usage in Malaysia from the perspectives of generations Y and Z. The variables consist of perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation. The respondents were required to respond using a Likert scale, which ranges from 1 to 5 and signifies the degree of agreement. Generations Y and Z's perspectives on the e-banking usage in Malaysia are inquired about in Section C of the questionnaire.

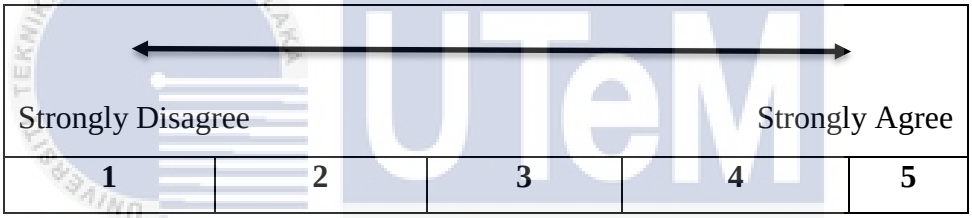

Figure 3.6: Likert- style rating

(Source: Saunders, Lewis, & Thornhill, 2019)

3.7 Sampling technique

Sampling tactics refer to the systematic methods used to choose a smaller group of persons or cases from a broader population for the purpose of conducting research. Based on this study, the researcher decided to use probability sampling to collect the data. Random sampling in statistical research, also known as probability sampling, selects a sample from a larger population such that each person has a known and non-zero chance of being included. According to Saunders, Thornhill, & Lewis (2019), Probability sampling (or representative sampling) is most commonly associated with survey research strategies in which the researcher must draw statistical conclusions from their sample about a population in order to answer the research question(s) and meet their objectives. The probability sampling procedure can be divided into four phases, which include determining a suitable sampling frame based on the research question(s) and objectives. Secondly, decide on a suitable sample size. Thirdly, select the most applicable sampling technique and the sample. Lastly, determine whether the sample is representative of the intended population.

In Malaysia, only the Y and Z generations are expected to respond to the survey. The researcher estimated that there are more than one million members of generations Y and Z in Malaysia. Based on table 3.7 below, written by Krejcie and Morgan, the sampling size for the population over 1,000,000 is 384 respondents. Therefore, the researcher targeted 384 respondents as a selected sample size to answer the questionnaire and be a source of data statistics in Malaysia. According to Tjiptono, Khan, Yeong, and Kunchamboo (2020), the greatest generational cohorts in Malaysia, a country with a population of 32.6 million, are Generation Y (Gen Y, 26%) and Generation Z (29%) (Sim, Choong, Wee, and Low, 2022). Generation Y includes as much as 26 percent of the entire Malaysian population and is between 26 and 41 years old.

Not only that, Generation Y shows that almost 70 percent of the population, which is the total of 22.8 million, is represented by Bumiputera, followed by Chinese at 23 percent and Indians at 7 percent (Ayub, 2022). Gen Z comprises 26% of Malaysia's population, which is 8.4 million, and has distinct characteristics that set them apart from Millennials and Baby Boomers, particularly in how they consume content and interact with brands. The eldest member of Generation Z is currently 24 years old (Nielsen, 2022).

Table 3.7: Determining the sampling size of respondents in generations Y and Z in Malaysia.

(Source: Krejcie and Morgan, 1970)

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

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

Source: Krejcie & Morgan, 1970

N- Population size

S- Sample size

3.8 Location of research

Figure 3.8: Maps of Malaysia

(Source: Google maps, 2023)

The location of the research is mainly Malaysia. According to a report from the Department of Statistics Malaysia, "Population Distribution and Basic Demographic Characteristics, Malaysia, 2020, the Generation Y and Z population in Malaysia constitutes a substantial portion of the total population. Concentrating on Malaysia allows for a more in-depth comprehension of the attitudes, behaviours, and perceptions of Generation Y and Z individuals within the Malaysian context. The impact of e-banking usage among these generations may be influenced by cultural, socioeconomic, and regulatory factors unique to Malaysia. Therefore, the researcher insists on conducting research on the impact of e-banking usage from the perspective of generations Y and Z in Malaysia.

3.9 Data analysis

Data analysis is the methodical scrutiny, refining, modification, and modeling of data with the purpose of revealing important insights, producing well-informed judgments, and facilitating the decision-making process. Data analysis is the process of utilizing various techniques and methods to organize, interpret, and extract insights from datasets. Depending on the nature of the data and the objectives of the research, data analysis may use both quantitative and qualitative methods.

In this research, several types of data will be employed to illustrate and characterize the data that has been obtained, including pilot tests, Cronbach's alpha, and descriptive statistics for respondents' demographic data. The data are then examined using Pearson's correlation coefficient and multiple regression analysis via the Statistical Package for Social Sciences (SPSS).

3.9.1 Pilot test

Pilot testing is an experimental run of the research instruments or procedures prior to the actual collection of data. It assists in identifying any potential problems, errors, or ambiguities within the survey or questionnaire. The pilot testing feedback can be used to refine and enhance the research instruments, ensuring their clarity and efficacy in the research project. In this research study, the pilot test can be used as a safeguard for the feasibility of the questionnaire, which allows respondents to understand and answer the questions that have been distributed.

The researcher distributed the pilot test sample along with a questionnaire containing approximately 30 questions that the intended respondent must answer in order to ensure the validity of the questions in a real-life situation. The researcher targeted approximately 10% of respondents for the mandatory pilot test from the actual sample size of 384 respondents, which on average is approximately 38 respondents that must be answered in a pilot test. Respondents to the pilot test will remark on the complexity and suitability of the questionnaires. The researcher may revise any ambiguous or incorrect questions based on the results of the pilot study to assist respondents in providing accurate responses. Thus, researchers can obtain precise data and contribute to the significance of the study.

3.9.2 Validity and Reliability

Validity and reliability are two essential concepts in research that are used to assess the quality and credibility of measurements or research results. According to Saunders, Thornhill, & Lewis (2019), the design of questions, the architecture of the questionnaire, and the extent of pilot testing have a significant impact on the internal validity and reliability of the collected data, as well as the response rate that is attained. A valid questionnaire will allow researchers to collect accurate data that actually measures the ideas they are interested in, and a reliable one will ensure that these data are consistently collected (Saunders et al., 2019).

3.9.2.1 Validity

Validity is the degree to which a measurement or research study measures or evaluates accurately what it is intended to measure. In this research study, the use of validity is to test the trustworthiness of the research result, which means a high validity value indicates that the research result is highly reliable. The researcher would use the independent and dependent variables to assess the validity of each relationship, which would have an impact on the perspectives of generations Y and Z in Malaysia regarding the e-banking usage in this country by using exploratory factor analysis (EFA) to test the validity of the questionnaire.

3.9.2.2 Reliability

A measuring instrument's or study results' reliability is defined as its consistency, stability, and dependability. One of the most common methods for calculating internal consistency is Cronbach's alpha. Typically, this statistic is used to evaluate the consistency of responses to a subset of queries (scale items) that are combined as a scale to evaluate a particular concept (Saunders et al., 2019).

In this study, the researcher decided to use Cronbach’s alpha. Cronbach's alpha measures the internal consistency and reliability of a group of items or queries in a survey or questionnaire. It evaluates how closely related the items are to one another and provides an estimate of the consistency or dependability of the measuring scale. A higher Cronbach's alpha, which typically falls between 0 and 1, indicates that the items are more internally consistent. Solidly, the greater the Cronbach's alpha value, the greater the reliability of the results for each independent and dependent variable.

Table 3.9.2.1: Cronbach's Alpha Coefficient Range

(Source: Google image, 2023)

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

3.9.3 Descriptive analysis

Descriptive analysis, also referred to as descriptive statistics, is a subfield of statistical analysis that entails summarizing and characterizing a dataset's most prominent characteristics or features. Emphasis is placed on providing a concise and meaningful summary of the data using numerical measures, tables, and graphs. The variables are characterized by means of central tendency (mean, mode, and median) and measures of dispersion (range, standard deviation, and variance). Descriptive statistics, respondent demographic data and independent variables such as perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation are examined.

3.9.4 Pearson's Correlation Coefficient

A statistical tool for assessing the strength and direction of the linear connection between two continuous variables is the Pearson correlation coefficient, often known as Pearson's r. It measures how closely a straight line's data points for the two variables match one another. The coefficient runs from -1 to +1, with values close to 0 indicating a weak or non- existent linear link and +1 denoting a perfect positive correlation and -1 denoting a perfect negative correlation. In this study, the Pearson correlation coefficient is used to figure out how strongly two numbers are linked to each other. This coefficient is based on several beliefs, such as that there is a linear relationship between the variables, that the independent and dependent variables are related, and that the separate reasons of the two variables are what lead to a normal distribution. Positive numbers indicate a positive correlation between two variables, whilst negative values suggest a negative correlation. However, the coefficient is closer to zero the more the data deviate from the line of best fit. There is no connection between two variables when the coefficient value is 0 by using the Pearson's correlation coefficient below:

$$r = \frac{N\Sigma xy-(\Sigma x)(\Sigma y)}{\sqrt{[N\Sigma x^2-(\Sigma x)^2][N\Sigma y^2-(\Sigma y)^2]}}$$

Figure 3.9.4.1: Pearson's correlation coefficient formula

(Source: Google image, 2023)

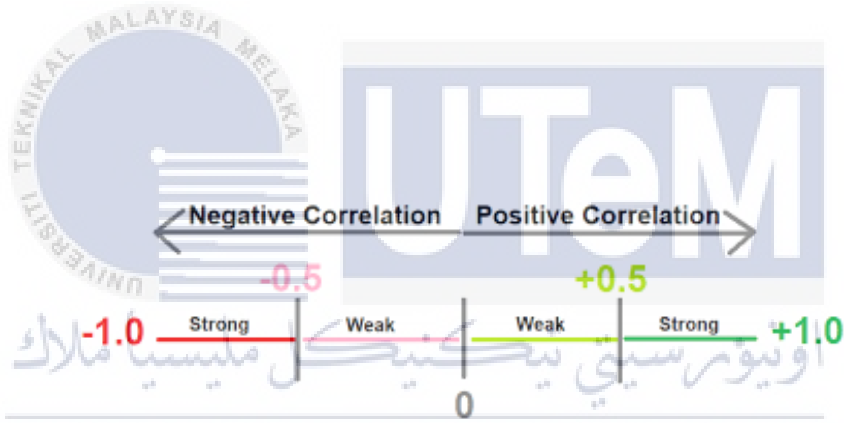

Figure 3.9.4.2: Pearson's correlation coefficient scale

(Source: Google image, 2023)

3.9.5 Multiple regression analysis

Multiple regression analysis is employed to investigate the relationship between a dependent variable and two or more independent variables. This method expands on the concept of simple linear regression, which investigates the relationship between a dependent variable and a single independent variable by using an ANOVA. In this study, ANOVA and multiple regression analysis both look at associations between variables, but they do so for different reasons and in various situations. In order to determine associations and forecast the result of a dependent variable based on a number of independent factors, multiple regression analysis is performed. The main purpose of an ANOVA is to compare group means.

$$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + ... + \beta_p x_{ip} + \epsilon$$

where, for $i = n$ observations:

y_i = dependent variable

x_i = expanatory variables

β_0 = y-intercept (constant term)

β_p = slope coefficients for each explanatory variable

ϵ = the model's error term (also known as the residuals)

Figure 3.9.5: Multiple Regression Analysis formula

(Source: Google image, 2023)

3.9.6 Statistical Package for Social Sciences (SPSS)

The Statistical Package for the Social Sciences (SPSS) is a statistical analysis tool that is widely used in scientific research was developed by IBM, SPSS incorporation. It begins with data input, which enables researchers to manually enter data or import it from other sources. Then, SPSS helps with data purification and preparation, which includes error checking, variable recoding, and variable generation. To summarise the data, compute descriptive statistics such as mean and standard deviation. The data exploration and visualisation features in SPSS let researchers find patterns and correlations using charts and diagrams. To evaluate hypotheses and conclusions, inferential statistics tests such as t-tests, ANOVA, and regression analysis may be utilised. SPSS output tables and summaries are used to analyse the data. The results may then be exported, reports generated, and files saved for documentation and repeatability. SPSS offers a flexible and comprehensive array of data analysis tools for scientific research.

3.10 Summary

In this chapter, the researcher discussed methods for information collecting and data collection. The investigation will be conducted with a quantitative approach. The data for the investigation originated from both primary and secondary sources. In terms of the research strategy, the survey is selected, and a pre-designed questionnaire is used to conduct it. Data analysis employs multiple regression analysis, descriptive statistics, Pearson's correlation coefficient, reliability analysis, and SPSS to achieve the research objective and comprehend the study's findings.

3.11 Research Framework

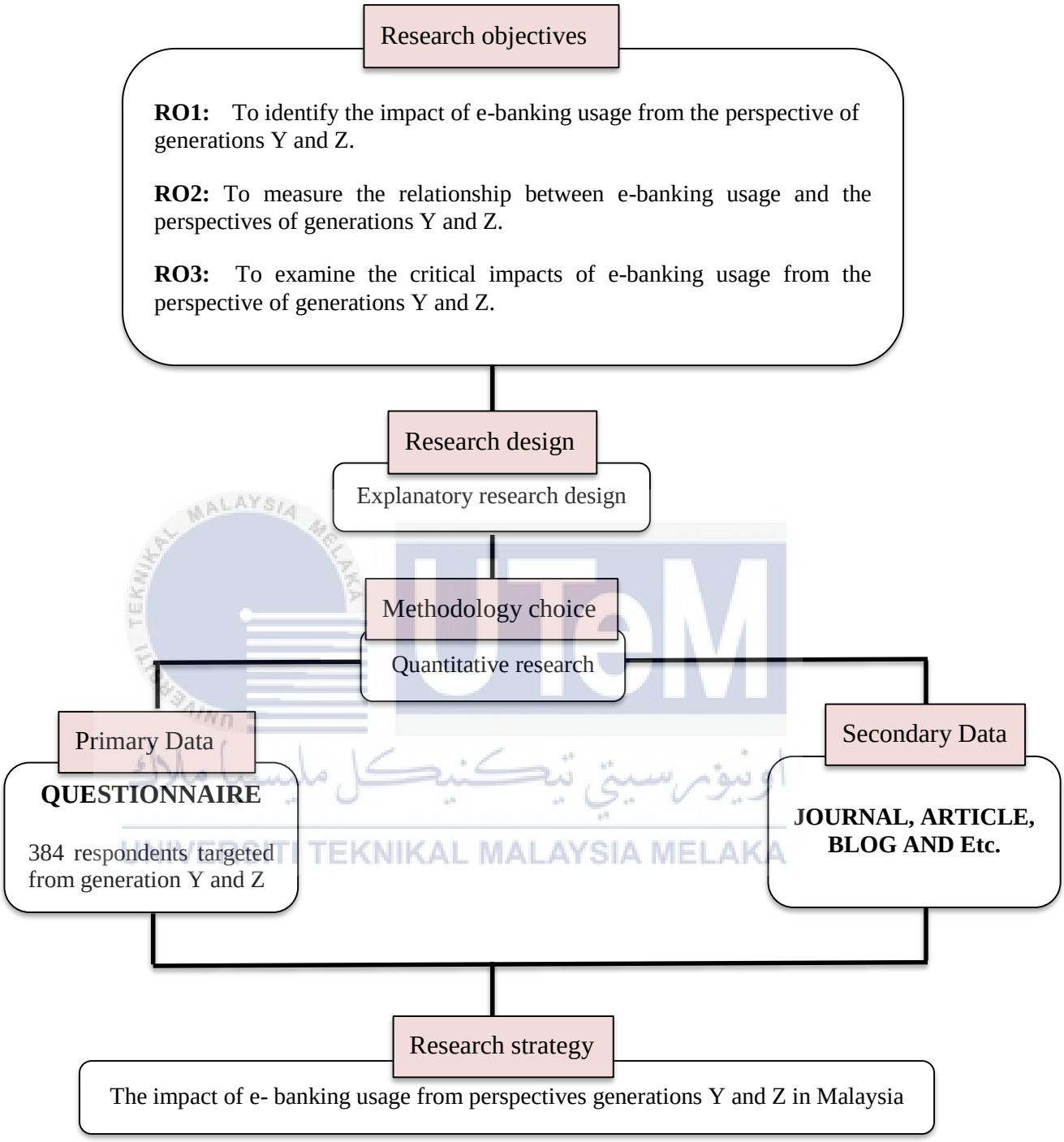

Figure 3.11: Research framework

CHAPTER 4

DATA ANALYSIS AND RESULTS

4.1 Introduction

Chapter 4 discusses the results and findings of the data analysis completed in the study project. Data is gathered from a sample of 384 participants throughout a span of two months. The data will be analyzed using the Statistical Package for Social Sciences (SPSS) in order to get the results of the study goals and assess the validity of the research hypotheses. The findings will be shown in graphical representations and tabular formats.

In addition, this chapter presents the results of the pilot test and further analyzes the data using descriptive statistics. This analysis includes the demographic information of the respondents and their replies to the survey questions. Next, the Pearson Correlation Coefficient analysis is used to quantify the extent of the association between the independent variables and the dependent variable. This is followed by regression analysis to assess the validity of the hypothesis. Finally, a chapter summary is provided.

4.2 Pilot test

The primary objective of a pilot research is to assess the viability of the questionnaire by determining whether respondents can comprehend the questions. The researcher in this study chooses 38 participants, representing 10% of the total number of respondents. Cronbach's Alpha is a statistical metric used to assess the internal consistency of data. A result of 0.7 or above indicates that the questionnaire has a reliable level of consistency.

4.2.1 Reliability

Prior to using the questionnaire for research purposes, it is necessary to assess its internal consistency. The internal consistency measures the extent to which each component in the test is connected to the same underlying concept, indicating the interrelatedness of components inside the test. Cronbach's Alpha is a statistical measure that ranges from 0 to 1. A greater value of coefficients of dependability indicates a stronger internal consistency.

A total of 25 items are assessed using a Likert scale that ranges from 1 to 5, with 1 representing "strongly disagree," 2 representing "disagree," 3 representing "neutral," 4 representing "agree," and 5 representing "strongly agree." The Cronbach's Alpha coefficient quantifies the degree of correlation between each item in the independent variable and the dependent variable.

4.2.1.1 Perceived usefulness

Table 4.2.1.1.1: Case Processing Summary of Perceived of Usefulness

(Source: Developed from SPSS analysis)

		N	%
Cases	Valid	40	100.0
	Excluded[a]	0	0.0
	Total	40	100.0

Table 4.2.1.1.2: Reliability Statistics of Perceived of Usefulness

(Source: Developed from SPSS analysis)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.871	0.873	5

Table 4.2.1.1.2 illustrates Cronbach's Alpha for five questions for perceived of usefulness. The reliability statistics has value of 0.871 which is greater than 0.7. Hence, the questions for this independent variable is reliable and can be used for the actual questionnaire.

4.2.1.2 Perceived ease of use

Table 4.2.1.2.1: Case Processing Summary of Perceived Ease of Use

(Source: Developed from SPSS analysis)

		N	%
Cases	Valid	40	100.0
	Excluded[a]	0	0.0
	Total	40	100.0

Table 4.2.1.2.2: Reliability Statistics of Perceived Ease of Use

(Source: Developed from SPSS analysis)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.891	0.897	5

Table 4.2.1.2.2 illustrates Cronbach's Alpha for five questions for perceived ease of use. The reliability statistics has value of 0.891 which is greater than 0.7. Hence, the questions for this independent variable is reliable and can be used for the actual questionnaire.

4.2.1.3 Perceived Data Security and Privacy

Table 4.2.1.3.1: Case Processing Summary of Perceived Data Security and Privacy

(Source: Developed from SPSS analysis)

		N	%
Cases	Valid	40	100.0
	Excluded[a]	0	0.0
	Total	40	100.0

Table 4.2.1.3.2: Reliability Statistics of Perceived Data Security and Privacy

(Source: Developed from SPSS analysis)

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

Table 4.2.1.3.2 illustrates Cronbach's Alpha for five questions for perceived data security and privacy. The reliability statistics has value of 0.866 which is greater than 0.7. Hence, the questions for this independent variable is reliable and can be used for the actual questionnaire.

4.2.1.4 Perceived technology and innovation

Table 4.2.1.4.1: Case Processing Summary of Perceived Technology and Innovation

(Source: Developed from SPSS analysis)

		N	%
Cases	Valid	40	100.0
	Excluded[a]	0	0.0
	Total	40	100.0

Table 4.2.1.4.2: Reliability Statistics of Perceived Technology and Innovation

(Source: Developed from SPSS analysis)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.911	0.911	5

Table 4.2.1.4.2 illustrates Cronbach's Alpha for five questions for perceived of technology and innovation. The reliability statistics has value of 0.911 which is greater than 0.7. Hence, the questions for this independent variable is reliable and can be used for the actual questionnaire.

4.2.1.5 E- banking usage from perspective of generation Y and Z in Malaysia.

Table 4.2.1.5.1: Case Processing Summary of E- banking usage from perspective of generation Y and Z in Malaysia

(Source: Developed from SPSS analysis)

		N	%
Cases	Valid	40	100.0
	Excluded[a]	0	0.0
	Total	40	100.0

Table 4.2.1.5.2: Reliability Statistics of E- banking usage from perspective of generation Y and Z in Malaysia

(Source: Developed from Research)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.830	0.833	5

Table 4.2.1.4.2 illustrates Cronbach's Alpha for five questions for e- banking usage from perspective of generation Y and Z in Malaysia. The reliability statistics has value of 0.830 which is greater than 0.7. Hence, the questions for this independent variable is reliable and can be used for the actual questionnaire.

4.2.1.6 Reliability analysis of overall result

Table 4.2.1.6.1: Case Processing Summary of overall result

(Source: Developed from SPSS analysis)

		N	%
Cases	Valid	40	100.0
	Excluded[a]	0	0.0
	Total	40	100.0

Table 4.2.1.6.2: Reliability Statistics of overall result

(Source: Developed from SPSS analysis)

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	N of Items
0.970	0.971	25

Table 4.2.1.6.2 displays the Cronbach's Alpha outcome for the combined count of independent factors and dependent variables. The Cronbach's Alpha coefficient has an overall value of 0.970, surpassing the threshold of 0.7 and indicating excellent dependability. Overall, the Cronbach's Alpha analysis indicates that the questions have a high level of reliability.

4.2.2 Validity

Validity refers to the extent to which an assessment or measuring instrument precisely assesses the target construct. Validity refers to the degree to which a test or instrument accurately evaluates the underlying construct or notion it purports to measure. Ensuring the meaningfulness and applicability of findings or conclusions generated from data is a vital issue in research, testing, and measuring.

4.2.2.1 Validity for Independent Variables

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

(Source: Developed from SPSS analysis)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.646
Bartlett's Test of Sphericity	Approx. Chi-Square	1148.151
	df	190
	Sig.	0.000

According to table 4.2.2.1.1, the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy is moderate, indicating that the sampling data is satisfactory but not exceptional. As the value approaches 1, the technique becomes more appropriate for analyzing the data and the factor becomes more dependable. The significance of Bartlett's test of sphericity, shown by a $\chi 2$ value of 190 and a p-value of less than 0.000, suggests that there are pattern correlations among the variables given in the independent variables. Additionally, the p-value being less than 0.05 and an estimated Chi-square value of 1148.151 further supports this conclusion.

Table 4.2.2.2.2 Table of Compenant Matrix of Independent Variables

(Source: Developed from SPSS analysis)

Independent Variables		Items	Compenents 1	2	3	4	Valid	KMO value	Sig.
Perceived of usefulness	PU1	The e- banking services in Malaysia are useful to meet financial needs.	0.792				Valid	0.847	0.000
	PU2	Using e-banking services in Malaysia enhances my financial management capabilities.	0.811				Valid		
	PU3	I will recommend the e- banking services in Malaysia to others based on their usefulness.	0.804				Valid		
	PU4	The effectiveness of e- banking services in Malaysia can simplify financial transactions.	0.831				Valid		
	PU5	I am confident that e- banking services in Malaysia are valuable for managing financial activities	0.832				Valid		

	PEOU1	It is easy to find and navigate the e-banking platforms in Malaysia	0.860	Valid		
	PEOU2	I find e-banking services in Malaysia user-friendly.	0.809	Valid		
Perceived ease of use	PEOU3	I am able to learn quickly and operate e-banking services in Malaysia really well.	0.898	Valid	0.764	0.000
	PEOU4	The e- banking services in Malaysia require minimal effort to use.	0.794	Valid		
	PEOU5	Malaysia's e-banking system and procedures are simple to use	0.847	Valid		
	PDSP1	I confidently agree that the data security and privacy measures implemented by e- banking services in Malaysia.	0.859	Valid		
	PDSP2	I am aware of the potential for unauthorized access to my personal information when using e-	0.720	Valid		

		banking services in Malaysia.				
Perceived data security and Privacy	PDSP3	I am confident that my online activities are private and not easily accessible to unauthorized parties.	0.838	Valid	0.781	0.000
	PDSP4	I am satisfied with the effectiveness of the data protection mechanisms employed by e- banking services in Malaysia.	0.867	Valid		
	PDSP5	I am confident that e- banking services in Malaysia prioritize the confidentiality and security of my data.	0.748	Valid		
	PTI1	I feel confident in the technological advancements and innovations offered by e-banking services in Malaysia.	0.879	Valid		
	PTI2	The e- banking services in Malaysia provide me with access to cutting- edge technologies.	0.839	Valid		

Perceived Technology and Innovation	PTI3	It is easy to adopt e-banking services that incorporate new and innovative features in Malaysia.	0.760	Valid	0.828	0.000
	PTI4	I have a high perception of the technological sophistication of e- banking services in Malaysia.	0.884	Valid		
	PTI5	The e- banking services in Malaysia keep pace with technological advancements.	0.930			

According to the data in table 4.2.2.1.1, a comprehensive analysis of 20 items was conducted. The findings indicate that none of the items were excluded from the analysis. This is because all the values above the threshold of 0.4 and made a meaningful contribution to the factor structure. Thus, all the questions formulated as independent variables are deemed legitimate and included in the final questionnaire. The KMO test indicates that the independent variables are satisfactory, since their values above 0.6, specifically 0.847, 0.764, 0.781, and 0.828, respectively.

4.2.2.2 Validity for Dependent Variable

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

(Source: Developed from SPSS analysis)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.570
Bartlett's Test of Sphericity	Approx. Chi-Square	104.077
	df	10
	Sig.	0.000

From the table 4.2.2.2.1 The Kaiser-Meyer-Olkin (KMO) measure of sample adequacy is 0.570, which suggests that the appropriateness for factor analysis is just minimal since it falls below the desirable threshold of 0.6. Exercise caution when analyzing the factor structure. The Bartlett's test of sphericity yields a very significant result ($\chi 2 = 104.077$, $df = 10$, $p < 0.000$), suggesting the presence of visible pattern correlations across variables. The small p-value provides strong evidence that the correlation matrix substantially differs from the identity matrix, highlighting the important relationships within the dataset.

Table 4.2.2.2.2: Table of Compenent Matrix of Dependent Variables

(Source: Developed from SPSS analysis)

Dependent Variable		Items	Compenent 1	Valid	KMO value	Sig.
	ST1	I feel easily engaged with use of the initiatives and messages of e-banking services in Malaysia.	0.791	Valid		
	ST2	I highly praise the use of the e- banking system in Malaysia, which can be used as an example in other countries.	0.845	Valid		
	ST3	I have the potential plan to switch to another e-banking provider in Malaysia if they have stronger initiatives.	0.757	Valid	0.613	0.000
	ST4	The e- banking services in Malaysia meet my expectations in terms of e-banking usage	0.723	Valid		

ST5	The e- banking services in Malaysia play a role in shaping a sustainable economy.	0.813	Valid

From table 4.2.2.2.2, a comprehensive analysis of five items was conducted. The findings indicate that none of the items were excluded from the analysis. This is because all the values above the threshold of 0.4 made a meaningful contribution to the factor structure. Thus, all the questions formulated as dependent variables are deemed legitimate and included in the final questionnaire. The KMO test indicates that the independent variables are satisfactory since their values are above 0.6, specifically 0.613.

4.3 Respondent's Profile

4.3.1 Respondents' Gender

Table 4.3.1: Respondent's Gender

(Source: Developed from SPSS analysis)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	181	47.1	47.1	47.1
	Male	203	52.9	52.9	100.0
	Total	384	100.0	100.0	

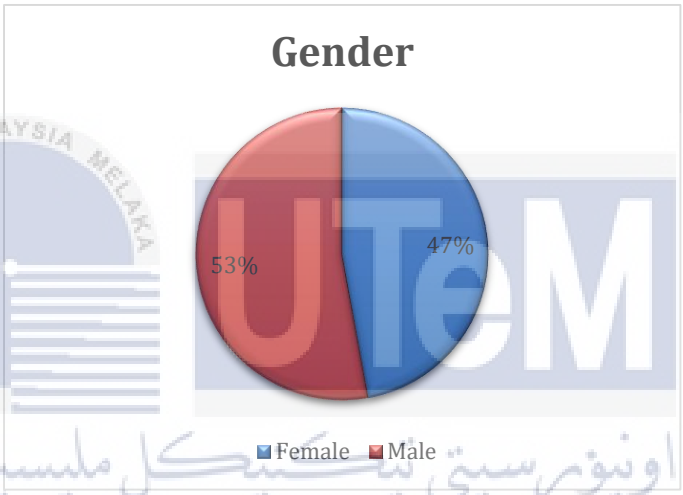

Figure 4.3.1 Respondent's demographic of gender

(Source: Developed from SPSS analysis)

The table shows the frequency and percentage of respondents' demographics by gender. There are a total of 384 respondents, and among the respondents, female respondents consist of 181, which is 47.1%, while male respondents consist of 203, which is 52.9%, as shown in the figure.

4.3.2 Respondent's Race

Table 4.3.2: Respondent's Race

(Source: Developed from SPSS analysis)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chinese	140	36.5	36.5	36.5
	Iban	1	0.3	0.3	36.7
	Indian	118	30.7	30.7	67.4
	Malay	124	32.3	32.3	99.7
	Melanau	1	0.3	0.3	100.0
	Total	384	100.0	100.0	

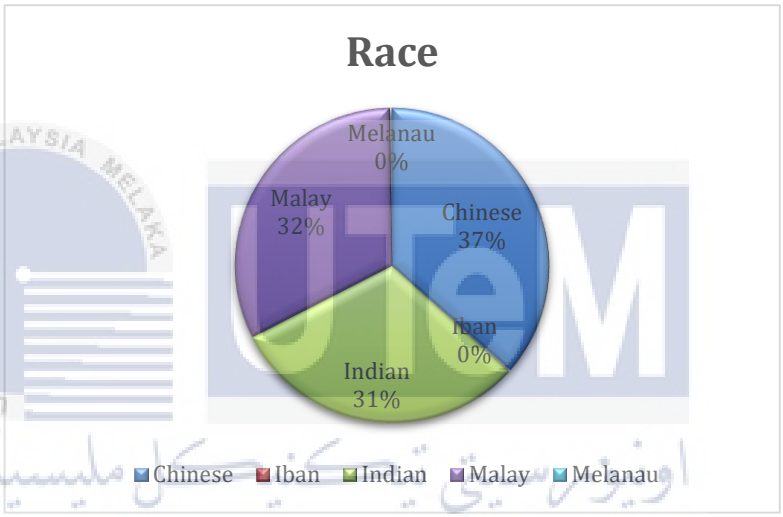

Figure 4.3.2: Respondent's Race

(Source: Developed from SPSS analysis)

The data presented in Table 4.3.2 reflects the demographic distribution of 384 respondents based on their race. Among the respondents, 140 individuals (36.5%) identify as Chinese, constituting the majority, while Iban and Melanau each represent only 0.3% with 1 respondent each. The Indian demographic comprises 118 respondents (30.7%), and the Malay group includes 124 individuals (32.3%). This breakdown provides insight into the racial composition of the respondent pool, highlighting the predominant presence of the Chinese demographic, followed by Indian and Malay groups, while Iban and Melanau are less represented in the study.

4.3.3 Respondent's Age

Table 4.3.3: Respondent's Age

(Source: Developed of Research)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18- 22 years old	39	10.2	10.2	10.2
	23- 28 years old	120	31.3	31.3	41.4
	29- 33 years old	56	14.6	14.6	56.0
	34- 38 years old	127	33.1	33.1	89.1
	39- 43 years old	42	10.9	10.9	100.0
	Total	384	100.0	100.0	

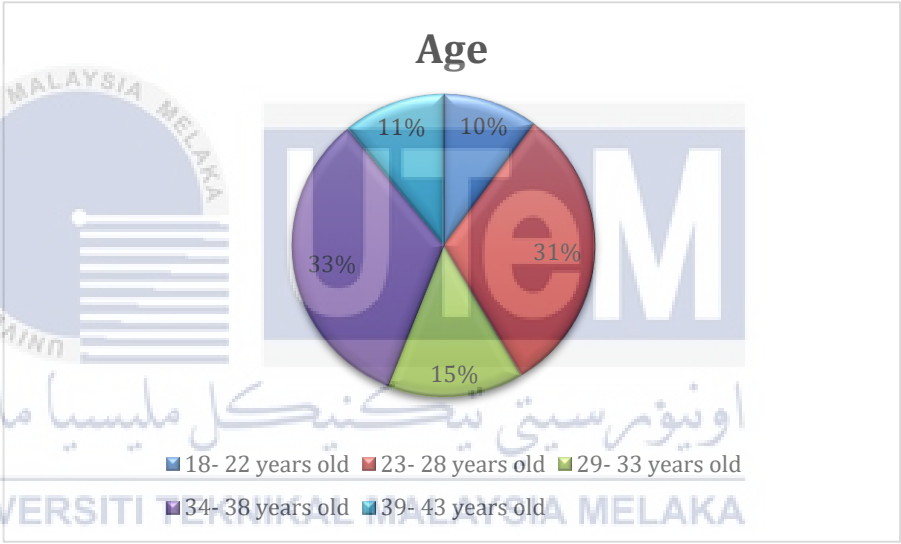

Figure 4.3.3: Respondent's Age

(Source: Developed from Research)

Table 4.3.3 presents the age distribution of 384 participants. Based on the age group, it is divided into two groups: generation Y (29–33 years old, 34–38 years old, 39–43 years old) and generation Z (18–22 years old, 23–28 years old). Among them, 10.2% were between the ages of 18 and 22, 31.3% were between 23 and 28, 14.6% were in the 29–33 age range, and the largest group, 33.1%, fell within the 34–38 age bracket. Additionally, there is a specific group designated for those between the ages of 39 and 43, which is 10.9%. The figure shown illustrates the percentage distribution among various age groups.

4.3.4 Respondent's Occupation

Table 4.3.4: Respondent's Occupation

(Source: Developed of SPSS analysis)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government	60	15.6	15.6	15.6
	Private	147	38.3	38.3	53.9
	Self- work	74	19.3	19.3	73.2
	Student/intern	103	26.8	26.8	100
	Total	384	100.0	100.0	

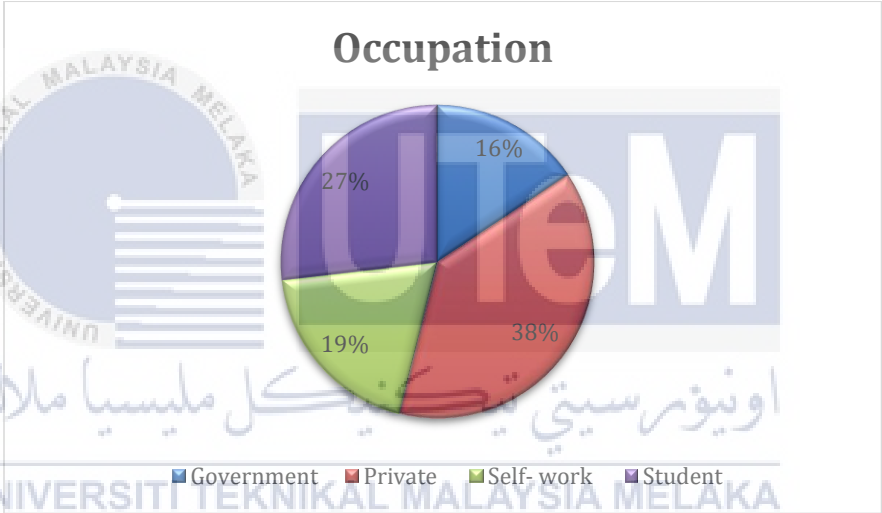

Figure 4.3.4: Respondent's Occupation

(Source: Developed from SPSS analysis)

Table 4.3.4 shows the employment status of a collective of 384 participants. The government occupation has 60 respondents, accounting for 15.6% of the total. Furthermore, the private sector comprises the largest group of respondents by occupation, with 147 individuals accounting for 38.3% of the total. Out of the total number of respondents, 74 individuals (19.3%) are engaged in self-employment, while 103 individuals (26.8%) are either students or interns. Respondents' demographics and professions are shown in Figure 4.3.4.

4.4 Descriptive analysis

4.4.1 Descriptive Analysis for Independent Variable (Perceived Usefulness)

Table 4.4.1: Summary of Perceived Usefulness

(Source: Developed from SPSS analysis)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PU1	The e- banking services in Malaysia are useful to meet financial needs.	42 (10.9%)	311 (81.0%)	29 (7.6%)	1 (0.3%)	1 (0.3%)
PU2	Using e- banking services in Malaysia enhances my financial management capabilities.	260 (67.7%)	97 (25.3%)	24 (6.3%)	2 (0.5%)	1 (0.3%)
PU3	I will recommend the e- banking services in Malaysia to others based on their usefulness.	96 (25.0%)	231 (60.2%)	54 (14.1%)	2 (0.5%)	1 (0.3%)
PU4	The effectiveness of e- banking services in Malaysia can simplify financial transactions.	171 (44.5%)	187 (48.7%)	25 (6.5%)	0 (0%)	1 (0.3%)
PU5	I am confident that e- banking services in Malaysia are valuable for managing financial activities.	145 (37.8%)	207 (53.9%)	28 (7.3%)	3 (0.8%)	1 (0.3%)

Table 4.4.1 displays the responses of 384 individuals to the independent variable of perceived of usefulness, which influences the impact of e-banking usage among generations Y and Z. The PU1 item asserts the e- banking services in Malaysia are useful to meet financial needs. The findings indicate that 10.9% of the participants strongly agree with the statement, 81.0% agree with the statement, and 7.6% indicate neutrality. Nevertheless, a mere 0.3% of participants expressed disagreement or strongly disagreed with the given statement.

The item PU2 describes how using e-banking services in Malaysia enhances their financial management capabilities. Based on the result obtained, most respondents, which is 67.7%, are likely to strongly agree with the statement, and 25.3% of respondents agree with it. 6.3% of respondents claim that they are neutral on the statement, but 0.5% of respondents disagree, and another 0.3% of respondents strongly disagree on the statement.

The item PU3 explains that respondents would recommend the e-banking services in Malaysia to others based on their usefulness. Based on the result, 25.0% of respondents strongly agree, and the majority of respondents, which is 60.2%, agree with the statement, followed by 14.1% of respondents who claim that they are neutral, but there are 0.5% of respondents who disagree and 0.3% of respondents who strongly disagree with the statement.

The item PU4 states that the effectiveness of e-banking services in Malaysia can simplify financial transactions. Following respondents who say they feel neutral about the statement are 6.5%, 44.5% of respondents strongly agree, and 48.9% agree with it. Besides, 0% of respondents disagree, while the other 0.3% strongly disagree with the statement.

Lastly, item PU5 states that respondents feel confident that e-banking services in are valuable for managing financial activities. There are 37.8% of respondents who strongly agree and 53.9% of respondents who agree, followed by 7.3% of respondents who are neutral on the statement. On the other side, 0.8% of respondents disagree and 0.3% strongly disagree with the statement.

4.4.2 Descriptive analysis for Independent Variable (Perceived Ease of Use)

Table 4.4.2: Summary of Perceived Ease of Use

(Source: Developed from SPSS analysis)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PEOU1	It is easy to find and navigate the e- banking platforms in Malaysia.	146 (38.0%)	197 (51.3%)	39 (10.2%)	1 (0.3%)	1 (0.3%)
PEOU2	I find e- banking services in Malaysia user- friendly.	134 (34.9%)	216 (56.3%)	32 (8.3%)	1 (0.3%)	1 (0.3%)
PEOU3	I am able to learn quickly and operate e- banking services in Malaysia really well.	143 (37.2%)	211 (54.9%)	29 (7.6%)	0 (0%)	1 (0.3%)
PEOU4	The e- banking services in Malaysia require minimal effort to use.	135 (35.2%)	199 (51.8%)	46 (12.0%)	3 (0.8%)	1 (0.3%)
PEOU5	Malaysia's e- banking system and procedures are simple to use.	163 (42.4%)	192 (50.0%)	27 (7.0%)	1 (0.3%)	1 (0.3%)

Based on the table above, it shows the responses of 384 respondents on perceived ease of use. Item PEOU1 states that it is easy to find and navigate the e-banking platforms in Malaysia. There are 38.0% of respondents who strongly agree, followed by 51.3% of respondents who agree with the statement. 10.2% of respondents claim that they feel neutral about the statement. However, 0.3% of respondents disagree with the statement, while the remaining 0.3% strongly disagree.

The item PEOU2 describes that respondents feel the e-banking services in Malaysia are user-friendly. 34.9% of respondents strongly agree, and 56.3% agree with the statement. The table also shows that 8.3% of respondents are neutral on the statement. On the other hand, 0.3% of respondents disagreed or strongly disagreed with the statement.

Next, the item PEOU3 states that the respondents are able to learn quickly and operate e-banking services in Malaysia really well. Based on the table, 37.2% of respondents strongly agree, followed by 54.9% of respondents who agree with the statement. 0% of respondents claim that they disagree, while 0.3% feel strongly disagreed with the statement.

The item PEOU4 states that the e-banking services in Malaysia require minimal effort to use. 35.2% of respondents strongly agree, and 51.8% of respondents agree with the statement. However, there are respondents who have different opinions, where 12.0% are neutral, 0.8% disagree with the statement, and 0.3% strongly disagree with it.

The item PEOU5 points out that Malaysia's e-banking system and procedures are simple to use. 42.4% of respondents strongly agree, and 50.0% of respondents reported agreeing with the statement. However, 7.0% of respondents feel neutral about the statement. Meanwhile, 0.3% of respondents are disagree and strongly disagreed with the statement.

4.4.3 Descriptive analysis for Independent Variable (Perceived Data Security and Privacy)

Table 4.4.3: Summary of Perceived Data Security and Privacy

(Source: Developed from SPSS analysis)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PDSP1	I confidently agree that the data security and privacy measures implemented by e- banking services in Malaysia.	111 (28.9%)	229 (59.6%)	40 (10.4%)	2 (0.5%)	2 (0.5%)
PDSP2	I am aware of the potential for unauthorized access to my personal information when using e- banking services in Malaysia.	148 (38.5%)	207 (53.9%)	28 (7.3%)	0 (0%)	1 (0.3%)
PDSP3	I am confident that my online activities are private and not easily accessible to unauthorized parties.	122 (31.8%)	221 (57.6%)	35 (9.1%)	3 (0.8%)	3 (0.8%)
PDSP4	I am satisfied with the effectiveness of the data protection mechanisms employed by e- banking services in Malaysia.	149 (38.8%)	195 (50.8%)	36 (9.4%)	2 (0.5%)	2 (0.5%)
PDSP5	I am confident that e- banking services in Malaysia prioritize the confidentiality and security of my data.	117 (30.5%)	219 (57.0%)	43 (11.2%)	3 (0.8%)	2 (0.5%)

Table 4.4.3 shows the result of perceived data security and privacy influencing the impact of e-banking usage based on the perspectives of generations Y and Z. The item PDSP1 describes that respondents confidently agree with the data security and privacy measures implemented by e-banking services in Malaysia. 28.9% of respondents strongly agree, and 59.6% of respondents agree with the statement. Besides, 10.4% of respondents are neutral about the statement. On the other hand, 0.5% of respondents strongly disagreed with the statement.

The item PDSP2 states that respondents are aware of the potential for unauthorized access to their personal information when using e-banking services in Malaysia. 38.5% of respondents strongly agree, while the other 53.9% agree with the statement. In addition, 7.3% of respondents were neutral about the statement. However, 0% of respondents disagree and 0.3% strongly disagree with the statement.

The item PDSP 3 highlights that respondent confidence in their online activities is private and not easily accessible to unauthorized parties. 31.8% of respondents strongly agree, and 57.6% of the majority of respondents agree with the statement. However, 9.1% of respondents are neutral about the statement. Based on the table, it is also recorded that 0.8% of respondents disagreed with or strongly disagreed with the statement.

The item PDSP 4 states that respondents are satisfied with the effectiveness of the data protection mechanisms employed by e-banking services in Malaysia. 38.8% of respondents strongly agree with the statement. More than half of the respondents, or 50.8%, agree with the statement. However, 9.4% of respondents are neutral with the statement, while the other 0.5% feel disagree and strongly disagree with the statement.

Lastly, item PDSP5 states that respondents feel confident with the e-banking services in Malaysia and prioritize the confidentiality and security of data. 30.5% of respondents strongly agree, and 57.0% agree with the statement. On the other hand, 11.2% of respondents are neutral about the statement. Not only that, 0.8% of respondents disagree, and 0.5% of respondents disagree with the statement.

4.4.4 Descriptive analysis for Independent Variable (Perceived Technology and Innovation)

Table 4.4.4: Summary of Perceived Technology and Innnovation

(Source: Developed from Research)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PTI1	I feel confident in the technological advancements and innovations offered by e- banking services in Malaysia.	137 (35.7%)	215 (56.0%)	29 (7.6%)	2 (0.5%)	1 (0.3%)
PTI2	The e- banking services in Malaysia provide me with access to cutting-edge technologies.	136 (35.4%)	230 (59.9%)	16 (4.2%)	1 (0.3%)	1 (0.3%)
PTI3	It is easy to adopt e-banking services that incorporate new and innovative features in Malaysia.	148 (38.5%)	201 (52.3%)	33 (8.6%)	1 (0.3 %)	1 (0.3%)
PTI4	I have a high perception of the technological sophistication of e-banking services in Malaysia.	124 (32.3%)	232 (60.4%)	26 (6.8%)	1 (0.3%)	1 (0.3%)
PTI5	The e- banking services in Malaysia keep pace with technological advancements.	139 (36.2%)	216 (56.3%)	25 (6.5%)	3 (0.8%)	1 (0.3%)

Table 4.4.4 above illustrates the results of perceived data security and privacy that influence the impact of e-banking usage from the perspective of generations Y and Z in Malaysia. Based on the result of PT1, respondents feel confident in the technological advancements and innovations offered by e-banking services in Malaysia. 35.7% of respondents strongly agree with the statement. More than half of the respondents, or 56.0%, totally agreed with the statements. However, 7.6% of respondents feel neutral about the statement. 0.5% of respondents disagreed or strongly disagreed with the statement.

Item PTI2 states that the e-banking services in Malaysia provide me with access to cutting-edge technologies. 35.4% of respondents strongly agreed with the statement, while the other 59.9% agreed with the statement. However, 4.2% of respondents feel neutral about the statement. 0.3% of respondents claim that they strongly disagree with the statement.

Item PTI3 highlights that it is easy to adopt e-banking services that incorporate new and innovative features in Malaysia. There is 38.5% of respondents are strongly agreed on the statement while more than half respondents which is 52.3% respondents are agreed with the statements. In addition, 8.6% of respondents claim that they are neutral about the statement. However, 0.3% of respondents on both scales feel disagree and strongly disagree with the statement.

Item PTI4 points out that respondents have a high perception of the technological sophistication of e-banking services in Malaysia. Based on the result, 32.3% of respondents strongly agree with the statement. 60.4% of majority respondents highly agreed with the statement. However, 6.8% are neutral with the statement, while 0.3% of respondents feel disagreed with or strongly disagreed with the statement.

Lastly, PTI5 states that the e-banking services in Malaysia keep pace with technological advancements. There are 36.2% of respondents are responded to be strongly agreed while 56.3% are respondent to be agreed with the statement. However, 6.5% of respondents feel neutral about the statement. There are 0.8% of respondents who disagree, and the reminder is that 0.3% of respondents strongly disagree with the statement.

4.4.5 Descriptive analysis for Dependent Analysis (E- banking usage from perspective of generation Y and Z in Malaysia.

Table 4.4.5: Summary of E- banking usage from perspective of generation Y and Z in Malaysia.

(Source: Developed from Research)

Frequency

Item	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
ST1	I feel easily engaged wit use of the initiatives and messages of e- banking services in Malaysia.	47 (12.2%)	320 (83.3%)	16 (4.2%)	0 (0%)	1 (0.3%)
ST2	I highly praise the use of the e- banking system in Malaysia, which can be used as an example in other countries.	222 (57.8%)	138 (35.9%)	21 (5.5%)	2 (0.5%)	1 (0.3%)
ST3	I have the potential plan to switch to another e- banking provider in Malaysia if they have stronger initiatives.	77 (20.1%)	114 (29.7%)	54 (14.1%)	121 (31.5%)	18 (4.7%)
ST4	The e- banking services in Malaysia meet my expectations in terms of e- banking usage.	113 (29.4%)	247 (64.3%)	21 (5.5%)	2 (0.5%)	1 (0.3%)
ST5	The e- banking services in Malaysia play a role in shaping a sustainable economy.	140 (36.5%)	227 (59.1%)	16 (4.2%)	0 (0%)	1 (0.3%)

Table 4.4.5 shows the descriptive statistics result of the dependent variable, e-banking usage, from the perspective of generations Y and Z in Malaysia. Item ST1 describes that respondents feel easily engaged with the use of the initiatives and messages of e-banking services in Malaysia. 12.2% of respondents strongly agree, and the other 83.3% agree with the statement. Aside from that, 4.2% of respondents feel neutral about item ST1. Then, 0% of respondents disagree, while 0.3% strongly disagree with the statement.

Item ST2 states that respondents highly praise the use of the e-banking system in Malaysia, which can be used as an example in other countries. Most of the respondents, 57.8%, strongly agreed with the statement, and 35.9% agreed that they praise the use of the e-banking system in Malaysia. 5.5% of respondents are neutral with the statement. However, 0.5% of respondents reported disagreeing, and 0.3% strongly disagreed with the statement.

Item ST3 highlights that respondents have the potential to switch to another e-banking provider in Malaysia if they have stronger initiatives. There are 20.1% of respondents who strongly agree with the statement, while 29.7% of respondents agree. In addition, 14.1% of respondents are neutral on the statement. There are 31.5% of respondents who disagree with the statement, and the minority of respondents, which is 4.7%, strongly disagree that they have the potential to switch to another e-banking provider in Malaysia.

Next, item ST4 states that e-banking services in Malaysia meet my expectations in terms of e-banking usage. There are 29.4% of respondents who strongly agree, and the majority of respondents, which is 64.3%, agree with the statement. 5.5% of respondents are neutral about the statement. Furthermore, 0.5% of respondents disagree that the e-banking services in Malaysia meet their expectations in terms of e-banking usage, while 0.3% strongly disagree with the statement.

Lastly, item ST5 highlights that e-banking services in Malaysia play a role in shaping a sustainable economy. 36.5% strongly agree with the statement, and 59.1% agree that e-banking services in Malaysia play a role in shaping a sustainable economy. However, 4.2% of respondents are neutral, followed by 0% disagree with the statement, and 0.3% who strongly disagree with the statement.

4.5 Descriptive Statistics

Table 4.5: Descriptive Statistics for each Independent Variables

(Source: Developed from SPSS analysis)

Independent Variable	N	Minimum	Maximum	Mean	Standard Deviation
Perceived Usefulness	384	1.00	5.00	4.2724	0.3789
Perceived Ease of Use	384	1.00	5.00	4.2714	0.4176
Perceived data and Security	384	1.00	5.00	4.2161	0.4425
Perceived Technology and Innovation	384	1.00	5.00	4.2729	0.4025

The table displays the descriptive statistics for each independent variable: perceived usefulness, perceived ease of use, perceived data and security, and perceived technology and innovation. According to the table, the mean values of all the independent variables are almost identical. The variable of perceived technology and innovation has the highest mean value of 4.2729, followed closely by perceived usefulness at 4.2724 and perceived ease of use at 4.2714. Although there is a little difference between these variables, they are all rather high. On the other hand, perceived data and security has the lowest mean value of 4.2161. The resulting table clearly indicates that a majority of the respondents agree with the questionnaire, acknowledging that the independent factors have an impact on e-banking usage from the perspective of generations Y and Z.

Conversely, the standard deviation precisely indicates the extent to which the data diverges from the mean. The analysis reveals that perceived data and security exhibit the greatest standard deviation of 0.4425, followed by perceived ease of use at 0.4126 and perceived technology and innovation at 0.4025. On the other hand, perceived usefulness has the lowest standard deviation of 0.3789. The standard deviation number suggests that the data exhibit little variation from the mean.

4.6 Pearson's Correlation Analysis

Table 4.6: Pearson's Correlation of Independent Variables and Dependent Variable

(Source: Developed from SPSS analysis)

Correlation

		PU	PEOU	PDSP	PTI	ST
Perceived usefulness **(PU)**	Pearson Correlation	1	.664**	.527**	.639**	.534**
	Sig. (2- tailed)		.000	.000	0.000	.000
	N	384	384	384	384	384
Perceived ease of use **(PEOU)**	Pearson Correlation	.664**	1	.589**	.685**	.562**
	Sig. (2- tailed)	.000	.000	.000	.000	.000
	N	384	384	384	384	384
Perceived data security and privacy **(PDSP)**	Pearson Correlation	.527**	.589**	1	.650**	.502**
	Sig. (2- tailed)	.000	.000	.000	.000	.000
	N	384	384	384	384	384
Perceived Technology and Innovation **(PTI)**	Pearson Correlation	.639**	.685**	.650**	1	.596**
	Sig. (2- tailed)	.000	.000	.000	.000	.000
	N	384	384	384	384	384
E- banking usage from perspective generation Y and Z **(ST)**	Pearson Correlation	.534**	.562**	.502**	.596**	1
	Sig. (2- tailed)	.000	.000	.000	.000	.000
	N	384	384	384	384	384

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

Table 4.6.1 depicts the correlation analysis results of the association between perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation variables with e-banking usage from perspectives Y and Z, using Pearson's correlation analysis.

Pearson's correlation analysis quantifies the degree of the linear association between the independent factors and the dependent variable. The Pearson correlation coefficient is a measure that goes from +1 to -1. A positive score indicates a direct link between the variables, while a negative value indicates an inverse correlation between the variables. A coefficient value of 0 implies a complete absence of a relationship between the variables. The symbol for the Pearson correlation coefficient is r.

The table displays notable correlations ranging from 0.534 to 0.596. Out of the four independent variables, perceived technology and innovation have the greatest correlation value, namely r = 0.596. The value signifies a robust and favourable correlation between the perception of technology and innovation and the use of e-banking, as seen from the standpoint of generations Y and Z. All variables have a p-value below the 0.01 significance threshold, and two asterisks in the two-tailed test indicate a statistically significant link.

The correlation value of 0.562 indicates that perceived ease of use is the second most strongly correlated factor. The data suggests that there is a significant and positive relationship between the perceived ease of use and e-banking usage among generations Y and Z. The r-value of perceived usefulness is 0.534, and the r-value of perceived data security and privacy is 0.502. This indicates a strong, moderately positive relationship between perceived usefulness and perceived data security and privacy in relation to e-banking usage among generations Y and Z.

This means that there is a strong link between the independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation) and the dependent variable (e-banking usage), as seen from the point of view of generations Y and Z. Therefore, the researcher proceeds to analyse the independent variables using multiple linear regressions.

4.7 Simple Linear Regression Analysis

The researcher opted to use linear regression analysis to ascertain the impact of each independent variable on the dependent variable. Through linear regression analysis, the hypothesis testing result will be achieved to assess the link between independent factors and dependent variables.

4.7.1 Simple Linear Regression for Perceived Usefulness

Table 4.7.1.1: Model Summary of Perceived Usefulness

Source: (Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.534[a]	0.285	0.283	0.35645

a. Predictors: (Constant), Perceived Usefulness

Table 4.7.1.1 displays the summary of a linear regression model for the perceived usefulness component. R reflects the correlation coefficient between perceived usefulness and e-banking use viewpoint among individuals from generations Y and Z. According to the table, the R-value is 0.534, indicating a strong association between perceived usefulness and e-banking use among individuals from the perspectives of Generation Y and Z. The R-squared value is the squared correlation coefficient, which shows how much variation in the dependent variable the independent variables can account for. The R-square value in the table is 0.285, indicating that about 28.5% of the variance in e-banking usage from the perspective of generations Y and Z can be explained by perceived usefulness.

Table 4.7.1.2: ANOVA[a] of Perceived Usefulness

(Source: Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.322	1	19.322	152.078	0.000[b]
	Residual	48.535	382	0.127		
	Total	67.857	383			

a. Dependent Variable: E- banking usage from perspective of generation Y and Z

b. Predictors: (Constant), Perceived Usefulness

Analysis of Variance (ANOVA) is used for hypotheses 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 indicatethat perceived usefulness well explained e-banking usage from perspective of generation Y and Z. Therefore, alternative hypothesis is accepted at alpha = 0.05.

Table 4.7.1.3: Coefficients[a] of Perceived Usefulness

(Source: Developed from SPSS analysis)

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.548	0.206		7.509	0.000
	Perceived Usefulness	0.593	0.048	0.534	12.332	0.000

a. Dependent Variable: E- banking usage from perspective generation Y and Z

From the table, beta values are used to predict dependent variable from independent variable. The coefficient of perceived usefulness shows there is significant relationship with e- banking usage from perspective of generation Y and Z. The result shows p-value is 0.000 while β is 0.534 which represents perceived usefulness does affect e- banking usage from perspective generation Y and Z. Therefore, alternative hypothesis (H_1) is accepted and null hypothesis (H_0) rejected.

4.7.2 Simple Linear Regression for Perceived Ease of Use

Table 4.7.2.1: Model Summary of Perceived Ease of Use

(Source: Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.562[a]	0.316	0.315	0.34849

a. Predictors: (Constant), Perceived Ease of Use

The table 4.7.2.1 displays the summary of a linear regression model for the perceived ease of use factor. R reflects the correlation coefficient between perceived ease of use and e-banking use perspective among individuals from generation Y and Z. According to the table, the R-value is 0.562, indicating a strong association between the perceived ease of use and e-banking use among individuals from the Generation Y and Z perspectives. The R-squared number represents the squared correlation coefficient, indicating the amount of variation in the dependent variable that can be explained by the independent variables. The R-square value in the table is 0.315, indicating that about 31.5% of the variance in e-banking use perspective across generation Y and Z can be explained by perceived ease of use.

Table 4.7.2.2: ANOVA[a] of Perceived Ease of Use

(Source: Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	21.465	1	21.465	176.749	0.000[b]
	Residual	46.392	382	0.121		
	Total	67.857	383			

a. Dependent Variable: E- banking usage from perspective of generation Y and Z

b. Predictors: (Constant), Perceived Ease of Use

Analysis of Variance (ANOVA) is used for hypotheses testing to see whether how wellthe model fits into the data. The significant of p-value is 0.000 which is lesser than 0.05 indicatethat perceived ease of use well explained e-banking usage from perspective of generation Y and Z. Therefore, alternative hypothesis is accepted at alpha = 0.05.

Table 4.7.2.3: Coefficients[a] of Perceived Ease of Use

(Source: Developed from SPSS analysis)

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.660	0.183		9.069	0.000
	Perceived Ease of Use	0.567	0.043	0.562	13.295	0.000

a. Dependent Variable: E- banking usage from perspective generation Y and Z

From the table, beta values are used to predict dependent variable from independent variable. The coefficient of perceived ease of use shows there is significant relationship with e- banking usage from perspective of generation Y and Z. The result shows p-value is 0.000 while β is 0.562 which represents perceived ease of use does affect e- banking usage from perspective generation Y and Z. Therefore, alternative hypothesis (H1) is accepted and null hypothesis (H_0) rejected.

4.7.3 Simple Linear Regression for Perceived Data Security and Privacy

Table 4.7.3.1: Model Summary of Perceived Data Security and Privacy

(Source: Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.502[a]	0.252	0.250	0.36448

a. Predictors: (Constant), Perceived Data Security and Privacy

The table 4.7.3.1 displays the summary of a linear regression model for the perceived data security and privacy factor. R reflects the correlation coefficient between perceived data security and privacy and e-banking use perspective among individuals from generation Y and Z. According to the table, the R-value is 0.502, indicating a strong association between the perceived data security and privacy and e-banking use among individuals from the Generation Y and Z perspectives. The R-squared number represents the squared correlation coefficient, indicating the amount of variation in the dependent variable that can be explained by the independent variables. The R-square value in the table is 0.252, indicating that about 25.2% of the variance in e-banking use perspective across generation Y and Z can be explained by perceived data security and privacy.

Table 4.7.3.2: ANOVA[a] of Perceived Data Security and Privacy

(Source: Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	17.112	1	17.112	128.813	0.000[b]
	Residual	50.746	382	0.133		
	Total	67.857	383			

a. Dependent Variable: E- banking usage from perspective of generation Y and Z

b. Predictors: (Constant), Perceived Data Security and Privacy

Analysis of Variance (ANOVA) is used for hypotheses testing to see whether how wellthe model fits into the data. The significant of p-value is 0.000 which is lesser than 0.05 indicatethat perceived data security and privacy well explained e- banking usage from perspective of generation Y and Z. Therefore, alternative hypothesis is accepted at alpha = 0.05.

Table 4.7.3.3: Coefficients[a] of Perceived Data Security and Privacy

(Source: Developed from SPSS analysis)

Model		Unstandardized Coefficients B	Standardized Coefficients Std. Error	Beta	t	Sig.
1	(Constant)	2.067	0.178		11.582	0.000
	Perceived Data Security and Privacy	0.478	0.042	0.502	11.350	0.000

a. Dependent Variable: E- banking usage from perspective generation Y and Z

From the table, beta values are used to predict dependent variable from independent variable. The coefficient of perceived data security and privacy shows there is significant relationship with e- banking usage from perspective of generation Y and Z. The result shows p-value is 0.000 while β is 0.502 which represents perceived data security and privacy does affect e- banking usage from perspective generation Y and Z. Therefore, alternative hypothesis (H1) is accepted and null hypothesis (H_0) rejected.

4.7.4 Simple Linear Regression for Perceived Technology and Innovation

Table 4.7.4.1: Model Summary of Perceived Technology and Innovation

(Source: Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.596[a]	0.356	0.354	0.33829

a. Predictors: (Constant), Perceived Technology and Innovation

The table 4.7.4.1 displays the summary of a linear regression model for the perceived Technology and Innovation. R reflects the correlation coefficient between perceived Technology and Innovation and e-banking use perspective among individuals from generation Y and Z. According to the table, the R-value is 0.596, indicating a strong association between the perceived technology and innovation and e-banking use among individuals from the Generation Y and Z perspectives. The R-squared number represents the squared correlation coefficient, indicating the amount of variation in the dependent variable that can be explained by the independent variables. The R-square value in the table is 0.356, indicating that about 35.6% of the variance in e-banking use perspective across generation Y and Z can be explained by perceived technology and innovation.

Table 4.7.4.2: ANOVA[a] of Perceived Technology and Innovation

(Source: Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	24.141	1	24.141	210.945	0.000[b]
	Residual	43.717	382	0.114		
	Total	67.857	383			

a. Dependent Variable: E- banking usage from perspective of generation Y and Z

b. Predictors: (Constant), Perceived Technology and Innovation

Analysis of Variance (ANOVA) is used for hypotheses testing to see whether how wellthe model fits into the data. The significant of p-value is 0.000 which is lesser than 0.05 indicatethat perceived technology and innovation well explained e- banking usage from perspective of generation Y and Z. Therefore, alternative hypothesis is accepted at alpha = 0.05.

Table 4.7.4.3: Coefficients[a] of Perceived Technology and Innovation

(Source: Developed from SPSS analysis)

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.415	0.184		7.678	0.000
	Perceived Technology and Innovation	0.624	0.043	0.596	14.524	0.000

a. Dependent Variable: E- banking usage from perspective generation Y and Z

From the table, beta values are used to predict dependent variable from independent variable. The coefficient of perceived technology and innovation shows there is significant relationship with e- banking usage from perspective of generation Y and Z. The result shows p-value is 0.000 while β is 0.596 which represents perceived technology and innovation does affect e- banking usage from perspective generation Y and Z. Therefore, alternative hypothesis (H1) is accepted and null hypothesis ($H_{0)}$ rejected.

4.8. Multiple Linear Regression Analysis

4.8.1 Multiple Linear Regression based on generation Z in Malaysia

Table 4.8.1.1: Model Summary of Multiple Linear Regression based on Generation Z

(Source: Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.766[a]	0.586	0.576	0.33471

a. Predictors: (Constant), Perceived Technology and Innovation, Perceived Data Security and Privacy, Perceived Ease of Use, Perceived Usefulness

b. Dependent Variable: e- banking usage from perspective of generation Z

Table 4.8.1.1 shows the model summary from the use of multiple linear regression analysis based on generation Z. The results show the value of R is 0.766, which indicates all four independent variables are highly correlated. The coefficient of determination, R square, is 0.586, indicating that 58.6% of the total variation in e-banking usage among generation Z can be explained by the independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, perceived technology, and innovation). The value of R square is greater than 0.5, which is considered a high value because there is less variance towards e-banking usage among generations Y and Z as the independent variables in the regression model. However, 41.4% remain unexplained in the variation. Hence, there are other significant reasons that affect e-banking usage among generations Z that were not included in this research.

Table 4.8.1.2: ANOVA[a] of Multiple Linear Regression based on Generation Z

(Source: Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	24.307	4	6.077	54.240	0.000[b]
	Residual	17.141	153	0.112		
	Total	41.447	157			

a. Dependent Variable: E- banking usage from perspective generation Z

b. Predictors: (Constant), Perceived Technology and Innovation, Perceived Data Security and Privacy, Perceived Ease of Use, Perceived Usefulness

Based on the table 4.8.1.2, the significance value, p-value is 0.000 which is less than the alpha value, 0.05 is statistically significant. The F-value is 54.240 is significant because when the F-value is higher, alternative hypotheses are well fit in the model and accepted. Therefore, the significance of overall model is F (4,153) = 54.240, $p < 0.05$. It shows that overall multiple regression model is significant at 5% level of significant.

Table 4.8.1.3: Coefficients[a] of Multiple Linear Regression based on Generation Z

(Source: Developed from SPSS analysis)

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	0.517	0.252		2.054	0.042
	Perceived Usefulness	0.163	0.095	0.157	1.716	0.088
	Perceived Ease of Use	0.275	0.089	0.280	3.080	0.002
	Perceived Data Security and Privacy	0.059	0.066	0.066	0.895	0.372
	Perceived Technology and Innovation	0.350	0.095	0.344	3.671	0.000

a. Dependent Variable: E- banking usage from perspective of generation Z

According to the table, each independent variable in the research has contributed to influencing e-banking usage from the perspectives of generation Z in Malaysia. Perceived technology and innovation are the strongest predictor variables, where $\beta = 0.350$, $t(158) = 3.671$, $p < 0.05$. The unstandardized beta, β, also has the highest value compared to other independent variables. It can be clearly seen that perceived technology and innovation have the highest positive influence on e-banking usage from the perspective of generations Z in Malaysia.

Besides, perceived ease of use has a subsequent stronger predictor, where $\beta = 0.275$, $t(158) = 0.280$, $p < 0.05$. The unstandardized beta, β, of perceived ease of use is the second highest positive value among the variables. As a result, perceived ease of use is the second-highest factor influencing e-banking usage perspectives among generations Z in Malaysia.

Furthermore, the third following predictor, perceived usefulness, has a coefficient of 0.163 and a t-value of 0.157, which is not statistically significant

at the $p < 0.05$ level. The unstandardized beta coefficient, β, for perceived usefulness indicates a lowest correlation between the variables. The component that has the least impact on e-banking use attitudes among Generation Z is perceived usefulness, as shown by a p-value of 0.088, which is higher than the standard significance threshold.

Perceived data security and privacy do not have a statistically significant impact on e-banking use among generation Z individuals, as shown by a β value of 0.059, t-value of 0.895 (with 158 degrees of freedom), and p-value more than 0.05. The unstandardized beta (β) coefficient of perceived data security and privacy shows a lowest correlation between the variables, with a magnitude of 0.372, beyond the customary threshold for statistical significance. Based on the findings, data security and privacy are ranked as the least favorable independent factors and are the fourth most influential factor in shaping the opinions on e-banking use among Generation Z. According to the outcome, each independent variable has a distinct amount of influence on the dependent variable and offers a meaningful forecast from the perspective of e-banking usage among generation Z in Malaysia.

In conclusion, the study of multiple linear regression demonstrates that perceived technology and innovation have the most substantial positive influence on the use of e-banking services among Generation Z in Malaysia. The greatest

unstandardized beta value and statistical significance support this. The second most influential factor in determining e-banking use viewpoints is the perceived ease of use. However, perceived usefulness and perceived data security and privacy, having a favorable effect and being automatically rejected, have the least influence compared to the other factors examined. These results highlight the diverse levels of impact that various variables have on the e-banking use behavior of Generation Z in Malaysia. The results show that each of the independent variables has a different effect on the dependent variable and makes a strong prediction about how commonly people from generation Z use e-banking. The relationship between independent and dependent variables can be determined using the equation for multiple regression:

Equation: $Y = a + bX_1 + cX_2$

$Y = 0.517 + 0.350X_1 + 0.275X_2$

Table 4.8.1.4: Equation of Multiple Regression Analysis based on Generation Z

(Source: Saunders et al., 2016)

Where;

Y	Dependent variable (the e- banking usage from perspective of generation Z)
a	Constant or other influence
b	Influence of X_1 (Perceived Technology and Innovation)
c	Influence of X_2 (Perceived Ease of Use)
X_1, X_2	Independent variables

From the multiple regression equation, there is a positive relationship between two independent variables (Perceived Technology and Innovation and Perceived Ease of Use) and a dependent variable. The regression equation formed to predict the value of the e-banking usage perspective among generation Z for the new case multiplies independent variables by the score and adds values to the constant. For every increase in unit in the independent variable, the researcher expects a value increase in the dependent variable, holding all the variables constant. Perceived technology and innovation are the strongest predictors, according to the result obtained as $\beta = 0.286$, $t(384) = 4.654$, $p < 0.05$. Therefore, the most significant factor influencing the e-banking usage perspective among generation Z is the perceived technology and innovation factor. However, there are two variables, which are perceived usefulness and perceived data security and privacy, that have been removed from the equation because they did not show statistical significance towards the dependent variable of generation Z.

In conclusion, the regression equation is:

$$Y = 0.517 + 0.350X_1 + 0.275X_2$$

E-banking usage perspective among generation Z = 0.517 + 0.350 (perceived technology and innovation) + 0.275 (perceived ease of use). Therefore, the regression equation is established to show how the variables are associated with each other.

4.8.2 Multiple Linear Regression based on Generation Y in Malaysia

Table 4.8.2.1: Model Summary of Multiple Linear Regression based on Generation Y

(Source: Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.478[a]	0.229	0.215	0.29678

a. Predictors: (Constant), Perceived Technology and Innovation, Perceived Usefulness, Perceived Ease of Use, Perceived Data Security and Privacy,

b. Dependent Variable: e- banking usage from perspective of generation Y

Table 4.8.2.1 shows the model summary from the use of multiple linear regression analysis based on generation Y. The results show the value of R is 0.478, which indicates all four independent variables are low correlated. The coefficient of determination, R square, is 0.229, indicating that 22.9% of the total variation in e-banking usage among generations Y can be explained by the independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, perceived technology, and innovation). The value of R square is lower than 0.5, which is considered a low value because there is more variance towards e-banking usage among generations Y as the independent variables in the regression model. However, 77.1% remain unexplained in the variation. Hence, there are other significant reasons that affect e-banking usage among generations Y that were not included in this research.

Table 4.8.2.2: ANOVA[a] of Multiple Linear Regression based on Generation Y

(Source: Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.772	4	1.443	16.382	0.000[b]
	Residual	19.465	221	0.088		
	Total	25.237	225			

a. Dependent Variable: E- banking usage from perspective generation Y

b. Predictors: (Constant), Perceived Technology and Innovation, Perceived Usefulness, Perceived Ease of Use, Perceived Data Security and Privacy

Based on the table, the significance value, p-value is 0.000 which is less than the alpha value, 0.05 is statistically significant. The F-value is 16.382 is significant because when the F-value is higher, alternative hypotheses are well fit in the model and accepted. Therefore, the significance of overall model is $F(4,221) = 16.382$, $p < 0.05$. It shows that overall multiple regression model is significant at 5% level of significant.

Table 4.8.2.3: Coefficients[a] of Multiple Linear Regression based on Generation Y

(Source: Developed from SPSS analysis)

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.464	0.362		4.042	0.000
	Perceived Usefulness	0.028	0.086	0.022	0.323	0.747
	Perceived Ease of Use	0.094	0.080	0.089	1.165	0.245
	Perceived Data Security and Privacy	0.266	0.080	0.256	3.325	0.001
	Perceived Technology and Innovation	0.217	0.085	0.202	2.554	0.011

a. Dependent Variable: E- banking usage from perspective generation Y

According to the table, each independent variable in the research has contributed to influencing e-banking usage from the perspectives of generation Y in Malaysia. Perceived data security and privacy are the strongest predictor variables, where $\beta = 0.266$, $t(226) = 3.325$, $p < 0.05$. The unstandardized beta, β, also has the highest value compared to other independent variables. It can be clearly seen that perceived data security and privacy have the highest positive influence on e-banking usage from the perspective of generations Y in Malaysia.

Besides, perceived technology and innovation has a subsequent stronger predictor, where $\beta = 0.217$, $t(226) = 2.554$, $p < 0.05$. The unstandardized beta,

β, of perceived technology and innovation is the second highest positive value among the variables. As a result, perceived technology and innovation is the second-highest factor influencing e-banking usage perspectives among generations Y in Malaysia.

Furthermore, the third following predictor, perceived ease of use, has a coefficient of 0.094 and a t-value of 1.165, which is not statistically significant at the $p < 0.05$ level. The unstandardized beta coefficient, β, for perceived ease of use indicates a lowest correlation between the variables. The component that has the least impact on e-banking use attitudes among Generation Y is perceived ease of use, as shown by a p-value of 0.245, which is higher than the standard significance threshold.

Perceived usefulness does not have a statistically significant impact on e-banking use among generation Y individuals, as shown by a β value of 0.028, a t-value of 0.323 (with 226 degrees of freedom), and a p-value greater than 0.05. The unstandardized beta (β) coefficient of perceived usefulness shows a lowest correlation between the variables, with a magnitude of 0.747, beyond the customary threshold for statistical significance. Based on the findings, perceived usefulness is ranked as the least favorable independent factor and is the fourth most influential factor in shaping the opinions on e-banking use among Generation Y. According to the outcome, each independent variable has a distinct amount of influence on the dependent variable and offers a meaningful forecast from the perspective of e-banking usage among generation Y in Malaysia.

In conclusion, the study demonstrates that independent factors (perceived data security and privacy and perceived technology and innovations) have an impact on the use of e-banking among Generation Y in

Malaysia. Data security and privacy are identified as the most significant elements, demonstrating the most beneficial effect and importance. Perceived technology and innovation are the second-most influential factors in determining Generation Y's attitudes towards e-banking, highlighting their significant impact on e-banking usage. On the other hand, perceived ease of use and perceived usefulness, having a favorable effect and being automatically rejected, have the least influence compared to the other factors examined that influence the perspective of generation Y on e-banking usage. To summarize, each individual component has a distinct contribution to predicting the use of e-banking among Generation Y in Malaysia. This emphasizes the complex nature of the variables that influence their tastes and behaviors in the field of e-banking usage. The results show that each of the independent variables has a different effect on the dependent variable and makes a strong prediction about how commonly people from generation Y use e-banking. The relationship between independent and dependent variables can be determined using the equation for multiple regression:

Equation: $Y = a + bX_1 + cX_2$

$Y = 1.464 + 0.266X_1 + 0.217X_2$

Table 4.8.2.4: Equation of Multiple Regression Analysis based on Generation Y

(Source: Saunders et al., 2016)

Where;

Y	Dependent variable (the e- banking usage from perspective of generation Y)
a	Constant or other influence
b	Influence of X_1 (Perceived Data Security and Privacy)
c	Influence of X_2 (Perceived Technology and Innovation)
X_1, X_2	Independent variables

From the multiple regression equation, there is a positive relationship between two independent variables (Perceived Data Security and Privacy, and Perceived Technology and Innovation) and a dependent variable. The regression equation formed to predict the value of the e-banking usage perspective among generation Y for the new case multiplies independent variables by the score and adds values to the constant. For every increase in unit in the independent variable, the researcher expects a value increase in the dependent variable, holding all the variables constant. Perceived Data Security and Privacy is the strongest predictors, according to the result obtained as $\beta = 0.266$, $t\ (226) = 3.325$, $p < 0.05$. Therefore, the most significant factor influencing the e-banking usage perspective among generation Y is the perceived data security and privacy. However, there are two variables, which are perceived ease of use and perceived usefulness, that have been removed from the equation because they did not show statistical significance towards the dependent variable of generation Y.

In conclusion, the regression equation is:

$$Y = 1.464 + 0.266X_1 + 0.217X_2$$

E-banking usage perspective among generation Y = 1.464 + 0.266 (perceived data security and privacy) + 0.217 (perceived technology and innovation). Therefore, the regression equation is established to show how the variables are associated with each other.

4.8.3 Multiple Linear Regression based on generations Y and Z in Malaysia

Table 4.8.3.1: Model Summary of Multiple Linear Regression based on generations Y and Z

(Source: Developed from SPSS analysis)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.651[a]	0.423	0.417	0.32134

a. Predictors: (Constant), Perceived Technology and Innovation, Perceived Usefulness, Perceived Data Security and Privacy, Perceived Ease of Use

b. Dependent Variable: e- banking usage from perspective of generation Y and Z

Table 4.8.1 shows the model summary from the use of multiple linear regression analysis. The results show the value of R is 0.651, which indicates all four independent variables are moderately correlated. The coefficient of determination, R square, is 0.423, indicating that 42.3% of the total variation in e-banking usage among generations Y and Z can be explained by the independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, perceived technology, and innovation). The value of R square is lower than 0.5, which is considered a low value because there is less variance towards e-banking usage among generations Y and Z as the independent variables in the regression model. However, 57.7% remain unexplained in the variation. Hence, there are other significant reasons that affect e-banking usage among generations Y and Z that were not included in this research.

Table 4.8.3.2: ANOVA[a] of Multiple Linear Regression based on generations Y and Z

Source: (Developed from SPSS analysis)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.723	4	7.181	69.541	0.000[b]
	Residual	39.135	379	0.103		
	Total	67.857	383			

a. Dependent Variable: E- banking usage from perspective generation Y and Z

b. Predictors: (Constant), Perceived Technology and Innovation, Perceived Usefulness, Perceived Data Security and Privacy, Perceived Ease of Use

Based on the table, the significance value, p-value is 0.000 which is less than the alpha value, 0.05 is statistically significant. The F-value is 69.541 is significant because when the F-value is higher, alternative hypotheses are well fit in the model and accepted. Therefore, thesignificance of overall model is $F(4,379) = 69.541$, $p < 0.05$. It shows that overall multiple regression model is significant at 5% level of significant.

Table 4.8.3.3: Coefficients[a] of Multiple Linear Regression based on generations Y and Z

(Source: Developed from SPSS analysis)

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	0.740	0.205		3.614	0.000
	Perceived Usefulness	0.182	0.062	0.164	2.944	0.003
	Perceived Ease of Use	0.189	0.060	0.187	3.136	0.002
	Perceived Data Security and Privacy	0.114	0.051	0.120	2.240	0.026
	Perceived Technology and Innovation	0.299	0.064	0.286	4.654	0.000

a. Dependent Variable: E- banking usage from perspective generation Y and Z

According to the table, each independent variable in the research has contributed to influencing e-banking usage from the perspectives of generations Y and Z. Perceived technology and innovation are the strongest predictor variables, where $\beta = 0.286$, $t(384) = 4.654$, $p < 0.05$. The unstandardized beta, β, also has the highest value compared to other independent variables. It can be clearly seen that perceived technology and innovation have the highest positive influence on e-banking usage from the perspective of generations Y and Z.

Besides, perceived ease of use has a subsequent stronger predictor, where $\beta = 0.189$, $t(384) = 3.136$, $p < 0.05$. The unstandardized beta, β, of

perceived ease of use is the second highest positive value among the variables. As a result, perceived ease of use is the second-highest factor influencing e-banking usage perspectives among generations Y and Z.

Next, perceived usefulness is the subsequent stronger predictor, where $\beta = 0.182$, $t(384) = 2.944$, $p < 0.05$. The unstandardized beta, β, of perceived usefulness is the third highest positive value among the variables. As a result, perceived usefulness is the third-highest factor influencing e-banking usage perspectives among generations Y and Z.

Then, perceived data security and privacy are the lower predictor variables, where $\beta = 0.114$, $t(384) = 2.240$, $p < 0.05$. The unstandardized beta (β) of perceived data security and privacy is the lowest positive among the variables. From the result, perceived data security and privacy have the lowest positive value of all independent variables and are the fourth factor influencing e-banking usage perspectives among generations Y and Z. Based on the result, each of the independent variables has a different level of contribution towards the dependent variable and provides a significant prediction from an e-banking usage perspective among generations Y and Z. The relationship between dependent variables and independent variables can be determined by the multiple regression equation:

Equation: $Y = a + bX_1 + cX_2 + dX_3 + eX_4$

$Y = 0.740 + 0.182X_1 + 0.189X_2 + 0.114X_3 + 0.299X_4$

Table 4.8.3.4: Equation of Multiple Linear Regression Analysis based on generation Y and Z

(Source: Saunders et al., 2016)

Where;

Y	Dependent variable (the e- banking usage from perspective of generation Y and Z)
a	Constant or other influence
b	Influence of X_1 (Perceived Usefulness)
c	Influence of X_2 (Perceived Ease of Use)
d	Influence of X_3 (Perceived Data Security and Privacy)
e	Influence of X_4 (Perceived Technology and Innovation)
X_1, X_2, X_3, X_4	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 e- banking usage perspective among generation Y and Z 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. Perceived technology and innovation is the strongest predictor from the result obtained as $\beta = 0.286$, $t(384) = 4.654$, $p < 0.05$. Therefore, the most significant factor influencing the e- banking usage perspective among generation Y and Z is perceived technology and innovation factor.

In conclusion, the regression equation is:

$$Y = 0.740 + 0.182X_1 + 0.189X_2 + 0.114X_3 + 0.299X_4$$

E- banking usage perspective among generation Y and Z = 0.740 + 0.182 (Perceived Usefulness) + 0.189 (Perceived Ease of Use) + 0.114 (Perceived Data Security and Privacy) + 0.299 (Perceived Technology and Innovation). Therefore, the regression equation is established to show how the variables are associated to each other.

4.9 Hypothesis Testing

Hypothesis testing is a statistical technique used to draw conclusions

about population characteristics by analyzing a sample of data. The process entails the development of two conflicting hypotheses, a null hypothesis (H0) and an alternative hypothesis (H1 or Ha). According to Segwick (2014), statistical hypothesis testing entails formulating the statistical null and alternative hypotheses. To determine whether to accept the alternative hypothesis instead of the null hypothesis, one must conduct hypothesis testing. If the p-value is less than 0.05, the null hypothesis will be rejected in favor of the alternative hypothesis. If this is the case, the researcher might deduce that there is a lack of uniformity between the independent variables and the dependent variable.

4.9.1 Hypothesis Testing based on Generation Z

4.9.1.1 Hypothesis Testing 1

H_1: There is a significant relationship between perceived usefulness and e-banking usage from the perspective of generations Z in Malaysia.
H_0: There is no significant relationship between perceived usefulness and e-banking usage from the perspective of generations Z in Malaysia.

Based on the data in table 4.9.1.1, the p-value is more than 0.05, indicating that the null hypothesis (H_0) is accepted and the alternative hypothesis ($H_{1)}$ is rejected because the p- value of perceived usefulness is 0.088, which is not significantly impact to the dependent variables. This solely indicates that there is no significant correlation relationship between perceived usefulness and the e- banking usage from perspective of generation Z. The findings align with prior research, in which scholars observed to not give a notable impact of perceived usefulness on the usage of e-banking among individuals from generations Z in Malaysia.

4.9.1.2 Hypothesis Testing 2

H_1: There is a significant relationship between perceived ease of use and e-banking usage from the perspective of generations Z in Malaysia.
H_0: There is no significant relationship between perceived ease of use and e-banking usage from the perspective of generations Z in Malaysia.

Based on the data in table 4.9.1.2, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived ease of use and e-banking usage from the perspective of generation Z in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived ease of use on the usage of e-banking among individuals from generations Z.

4.9.1.3 Hypothesis Testing 3

H_1: There is a significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Z in Malaysia. H_0: There is no significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Z in Malaysia.

Based on the data in table 4.9.1.3, the p-value is more than 0.05, indicating that the null hypothesis (H_0) is accepted and the alternative hypothesis ($H_{1)}$ is rejected because the p- value of perceived data security and privacy is 0.372, which is not significantly impact to the dependent variables. This solely indicates that there is no significant correlation relationship between perceived usefulness and the e- banking usage from perspective of generation Z. The findings align with prior research, in which scholars observed to not give a notable impact of perceived data security and privacy on the usage of e-banking among individuals from generations Z in Malaysia.

4.9.1.4 Hypothesis Testing 4

H_1: There is a significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Z in Malaysia.
H_0: There is no significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Z in Malaysia.

Based on the data in table 4.9.1.4, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived technology and innovation and e-banking usage from the perspective of generation Z in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived technology and innovation on the usage of e-banking among individuals from generations Z.

4.9.1.5 Hypothesis Testing Result Generation Z

Table 4.9.1.5: Hypothesis Testing Result Generation Z

Source: (Developed from research)

Independent Variables	P-Value	Result
Perceived Usefulness	0.000	Rejected H1
Perceived Ease of Use	0.000	Accepted H2
Perceived Data Security and Privacy	0.000	Rejected H3
Perceived Technology and Innovation	0.000	Accepted H4

From table 4.9.1.5, the hypothesis result illustrates that there is significant relationship between two independent variables and the dependent variable. The result shows that the significance values of perceived ease of use and perceived technology and innovation are below than 0.05, where $p < 0.05$. As a result, null hypothesis (H_0) of another two independent variables (perceived usefulness, and perceived data security and privacy) is rejected, while the alternative hypothesis of perceived ease of use, and perceived technology and innovation of independent variables is accepted.

4.9.2 Hypothesis Testing based on Generation Y

4.9.2.1 Hypothesis Testing 1

H_1: There is a significant relationship between perceived usefulness and e-banking usage from the perspective of generations Y in Malaysia. H_0: There is no significant relationship between perceived usefulness and e-banking usage from the perspective of generations Y in Malaysia.

Based on the data in table 4.9.2.1, the p-value is more than 0.05, indicating that the null hypothesis (H_0) is accepted and the alternative hypothesis ($H_{1)}$ is rejected because the p- value of perceived usefulness is 0.747, which is not significantly impact to the dependent variables. This solely indicates that there is no significant correlation relationship between perceived usefulness and the e- banking usage from perspective of generation Y. The findings align with prior research, in which scholars observed to not give a notable impact of perceived usefulness on the usage of e-banking among individuals from generations Y in Malaysia.

4.9.2.2 Hypothesis Testing 2

H_1: There is a significant relationship between perceived ease of use and e-banking usage from the perspective of generations Y in Malaysia. H_0: There is no significant relationship between perceived ease of use and e-banking usage from the perspective of generations Y in Malaysia.

Based on the data in table 4.9.2.2, the p-value is more than 0.05, indicating that the null hypothesis (H_0) is accepted and the alternative hypothesis ($H_{1)}$ is rejected because the p- value of perceived ease of use is 0.245, which is not significantly impact to the dependent variables. This solely indicates that there is no significant correlation relationship between perceived ease of use and the e- banking usage from perspective of generation Y. The findings align with prior research, in which scholars observed to not give a notable impact of perceived ease of use on the usage of e-banking among individuals from generations Y in Malaysia.

4.9.2.3 Hypothesis Testing 3

H_1: There is a significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Y in Malaysia. H_0: There is no significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Y in Malaysia.

Based on the data in table 4.9.2.3, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived data security and privacy and e-banking usage from the perspective of generation Y in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived data security and privacy on the usage of e-banking among individuals from generations Y.

4.9.2.4 Hypothesis Testing 4

H_1: There is a significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Y in Malaysia. H_0: There is no significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Y in Malaysia.

Based on the data in table 4.9.2.4, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived technology and innovation and e-banking usage from the perspective of generation Y in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived technology and innovation on the usage of e-banking among individuals from generations Y.

4.9.2.5 Hypothesis Testing Result Generation Y

Table 4.9.2.5: Hypothesis Testing Result Generation Y

(Source: Developed from research)

Independent Variables	P-Value	Result
Perceived Usefulness	0.000	Rejected H1
Perceived Ease of Use	0.000	Rejected H2
Perceived Data Security and Privacy	0.000	Accepted H3
Perceived Technology and Innovation	0.000	Accepted H4

From table 4.9.2.5, the hypothesis result illustrates that there is a significant relationship between two independent variables and the dependent variable. The result shows that the significance values of perceived data security and privacy and perceived technology and innovation are below 0.05, where $p < 0.05$. As a result, the null hypothesis (H_0) of another two independent variables (perceived usefulness and perceived ease of use) is rejected, while the alternative hypothesis of perceived data security and privacy and perceived technology and innovation of independent variables is accepted.

4.9.3 Hypothesis Testing based on generation Y and Z

4.9.3.1 Hypothesis Testing 1

H_1: There is a significant relationship between perceived usefulness and e-banking usage from the perspectives of generations Y and Z in Malaysia. H_0: There is no significant relationship between perceived usefulness and e-banking usage from the perspective of generations Y and Z in Malaysia.

Based on the data in table 4.9.3.1, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived usefulness and e-banking usage from the perspective of generations Y and Z in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived usefulness on the adoption of e-banking among individuals from generations Y and Z.

4.9.3.2 Hypothesis Testing 2

H_1: There is a significant relationship between perceived ease of use and e-banking usage from the perspective of generations Y and Z in Malaysia. H_0: There is no significant relationship between perceived ease of use and e-banking usage from the perspective of generations Y and Z in Malaysia.

Based on the data in table 4.9.3.2, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived ease of use and e-banking usage from the perspective of generations Y and Z in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived ease of use on the adoption of e-banking among individuals from generations Y and Z.

4.9.3.3 Hypothesis Testing 3

H_1: There is a significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Y and Z in Malaysia. H_0: There is no significant relationship between perceived data security and privacy and e-banking usage from the perspective of generations Y and Z in Malaysia.

Based on the data in table 4.9.3.3, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived data security and privacy and e-banking usage from the perspective of generations Y and Z in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived data security and privacy on the adoption of e-banking among individuals from generations Y and Z.

4.9.3.4 Hypothesis Testing 4

H_1: There is a significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Y and Z in Malaysia. H_0: There is no significant relationship between perceived technology and innovation and e-banking usage from the perspective of generations Y and Z in Malaysia.

Based on the data in table 4.9.3.4, the p-value is less than 0.05, indicating that the alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected. Hence, there exists a substantial correlation between perceived technology and innovation and e-banking usage from the perspective of generations Y and Z in Malaysia. The findings align with prior research, in which scholars observed a notable impact of perceived data technology and innovation on the adoption of e-banking among individuals from generations Y and Z.

4.9.3.5 Hypothesis Testing Result based on Generation Y and Z

Table 4.9.3.5: Hypothesis Testing Result based on Generation Y and Z

(Source: Developed for research)

Independent Variables	P-Value	Result
Perceived Usefulness	0.000	Accepted H1
Perceived Ease of Use	0.000	Accepted H2
Perceived Data Security and Privacy	0.000	Accepted H3
Perceived Technology and Innovation	0.000	Accepted H4

From table 4.9.3.5, the hypothesis result illustrates that there are significant relationships between all of the independent variables with the dependent variable. The result shows that all the significant value is below 0.05, where $p < 0.05$. As a result, null hypothesis (H_0) of each independent variable is rejected while the alternative hypothesis of each independent variable is accepted.

4.10 Summary

In summarize, this chapter explored the process of analyzing data and presented the findings of the investigation. Data and findings from 384 respondents were obtained using SPSS Version 27.0/29.0 to investigate the influence of e-banking use on generations Y and Z in Malaysia. Multiple statistical techniques are used for data analysis.

During the pilot test, a reliability study was performed to assess the internal consistency of the questionnaire using Cronbach's alpha. The respondents' profiles are represented using pie charts, tallied in a table, and shown in figures. Researcher use the study of Pearson's correlation coefficient reveals a robust positive association between the independent factors and dependent variables in the research. Additionally, the researcher also utilized linear regression analysis to establish that all alternative hypotheses were accepted, while the null hypotheses were rejected. This indicates a significant correlation between the independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation) and e-banking usage among generations Y and Z in Malaysia. Lastly, research used multiple regression analysis to distinguish the disparities in perspective between generation Y and generation Z over the utilization of e-banking in their everyday lives. The researcher's objective is to conduct a thorough and precise analysis of the data pertaining to those factors.

Based on the analysis, the researcher found that there are different perspectives for generations Y and Z. This is because, according to the research, the researcher found that most of generation Z utilizes e-banking based on the technology and innovation, and ease of use of the apps, while generation Y really prioritizes data security and privacy when using e-banking, and they are also interested in the technology and innovation of the apps. However, both generations Y and Z have the same interest in perceived technology and innovation, and these have been identified as the primary characteristics that strongly influence the adoption of e-banking among generations Y and Z in Malaysia, according to the last findings of the multiple regression analysis for the overall result.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter will provide a comprehensive analysis of the data obtained in this investigation. The study goals serve as the basis for the summary of research results, literature evaluation, conclusion, and recommendations. The suggestions are based on empirical evidence and intended for prospective research. The outcome and discoveries of this investigation may be used by other researchers to perform studies on credit cards in the future.

5.2 Summary of Findings

In previous chapter, the study had achieved the research objectives which are to identify the impact of e- banking usage from the perspective of generations Y and Z. To measure the relationship between e- banking usage and the perspectives of generations Y and Z. To examine the critical impacts of e- banking usage from the perspective of generation Y and Z.

5.2.1 Research Objective 1

RO 1: To identify the impact of e- banking usage from the perspective of generations Y and Z

The first objective of this study is to identify the impact of e- banking usage from the perspective of generations Y and Z in Malaysia. The researcher had suggested four critical factor that influence the e- banking usage from perspective of generation Y and Z which are perceived usefulness, perceived ease of use, perceived data security and privacy and perceived technology and innovation. The first objective had been achieved through Literature Review in chapter 2. The critical factors had been proved by previous researchers. Therefore, the researcher comes out with the independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation) that influence the e- banking usage from perspective of generation Y and Z in Malaysia.

5.2.2 Research Objective 2

RO 2: To measure the relationship between e-banking usage and the perspectives of generations Y and Z.

The second research objective can be achieved through Pearson's correlation coefficient analysis using the Statistical Package for Social Sciences (SPSS) software. The findings display that all the independent variables, which are perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation, are positively associated with the dependent variable, which is e-banking usage, from the perspective of generations Y and Z in Malaysia. In addition, the results of the analysis show that all of the independent variables have a significant relationship and are positively associated with e-banking usage from the perspective of generations Y and Z. The independent variables, which are perceived usefulness, perceived ease of use, perceived data security and security, and perceived technology and innovation, have a moderately strong to positive relationship with e-banking usage from perspectives Y and Z because they have respective values between 0.534, 0.562, 0.502, and 0.596 based on table 4.6. Perceived Technology and innovation have a high association, followed by perceived ease of use, perceived usefulness, and perceived data security and privacy.

5.2.3 Research Objective 3

RO 3: To examine the critical impacts of e-banking usage from the perspective of generations Y and Z.

The third research objective is to examine the most significant factor influencing e-banking usage from the perspective of generations Y and Z. This objective can be achieved through multiple linear regression analysis in SPSS. Starting from the table 4.8.1.1 until 4.8.3.4, based on the results of the analysis, there is a significant relationship between two independent variables of generation Z, which are perceived usefulness and perceived technology and innovation with e-banking usage, while another two independent variables (perceived data security and privacy and perceived ease of use) have been eliminated from the alternative hypothesis based on generation Z. Not only that, generations Y also show the same result: there is a significant relationship between two independent variables, which are perceived data security and privacy and perceived technology and innovation with e-banking usage, from the perspectives of generation Y, while another two independent variables (perceived usefulness and perceived ease of use) have been rejected from the alternative hypothesis based on generation Y. However, both generations Y and Z have a keen interest in technology and innovation, which is positively associated with e-banking usage from the perspective of generations Y and Z. To summarize, both Generation Y and Generation Z exhibit a significant inclination towards technology and innovation, which greatly impacts their use of e-banking services. Furthermore, the consideration of data security and privacy also plays a crucial role in influencing the use of e-banking across both age groups. These results indicate that in order to promote the use of e-banking, financial institutions should prioritize resolving concerns about data security and privacy. Additionally, they should use technical advancements to cater to the interests of both Generation Y and Generation Z.

5.2.4 Research Implication

The purpose of this study is to get a more profound comprehension of the crucial aspects that impact the utilization of e-banking among Malaysians belonging to the generation Y and Z. According to the study, only four elements have been analyzed, but the researcher believes that there are more aspects that might impact the use of e-banking from the perspective of generation Y and Z. Therefore, the researcher proposed a novel framework that may be used by other researchers.

This study accomplishes its research objectives by conducting a literature review and employing statistical analyses such as Pearson's correlation coefficient and multiple linear regression. The study also tests the hypothesis regarding the impact of independent variables (perceived usefulness, perceived ease of use, perceived data security and privacy, perceived technology, and innovation) on e-banking usage among individuals from generations Y and Z. Perceived usefulness, perceived ease of use, perceived data security and privacy, and perceived technology and innovation are factors that influence the usage of e-banking among Generations Y and Z. Perceived technology and innovation are seen as the main factors that influence the use of e-banking among both Generation Y and Generation Z in Malaysia. Nevertheless, financial institutions must also consider aspects such as data security, privacy, and the user-friendliness of the application in order to fully shape their views on the use of e-banking.

5.2.5 Research Limitation

The study examining the effects of e-banking use among Generation Y and Z in Malaysia encountered numerous significant limitations that may be resolved to better future research. Initially, the study displayed a restricted demographic representation by mostly concentrating on metropolitan regions, perhaps disregarding the varied demographics among Generation Y and Z. Future research should aim to achieve a more extensive demographic representation, including individuals from diverse geographical areas, social strata, and educational profiles, in order to get a full comprehension of the effects of e-banking.

Moreover, the dependence on a cross-sectional design constrained the capacity to capture long-term trends and fluctuations. Future study would be enhanced by using a longitudinal methodology to monitor e-banking behaviors, enabling a more nuanced understanding of generational trends. Furthermore, the research mostly focused on quantitative data, disregarding psychological elements that impact the adoption of e-banking. In future research, it would be beneficial to use qualitative methodologies in order to examine attitudes, perceptions, and trust. This would enhance the results by providing a more profound comprehension of the underlying motives driving the utilization of e-banking.

Finally, the study's restricted geographical range may impede the applicability of its conclusions. In order to tackle this issue, future research should strive to get a sample that is more geographically diverse. This will ensure that the findings accurately represent the different experiences and difficulties encountered by Generation Y and Z in various urban, suburban, and rural areas in Malaysia. Tackling these limitations will enhance our comprehension of the effects of e-banking on the younger population in Malaysia, providing a more comprehensive and subtle insight.

5.2.6 Recommendation for future research

To further investigate the effects of e-banking adoption among Generation Y and Z in Malaysia, it is advisable to implement certain suggestions that may expand the comprehensiveness and scope of knowledge in this field. Researchers should give priority to ensuring a more comprehensive demographic representation by intentionally choosing individuals from a wide range of geographies, socioeconomic backgrounds, and educational levels. This methodology will enable a detailed examination of e-banking behaviours, taking into consideration geographical and cultural differences that might impact the patterns of adoption.

Secondly, choosing a longitudinal study methodology is vital to capture the changing character of e-banking practices across time. This methodology enables the examination of patterns, changes in attitudes, and the determinants impacting long-term acceptance, resulting in a more holistic comprehension of the changing dynamics within Generation Y and Z.

Besides, it is crucial to complement quantitative data with qualitative investigation of psychological aspects. Conducting in-depth interviews or focus group discussions may reveal the fundamental attitudes, perceptions, and levels of trust that influence the adoption of e-banking. This approach provides a more profound understanding of the incentives and obstacles experienced by persons in these generations.

Moreover, academics should investigate intricate components such as technical expertise, financial knowledge, and cultural impacts to get a more detailed comprehension of how these elements interact with e-banking use patterns. By applying these suggestions, future research efforts may tackle the recognized constraints and contribute to a more thorough and contextualized understanding of the influence of e-banking on Generation Y and Z in Malaysia.

Finally, the researcher suggests including a new variable, namely behavioral intention, as a moderator in the study. This research investigates the impact of e-banking use on Generation Y and Z, with a special focus on the function of behavioral intention in moderating this effects. This research examines the impact of attitudes and perceptions on actual e-banking behavior, focusing on the role of behavioral intention as a crucial mediator. This study aims to gain comprehensive understanding of the cognitive mechanisms that influence the acceptance of e-banking services, taking into account the differences across different age groups, and enhancing the capacity to generate precise forecasts. The findings have significant implications for regulators and corporate executives. These insights may be used to develop targeted tactics that align with the distinct preferences and motivations of Generation Y and in the dynamic electronic banking sector.

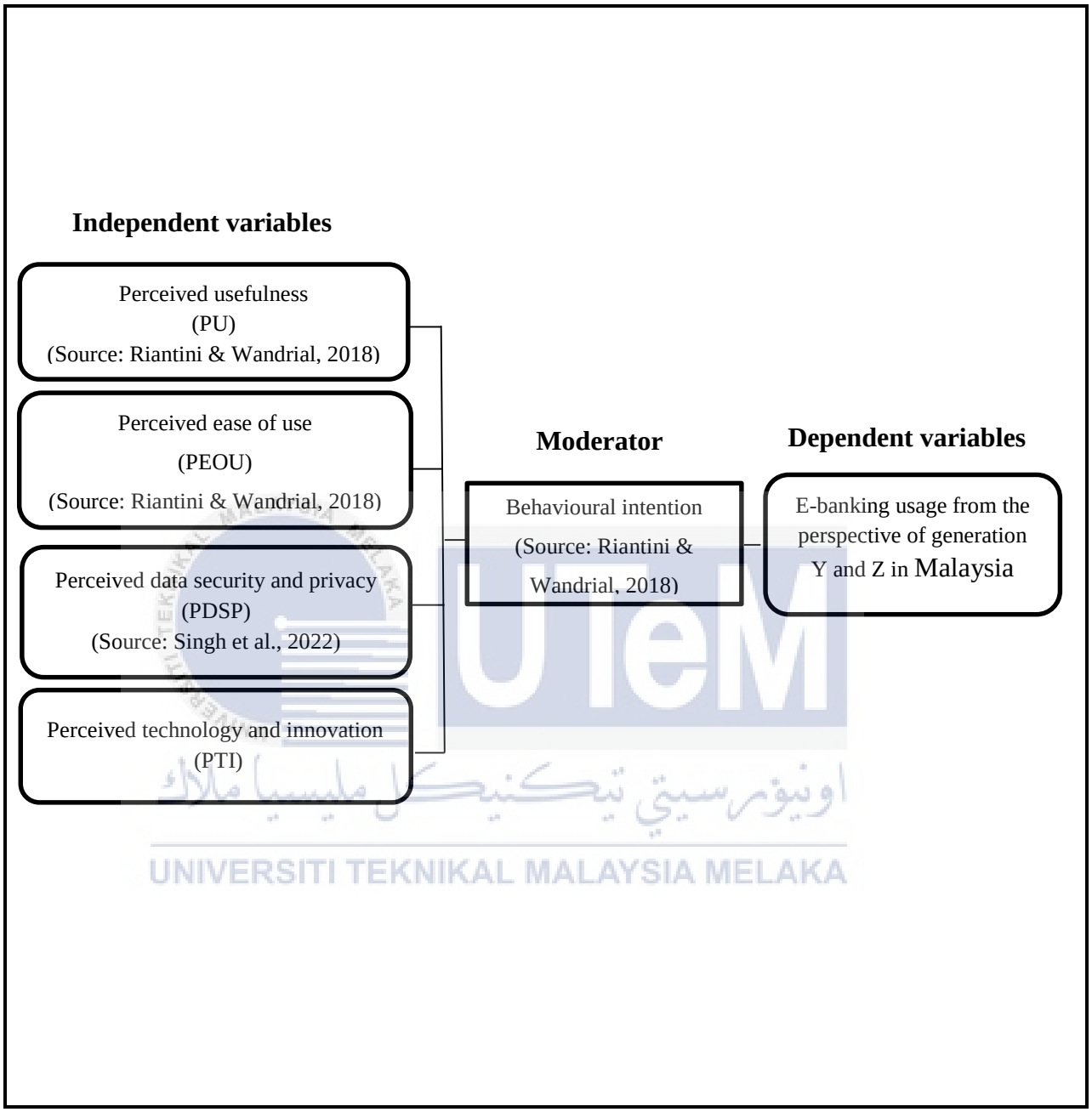

Figure 5.5: New Conceptual Framework

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APPENDICES

QUESTIONNAIRE

THE IMPACT OF E- BANKING USAGE FROM PERSPECTIVE GENERATION Y AND Z IN MALAYSIA

Good day, I am Nurul Shahirah Mohd Hishamudin from the faculty of Technology Management and Technopreneurship (FPTT) at Universiti Teknologi Malaysia Melaka. We appreciate your willingness to participate in this study. This questionnaire is designed to examine the impact of e-banking usage in Malaysia from the perspectives of generations Y and Z.

The survey should only require five to ten minutes. This survey is for academic purposes only, and your responses will be kept anonymous and strictly confidential. Please attentively consider the instructions and questions before responding. We appreciate your cooperation.

If you require additional clarification or have questions about the questionnaire, please do not hesitate to contact:

NURUL SHAHIRAH MOHD HISHAMUDIN
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
E- mail: NURULSHAHIRAH254@gmail.com
Tel: 011-35092504

SECTION A: GENERAL INFORMATION
SEKSYEN A: MAKLUMAT AM

Instruction: This section seeks for respondents' personal profiling. Please tick (/) on the space given.
Arahan: Bahagian ini mencari profil peribadi responden. Sila tandakan (/) pada ruangan yang diberi.

1. **Gender/ Jantina**

	Male/ Lelaki
	Female/ Perempuan

2. **Race/ Bangsa**

	Malay/ Melayu
	Chinese/ Cina
	Indian/ India
	Others/ lain- lain:…..

3. **Age/ Umur**

	18- 22 years old/ 18- 22 tahun
	23- 28 years old/ 23- 28 tahun
	29-30 years old/ 29- 30 tahun
	34- 38 years old/ 34- 38 tahun
	39- 43 years old/ 39- 43 tahun

4. Occupation

	Self- work/ Bekerja sendiri
	Student/ Intern/ Pelajar/ Praktikal
	Private/ Swasta
	Government/ Kerajaan

SECTION B: IMPACT OF E- BANKING USAGE FROM PERSPECTIVE GENERATION Y AND Z IN MALAYSIA.

BAHAGIAN B: IMPAK PENGGUNAAN E- PERBANKAN DARI PERSPEKTIF GENERASI Y DAN Z DI MALAYSIA.

Instruction: This section is seeking respondents' opinion on the impacts of e- banking usage from perspective of generation Y and Z in Malaysia. In order to what extent your agreement with each of the following statement by using a Likert scale, please tick (/) your answer to scale it as follows:

Arahan: Bahagian ini meminta pendapat responden tentang kesan penggunaan e-perbankan dari perspektif generasi Y dan Z di Malaysia. Untuk menentukan sejauh mana anda bersetuju dengan setiap pernyataan berikut dengan menggunakan skala Likert, sila tandakan (/) jawapan anda untuk menskalakannya seperti berikut:

Strongly Disagree/ Sangat Tidak Bersetuju	**Disagree/ Tidak Bersetuju**	**Neutral/ Neutral**	**Agree/ Bersetuju**	**Strongly Agree/ Sangat Bersetuju**
1	2	3	4	5

Independent variables (Pembolehubah bebas): Perceived usefulness/

Pembolehubah bebas: Kebolehgunaan yang dipersepsikan

	Perceived usefulness/ Kebolehgunaan yang dipersepsikan	**1**	**2**	**3**	**4**	**5**
1	The e- banking services in Malaysia are useful to meet financial needs. *Terjemahan: Perkhidmatan e- perbankan di Malaysia berguna untuk memenuhi keperluan kewangan.*					
2	Using e- banking services in Malaysia enhances my financial management capabilities. *Terjemahan: Menggunakan perkhidmatan e-perbankan di Malaysia meningkatkan keupayaan pengurusan kewangan saya.*					
3	I will recommend the e- banking services in Malaysia to others based on their usefulness. *Terjemahan: Saya akan mengesyorkan perkhidmatan e- perbankan di Malaysia kepada orang lain berdasarkan kegunaanya.*					
4	The effectiveness of e- banking services in Malaysia can simplify financial transactions *Terjemahan: Keberkesanan perkhidmatan e-perbankan di Malaysia dapat memudahkan transaksi kewangan.*					
5	I am confident that e- banking services in Malaysia are valuable for managing financial activities. *Terjemahan: Saya yakin perkhidmatan e-perbankan di Malaysia adalah bernilai untuk menguruskan aktiviti kewangan.*					

Independent variable: Perceived ease of use/ *Pembolehubah bebas: Kemudahan penggunaan yang dipersepsikan*

Perceived ease of use/ Kemudahan penggunaan yang dipersepsikan		**1**	**2**	**3**	**4**	**5**
1	It is easy to find and navigate the e- banking platforms in Malaysia. *Terjemahan: Sangat mudah untuk mencari dan menavigasi platform e- perbankan di Malaysia.*					
2	I find e- banking services in Malaysia user- friendly. *Terjemahan: Saya mendapati perkhidmatan e- perbankan di Malaysia mesra pengguna.*					
3	I am able to learn quickly and operate e- banoing services in Malaysia really well. *Terjemahan: Saya dapat belajar dengan cepat dan mengendalikan perkhidmatan e- perbankan di Malaysia dengan baik.*					
4	The e- banking services in Malaysia require minimal effort to use. *Terjemahan: Perkhidmatan e- perbankan di Malaysia memerlukan usaha yang minimum untuk digunakan.*					
5	Malaysia's e- banking system and procedures are simple to use *Terjemahan: Sistem dan prosedur e- perbankan Malaysia adalah mudah untuk digunakan.*					

Independent variable: Perceived Data Security and Privacy/ *Pembolehubah bebas: Keselamatan dan Privasi Data yang Dipersepsikan*

Perceived Data Security and Privacy/ Keselamatan dan Privasi Data yang Dipersepsikan		**1**	**2**	**3**	**4**	**5**
1	I confidently agree that the data security and privacy measures implemented by e- banking services in Malaysia. *Terjemahan: Saya dengan yakin bersetuju bahawa langkah keselamatan dan privasi data yang dilaksanakan oleh perkhidmatan e- perbankan di Malaysia.*					
2	I am aware of the potential for unauthorized access to my personal information when using e- banking services in Malaysia *Terjemahan: Saya sedar tentang potensi akses tanpa kebenaran kepada maklumat peribadi saya apabila menggunakan perkhidmatan e- perbankan di Malaysia.*					
3	I am confident that my online activities are private and not easily accessible to unauthorized parties. *Terjemahan: Saya yakin bahawa aktiviti dalam talian saya adalah peribadi dan tidak mudah diakses oleh pihak yang tidak dibenarkan.*					
4	I am satisfied with the effectiveness of the data protection mechanisms employed by e- banking services in Malaysia. *Terjemahan: Saya berpuas hati dengan keberkesanan mekanisme perlindungan data yang*					

	digunakan oleh perkhidmatan e- perbankan di Malaysia.					
5	I am confident that e- banking services in Malaysia prioritize the confidentiality and security of my data *Terjemahan: Saya yakin perkhidmatan e- perbankan di Malaysia mengutamakan kerahsiaan dan keselamatan data saya.*					

Independent variable: Perceived Technology and Innovation/ *Pembolehubah bebas: Teknologi dan inovasi yang dipersepsikan*

	Perceived Technology and Innovation	**1**	**2**	**3**	**4**	**5**
1	I feel confident in the technological advancements and innovations offered by e- banking services in Malaysia. Terjemahan: Saya berasa yakin dengan kemajuan teknologi dan inovasi yang ditawarkan oleh perkhidmatan e- perbankan di Malaysia.					
2	The e- banking services in Malaysia provide me with access to cutting- edge technologies. Terjemahan: Perkhidmatan e- perbankan di Malaysia memberi saya akses kepada teknologi yang maju.					
3	It is easy to adopt e- banking services that incorporate new and innovative features in Malaysia. Terjemahan: Mudah untuk menerima pakai perkhidmatan e- perbankan yang menggabungkan ciri- ciri baharu dan inovatif di Malaysia.					
4	I have a high perception of the technological sophistication of e- banking services in Malaysia. Terjemahan: Saya mempunyai persepsi yang tinggi terhadap kecanggihan teknologi perkhidmatan e- perbankan di Malaysia.					
5	The e- banking services in Malaysia keep pace with technological advancements. Terjemahan: Perkhidmatan e- perbankan di Malaysia seiring dengan kemajuan teknologi.					

SECTION C: E- BANKING USAGE FROM PERSPECTIVE OF GENERATION Y AND Z IN MALAYSIA.
BAHAGIAN C: PENGGUNAAN E- PERBANKAN DARI PERSPECTIVE GENERASI Y DAN Z DI MALAYSIA.

Instructions: This section intends to understand the respondents' perspective on using e- banking. In order to what extent your agreement with each of the following statement by using a Likert scale, please tick (/) your answer to scale it as follows:

Arahan: Bahagian ini bertujuan untuk memahami perspektif responden terhadap penggunaan e-perbankan. Untuk sejauh mana persetujuan anda dengan setiap pernyataan berikut dengan menggunakan skala Likert, sila tandakan (/) jawapan anda untuk menskalakannya seperti berikut:

Dependent variable (Pembolehubah bersandar): E- banking usage from perspective of generation Y and Z in Malaysia/ *Pembolehubah bersandar: Penggunaan E- perbankan dari perspektif generasi Y dan Z di Malaysia*

The purpose of dependent variable is designed to investigate and understand how the younger generations in Malaysia (Generation Y and Generation Z) engage with and utilize electronic banking (E-banking) services. / Tujuan pembolehubah bersandar direka untuk menyiasat dan memahami cara generasi muda di Malaysia (Generasi Y dan Generasi Z) terlibat dan menggunakan perkhidmatan perbankan elektronik (E-perbankan).

	E- banking usage from perspective generations Y and Z	1	2	3	4	5
1	I feel easily engaged with use of the initiatives and messages of e- banking services in Malaysia *Terjemahan: Saya berasa mudah terlibat dengan penggunaan inisiatif dan mesej perkhidmatan e-perbankan di Malaysia.*					
2	I highly praise the use of the e- banking system in Malaysia, which can be used as an example in other countries. *Terjemahan: Saya amat memuji penggunaan sistem e-perbankan di Malaysia yang boleh dijadikan contoh di negara lain.*					
3	I have the potential plan to switch to another e- banking provider in Malaysia if they have stronger initiatives. *Terjemahan: Saya mempunyai rancangan berpotensi untuk beralih kepada penyedia e- perbankan lain di Malaysia jika mereka mempunyai inisiatif yang lebih kukuh.*					
4	The e- banking services in Malaysia meet my expectations in terms of e- banking usage. *Terjemahan: Perkhidmatan e- perbankan di Malaysia memenuhi jangkaan saya dari segi penggunaan e-perbankan.*					
5	The e- banking services in Malaysia play a role in shaping a sustainable economy. *Terjemahan: Perkhidmatan e- perbankan di Malaysia memainkan peranan dalam membentuk ekonomi yang mampan.*					

We sincerely thank you for your valuable time and participation for this survey/

Terima kasih kerana meluang masa anda yang berharga untuk menjawab pemerhatian ini

APPENDICES

Gantt chart PSM I

Year	2022/2023													
Task/ Week	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Briefing PSM by commitee														
First meeting with supervisor														
Topic discussion														
Topic confirmation														
Read journals for literature review														
Forming introduction, problem statement, research objectives and questions														
Identifying variables and constructing conceptual framework														
Studying and finding secondary data														
Determining methodology used in the research														
Drafting research framework														
Submit draft to supervisor														
Revised chapter 1- 3														
Submission FYP 1														
Preparing slide														
Presentation of FYP														

Gantt chart PSM II

Year	2022/2023													
Task/ Week	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
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														
Submit draft to supervisor														
Improvise Report														
Preparing Slide														
Submission Report FYP 2														
Presentation of FYP 2														