

FACTORS AFFECTING GENERATION Z'S INTENTION
TO USE VIRTUAL BANKING IN MALAYSIA: A STUDY IN
THE POST COVID-19 PANDEMIC

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BY

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- (2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
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LIST OF ABBREVIATIONS

ANOVA	Analysis of variance
APAC	Asia-Pacific
AVE	Average variance extracted
BI	Behavioural intention
BNM	Bank Negara Malaysia
EE	Effort expectancy
FC	Facilitating conditions
FICO	Fair Isaac Corporation
Gen Z	Generation Z
HM	Hedonic motivation
HTMT	Heterotriat-monotrait ratio of correlations
H ₁	Hypothesis 1
H ₂	Hypothesis 2
H ₃	Hypothesis 3
H ₄	Hypothesis 4
H ₅	Hypothesis 5
H ₆	Hypothesis 6
IBM SPSS 26	IBM SPSS Statistics 26
IDT	Innovation Diffusion Theory
MCM	Manole Capital Management
MPCU	Model of PC Utilization
PE	Performance expectancy

PwC	PricewaterhouseCoopers
SCT	Social Cognitive Theory
SI	Social influence
SMEs	Small-and-medium enterprises
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TR	Trust
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology
UTAUT2	Unified Theory of Acceptance and Use of Technology 2

PREFACE

The acceleration of technologies has brought huge changes in the industries and people's lifestyles. Notably, the improvement in the financial and banking sector has changed how people's behaviour and preferences regarding the ways to conduct or receive financial services. Intriguingly, financial technology has born the new banking model, namely virtual banking. Virtual banking has been practised in many countries such as China, Taiwan, and Korea. Malaysia in turn has taken the first step by outlining the licensing framework and planning to issue the virtual banking license in 2022.

The Central Bank of Malaysia (BNM) introduces virtual banking in Malaysia but only targets several segments. A notable targeted segment is Generation Z (Gen Z), whose financial needs might not be adequately served or met through traditional banking. This motivated the researcher to understand the generation's intention to use the modern banking model. However, the existing research on this topic was found limited. Therefore, the researcher took initiative by conducting this research to examine the factors that affect Gen Z's intention to use virtual banking and to narrow down the literature gap.

ABSTRACT

Currently, there is still a significant gap in understanding Malaysian Gen Z's behavioural intention towards virtual banking. However, Gen Z represents a huge customer segment that is targeted by the virtual bank. This study aims to understand the factors that affect Gen Z's behavioural intention to use virtual banking. Specifically, it examines whether effort expectancy, performance expectancy, social influence, facilitating conditions, hedonic motivation, and trust have positive and significant relationships with behavioural intention, by adapting and extending the Unified Theory of Acceptance and Use of Technology 2. Hypotheses were also formed to examine the relationships.

To test the hypotheses, a self-administered questionnaire was prepared and distributed online to the respondents. 483 valid responses were collected and the data was transferred to IBM SPSS Statistics 26 and SmartPLS 3 for analysis. The reliability and validity of the research instruments were tested to ensure the quality of analysis outcomes. Pearson Correlation Coefficient and Multiple Linear Regression were the two analysis methods employed to test the hypotheses.

The findings of this research reported that all the factors, except hedonic motivation, play a positive and significant role in determining behavioural intention. Implications from both theoretical and managerial perspectives were discussed. Moreover, the limitations of this research were revealed and recommendations were provided for future research.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Chapter 1 presents the preface of the study by introducing the background of the research and the issues that motivated the studying of this topic. The research questions, research objectives, and significance of this study will also be discussed in this chapter.

1.1 Research Background

In this era of digitalization, technological advancement has brought positive contributions to society and has changed the business operation method in different industries, including the financial and banking sector (Broberg, 2021). Technological change has become the most creative force in the financial services ecosystem (PricewaterhouseCoopers [PwC], 2020). Moreover, the strike of the COVID-19 pandemic has significantly boosted the acceptance of the digitalization of the financial services industry in Malaysia (Salaam Gateway, 2020). The new normal such as social distancing and reduction in using physical banknotes has shifted society's preferences to online banking and digital payment (Ng, 2021). This has caused the emergence of virtual banking, which is also known as digital banking.

The terms “online banking, mobile banking, and virtual banking” have been used interchangeably throughout the years, but there are still some differences among them. Napoletano and Foreman (2021) defined online banking as the approach to banking services and features via the bank's website. Similarly, mobile banking refers to banking services provided through mobile devices (Napoletano & Foreman, 2021). Both online banking and mobile banking are only additional services on the traditional banking platform. Napoletano and Foreman (2021) claimed that virtual banking is only a combination of online banking and mobile banking. However, the statement has underestimated the scope of virtual banking. According to Tiong (2020), virtual banking is a modern banking model that digitizes all bank operations

and activities, while online banking and mobile banking are only the subsets of virtual banking. Virtual banking replaces the bank's physical presence with an everlasting online presence and eliminates the need for the customer to visit the branch (Ong, 2020).

Virtual banking has brought some unique advantages. The digitization of operations eliminates the need to visit brick-and-mortar branches and evolves the customer experience by avoiding time wastage and long queues. Besides, it increases financial inclusion and serves the unserved and underserved segments more effectively. Bank Negara Malaysia (BNM) (2020) defined unserved and underserved segments as individuals and businesses whose needs for financial products and services are not sufficiently met or served. For instance, small and medium enterprises (SMEs), first-time borrowers, and an individual who joined the workforce recently. With the data analytics and machine learning algorithm by virtual banking, their financial needs can be met and served adequately (Lum, 2020). Anggraeni, Hapsari, and Muslim (2021) indicated that virtual banking is environmentally friendly due to the reduction in paper usage as the customers' data is stored virtually and no or less paper is needed.

According to Bick, Bugrov, Gerson, McFaull, and Pariyskiy (2021), there are at least 30 virtual banking offerings across Asia-Pacific (APAC) region but none in Malaysia at the current stage. According to Kapron (2021), Malaysia is one of the most unserved and underserved markets in Southeast Asia; the unserved and underserved segment stands for an estimated 55% of the Malaysian adult population (Hilao, 2021). With this, BNM announced on 2nd July 2021 that it will issue five new virtual banking licenses in 2022 to drive innovation in the market and target reformatory business models to support the unserved and underserved markets (Koty, 2021; Kim, 2021). This is believed to intensify the competition in the industry and drive an upward trend for the virtual bank.

1.2 Research Problem

The establishment of virtual banking enables the innovative application of banking technology. Along with the innovative banking services and the advantages brought, virtual banking is believed to become the mainstream and will play a significant role in the banking industry in Malaysia. However, as virtual banking is considered new in Malaysia, there are only limited studies on virtual banking in the Malaysian context. With limited studies, the research on the public's intention to use virtual banking is even scarcer.

According to Fair Isaac Corporation (FICO) (2021), 61% of Malaysian consumers favour digital channels when engaging with the bank during financial difficulties. However, a detailed breakdown of survey results shows that the physical branch is still the most preferred banking customer touchpoint in Malaysia (FICO, 2021). There are 74% of Malaysians aware of virtual banking while 66% of the consumers are interested in the services (Visa, 2021; Hew, 2021). Nonetheless, only 43% of them prefer pure online banking (Hew, 2021). A survey by PwC (2019) showed that only 36% of consumers trust the security provided by the virtual bank. This might influence the consumer's intention to use virtual banking. Thus, the factors influencing the Malaysian's intention to use virtual banking services should be emphasized.

Notably, the researches on virtual banking that studied Generation Z (Gen Z) are scarce, especially in the Malaysian context. Gen Z is born in the digital era; they are the true digital natives and are extremely tech-savvy. They represent a huge targeted segment by the virtual bank (BNM, 2020). Still, some surveys found that they are more comfortable with brick-and-mortar stability. There is 62.5% of Gen Z prefer a bank with a physical branch (Fintech News, 2021). A survey by Manole Capital Management (MCM) (2020) claimed that 64% of Gen Z prefer to get banking services from a traditional bank instead of a technology company. The unknown status of their behavioural intention illustrates the existence of a knowledge gap. Thus, it is necessary to study the factors affecting Gen Z's intention to use virtual banking in Malaysia. Otherwise, the virtual banks in Malaysia might face stunted progress for being accepted widely in the foundational phase.

1.3 Research Questions

In accordance with the problems identified, the research questions have been constructed as below:

- i. Does effort expectancy affect Gen Z's intention to use virtual banking in Malaysia?
- ii. Does performance expectancy affect Gen Z's intention to use virtual banking in Malaysia?
- iii. Does social influence affect Gen Z's intention to use virtual banking in Malaysia?
- iv. Do facilitating conditions affect Gen Z's intention to use virtual banking in Malaysia?
- v. Does hedonic motivation affect Gen Z's intention to use virtual banking in Malaysia?
- vi. Does trust affect Gen Z's intention to use virtual banking in Malaysia?

1.4 Research Objectives

1.4.1 General Objective

The main objective of this research is to understand the factors affecting Gen Z's intention to use virtual banking in Malaysia.

1.4.2 Specific Objectives

- i. To examine the relationship between effort expectancy and Gen Z's behavioural intention towards virtual banking in Malaysia.
- ii. To examine the relationship between performance expectancy and Gen Z's behavioural intention towards virtual banking in Malaysia.

- iii. To examine the relationship between social influence and Gen Z's behavioural intention towards virtual banking in Malaysia.
- iv. To examine the relationship between facilitating conditions and Gen Z's behavioural intention towards virtual banking in Malaysia.
- v. To examine the relationship between hedonic motivation and Gen Z's behavioural intention towards virtual banking in Malaysia.
- vi. To examine the relationship between trust and Gen Z's behavioural intention towards virtual banking in Malaysia.

1.5 Significance of the Study

As mentioned, this research aims to narrow down the literature gap by studying several aspects. First of all, as virtual banking is an emerging topic in Malaysia, there is only limited research regarding the topic. Regarding this, this study narrows down the gap by focusing on virtual banking in the Malaysian context. Table 1.1 shows the previous studies on virtual banking. Excepting Tiong (2020), the remaining researchers studied virtual banking in the context of other countries, and mostly adopted the Technology Acceptance Model. Hence, this research studied the Malaysian context and adapted the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) as a study basis to reduce the literature gap. Unlike previous studies that focus on all generations, this research merely focuses on Gen Z to provide a more accurate understanding of the specific generation. Lastly, the results of this study can be served as a basis for future research. It is because further studies have to be done as virtual banking is expected to become a major trend in the future. Thus, this study aims to narrow down the literature gap by examining the factors and Gen Z's behavioural intention towards virtual banking in Malaysia, by incorporating effort expectancy, performance expectancy, social influence, facilitating conditions, hedonic motivation, and trust as the independent variables.

Table 1.1: Researches on Virtual Banking

Theory	Topic	Researcher(s)
Technology Acceptance Model	Factors influencing behavioural intention towards adoption of digital banking services in Malaysia	Tiong, 2020
	Internet and data security–understanding customer perception on trusting virtual banking security in Malaysia	Tham, Ab Yazid, Khatibi, & Azam, 2017
	Digital Banking Made Transaction More Trusted and Secured?	Krisnanto, 2018
	Distribution information safety and factors affecting the intention to use digital banking in Vietnam	NGUYEN, NGUYEN, & NGUYEN, 2020
	Intention to Use Digital Banking Services of Young Retail Customers in Vietnam.	TRAN, 2021
	Adoption of digital banking channels in an emerging economy: exploring the role of in-branch efforts	Kaur, Ali, Hassan, & Al-Emran, 2021
	Factors affecting the intention to use digital banking in Vietnam	NGUYEN, 2020
	A study on reuse intention of digital bank in south Korea	Yoon & Joung, 2019
	Factors influencing customers to use digital banking application in Yogyakarta, Indonesia	MUFARIH, JAYADI, & SUGANDI, 2020
Unified Theory of Acceptance and Use of Technology	Factors that affect the digital banking adoption in Hyderabad city-UTAUT model approach	Suma & Shankar, 2020
	Digital mortgage banking acceptability in Philippine universal banks: Evidence from UTAUT model	Morales & Trinidad, 2019
	Trust Role in Acceptance of Digital Banking in Indonesia	Kusumawati & Rinaldi, 2020
Unified Theory of Acceptance and Use of Technology 2	Examining Factors Influencing Consumers Intention and Usage of Digital Banking: Evidence from Indonesian Digital Banking Customers	Anggraeni, Hapsari, & Muslim, 2021
	Determinants of Digital Banking Services in Vietnam: Applying UTAUT2 Model	Nguyen, Nguyen, Mai, & Tran, 2020

Source: Developed for the research

Although technology has facilitated the usage of online banking and mobile banking, the virtual bank is still possible to face stunted growth. It is because virtual banking is a new transformation in the banking industry towards fully online banking

services with the absence of the physical branch, which has never existed in Malaysia before. Moreover, the post-pandemic allows the visiting to branch, which might discourage the consumers from receiving online services. Henceforth, this study contributes to the existing banks (both commercial and Islamic banks), the contenders for Malaysia's virtual banking license, the virtual bank license holders, the financial institutions, and the policymakers. With this research, the parties can have a better insight into Gen Z's concerns that influence their behavioural intention towards modern financial and banking services. This study can also be used as a reference for future business development; banks and financial institutions can study Gen Z through this research before launching new products and services. Besides, this study contributes to the banks as some possible barriers that hinder Gen Z's acceptance and intention might be explored after this research. The virtual bank can learn, focus, and take immediate action to increase Gen Z's intention to use their services; improvements made on certain aspects might boost the consumers' confidence and satisfaction, which helps in ensuring the bank's success in the initial phase of its journey. Lastly, this research contributes to the policymakers in assisting the process of policy design. A better understanding of the concerns helps in designing a more comprehensive policy.

1.6 Conclusion

This chapter discussed the background of this research. Problems arise that motivated the conduct of this research have been revealed. Six research questions, as well as the general and specific objectives, were also constructed. Lastly, three research significances for each academic and practitioner were introduced.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter reviews and summarizes the significant information from previous journals and articles, including the underlying theory and variables. The literature review serves as a foundation for the development of the research framework and hypothesis. Lastly, several hypotheses will be developed to examine the relationships between the independent variables and the dependent variable.

2.1 Underlying Theory: Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) was developed by Viswanath Venkatesh, James Y. L. Thong, and Xin Xu in their paper in 2012 (Venkatesh, Thong, & Xu, 2012). It is an extended model from the Unified Theory of Acceptance and Use of Technology (UTAUT) which was developed by Viswanath Venkatesh, Michael G. Morris, Gordon B. Davis, and Fred D. Davis in 2003. The UTAUT is an integration of eight theories and models of technology use (as shown in Table 2.1). Figure 2.1 shows the four constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) and four moderators (age, gender, experience, and voluntariness of use) that act significantly in determining the behavioural intention and use behaviour in the UTAUT.

Table 2.1: List of Theory and Model

Theory/Model
Theory of Reasoned Action (TRA)
Motivational Model
Technology Acceptance Model (TAM)
Model of PC Utilization (MPCU)
Theory of Planned Behaviour (TPB)
Model Synthesizing TAM and TRA
Social Cognitive Theory (SCT)

Innovation Diffusion Theory (IDT)

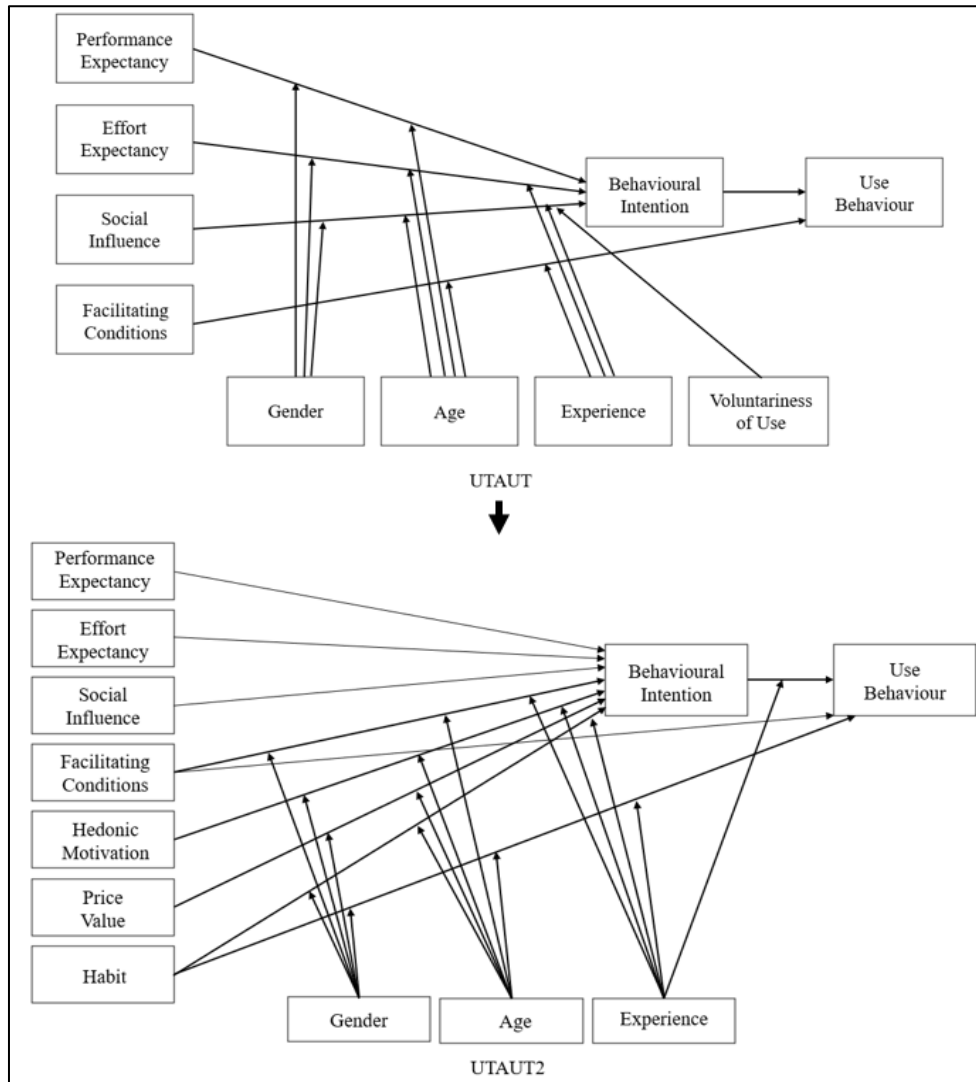
Source: Venkatesh, Morris, Davis, & Davis (2003)

In 2012, Venkatesh et al. (2012) extended the UTAUT by adding hedonic motivation, price value, and habit as new constructs, removing voluntariness to use, and modifying the mediating effects. According to Venkatesh et al. (2012), the formulation of UTAUT2 has tailored itself to fit better into the consumer use context, unlike the UTAUT that was originally built to examine the employee technology acceptance and use behaviour. In total, UTAUT2 comprises seven constructs as the antecedents of behavioural intention and use behaviour, which moderating by age, gender, and experience.

The UTAUT2 has been widely used in the context of technology acceptance. Raza, Shah, and Ali (2019) utilized the UTAUT2 to study the acceptance of mobile banking in Islamic banks. Merhi, Hone, and Tarhini (2019) added trust, perceived privacy, and perceived security into the UTAUT2 to understand the Lebanese and British consumers' intention to use mobile banking. The researchers (Alalwan, Dwivedi, & Rana, 2017; Alalwan, Dwivedi, Rana, & Algharabat, 2018) extended the UTAUT2 by integrating trust and risk in studying the factors affecting mobile banking adoption by Jordanian. Besides, Lian and Li (2021) also considered trust in investigating the usage intention of mobile payment in Taiwan. On the other hand, digital banking in Indonesia was studied by integrating trust into the UTAUT2 (Kusumawati and Rinaldi, 2020).

Apart from the acceptance of financial services, the UTAUT2 has also been widely used by researchers in other contexts. For instance, Huang (2020) adapted UTAUT2 to access the acceptance of e-scooter virtual reality service; Chen, Li, Liu, Yen, and Ruangkanjaneses (2021) studied the continuance intention towards personal cloud services by using an extended UTAUT2 with technology readiness; Azizi, Roozbahani, and Khatony (2020) applied UTAUT2 in understanding the acceptance of blended learning in medical education; and Shaw and Sergueeva (2019) studied the intention to use mobile commerce by adding the perceived value.

Figure 2.1: UTAUT and UTAUT2



Source: Venkatesh et al. (2003); Venkatesh et al. (2012)

Venkatesh et al. (2003) indicated that the researcher can modify the model by adding or removing any variable to fit better into certain circumstances. Therefore, only five constructs from the UTAUT2 were adopted while the remaining variables and moderators were dropped from this research. Among the five constructs are effort expectancy, performance expectancy, social influence, facilitating conditions, and hedonic motivation. Mentionable, trust has been used to extend the UTAUT2 and has been adopted by many studies mentioned above. Moreover, as mentioned in the problem statement, Malaysian consumers have low trust in the virtual bank. Hence, trust is significant to be studied and was added as the sixth independent variable in this research.

Price value, as in Venkatesh et al. (2012), is defined as the consumers' understanding of the trade-off between the perceived benefits and the monetary cost, while the monetary cost is normally conceptualized together with the products or services' quality. However, the virtual bank is yet to exist in Malaysia and the costs are still unknown. Similarly, habit refers to the consumers' degree of tendency to perform habitual behaviour (Venkatesh et al., 2012). Habit could not be cultivated in the absence of the virtual bank. Again, the inexistence of virtual banks causes impractical study of use behaviour. Hence, these three variables have been removed from this study. On the other hand, three moderators – age, gender, and experience were dropped from this study. As the researcher only targeted Gen Z who were born between 1995 and 2003, the age gap is minimal and the moderating effect by age is considered trivial in this study. Hew, Lee, Ooi, and Wei (2015) claimed that gender is unable to moderate the relationship between constructs if the target respondents are tech-savvy. Lastly, the absence of virtual banking inhibits the experience gaining.

2.2 Review of Variables

In Chapter 2.2, the behavioural intention and the six independent variables will be reviewed from the past literature.

2.2.1 Behavioural Intention

Researchers (Azizi et al. (2020); MUFARIH, JAYADI, and SUGANDI (2020)) defined behavioural intention as an individual's desire and the possibility to use a system. It shows the consumer's willingness to try and their effort to adopt a technology (Anggraeni et al., 2021). NGUYEN, NGUYEN, and NGUYEN (2020) explained intention as a consumer's plan to use a specific service in the future. In other words, behavioural intention reflects an individual's willingness in using the innovation. According to Alalwan et al. (2018), behavioural intention is proved as the most significant

determinant in studying an individual's behaviour regarding technology acceptance.

Behavioural intention can be assumed as an antecedent for the actual use behaviour (Driediger & Bhatiasevi, 2019; Anggraeni et al., 2021). Nonetheless, Shaw and Sergueeva (2019) mentioned that behavioural intention is sufficient to understand the services that are not widely available. As virtual banking is currently unavailable in Malaysia, behavioural intention will serve as the dependent variable for this research. Hence, in this study, behavioural intention is conceptualized as the degree of willingness that Gen Z will engage themselves in using virtual banking.

2.2.2 Effort Expectancy

According to Venkatesh et al. (2012) and Rachmawati, Bukhori, Majidah, Hidayatullah, and Waris (2020), effort expectancy refers to the extent of ease or level of convenience for the consumer in using technology. Venkatesh et al. (2003) identified that the concept of effort expectancy is captured from three constructs: perceived ease of use, complexity, and ease of use. In the research by Alalwan et al. (2018), the researchers indicated that the significance of effort expectancy in examining users' intention towards innovative products has been proved empirically. Merhi, Hone, and Tarhini (2019) observed that consumers are more likely to have a higher intention when there is no difficulty or requires less effort in using technology. On the other hand, effort expectancy includes an individual effort to learn and use a technology (Anggraeni et al., 2021). Hence, the effort expectancy in this study is defined as the degree of ease and comfortability for the consumers to use virtual banking.

2.2.3 Performance Expectancy

According to Venkatesh et al. (2003), performance expectancy is defined as an individual's belief that the use of technology can help in achieving better working performance. According to the researchers, the construct comprises five constructs: perceived usefulness, extrinsic motivation, relative advantage, job-fit, and outcome expectations (Venkatesh et al., 2003; Ammenwerth, 2019).

Performance expectancy is defined as the user's knowledge of the utilitarian purpose of a technology (Hossain, Quaresma, & Rahman, 2019). In the context of mobile banking, Jadil et al. (2021) defined the construct as the extent to which one believes that the adoption of mobile banking services could improve the performance of banking tasks. Morales and Trinidad (2019) defined performance expectancy as the extent to which the consumers believe that mortgage service and the process could be enhanced by adopting digital mortgage banking. Hence, this study defined performance expectancy as the degree of belief that virtual banking will help one in improving banking tasks performance.

2.2.4 Social Influence

The definition of social influence by Venkatesh et al. (2003) is the extent to which an individual feels that someone important to him/her believes that he/she should use a system. Three constructs that pertained to the development of social influence include subjective norm, social factors, and image (Venkatesh et al., 2003).

According to a study by Alalwan et al. (2017), social influence is defined as the influence of the social circle on an individual's behavioural intention to use mobile banking. Anggraeni et al. (2021) related this variable to the social environment's perception of the important aspects of using virtual banking. For instance, perceptions by co-workers, friends, and relatives. Besides, Gerlach and Lutz (2021) defined social influence as the degree to which someone important to the consumers believes that they should use digital

financial advice solutions. Under social pressure, individuals will follow the group norms in order to be accepted (Osatuyi & Turel, 2019). Therefore, this study defined the variable as the extent to which an individual perceives somebody that is significant believes that he/she should use virtual banking.

2.2.5 Facilitating Conditions

According to Venkatesh et al. (2012), facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to enable and facilitate the system use. Similarly, this variable is embodied by three constructs, including perceived behavioural control, compatibility, and facilitating conditions (Venkatesh et al., 2003).

Rachmawati et al. (2020) defined facilitating conditions as an individual's idea on the existence of organizational or technological resources that allow the usage of mobile banking. Cabrera-Sánchez, Villarejo-Ramos, Liébana-Cabanillas, and Shaikh (2021) conceptualized facilitating conditions as the chances, resources, and knowledge that facilitate the intention to use artificial intelligence application. Moreover, Mahardika, Thomas, Ewing, and Japutra (2019) indicated that facilitating conditions include policies and regulations that ensure confidentiality and security in data transmission. In the virtual banking context, facilitating conditions refer to the users' beliefs on the presence of related infrastructure (knowledge, technical resources, and legal environment) that support the use of virtual banking (Nguyen et al., 2020; Anggraeni et al., 2021; Suma and Shankar, 2020). Typically, some skills and resources such as digital skills, mobile devices, and stable Internet connection are required to use the virtual banking channels. With these, facilitating conditions in this research are conceptualized as the individual's beliefs that the resources and assistance are available for them to utilize the virtual banking.

2.2.6 Hedonic Motivation

Hedonic motivation is defined as pleasure from using technology (Venkatesh et al., 2012). Suma and Shankar (2020) defined hedonic motivation as the fun or delight of utilizing digital banking. It is also defined as the user's perceived pleasure when using a financial product such as e-money (Rahardjo, Akbar, & Novitaningtyas, 2020). As in Salimon, Yusoff, and Mokhtar (2017), hedonic motivation acts as a motivator when the consumers gain an enjoyable experience when using certain technology. According to Venkatesh et al. (2012), this variable plays a critical role in examining technology acceptance and use. Hence, hedonic motivation in this study is conceptualized as the measurement of an individual's beliefs and perceived enjoyment from using virtual banking services.

2.2.7 Trust

Trust is defined as a subjective nature to believe the occurrence of an action in parallel with the assumption (Merhi et al., 2019). According to Lian and Li (2021), trust refers to the users' belief that the providers have enough integrity, benevolence, and ability to provide superior mobile payment services. NGUYEN et al. (2020) claimed that users' trust increases when there is a decrease in the perceived risk. In other words, trust is insignificant when there is no risk. Besides, Krisnanto (2018) who studied digital banking indicated trust as the user perception that the digital bank will offer secure banking services and protect their best interest. For instance, if the virtual bank provides more stable and secure virtual banking services, consumers' trust will be boosted through the reduction in fear of services failure. In this study, trust is defined as the individual's expectation and level of confidence in the performance and security of the services offered by the virtual banks.

2.3 Hypothesis Development

2.3.1 Relationship between Effort Expectancy and Behavioural Intention

In the research on virtual banking, Nguyen et al. (2020) claimed that effort expectancy has a significant positive impact on behavioural intention, and this can be interpreted as the respondents being stress-free in adopting the banking technology. Nonetheless, Anggraeni et al. (2021) opposed by mentioning that effort expectancy does not have a significant influence on behavioural intention. In other technology contexts, researchers also claimed that effort expectancy is important in predicting behavioural intention (Alalwan et al., 2018; Morales & Trinidad, 2019; Rachmawati et al., 2020). As most studies indicated the significant relationship between effort expectancy and behavioural intention, the hypothesis is developed as:

H₁: Effort expectancy positively affects Gen Z's behavioural intention to use virtual banking.

2.3.2 Relationship between Performance Expectancy and Behavioural Intention

Nguyen et al. (2020) and Suma and Shankar (2020) claimed in their studies that performance expectancy has a positive and significant influence on the behavioural intention in using virtual banking. This is due to the benefits brought by virtual banking in enhancing job performance and assisting in goal accomplishment. In contrast, in the research by Anggraeni et al. (2021), performance expectancy was proved to have no significant relationship with behavioural intention. In other contexts, the significant relationship between performance expectancy and behavioural intention was also examined empirically (Jadil, Rana, & Dwivedi, 2021; Gansser & Reich, 2021; Patil, Tamilmani, Rana, and Raghavan, 2020). To study the relationship, a hypothesis was developed as below:

H₂: Performance expectancy positively affects Gen Z's behavioural intention to use virtual banking.

2.3.3 Relationship between Social Influence and Behavioural Intention

Anggraeni et al. (2021) discussed social influence as one of the main antecedents for behavioural intention to use virtual banking. According to them, Indonesia has a collectivist culture that emphasizes the value of a group, and the individual's intentions are affected by others' information and thoughts (Anggraeni et al., 2021). However, Nguyen et al. (2020) found that social influence has no significant impact on the intention to use virtual banking in the Vietnamese context, while Tiong (2020) discovered the same outcome in the Malaysian context. Researchers from other contexts also stood at different points of view. For instance, Patil et al. (2020) supported the significant relationship while Raza et al. (2019) proved the insignificant relationship. Hence, a hypothesis was developed to study the relationship between social influence and behavioural intention towards virtual banking in the Malaysian context.

H₃: Social influence positively affects Gen Z's behavioural intention to use virtual banking.

2.3.4 Relationship between Facilitating Conditions and Behavioural Intention

Lian and Li (2021) stated that users will have a higher intention when they have sufficient resources and technologies, and can reach the assistance when facing any trouble. Facilitating conditions were proved to positively influence the user's behavioural intention towards virtual banking (Suma & Shankar, 2020). However, in the discussion of Nguyen et al. (2020), behavioural intention to use virtual banking could not be explained by the

facilitating conditions. Studies on other contexts (Rachmawati et al., 2020; Alalwan et al., 2017; Daka & Phiri, 2019; Patil et al., 2020) have also examined the positive significant relationship between facilitating conditions and behavioural intention. In short, the consumers will have a higher intention if they are equipped with the knowledge and facilities. Hence, the fourth hypothesis has been developed:

H4: Facilitating conditions positively affect Gen Z's behavioural intention to use virtual banking.

2.3.5 Relationship between Hedonic Motivation and Behavioural Intention

Researchers (Nguyen et al., 2020; Suma & Shankar, 2020; Anggraeni et al., 2021) claimed that hedonic motivation has positively and significantly influenced the behavioural intention to use virtual banking services. As virtual banking is considered a new and ongoing trend in the development of global banking, it brings enjoyment and seems attractive to the users, which in turn raises the behavioural intention. However, the research on other contexts claimed an insignificant relationship between hedonic motivation and behavioural intention (Rahardjo, Akbar, & Novitaningtya, 2020; Merhi et al., 2019). Due to the inconsistent results in different research contexts, a hypothesis was constructed as below to study the relationship.

H5: Hedonic motivation positively affects Gen Z's behavioural intention to use virtual banking.

2.3.6 Relationship between Trust and Behavioural Intention

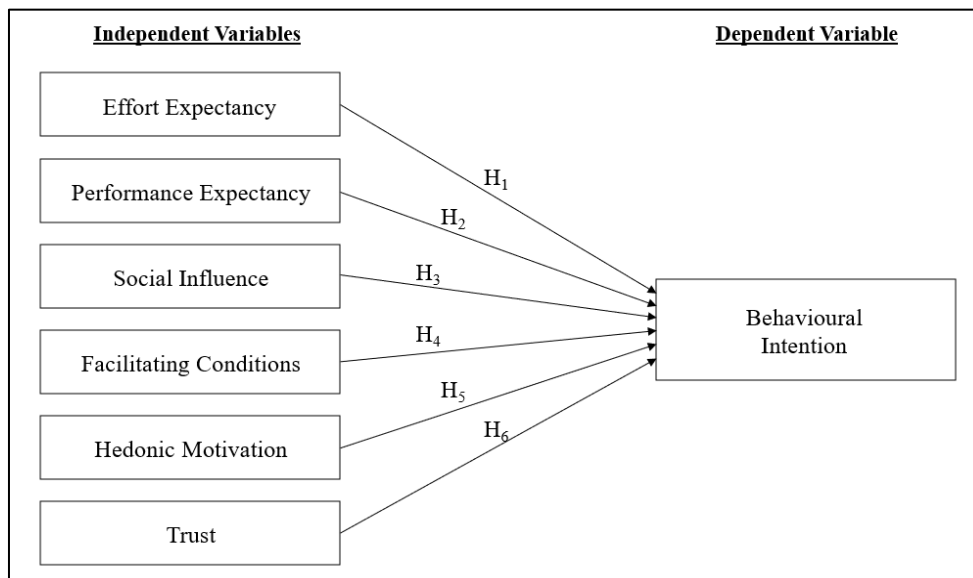
According to Nguyen et al. (2020), trust is one of the key determinants in explaining users' intention towards virtual banking services. This is supported by Kusumawati and Rinaldi (2020) who implied that trust will

lead the individual to have the intention to use virtual banking. Several studies on mobile and Internet banking proved that trust was found to have a significant and positive influence on users' behavioural intention (Alalwan et al., 2017; Merhi et al., 2019; Namahoot & Laohavichien, 2018). When the users believe that virtual banking could perform properly and according to their expectations, their behavioural intention to use the banking service will become higher. As virtual banking is a new product and the features offered are highly engaged with users' privacy, trust becomes more important for the users to accept the services. Hence, trust is necessary to be studied in this context and the hypothesis was formed as below:

H₆: Trust positively affects Gen Z's behavioural intention to use virtual banking.

2.4 Proposed Conceptual Framework

Figure 2.2: Research Framework



Source: Developed for the research

The research framework shown in Figure 2.2 is modified from the UTAUT2. This study has dropped three constructs from UTAUT2, which are price value, habit, use

behaviour, as well as the three moderators (age, gender, experience). However, trust has been added as an independent variable in this study. Hence, to understand the factors affecting Gen Z's intention to use virtual banking in Malaysia, this research studied the six independent variables and the dependent variable shown above.

2.5 Conclusion

In conclusion, this chapter reviewed the literature on the UTAUT2, behavioural intention, and the six independent variables. Six hypotheses were constructed based on the findings from previous research and the research framework has been built.

CHAPTER 3: METHODOLOGY

3.0 Introduction

In this chapter, the researcher will discuss the methods used in the studying of this research. These include research design, sampling design, research instrument, data collection method, data processing, and data analysis.

3.1 Research Design

According to Schindler (2019), a research design is a master plan that guides the decision on information sources and analysis steps to achieve the research objectives. In the best interest of the researcher, quantitative, descriptive, and causal research were employed in this study.

Quantitative research was adopted to test the hypothesis, in which the questionnaire was distributed to collect the quantitative data. The concerns of selecting the quantitative research were due to cost-efficiency and time-saving as compared to qualitative research. Descriptive research took place where the demographic and general information of the respondents were illustrated through tables and graphs. Besides, their perceptions of virtual banking were obtained through a 5-point Likert scale. Mentionable, this research is a cross-sectional study that learned the respondents' behavioural intentions during the post-pandemic. Lastly, causal research was employed to examine the cause-and-effect relationships between the variables (the hypotheses).

3.2 Sampling Design

3.2.1 Target Population

The target population for this research is Gen Z who has online banking experience and were born between 1995 and 2003. The reason to study Gen Z is that they represent a huge customer segment targeted by the virtual bank. Besides, targeting Gen Z with online banking experience could lead to more reliable responses as virtual banking is yet to exist in Malaysia. Nielsen (2019) defined Gen Z as individuals who were born between 1995 and 2010. However, Section 3 (3) of Personal Data Protection Regulation 2013 indicates that parental consent is necessary to be obtained for those below 18 years old (Attorney General's Chambers, 2013). Hence, Gen Z below 18 years old was not targeted to reduce the survey complexity. According to the Department of Statistics Malaysia (2021), it is estimated that there are more than 4.5 million of the target population in 2021.

3.2.2 Sampling Frame & Sampling Location

Due to the extremely large target population, the sampling frame was undefinable in this research. On the other hand, this research studied Gen Z in the Malaysian context. Hence, the sampling location was set in Malaysia.

3.2.3 Sampling Technique

In this research, convenience sampling was employed in collecting responses due to several rationales. The undefinable sampling frame encouraged the use of non-probability sampling. Convenience sampling was selected as it allows the researcher to reach a large pool of respondents cost-effectively. Convenience sampling took place as the self-administered questionnaires were distributed online via Facebook, Instagram, WhatsApp, and Microsoft Teams. Mentionable, screening questions were prepared to ensure the right target sample and to eliminate respondents who did not meet the criteria.

3.2.4 Sample Size

Saunders et al. (2016) suggested that the sample size should not be less than 384 when the target population is more than 1 million. This is due to a larger sample size can reduce the probability of error in generalizing the target population (Sekaran & Bougie, 2016). Since this research targeted a large population that exceeds 1 million, the sample size for this research was set to be more than 384 respondents.

3.3 Data Collection Method

Primary data was collected to meet the research requirement. It has been chosen because it allows the researcher to decide on the specific data needed. Furthermore, primary data is more tailored and more valid than secondary data. To obtain the primary data, a survey was prepared and distributed through different social media channels. The data reflected the respondents' perceptions of the constructs in the virtual banking context.

3.4 Research Instrument

3.4.1 Questionnaire Design

A self-administered questionnaire was designed for data collection purposes. The questionnaire is equipped with an appropriate introduction to online banking and virtual banking, clear instructions, and the questions. All the questions, except age, are close-ended as this is simpler and more convenient for the researcher to compute and tabulate the data.

The questionnaire started by collecting the respondent's consent and briefing them to differentiate the online banking and virtual banking. After that, two screening questions were prepared to ensure that the respondents

were born between 1995 and 2003 and have online banking experience. After screening, Section A consists of 5 questions to collect the respondents' demographic information, including age, gender, ethnicity, education level, and employment status. Section B seeks to understand more about respondents' online banking usage. Two questions were prepared to understand the usage and frequency of online banking services. The last section involves 22 questions on the 6 independent variables and 4 questions on the dependent variable.

3.4.2 Conceptual Definition

The conceptual definitions for the constructs are shown in the table below:

Table 3.1: Conceptual Definition for the Constructs

Construct	Conceptual Definition
Effort Expectancy	The degree of ease for the individual in using the services
Performance Expectancy	The degree of belief to which virtual banking could improve performance
Social Influence	The extent to which an individual perceived that someone important to him/her believes that the individual should use the services
Facilitating Conditions	The extent of belief in the availability of the resources and assistance
Hedonic Motivation	The measurement of the perceived enjoyment from using the virtual banking
Trust	The level of confidence by the individual in the performance and safety of the services provided
Behavioural Intention	The extent to which the individual willing to use the virtual banking services

Source: Developed for the research

3.4.3 Operational Definition

The operational definition refers to the statement that the researcher used to measure a specific variable. The table below shows the statements adapted for this research.

Table 3.2: Operational Definition

Construct	Item	Statement (Adapted)	Number of Item	Source(s)
Effort Expectancy	EE1	I would find virtual banking services easy to use.	4	(Nguyen, Nguyen, Mai, & Minh, 2020; Baabdullah, 2018)
	EE2	I think I would learn to use virtual banking services quickly.		
	EE3	My interaction with virtual banking services will be clear and understandable.		
	EE4	It would be easy for me to become skilful at using virtual banking services.		
Performance Expectancy	PE1	Virtual banking services are diverse and useful for my job.	4	(Nguyen et al., 2020; Baabdullah, 2018)
	PE2	Using virtual banking services will help me accomplish tasks more quickly.		
	PE3	Using virtual banking services will help me accomplish tasks more easily.		
	PE4	Using virtual banking services would help me to increase my productivity.		
Social Influence	SI1	People who are important to me think that I should use virtual banking services.	4	(Nguyen et al., 2020; Alalwan, Dwivedi, & Rana, 2017; Baabdullah, 2018)
	SI2	People in my environment think that I should use virtual banking services.		
	SI3	People who influence my behavior think that I should use virtual banking services.		
	SI4	People whose opinions that I value prefer that I use virtual banking.		
Facilitating Conditions	FC1	I have the resources necessary to use virtual banking.	4	(Alalwan, Dwivedi, & Rana, 2017)
	FC2	I have the knowledge necessary to use virtual banking.		

	FC3	Virtual banking is compatible with other technologies I use.		
	FC4	I can get help from others when I have difficulties using virtual banking.*		
Hedonic Motivation	HM1	Using virtual banking will be fun.	3	(Baabdullah, 2018)
	HM2	Using virtual banking will be enjoyable.		
	HM3	Using virtual banking will be entertaining.		
Trust	TR1	I trust that my personal information will be secured when using virtual banking services.	4	(Nguyen et al., 2020)
	TR2	I trust the procedures of settling transactions of virtual banking services.		
	TR3	I trust that technical problems of virtual banking services will be rarely happened.		
	TR4	I feel assured that legal and technological structures adequately protect me from problems of virtual banking services.		
Behavioural Intention to Use	BI1	I intend to use virtual banking in the future.	4	(Alalwan, Dwivedi, & Rana, 2017)
	BI2	I will always try to use virtual banking in my daily life.		
	BI3	I plan to use virtual banking in future.		
	BI4	I predict I would use virtual banking in the future.		

* Had been removed after the pilot test

Source: Develop for the research

3.5 Construct Measurement

To understand the measurement scale adopted for different items or constructs that have been used in the questionnaire, a table is constructed as below:

Table 3.3: Measurement Scale in This Study

Section	Item/Construct	Measurement Scale
Section A - Demographic Profile	Age	Ratio
	Gender	Nominal
	Ethnicity	Nominal
	Educational Level	Nominal
	Employment Status	Nominal
Section B - General Information	Online Banking Services Used	Nominal
	Frequency of Using Banking Services	Interval
Section C - Factors and Independent Variable	Effort Expectancy	Interval
	Performance Expectancy	Interval
	Social Influence	Interval
	Facilitating Conditions	Interval
	Hedonic Motivation	Interval
	Trust	Interval
	Behavioural Intention to Use	Interval

Source: Develop for this research

The figures below show the examples of questions on different scales:

Figure 3.1: Nominal Scale

A2. What is your gender?

Male

Female

Source: Develop for the research

Figure 3.2: Interval Scale

B2. How often have you used online banking services in a week?

0 - 1 time

2 - 3 times

4 - 5 times

≥ 6 times

Source: Develop for the research

Figure 3.3: Interval Scale

No	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
EE	Effort Expectancy					
EE1	I would find virtual banking services easy to use.	1	2	3	4	5
EE2	I think I would learn to use virtual banking services quickly.	1	2	3	4	5
EE3	My interaction with virtual banking services will be clear and understandable.	1	2	3	4	5
EE4	It would be easy for me to become skillful at using virtual banking services.	1	2	3	4	5

Source: Develop for the research

Figure 3.4: Ratio Scale

A1. What is your age?

Please state: _____

Source: Develop for the research

3.6 Data Processing

Data processing is a series of actions that are performed to transform the raw data into valuable output data for subsequent use. According to James (2020), the raw data has to be classified and processed to ensure its purpose, usability, and relevancy, before involving them in the data analysis and interpretation.

3.6.1 Questionnaire Checking

The first step of data processing started with questionnaire checking. All the returned questionnaires were checked by the researcher to ensure all valid responses. The questionnaire with faulty answers or the questionnaire from unqualified respondents were removed from this research. An example of a faulty answer is simply inserting a number in the “age” section while the unqualified respondents refer to those born outside the targeted age range or have no online banking experience.

3.6.2 Data Editing

Data editing refers to the step to discover and take corrective action on the omissions or missing data (James, 2020). However, in this research, the self-administered questionnaire was prepared via Google Forms and distributed online. With the feature provided by Google Forms, the respondents were required to answer every question before they are allowed to proceed to the next section. Hence, the questionnaires have been completed without missing answers and no data editing was done in this research.

3.6.3 Data Coding

Data coding is the process of categorizing data and assigning the categories to numerical values. By showing the indicator for each category, it eased the researcher in the data analysing process.

Table 3.4: Items Coding

Question	Options	Coding
Gender	Male	1
	Female	2
Ethnicity	Malay	1
	Chinese	2
	Indian	3
	Other	4
Education	SPM	1

	STPM/ Matriculation/Equivalent	2
	Diploma/ Equivalent	3
	Bachelor's Degree	4
	Master's Degree	5
Employment	Employed	1
	Unemployed	2
	Self-employed	3
	Student	4
Online Banking Services Used	Account Management	1
	Check Balance	2
	Funds Transfer	3
	Online Bill Payment	4
	Loan Application	5
	Other	6
Frequency of Using Services	0 – 1 time	1
	2 – 3 times	2
	4 – 5 times	3
	≥ 6 times	4
All Questions in Section C	Strongly Disagree	1
	Disagree	2
	Neutral	3
	Agree	4
	Strongly Agree	5

Source: Developed for the research

3.6.4 Data Transcribing

Data transcribing refers to the process in which the researcher transfers the coded data to an analysis system. For this research, the data were transferred to both IBM SPSS Statistics 26 (IBM SPSS 26) and SmartPLS 3. The validity of instruments was examined through SmartPLS 3 while the remaining analysis was run through IBM SPSS 26.

3.6.5 Data Cleaning

After the transcription of data, data cleaning was taking place to ensure high-quality data. Data cleaning is the initiative to correct or remove the incorrect or incomplete response. This process is important because a data set with errors will lead to an unreliable conclusion. Some examples are white spaces in the answer and outliers. Abnormal white space in the answer was fixed manually while outliers were detected and removed by employing the IBM SPSS 26.

The outlier in statistics means an observation that has a significant distance from the other observations that might negatively affect the data interpretation and data quality. In this study, both univariate and multivariate outliers were assessed and eliminated from the data set. As explained in Pallant (2010), a univariate outlier consists of an abnormal value on a variable while a multivariate outlier is the group of unusual scores on two variables or more. With this, Z-score and Mahalanobis distance were utilized to assess the univariate outliers and multivariate outliers respectively. Any value with a Z-score that falls outside the range of +3 to -3 is considered a univariate outlier (Dienes, 2011). Besides, data with a value of <0.001 in the Mahalanobis distance is reflected as multivariate outliers (Tabachnick & Fidell, 2012).

3.7 Data Analysis

3.7.1 Descriptive Analysis

In this study, descriptive analysis is conducted to delineate the demographic profile and general information of the respondents. Among them are age, gender, ethnicity, education level, employment status, online banking services used, and frequency of usage. Tables and graphs were used to visualize both the demographic and general information of respondents. Furthermore, the standard deviation and mean for each variable were

computed. Mentionable, the descriptive analysis was done through Microsoft Excel and IBM SPSS 26.

3.7.2 Scale Measurement

3.7.2.1 Reliability Test

Reliability refers to a measurement characteristic that shows accuracy and precision (Schindler, 2019). With regard to this, a reliability test is used to test the internal consistency of the measurement. In this study, Cronbach's alpha was used to measure the reliability of measurements. The Cronbach's alpha value ranges from 0 to 1, in which 0 means no consistency while 1 means complete consistency (Zikmund, Babin, Carr, and Griffin, 2013). Table 3.5 shows the rule of thumb for interpreting Cronbach's alpha in accordance with Zikmund et al. (2013). Notably, the construct or the item with a low coefficient (in this case $\alpha < 0.60$) was removed to increase the reliability.

Table 3.5: Rule of Thumb of Cronbach's Alpha

Cronbach's alpha	Reliability
$0.95 > \alpha \geq 0.80$	Excellent reliability
$0.80 > \alpha \geq 0.70$	Good reliability
$0.70 > \alpha \geq 0.60$	Fair reliability
$0.60 > \alpha$	Poor reliability

Source: Zikmund et al. (2013)

3.7.2.2 Validity Test

Schindler et al. (2013) stated that validity refers to the extent to which the instrument measures what it is designed to measure. Two aspects of validity - convergent validity and discriminant validity were tested in this research. According to Zikmund et al. (2013), convergent validity is the extent to

which the construct is positively correlated with another measure of the same construct while discriminant validity is the extent to which the construct does not correlate with the measure from another construct. In this research, average variance extracted (AVE) was used to test the convergent validity and the Heterotrait-monotrait ratio of correlations (HTMT) was used to test the discriminant validity. To ensure validity, the AVE value is suggested to exceed 0.50 while the HTMT value must be lesser than 0.90 (Ab Hamid et al., 2017).

3.7.3 Pre-test and Pilot Test

Pre-test and pilot test are both crucial for the researcher before collecting the final data. For this study, the questionnaire was first examined by a supervisor and pre-tested by involving 5 target samples. After that, the questionnaire was revised and improvements had been done based on the feedback to ensure the word's accuracy and question-relatedness.

A pilot test was conducted subsequently to ensure the feasibility of the study. The pilot test is a rehearsal of the actual survey administration by testing a small portion of the target sample (Wright & So, 2021). Apart from scoring the study's feasibility, it tests the proposed study design and refines the research question. Browne (1995) recommended that 30 or more people are sufficient in discovering the faults in the research design. Hereby, 40 responses were collected to run the reliability test.

Table 3.6 illustrates the Cronbach's alpha of each construct. Mentionable, due to a low alpha value of 0.698 for the facilitating, one item was dropped to increase the reliability of the scale.

Table 3.6: Reliability for The Constructs

Construct	Cronbach's Alpha	
	Before Adjustment	After Adjustment
Effort Expectancy	0.825	0.825

Performance Expectancy	0.844	0.844
Social Influence	0.795	0.795
Facilitating Conditions	0.698	0.704
Hedonic Motivation	0.848	0.848
Trust	0.778	0.778
Behavioural Intention	0.820	0.820

Source: Develop for the research

3.7.4 Inferential Analysis

3.7.4.1 Pearson Correlation Coefficient Analysis

According to Kenton (2021), the Pearson correlation coefficient illustrates the strength and direction of a linear relationship between two variables that measure on the same scale. In this study, it was used to examine the direction and strength between each of the six independent variables and the dependent variable. The Pearson correlation coefficient ranges from +1 to -1, in which a positive coefficient represents a positive relationship and vice versa. Table 3.7 shows the interpretation of the Pearson correlation coefficient.

Table 3.7: Interpretation for Pearson Correlation Coefficient

Coefficient Range	Strength
±0.00 to ±0.09	Negligible
±0.10 to ±0.39	Weak
±0.40 to ±0.69	Moderate
±0.70 to ±0.89	Strong
±0.90 to ±1.00	Very strong

Source: Schober, Boer, Schwarte (2018)

3.7.4.2 Multiple Linear Regression Analysis

Multiple linear regression is a statistical method that is used to predict the outcome of a dependent variable based on two or more independent variables (Hayes, 2022). In this research, multiple linear regression was employed to examine the significance of six independent variables (the factors) in explaining the variation of the dependent variable, by testing all the hypotheses.

3.8 Conclusion

In this chapter, the researcher explained the research methodology, target population and sample size. Besides, convenience sampling was chosen to collect the primary data. Research instrument, construct measurement, pilot test, and data processing procedures were explained as well. On the other hand, the researchers revealed different analysis methods to answer the research questions.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

Chapter 4 primarily describes and interprets the results of the descriptive analysis, scale measurement, and inferential analysis.

4.1 Data Cleaning

Among 504 responses, 7 unqualified responses, 6 univariate outliers and 8 multivariate outliers were eliminated from this research. Hence, 483 responses remained valid for this study.

4.2 Descriptive Analysis

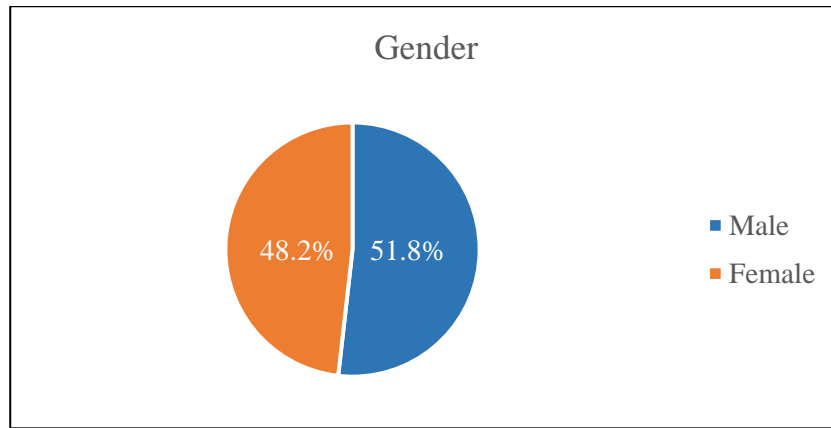
4.2.1 Gender

Table 4.1: Respondents' Gender

Gender	Frequency	Percent (%)
Male	250	51.8
Female	233	48.2
Total	483	100.0

Source: Developed for the research

Figure 4.1: Respondents' Gender



Source: Developed for the research

The 483 valid responses were contributed by 250 (51.8%) males and 233 (48.2%) females. This indicates that more males took part in the survey than females.

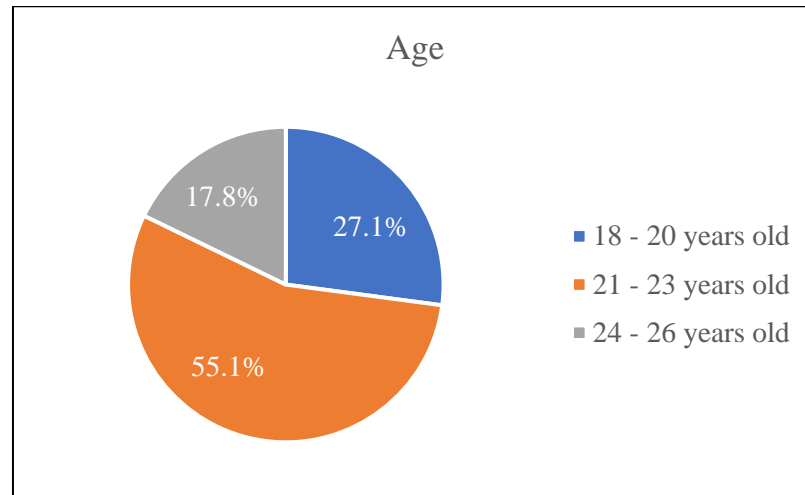
4.2.2 Age

Table 4.2: Respondents' Age

Age	Frequency	Percent (%)
18 - 20 years old	131	27.1
21 - 23 years old	266	55.1
24 - 26 years old	86	17.8
Total	483	100.0

Source: Developed for the research

Figure 4.2: Respondents' Age



Source: Developed for the research

The age of the respondents has been categorised into three groups, with a fixed interval of 3 years. Since the target sample was Gen Z, the respondents were only comprised of 18 to 26 years old. For this research, most of the respondents are mainly 21 to 23 years old (55.1%), followed by respondents between 18 to 23 years old (27.1%) and 24 to 26 years old (17.8%).

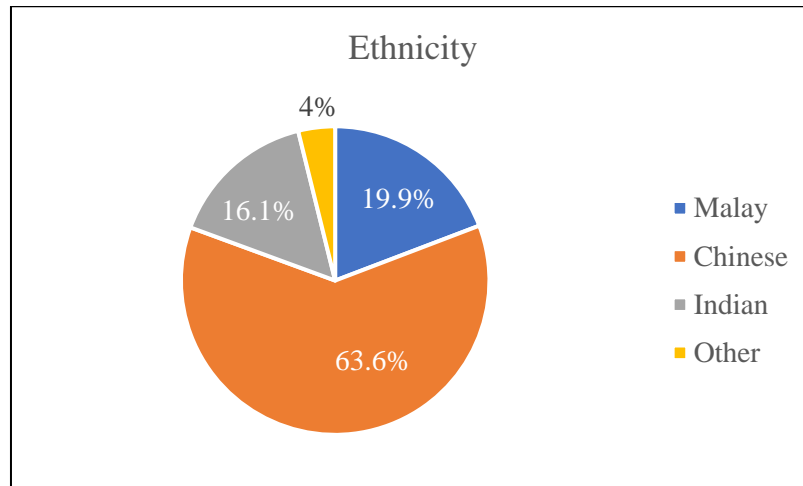
4.2.3 Ethnicity

Table 4.3: Respondents' Ethnicity

Ethnicity	Frequency	Percent (%)
Malay	96	19.9
Chinese	307	63.6
Indian	78	16.1
Other	2	4
Total	483	100.0

Source: Developed for the research

Figure 4.3: Respondents' Ethnicity



Source: Developed for the research

Most of the respondents are Malay, Chinese, and Indian. Among them, Chinese respondents lead the most as there are 307 (63.6%) of them participated in the survey, while the number of Malay and Indian are 96 (19.9%) and 78 (16.1%) respectively. The other ethnicity consists of a Bumiputera Sabah and a South Korean who lived in Malaysia.

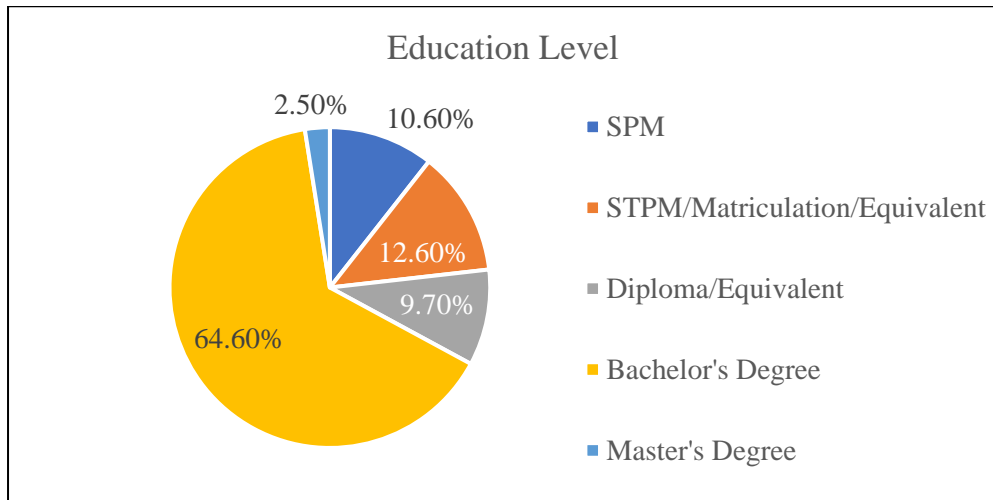
4.2.4 Education Level

Table 4.4: Respondents' Education Level

Education Level	Frequency	Percent (%)
SPM	51	10.6
STPM/Matriculation/Equivalent	61	12.6
Diploma/Equivalent	47	9.7
Bachelor's Degree	312	64.6
Master's Degree	12	2.5
Total	483	100.0

Source: Developed for the research

Figure 4.4: Respondents' Education Level



Source: Developed for the research

According to the table and figure above, there are 312 (64.6%) respondents hold or currently taking Bachelor's Degree, 61 (12.6%) of them hold or currently studying STPM or Matriculation, and 51 (10.6%) respondents completed or currently studying for SPM. Furthermore, Diploma holders or students contributed 9.7% (47 respondents) whereas Master's Degree holders or postgraduate students accounted for only 2.5% (12 respondents).

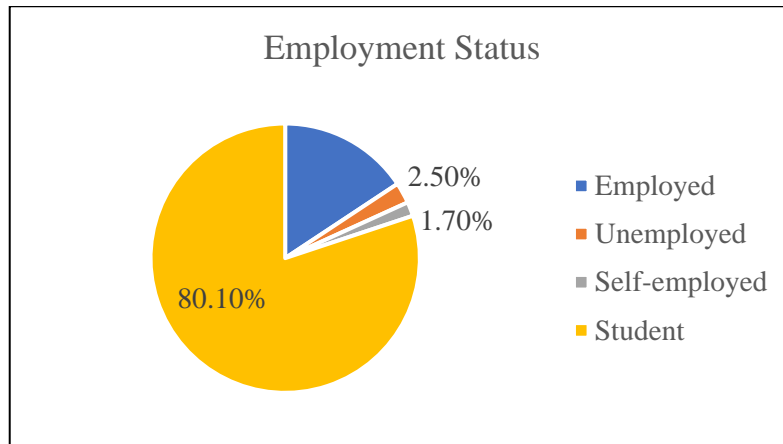
4.2.5 Employment Status

Table 4.5: Respondent's Employment Status

Employment Status	Frequency	Percent (%)
Employed	76	15.7
Unemployed	12	2.5
Self-employed	8	1.7
Student	387	80.1
Total	483	100

Source: Developed for the research

Figure 4.5: Respondents' Employment Status



Source: Developed for the research

The figure clearly shows that 80.1% of the respondents are still a student. Besides, 15.7% of total respondents are employed, while those who are unemployed or self-employed accounted for 2.5% and 1.7% respectively.

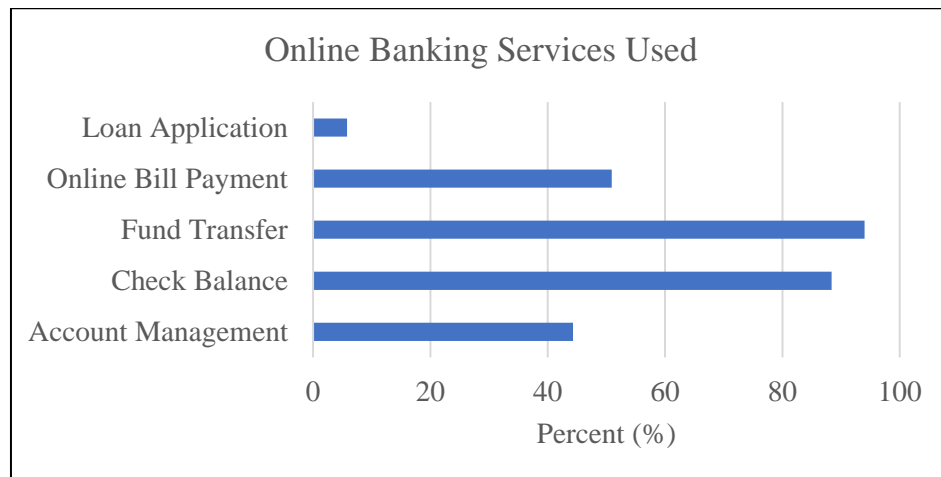
4.2.6 Online Banking Services Used

Table 4.6: Online Banking Services Used by the Respondents

Online Banking Services	Frequency	Percent (%)
Account Management	214	44.3
Check Balance	427	88.4
Fund Transfer	454	94.0
Online Bill Payment	246	50.9
Loan Application	28	5.8

Source: Developed for the research

Figure 4.6: Online Banking Services Used by the Respondents



Source: Developed for the research

Among the respondents, the two most used services are fund transfer and balance checking, which accounted for 94% and 88.4% respectively. This indicates that the advancement of financial technology has integrated online banking into Gen Z's life. A total of 246 (50.9%) respondents pay bills online while 214 (44.3) respondents use online banking to manage their accounts. Lastly, there are only 5.8% of respondents applied for the loan online. This is due to most of the respondents still studying and having less purchasing power or high credit risks in gaining loans.

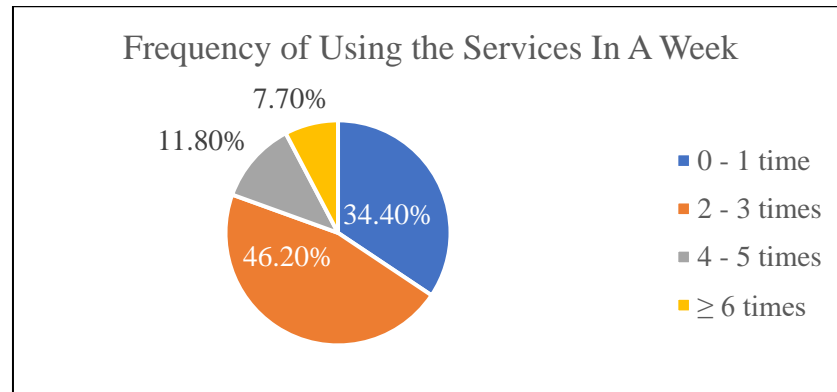
4.2.7 Frequency of Using Online Banking Services

Table 4.7: Frequency of Using Online Banking Services

Frequency of Using Services	Frequency	Percent (%)
0 - 1 time	166	34.4
2 - 3 times	223	46.2
4 - 5 times	57	11.8
≥ 6 times	37	7.7
Total	483	100

Source: Developed for the research

Figure 4.7: Frequency of Using Online Banking Services



Source: Developed for the research

In the survey, there are around 80% of the respondents are light (34.4%) or moderate users (46.2%). The remaining were considered heavy users as they use the services more than 4 times per week. Mentionable, the measurement of frequency is on weekly basis, which means that a huge portion of the respondents use the services at least 1 time and might reach more than 10 times in a month. This declares that Gen Z is highly engaging themselves in using the online banking services, which also illustrates the importance of studying their behavioural intention to use the virtual banking due to the high user demand.

4.3 Descriptive Statistics of Variables

Table 4.8: Mean and Standard Deviation of Variables

Variable	Mean	Standard Deviation
Effort Expectancy	4.24	0.5373
Performance Expectancy	4.23	0.6938
Social Influence	3.84	0.7552
Facilitating Conditions	4.23	0.5438
Hedonic Motivation	3.78	0.7748
Trust	4.08	0.7144
Behavioural Intention	4.27	0.6427

Source: Developed for the research

From the table, 5 variables have a mean that ranges between 4 to 5, with the highest mean of 4.27 by behavioural intention, followed by effort expectancy, performance expectancy, facilitating conditions, and trust. This shows that most respondents have perceptions between “agree” and “strongly agree” for the mentioned variables. However, the respondents hold a “neutral” or “agree” perception towards social influence and hedonic motivation. The highest standard deviation for hedonic motivation illustrates that the respondents have more diverse perceptions towards the perceived enjoyment of virtual banking; the lowest standard deviation for effort expectancy means most of the respondents hold the same thought that virtual banking can enhance their productivity.

4.4 Scale Measurement

4.4.1 Reliability Test

Table 4.9: Results of Reliability Test

Variable	Items	Cronbach's Alpha	Internal Consistency
Effort Expectancy	4	0.840	Excellent
Performance Expectancy	4	0.906	Excellent
Social Influence	4	0.923	Excellent
Facilitating Conditions	3	0.742	Good
Hedonic Motivation	3	0.911	Excellent
Trust	4	0.893	Excellent
Behavioural Intention	4	0.909	Excellent

Source: Developed for the research

According to the rule of thumb of Cronbach's alpha, all variables except facilitating conditions are excellent in terms of reliability. Besides, the facilitating conditions have a good internal consistency due to the Cronbach's alpha of 0.742.

4.4.2 Validity Test

Table 4.10: Results of Convergent Validity Test

Variable	Average Variance Extracted
Effort Expectancy	0.676
Performance Expectancy	0.780
Social Influence	0.812
Facilitating Conditions	0.663
Hedonic Motivation	0.848
Trust	0.761
Behavioural Intention	0.789

Source: Developed for the research

Table 4.11: Results of Discriminant Validity Test

	BI	EE	FC	HM	PE	SI	TR
BI							
EE	0.584						
FC	0.721	0.696					
HM	0.439	0.374	0.494				
PE	0.651	0.580	0.607	0.393			
SI	0.577	0.561	0.697	0.592	0.538		
TR	0.357	0.257	0.516	0.491	0.153	0.352	

Source: Developed for the research

Both tables above show the results of the convergent and discriminant validity tests. As all the AVE is higher than the recommended value of 0.5 and the HTMT values are below 0.9, it represents that the instruments have fulfilled the ideal validity for the research.

4.5 Inferential Analysis

4.5.1 Pearson Correlation Coefficient Analysis

Table 4.12: Result for Pearson Correlation Coefficient Analysis

	Behavioural Intention
Effort Expectancy	0.511**
Performance Expectancy	0.589**
Social Influence	0.529**
Facilitating Conditions	0.598**
Hedonic Motivation	0.400**
Trust	0.322**

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

Source: Developed for the research

The positive Pearson correlation coefficients indicate that all the independent variables have positive relationships with behavioural intention. Within the range of 0.4 to 0.69, all independent variables except trust have a moderate positive relationship with behavioural intention. Nonetheless, trust has a weak positive relationship with behavioural intention. Notably, all the correlations are significant at the level of 0.01.

4.5.2 Multiple Linear Regression Analysis

Table 4.13: Summary for R-square

R	R Square	Adjusted R Square	R Square Change	F Change
0.711	0.505	0.499	0.505	81.011

Source: Developed for the research

By referring to the value of adjusted r-square, the independent variables altogether contributed 49.9% in this research to explain the variation in the dependent variable. This reflects that the remaining 51.1% were not explained in this study.

Table 4.14: Result for ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	100.600	6	16.767	81.011	0.000
Residual	98.517	476	0.207		
Total	199.117	482			

Source: Developed for the research

Table 4.14 shows that the model in this research is statistically significant. It illustrates that the variables are fit to the framework and can be used in explaining the variance in the behavioural intention to use virtual banking.

Table 4.15: Coefficient for Multiple Linear Regression Analysis

	Unstandardized Coefficients		Standard Coefficients	t	Sig.
	Beta	Std. Error	Beta		
(Constant)	0.314	0.198		1.583	0.114
Effort Expectancy	0.145	0.050	0.122	2.93	0.004**
Performance Expectancy	0.296	0.038	0.320	7.804	0.000***
Social Influence	0.098	0.039	0.115	2.547	0.011*
Facilitating Conditions	0.291	0.054	0.246	5.351	0.000***
Hedonic Motivation	0.033	0.034	0.040	0.972	0.332
Trust	0.085	0.034	0.095	2.497	0.013*

Significant level: ***p < 0.001; **p < 0.01; *p < 0.05

Source: Developed for the research

From the analysis, all independent variables except hedonic motivation are significant in explaining the dependent variable. With the value of 0.000, both the performance expectancy and facilitating conditions are significant at the level of 0.001. Besides, effort expectancy which has the value of 0.004, is significant at the level of 0.01. Social influence and trust which have the

value of 0.011 and 0.013 respectively, are significant to explain the behavioural intention at the level of 0.05. However, hedonic motivation, with a p-value of 0.332, is not significant in this research.

Beta values under the standard coefficients have clarified the contribution of each independent variable to the research. The highest beta value indicates that performance expectancy has the strongest unique contribution in explaining the behavioural intention as compared to other independent variables; followed by the facilitating conditions, effort expectancy and social influence. Notable, trust has the least unique contribution to the research. The contribution of hedonic motivation was ignored due to its insignificance in this research.

4.6 Conclusion

The demographic and general information of respondents were tabulated, illustrated, and explained. The mean and standard deviation of the variables shows the averaged respondents hold “neutral” or “agree” perception towards social influence and hedonic motivations, while “agree” or “strongly agree” for the remaining variables. Moreover, the inferential analysis shows that all independent variables are significant and positive towards behavioural intention, except hedonic motivation.

CHAPTER 5: DISCUSSIONS, CONCLUSION AND IMPLICATIONS

5.0 Introduction

Chapter 5 interprets the findings from the analysis results to validate the research objectives and hypothesis. The implications, limitations of this study, and recommendations for future research will also be discussed.

5.1 Discussion on Major Findings

Table 5.1: Summary of the Results for Hypothesis Testing

Hypothesis	Results	Status
H ₁ : Effort expectancy positively affects Gen Z's behavioural intention to use virtual banking.	r = 0.511 p = 0.004	Supported
H ₂ : Performance expectancy positively affects Gen Z's behavioural intention to use virtual banking.	r = 0.589 p = 0.000	Supported
H ₃ : Social influence positively affects Gen Z's behavioural intention to use virtual banking.	r = 0.529 p = 0.011	Supported
H ₄ : Facilitating conditions positively affects Gen Z's behavioural intention to use virtual banking.	r = 0.598 p = 0.000	Supported
H ₅ : Hedonic motivation positively affects Gen Z's behavioural intention to use virtual banking.	r = 0.400 p = 0.332	Not Supported
H ₆ : Trust positively affects Gen Z's behavioural intention to use virtual banking.	r = 0.322 p = 0.013	Supported

Source: Developed for the research

5.1.1 Effort Expectancy

The r-value of 0.511 and p-value of 0.004 indicate that effort expectancy is significant and positively affects Gen Z's behavioural intention to use virtual banking in Malaysia. This has supported the statement in H₁. As nearly all the Gen Z are tech-savvy, it is most likely stress-free for them to learn new technology. However, effort expectancy remains a concern due to the

unfamiliarity with virtual banking. The result is in line with the study by Nguyen et al. (2020). It is also supported by the studies in another banking context that indicated the positive relationship between these two variables (Alalwan et al., 2018; Rachmawati et al, 2020). Hence, Gen Z has a higher intention to use virtual banking given that the technology requires only little effort.

5.1.2 Performance Expectancy

Based on the analysis, performance expectancy is the main antecedent and positively affects the behavioural intention towards virtual banking. It provides the highest unique contribution in determining the variation in behavioural intention. The finding in this study is opposed to the discussion by Anggraeni et al. (2021), who claimed that the consumers' intention on using virtual banking is solely based on their free will. However, this study reflects that Gen Z is motivated to accept virtual banking if they perceived virtual banking to improve their productivity and assist in accomplishing their jobs. This is tallied with some previous studies (Nguyen et al., 2020; Suma & Shankar, 2020). Hence, performance expectancy has been proven to have a positive and significant impact on behavioural intention.

5.1.3 Social Influence

The analysis result has supported the H₃, which implies that social influence has a positive relationship with behavioural intention. Malaysia has a collectivist culture that emphasizes the group as a whole (Geshina Ayu, 2021). This explains that Gen Z will consider others' ideas when making any decision. Likewise, the societal environment will positively affect Gen Z's motivation to use virtual banking services. This has confirmed and defended the conclusion drawn in a previous study by Anggraeni et al. (2021), though Tiong (2020) and Nguyen et al. (2020) claimed that the social influence has an insignificant relationship.

5.1.4 Facilitating Conditions

With the r-value of 0.598 and p-value of 0.000, facilitating conditions are statistically tested to have a positive and significant impact on Gen Z's behavioural intention to use virtual banking. In addition, it has the second-highest contribution in examining the dependent variable. This indicates that Gen Z is more presumably to use virtual banking services if they have sufficient knowledge and infrastructure. The accessibility to reaching assistance will also motivate them in adopting the services. This is supported by the previous studies which also claimed the positive and significant relationship between facilitating conditions and behavioural intention (Lian & Li, 2021; Suma & Shankar, 2020).

5.1.5 Hedonic Motivation

Although hedonic motivation has a positive relationship with behavioural intention, it is insignificant in predicting Gen Z's behavioural intention in this research. This implies that the perceived enjoyment is not affecting Gen Z's intention to use virtual banking and can be ignored. This finding is contrary to the studies by Nguyen et al. (2020), Anggraeni et al. (2021), and Suma and Shankar (2020). This might be due to the fact of the services involves data privacy and confidential information (Thaker, Thaker, Khaliq, Pitchay, & Hussain, 2019). Hence, pleasure is insignificant when Gen Z is approaching the banking services.

5.1.6 Trust

In this research, trust has been proven to positively and significantly affect behavioural intention. The virtual bank that is able to meet Gen Z's expectations could build trust among them and motivate them to use the

services. The empirical studies (Nguyen et al., 2020; Kusumawati & Rinaldi, 2020) also supported the findings on trust. Thus, it is confirmed that trust has a positive and significant relationship with the behavioural intention to use virtual banking in Malaysia.

5.2 Implications of Findings

5.2.1 Theoretical Implications

This research employed a modified UTAUT2 by removing irrelevant variables and moderators. This contributes to the academicians and researchers as the UTAUT2 is seldom being used in studying the acceptance of virtual banking. Moreover, this ensures the best fit of the research into the specific context. Besides, it is noticed that the variable “trust” is always neglected by the researchers. Trust is significant especially in the context of banking which engages a huge amount of confidential information and security. Hence, trust was integrated into the modified model to ensure a more comprehensive study on the topic. Moreover, this study has successfully implemented the modified UTAUT2, as the analysis admitted that the model explains 49.9% of the variation in behavioural intention.

As mentioned, there is only limited literature that studied the topic, particularly in the Malaysian context. Hence, this research aimed to fill the literature gap by studying the acceptance of virtual banking in Malaysia. Mentionable, the existing literature studied the whole generations, which has some discrepancies with the target customers of the virtual banks in Malaysia. The researcher in this study only focused on Gen Z to provide a better insight into the specific generation. As it is expected to have more studies on the topic of virtual banking, this study can be served as a basis for future research.

5.2.2 Managerial Implications

Based on the findings, performance expectancy is the most critical predictor of the behavioural intention to use virtual banking and should be emphasized the most by the practitioners. For instance, the banks should emphasize useful services rather than focus on providing enjoyment. Given that the services offered by the virtual bank are practical, it should promote a sense of usefulness to the customers. Different types of advertising should be utilized in conveying the features and advantages of using virtual banking services.

Facilitating conditions have the second-highest contribution in this model. This implies that Gen Z will have a higher behavioural intention if they have sufficient resources, technologies, and knowledge. Regarding this, the virtual banks should ensure that the technologies used can be learned and obtained easily. They should always prepare to transfer knowledge and provide assistance to the customers. When the technologies and assistance could be approached effortlessly, Gen Z might be motivated to adopt the services.

Gen Z will have the intention if there is a lesser effort required in using the services. The banks should design a user-friendly interface for the customer to use their services, regardless of the website or application. Meanwhile, the banks should facilitate simple and clear processes to motivate Gen Z towards the adoption of the services.

The significant and positive role of social influence reflects that the practitioners have to focus on the customers' relationship. Relationship marketing as part of customer relationship management could be utilised to ensure customer loyalty and build long-term profitable customer relationships. They should satisfy the customers' needs, provide a pleasant experience, as well as a good impression to the customers. This is because customers might share their opinion on the virtual bank with others, and

word of mouth plays a crucial role in determining a business's success, especially in Malaysia which has a collectivist culture.

Lastly, to improve Gen Z's trust in virtual banking, the banks should develop a strict information management system in handling the customers' information. They should always practice business ethics by keeping the information confidential and not sharing it with a third party. Besides, they should always update their security system to prevent the occurrence of financial crime. This will lead the customers to have more trust in the bank, provided that the information and property remain secured at all times. For policymakers, they should establish the most sufficient regulatory framework for guiding the virtual banks and protecting the customers. With this, all parties' interests could be protected and the customers' confidence in the virtual bank can be boosted.

5.3 Limitations of Study

5.3.1 Cross-sectional Study

As mentioned, this research adopted a cross-sectional study, in which all the responses are captured within a specific timeframe. In this case, the survey was conducted during the COVID-19 pandemic. The responses may be primarily based on the respondents' thoughts and perceptions during this period, and may not be sufficient to reflect the actual behavioural intention in the future. Besides, the ever-changing technologies might cause the results to become less practical in the future.

5.3.2 Inadequacy in Studying All Variables and Moderators from UTAUT2

Due to the non-existence of virtual banking in the research period, two independent variables (price value and habit) and three moderators (age,

gender, experience) have been dropped from the UTAUT2 to ensure the best fit of the model to the context. This means that the behavioural intention in this study was measured without consideration of those variables. Mentionable, this does not detract the significance of the findings in this research.

5.3.3 Narrow Scope of Target Sample

As mentioned, virtual banking in Malaysia not only targeting on Gen Z but also other segments such as SMEs and people who face difficulties in reaching financial services. However, this research only studied Gen Z as it is complex and ineffective to study different segments, especially studying both consumers and businesses at the same time. Research methodology may vary and lead to cost and time-ineffective. Hence, this research did not provide any insight into the other segments' behavioural intention towards virtual banking.

Besides, this study intended to study the whole target population and did not differentiate respondents from different regions. This is due to the convenience sampling adopted, where the survey was distributed online and targeted Gen Z from every part of the country. Financial inclusion might vary regionally and people from different regions might not share the same perception towards virtual banking. This is considered one of the limitations of this research due to the incapability of examining the responses in a specific region.

5.3.4 Non-specific Virtual Banking Services

Due to the unavailability of the virtual bank in Malaysia, the specific services that will be provided remain unknown. This research studied the behavioural intention towards the services as a whole, rather than studying the services specifically. Hence, the findings in this research only reflect

Gen Z's behavioural intention generally, instead of their intention towards a specific service.

5.4 Recommendation for Future Studies

5.4.1 Longitudinal Study

To solve the disadvantage brought by the cross-sectional study, a longitudinal study could be conducted. This involves the repeat of the data collection process over an extended period. With this, the results obtained will best reflect the most accurate outcomes of the specific period in the future, even though the technology is continuously changing.

5.4.2 Enhance the Model

As the modified model in this research was used to fit into the context, future researchers should add more constructs to ensure comprehensiveness. For instance, integrating the independent and moderating variables from the original UTAUT2 such as price value, habit, use behaviour, and age. Other constructs that relate to the virtual banking context should be considered as well. For instance, perceived risk and convenience.

5.4.3 Enrich the Target Sample

Future researchers are suggested to perform research on other customer segments targeted by the virtual bank. For instance, targeting the retirees and SMEs. This can provide a more detailed insight into the particular sample. Moreover, they are recommended to perform research based on a specific region in Malaysia. For instance, studying behavioural intention in East Malaysia. Therefore, more research should be performed to gain a more complete view of the customers toward virtual banking.

5.4.4 Narrow Down the Study Scope

The future researcher is recommended to study a specific banking service to get the most accurate behavioural intention. For instance, in terms of business banking, services can be categorised into merchant services, payroll services, and business loans. Customers' intentions might vary with different types of services. Hence, it is suggested to target a specific service to obtain the most accurate insight into the target population.

5.5 Conclusion

This chapter discussed the findings of the analysis results that were supported by the previous research, followed by theoretical and managerial implications. Lastly, the researcher exposed three limitations of this study and provided recommendations for future researchers.

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APPENDIX A: Questionnaire



Universiti Tunku Abdul Rahman

Factors Affecting Generation Z's Intention to Use Virtual Banking in Malaysia

Survey Questionnaire

Dear respondents,

I am a final year student from Universiti Tunku Abdul Rahman who currently pursuing Bachelor of International Business (Hons). I am conducting a survey on the *factors affecting Generation Z's intention to use virtual banking in Malaysia*. Kindly provide your responses and answer all the questions to the best of your knowledge. There are no wrong responses to any of these statements. All responses are collected for academic research purposes and will be kept **strictly confidential**.

Should you have any doubt, kindly contact me at 013-3123366 or gscomm1323@utar.my.

Your participation is much appreciated.

Sincerely,
Hew Jun Hung
18UKB02770

Instructions:

- 1) There are THREE (3) sections in this questionnaire. Please answer the questions according to the instructions.
 - 2) Completion of this form will take you approximately 5 to 10 minutes.
 - 3) The contents of this questionnaire will be kept **strictly confidential**
-

Personal Data Protection Statement

Please be informed that in accordance with Personal Data Protection Act 2010 (PDPA) which came into force on 15 November 2013, Universiti Tunku Abdul Rahman (UTAR) is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Notice:

1. The purposes for which your personal data may be used are inclusive but not limited to:-

- For assessment of any application to UTAR
- For processing any benefits and services
- For communication purposes
- For advertorial and news
- For general administration and record purposes
- For enhancing the value of education
- For educational and related purposes consequential to UTAR
- For the purpose of our corporate governance
- For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan

(4)

2. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

3. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

4. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

1. By submitting this form you hereby authorise and consent to us processing (including disclosing) your personal data and any updates of your information, for the purposes and/or for any other purposes related to the purpose.

2. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfil our obligations or to contact you or to assist you in respect of the purposes and/ or for any other purposes related to the purpose.

3. You may access and update your personal data by writing to gscomm1323@lutar.my.

Acknowledge of Notice:

I have been notified and that I hereby understood, consented and agreed per UTAR above notice

I disagree, my personal data will not be processes

Screening Questions

This survey is targeting Generation Z who are born between 1995 and 2003. Please tick (✓) according to the questions below. All answers will be kept strictly confidential.

1. Are you born between 1995 and 2003?

Yes

No

2. Do you use online banking services?

Yes

No

Note: If you choose yes for both questions, you may proceed to the next page.

If you choose no in either one question, you may return the questionnaire to the researcher.

Thank you for your time and cooperation.

Introduction on Online Banking and Virtual Banking

Online banking refers to the offering of banking services and features via an online platform. In Malaysia, it is only one of the channels for the traditional banks to deliver the services, where the same services can also be delivered through the physical branch. Some examples of online banking services are online funds transfer, online bill payment, balance inquiry, etc.

However, virtual banking is the modern banking model which digitizes all banking operations and activities. The virtual banking services provided to consumers are similar to online banking. A huge difference between virtual banking and online banking is the prior substitutes the physical bank branches with an online presence. With this, there is no physical branch for the virtual bank and no or less paperwork is needed when performing any virtual banking activities.

Section A: Demographic Profile

In this section, please fill or tick (✓) for the most appropriate answer for each question, unless indicated otherwise. All answers will be kept strictly confidential.

A1. What is your age?

Please state: _____

A2. What is your gender?

Male

Female

A3. Please specify your ethnicity.

Malay

Chinese

Indian

Other: _____

A4. What is your highest educational level?

SPM

STPM/Matriculation/Equivalent

Diploma/Equivalent

Bachelor's Degree

Master's Degree

A5. What is your current employment status?

Employed

Unemployed

Self-employed

Student

Section B: General Information

In this section, please tick (✓) for the most appropriate answer for each question, unless indicated otherwise. All answers will be kept strictly confidential.

B1. What online banking services that you used?

**You may choose more than one option.*

- Account management
- Check balances
- Funds transfer
- Online bill payment
- Loan application
- Other: _____

B2. How often have you used online banking services in a week?

- 0 - 1 time
- 2 - 3 times
- 4 - 5 times
- \geq 6 times

Section C: Factors

This section is seeking your opinion regarding the factors included effort expectancy, performance expectancy, social influence, facilitating conditions, hedonic motivation, and trust. The respondents are required to indicate the extent to which they agree or disagreed with each statement using the 5-Point Likert Scale [(1) = strongly disagree, (2) = disagree, (3) = neutral, (4) = agree, (5) = strongly agree] response framework. Please circle one number per line to indicate the extent to which you agree or disagree with the statement.

No	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
EE	Effort Expectancy					
EE1	I would find virtual banking services easy to use.	1	2	3	4	5
EE2	I think I would learn to use virtual banking services quickly.	1	2	3	4	5
EE3	My interaction with virtual banking services will be clear and understandable.	1	2	3	4	5
EE4	It would be easy for me to become skillful at using virtual banking services.	1	2	3	4	5
PE	Performance Expectancy					
PE1	Virtual banking will be useful in my daily life.	1	2	3	4	5
PE2	Using virtual banking services would help me accomplish tasks more quickly.	1	2	3	4	5
PE3	Using virtual banking services would help me accomplish tasks more easily.	1	2	3	4	5
PE4	Using virtual banking services would help me to increase my productivity.	1	2	3	4	5
SI	Social Influence					
SI1	People who are important to me think that I should use virtual banking services.	1	2	3	4	5
SI2	People who influence my behavior think that I should use virtual banking services.	1	2	3	4	5
SI3	People in my environment think that I should use virtual banking services.	1	2	3	4	5

SI4	People whose opinions that I value prefer that I use virtual banking.	1	2	3	4	5
FC	Facilitating Conditions					
FC1	I have the resources necessary to use virtual banking.	1	2	3	4	5
FC2	I have the knowledge necessary to use virtual banking.	1	2	3	4	5
FC3	Virtual banking is compatible with other technologies I use.	1	2	3	4	5
HM	Hedonic Motivation					
HM1	Using virtual banking will be fun.	1	2	3	4	5
HM2	Using virtual banking will be enjoyable.	1	2	3	4	5
HM3	Using virtual banking will be entertaining.	1	2	3	4	5
TR	Trust					
TR1	I trust that my personal information will be secured when using virtual banking services.	1	2	3	4	5
TR2	I trust the procedures of settling transactions of virtual banking services.	1	2	3	4	5
TR3	I trust that technical problems of virtual banking services will be rarely happened.	1	2	3	4	5
TR4	I feel assured that legal and technological structures adequately protect me from problems of virtual banking services.	1	2	3	4	5
BI	Behavioural Intention					
BI1	I intend to use virtual banking in the future.	1	2	3	4	5
BI2	I will always try to use virtual banking in my daily life.	1	2	3	4	5
BI3	I plan to use virtual banking in future.	1	2	3	4	5
BI4	I predict I would use virtual banking in the future.	1	2	3	4	5

Thank you for your precious time and cooperation in completing this questionnaire.

All responses will be kept private and confidential.