UNDERSTANDING OF INSURANCE TECHNOLOGY FROM A CONSUMERS' PERSPECTIVE: THE ANTECEDENTS OF MALAYSIAN MILLENNIALS' ACCEPTANCE ON INSURTECH

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BY

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APRIL 2022

DECLARATION

I hereby declare that:

(1) This undergraduate FYP is the end result of my own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(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.

(3) The word count of this research report is 19677.

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
BI	Behavioural Intention
BNM	Bank Negara Malaysia
C-TAM-TBP	Combined TAM and TPB
CV	Convenience
DITO	Digital Insurance and Takaful Operators
DOSM	Department of Statistic Malaysia
EE	Effort Expectancy
EY	Ernst & Young
FC	Facilitating Conditions
HTMT	Heterotrait-Monotrait
IDT	Innovation Diffusion Theory
Insurtech	Insurance Technology
IoT	Internet of Things
MM	Motivational Model
MPCU	Model of PC Utilization
OECD	Organisation for Economic Co-operation and Development
PE	Performance Expectancy
PLS-SEM	Partial Least Square Structural Equation Modelling
PTV	Perlindungan Tenang Voucher
PwC	PricewaterhouseCoopers
RE	Regulatory Expectancy
SCT	Social Cognitive Theory
SEM	Structural Equation Modelling
SI	Social Influence
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Science
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action

TST	Trust
USA	United State of America
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflated Factors

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PREFACE

By the requirements of the University Tunku Abdul Rahman (UTAR) to the award of certificates for Bachelor of International Business (Honours), it is a pre-condition that every student undertakes the Final Year Project 'UKMZ2016 Research Project'. As a Bachelor Degree student who is majoring in International Business, the major source of competitive advantage is the knowledge and strong understanding of global issues. However, international business is a complicated and wider topic that consists of numerous aspects. Among various global issues or trends, insurance technology, the application of technology solutions that are specifically applied for the insurance industry, has been deemed as one of the notable trends that significantly upended the insurance industry. It is attracting considerable interests due to the opportunities created for optimising the insurance industry and the threats imposed on the incumbents. However, the global blossoming of insurtech is yet to occur in Malaysia despite various initiatives have been undertaken by the authorities in promoting the development of insurtech. Therefore, the author is inspired to explore the reasons behind the lagging development of insurtech in Malaysia.

ABSTRACT

Insurance technology (insurtech) refers to the application of various cutting edge technologies in providing insurance industry-specific solutions. Malaysian insurtech development is relatively slower as compared to the global rapid pace due to the incumbents' scruple about consumers' insurtech acceptance. Not to mention, knowledge gap existed as studies of insurtech from consumers' perspectives are scarce. Concerning this, the Unified Theory of Acceptance and Use of Technology (UTAUT) framework is useful in predicting the factors of users' technology acceptance, but it requires modification to enhance its applicability in different contexts. Against these backgrounds, this study aims to identify the consumers' perception of insurance and their acceptance of insurtech. Besides, this study aims to enhance the UTAUT model in the insurtech acceptance context by altering the relationship between variables, removing irrelevant variables as well as incorporating convenience, trust and regulatory expectancy into the research framework. Furthermore, this study also aims to identify the factors that influence consumers' insurtech acceptance by using the modified UTAUT model. In-depth, this study focused on Malaysian Millennials as they are the digital nations that witnessed and grew with various cutting edge technologies. Also, they are the largest generation cohort with the highest purchasing power. By using the convenient sampling technique, 417 survey responses were collected for analysis. The findings indicated that the Malaysian Millennials expressed a positive attitude towards insurance and insurtech, despite their low awareness of insurtech. Moreover, the results asserted that performance expectancy, effort expectancy, facilitating conditions, convenience, trust and regulatory expectancy significantly influenced Malaysian Millennials' insurtech acceptance. The results also indicated that the impacts of convenience, trust and regulatory expectancy on insurtech acceptance are stronger among females. The findings of this study have contributed some valuable insights and implications to the literature and practitioners regarding the understanding of insurtech from Malaysian Millennials' perspective.

Keywords: *Insurtech, Insurance, Acceptance, UTAUT, Millennials, Malaysia*

CHAPTER 1: RESEARCH OVERVIEW

1.1 Introduction

This chapter mainly outlines the background of the study, the problem statement, the research questions, the research objectives, the scope of the study, as well as the significance of the study.

1.2 Background of Study

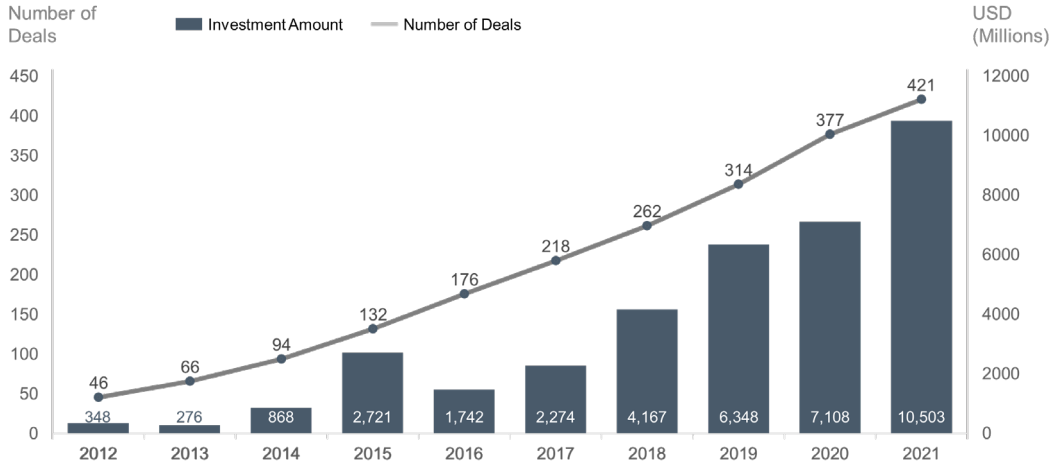
Peoples are exposed to various risks in daily life; any accidents or unfortunate circumstances could occur unexpectedly, which resulted in unwanted damage. In this sense, insurance plays a crucial role in protecting individuals against financial losses from those damages. Generally, the insured (also known as the policy owner) will pay a specified amount of money (also known as premiums) to the insurance company on a regular basis, often monthly, quarterly, semi-annually or yearly, in exchange for the compensation from the insurance company upon the occurrence of the predefined contingencies. Although various types of insurance are available and offered by the insurance companies such as automotive insurance, property insurance, travel insurance, liability insurance and etc., it could be broadly classified into life and health insurance and general insurance (Insurance Information Institute, 2022). In-depth, each category of these insurances could be further segmented into the individual consumers market and commercial market (Insurance Information Institute, 2022).

Attributable to the cruciality of insurance, the insurance industry has been deemed as one of the historically stable and mature industries (Saldanha & Staehle, 2021). Nonetheless, the insurance industry has confronted a technology revolution over the past decade (Saldanha & Staehle, 2021). In the early 2010s, a novel term and concept, namely Insurance Technology (Insurtech) has emerged and upended the traditional insurance operation model (Kelley & Wang, 2021; Insurance

Information Institute, 2020). Insurtech refers to the adoption of various technologies in providing insurance industry-specific solutions, which enhance the insurance value chain, from products or services development, pricing and underwriting, sales, marketing and distribution to the claims settlements. Some well-known examples of insurtech are the digital insurers that offer full online insurance services, the smart contract that enables a tamper-proof distributed database system and etc. (Braun & Schreiber, 2017). Undoubtedly, insurtech has been continuously reshaping the traditional ecology and value chains of the insurance industry. Although insurtech are extending innovations which pose competitive threats to incumbents, it also creates potential opportunities to optimise the industry (Catlin et al., 2017). Notably, PricewaterhouseCoopers [PwC] (2022a) described insurtech as a prosperous phenomenon that offers the insurance industry a huge commercial potential in reconnecting with customers after a long period of disengagement. Likewise, KPMG (2019) claimed that the insurtech will optimise the insurance industry by improving the insurance products, enhancing the service and lowering the regulatory cost.

The emergence of insurtech has received high attention among the 'players' in the insurance industry. As revealed in Figure 1.1, the global investment and transaction volume of insurtech was steadily increased since 2012. Despite the impact of the COVID-19 pandemic, the global insurtech investment in 2020 surpassed the previous year's record (Ernst & Young Global Limited, 2021; WillisTowersWatson, Willes Re & CBInsights, 2021). In contrast, the development of insurtech in Malaysia is relatively slow as compared to the rapid pace of global insurtech blossoming. In fact, the Central Bank of Malaysia (also known as Bank Negara Malaysia [BNM]) has been launching a series of initiatives to promote insurtech adoption and development such as the regulatory sandboxes for insurtech start-ups to validate their innovations in a regulated environment in 2016, the issuance of the discussion paper with regard to the licensing framework for the digital insurance and takaful operators (DITO) in 2020, etc. However, as reported in the Malaysia Fintech Opportunity Report Insurtech Outlook 2021/2022, the insurtech investment in Malaysia is relatively small and underfunded, and one of the key antecedents was the low readiness of consumers (1337 Venture, 2021).

Figure 1.1: Global Investments & Transaction Volume of Insurtech



Source: WillisTowersWatson, Willes Re & CBInsights (2021).

Despite the company's investment and adoption playing a crucial role in insurtech development, one should never neglect that the success of such initiatives also highly relies on the consumers' acceptance. Noticeably, most insurtech startups were initially focused on the individual consumers market (Cruse & Singh, 2019; Catlin et al., 2017), and the quick wins in this segment were largely taken by the Millennials (Catlin et al., 2017). This has reflected that identifying the right 'audience', understanding their consumers' behaviour and designing specific marketing strategies against them is critical toward the success of insurtech promotion and development, as each distinct generation cohort will have different reactions to the marketing decisions, which directly influence the promotional strategies (Loh, 2020; Chaney et al., 2017). Similar to the global landscape, Malaysian Millennials have the strongest purchasing power, and they are the largest generational cohort in Malaysia, representing roughly 44% of the total population (Department of Statistic Malaysia [DOSM], 2021).

1.3 Problem Statement

Existing findings signified that the consumers' attitudes play a crucial role in influencing insurtech development and adoption by the industry players. As indicated in the research by PwC (2016), 40% of Malaysian insurers were unconvinced and scruple about customer readiness. Furthermore, the Malaysia Fintech Opportunity Report Insurtech Outlook 2021/2022 asserted that insurtech

investment in Malaysia is underfunded due to the low readiness and acceptance by consumers (1337 Venture, 2021). This phenomenon has resulted in a vicious cycle; in which the industry players resist investing in insurtech as they are unsure of consumers' acceptance, whereas the consumers are unwilling to accept insurtech as insurtech is unable to capture their concerns. Hence, it is urged to understand the consumers' behaviours and their perceptions toward insurtech as the success of such initiatives is not solely dependent on the companies' adoption, but also highly relies on the consumers' acceptance. In addition to the consumers' perception of insurtech, their perception of insurance should be taken into consideration, in view of the high correlation between insurance and insurtech. As its name suggested, insurtech is the combination of insurance and technology.

Unlike other variants of FinTech such as e-wallet, e-banking, etc., insurtech has not been vastly explored among the industry players and academicians. In particular, most empirical studies were carried out from the perspective of industry players. For instance, Ching et al. (2020) investigated the factors that influence insurers' adoption of insurtech. Withal, Naicker and van der Merwe (2018) studied the managers' perception regard to mobile technology adoption in the life insurance industry. Similar to the academicians, most current industry players' studies are focused on the technology perspective; for instance, the study by Organisation for Economic Co-operation and Development [OECD] (2017) titled 'Technology and Innovation in the Insurance Sector'. Yet, there is a lack of insights and information concerning the consumers' perspective and acceptance of insurtech. As indicated in the Scopus database, only 63 documents and papers are regarding 'insurtech'; in-depth, only 15 papers are concerning social science ([Search Result about Insurtech], 2022). These have clearly indicated that the knowledge gap existed in regard to the study of insurtech from the consumers' perspective.

Not to mention the importance of understanding consumers' perception of insurtech, it is also crucial to identify the factors that attract and encourage them to accept such novel technologies. To better understand the antecedents of consumers' technology acceptance, the Unified Theory of Acceptance and Use of Technology (UTAUT) model developed by Venkatesh et al. (2003) has been widely applied in view of its convincing explanatory capacity. It accounts for 70% of the variance in

explaining the intention of using technology (Venkatesh et al., 2003), which is higher than any empirical technology acceptance research model. As indicated in Google Scholar, the UTAUT model has been cited for more than 36,627 times by researchers. However, the UTAUT model was developed and tested in the organisational context; modification of the research model is necessary to enhance its applicability (Venkatesh et al., 2003). Some empirical studies that adopted the UTAUT model; for instance, the research by Jiang et al. (2020) in examining the online insurance purchase intention and the study by Milanovic et al. (2020) in observing the acceptance of insurance telematics, have modified the research model by altering the relationship of variables, removing the irrelevant variables and incorporating new constructs. Concerning these, the Global Consumers Study 2021-2022 conducted by ReMark (2021) asserted that convenience is the highest motivation for the Malaysian younger generation to use online insurance services. In fact, insurtech provides a seamless experience and convenience for users. For instance, the robo-advisor for consultation allows 7/24 without queuing, the comparison portal enables the comparison of different insurers or premiums with just a single entry and etc. Meanwhile, Accenture (2019) claimed that trust has been increasing importance in business, particularly in the era that the digital technologies and services become more influential. Likewise, Zarifis (2020) argued that trust must be explored in the insurtech context as the perception of the risk always arises along with the new technology. Not to mention, an insight by Ernst & Young (EY) advocated that insurance is built on the foundation of trust between insurers and customers (Cranley & Wenger, 2020). Furthermore, Hu et al. (2019) and Zhu (2009) asserted the significance and the influence of regulatory bodies and legislation in affecting the behaviour and the decision making of individuals. Authorities have the influence in increasing the credibility and reliability of products or services, thus strengthening the confidence of consumers (Hu et al., 2019). In view of the above arguments, it is essential to enhance the applicability of the UTAUT model in the insurtech context.

In-depth, identifying and understanding the right target segment is critical as each distinct generation has unique characteristics; they will have different reactions to the marketing decisions, which directly influence the promotional strategies (Loh, 2020; Chaney et al., 2017). Notably, the global success of insurtech has indicated

the influence and importance of Millennials, and it is foreseen that the same will be applied in Malaysia. Malaysian Millennials as the largest generation cohort accounts for nearly 44% of the Malaysian total population (DOSM, 2020). Furthermore, they have the strongest purchasing power, which will inevitably emulate the older generation cohorts (Loh, 2020; Ng, 2019). Mentionable, Millennials witnessed and grew with the emergence of new technologies; they are more exoteric and willing to accept the new technologies as compared to the older generation (Jenkins, 2017). These factors have reflected that the study on Malaysian Millennials is necessary and essential in promoting insurtech effectively.

1.4 Research Questions

In light of the aforementioned problem statements, the present study aims to answer the following research questions:

1. What are the perceptions of Malaysian Millennials toward insurance and insurtech?
2. How the UTAUT model could be modified to enhance its applicability in predicting the insurtech acceptance by Malaysian Millennials?
3. What are the antecedents of Malaysian Millennials' insurtech acceptance?

1.5 Research Objectives

With the research questions raised, the present study aims to achieve the following research objectives and sub-objectives:

1. Determine Malaysian Millennials' perceptions toward insurance and insurtech
    - Gather information about the Malaysian Millennials
    - Determine the awareness of insurance among Malaysian Millennials
    - Determine the awareness of insurtech among Malaysian Millennials
    - Identify the acceptance of insurtech among Malaysian Millennials

2. Enhance the applicability of the UTAUT model in the insurtech acceptance context
   - Remove the irrelevant variables from the original UTAUT model
   - Alter the relationship between variables in the original UTAUT model
   - Incorporate new variables into the UTAUT model
   - Remove possible irrelevant variables from the proposed UTAUT model

3. Investigate the antecedents of Malaysian Millennials' insurtech acceptance
   - Investigate the relationship between the predictors in the UTAUT model and Malaysian Millennials' insurtech acceptance
   - Investigate the relationship between the incorporated new predictors and Malaysian Millennials' insurtech acceptance

1.6 Scope of Study

Insurtech in the present study refers to the intersection of technology and the insurance industry; the technology solution must be specifically integrated into the insurance industry. Having said that, the technology solutions that could be broadly applied across various industries are excluded. In-depth, this study is focusing on the consumers' perspective; hence, insurtech that are less likely to be used by the consumers are excluded as well. Moreover, the target respondents of this study are the Malaysian Millennials. Furthermore, the UTAUT model will be modified to better understand the antecedents of Malaysian Millennials' acceptance of insurtech.

1.7 Significance of Study

The present study aims to provide numerous contributions to the policymakers, practitioners, society and literature.

Authorities have taken a series of initiatives to promote the insurtech development. Although the company's adoption of insurtech is important, consumers' interests

should not be neglected. Hence, the present study wishes to assist policymakers in developing the regulatory framework by identifying the factors influencing the customers in accepting insurtech. By referring to these factors as a guideline, policymakers could develop and enact better regulatory frameworks to encourage and boost the acceptance of insurtech.

Incumbents were having fencing attitudes to invest in insurtech as they were scrupled about consumers' readiness and acceptance of insurtech. As such, the present study assists the industry players such as practitioners and insurance companies in developing the appropriate strategies and system features to attract customers and enhance the customer experience in insurtech.

Besides, this study could assist society in better understanding their concerns and motivations in accepting insurtech. With that being said, their concerns will be captured; hence, policymakers and insurance companies will be able to better tackle these issues. Ultimately, these initiatives will benefit the consumers.

Moreover, the present study aims to contribute to the literature by closing the knowledge gap. Firstly, there are limited studies in the context of insurtech, particularly from the consumers' perspective. Secondly, the present study addresses the limitation of the UTAUT model to enhance its applicability in the insurtech context. Ultimately, the result of the present study could be served as a reference and guideline for researchers to explore or expand the study in a similar field.

1.8 Chapter Summary

This chapter has provided an overview of the global and local (Malaysia) insurtech landscape. Undeniably, insurtech has received significant attentions among incumbents in recent years. However, Malaysia's insurtech development is relatively lagging as compared to the global rapid pace, and one of the significant reasons is the fencing attitudes among incumbents as they were scrupled about consumers' acceptance. Not to mention, the studies of insurtech were limited,

particularly in the consumers' perception context. Hence, these have inspired the researcher to study and explore insurtech from a consumer perspective. In-depth, this study focuses on the Millennials as they are the largest generation cohort that has the highest purchasing power. Furthermore, Millennials are more exoteric in accepting new technologies. Concerning this, the research scope has been chartered in a considerable manner in order to ensure the research could be conducted effectively. In short, this study aims to provide insightful contributions with useful information and outputs to all the stakeholders.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter mainly reviews and discusses the existing literature or empirical studies concerning the research domains. This chapter begins with the discussion of insurtech which covers the evolution of insurtech, the definition of insurtech, the role of insurtech in the insurance value chain, as well as the classification and application of insurtech. Besides, this chapter also includes the discussion of Malaysian Millennials' year definition and their characteristics, the introduction of the underpinning theory (the UTAUT model) and justification of the modification, the conceptualisation of the variables, the formulation of the proposed research framework as well as the development of research hypotheses.

2.2 Insurtech

This subsection comprises the emergence and evolution of insurtech, the definition of insurtech from the perspective of academicians and practitioners, the enhancement of insurtech on the insurance industry value chain, as well as the classification of insurtech applications.

2.2.1 Evolution of Insurtech

Insurtech emerged in the early 2010s, and it has grown exponentially since 2015 (Kelley & Wang, 2021; Insurance Information Institute, 2020). Initially, insurtech was classified as part of fintech, and fintech was the first and best known for 'EverythingTech' (Kelley & Wang, 2021). As time goes on, the activities of the insurance industry were distinct enough to split out from fintech as 'insurtech' (Kelley & Wang, 2021). When insurtech emerged, most insurtech start-ups have become a threat to the incumbents (Friedman et al.,

2019). However, the second wave of the insurtech boom has proven that the insurtech start-ups are used to support, instead of displace the incumbents (Friedman et al., 2019). Similar to other variations of fintech, insurtech was initially focused on the individual consumers segment and gradually expanded to other market segments such as Small and Medium Enterprises (SMEs) and corporate lines (Catlin et al., 2017).

Currently, there are 3 types of insurtech players actively engaging in the industry, namely the insurtech start-ups, incumbent carriers and the incubators, accelerators or ventures (Kelly & Wang, 2021). Insurtech start-ups could be further classified which they either selling insurance by leveraging the application of insurtech or offering technology solutions to insurance companies (Kelly & Wang, 2021). Incumbent carriers generally refer to those insurance companies that engage in insurtech adoptions by collaborating with or investing in those insurtech companies or start-ups (Kelly & Wang, 2021). Whereas incubators, accelerators or ventures support the early-stage players in obtaining funds or other support such as refining the solutions (Kelly & Wang, 2021). Notably, most insurtech companies are offering technology solutions to insurance companies instead of selling insurance (Cruse & Singh, 2019).

2.2.2 Definition of Insurtech

The perspective and definition of insurtech are controversial among practitioners and researchers, and there is no fixed definition. Some researchers viewed insurtech merely as a technology-driven start-up that aims to enhance the insurance industry value chains (Salahshor & Scherrer, 2020). However, most researchers or practitioners have broadened the definition of insurtech, which is no longer restricted to only start-ups. For instance, Insurance Information Institute (2020) described insurtech as the use of new technologies to lower costs and strengthen the efficiencies in various points of the insurance value chain. On the other hand, Braun and Schreiber (2017) viewed insurtech as an umbrella term which consists of a vast of emerging

technologies that are integrated and applied into the insurance industry. TIBCO Software Inc's (2022) perspective on insurtech was split into two components, namely the technology-based components such as Artificial Intelligence, Internet of Things (IoT), and so on, as well as solution-based components such as data solutions, payment solutions and so forth.

Despite the definition of insurtech is varied among researchers, there appears to be some agreement that insurtech is the adoption of various technologies in the insurance industry. However, there is a controversial argument on whether the use of common technology solutions such as communicating with clients via social media platforms could be considered an insurtech. In relation to this, Kelley and Wang (2021) raised a query on whether a technology firm that offers a wide range of services across various industries, including insurance can be classified as insurtech. Likewise, Xu and Zweifel (2020) criticized that the general definition of insurtech has blurred the boundaries between insurtech and general corporate IT such as office automation systems, and they have further criticized the 'free riders' that acted under the banner of insurtech which the solutions or technologies were not innovating at all as some of the industry players merely adopted the standard existing technology without the future development potential.

Mentionable, Kelley and Wang (2021) introduced a new perspective in defining insurtech; the intersection of industry specificity and maturity. For the industrial specificity dimension, technology solutions could be applied generally across multiple industries or insurance industry-centric (Kelley and Wang, 2021). For the maturity dimension, it could be viewed from the insurance start-ups to incumbents that have adopted technology solutions for decades (Kelley and Wang, 2021). The focal point of the study by Kelley and Wang (2021) was the insurance industry-specific and the lower maturity players, and they have further defined insurtech as the adoption of emerging hardware, software and user interfaces in addressing the inefficiencies or opportunities in the insurance value chain, which often involve the technology, data and analytics that targets the evolution or disruption of the interaction between insurers and customers, process automation, as well as modification

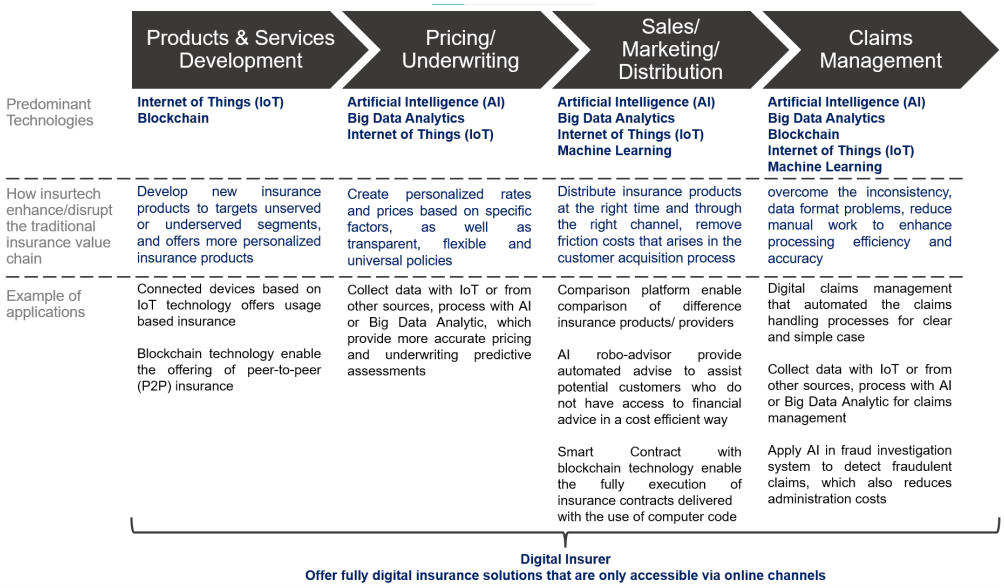
of existing insurance products or creation of new insurance products. Similarly, Xu and Zweifel (2020) contributed a detailed definition of insurtech, by conceptualizing insurtech as 'a phenomenon that traditional or non-traditional market players, aimed at lowering cost, improving efficiency, or providing consumers with more service value, exploit information technology to deliver data-driven or customer-oriented solutions specific to the improvement in insurance business including marketing and distribution, risk assessment and underwriting, claims handling and value-added service provision, as well as innovation in insurance products or services, digitalized operation, partnerships and business models' (p.307).

While a variety of definitions have been suggested, the present study distinguished insurtech from insurtech start-ups or insurtech companies. Based on the above arguments, this study conceptualised insurtech as the adoption of various technologies by the traditional or non-traditional industry players in providing insurance industry-specific solutions to enhance the insurance value chains or overcoming the current inefficiencies and pain points, in which the solutions offered are not general solutions that could be widely applied across different industries. Meanwhile, this study defined insurtech start-ups and insurtech companies as those start-ups or companies that either offer insurtech solutions or leverage insurtech to sell insurance.

2.2.3 Role of Insurtech in the Insurance Value Chain

Undoubtedly, insurtech has been continuously reshaping the traditional ecology and value chains of the insurance industry, from products or services development, pricing and underwriting, sales, marketing and distribution to the claims settlements. With regard to this, there are a vast of perceptions among industry players and researchers in explaining the role of insurtech in the insurance value chain. To provide a comprehensive point of view, this study integrated the perspectives of empirical studies. Figure 2.1 shows the application of technological solutions in enhancing the traditional insurance value chain as well as several examples of the application of insurtech.

Figure 2.1: How Insurtech is Affecting the Insurance Value Chain



Adapted from: NTT Data (2021), Ernst & Young & Insurtech Australia (2019), Cruse & Singh (2019), Holiday (2019), Braun & Schreiber (2017)

2.2.4 Application & Classification of Insurtech

This study proposed a new perspective in classifying the insurtech, which further divided insurtech into the 'company-based insurtech' and 'consumers-based insurtech'. The 'company-based insurtech' refers to those solutions that are used by the companies internally, in which the consumers are less likely to be engaged, such as the application of Artificial Intelligence and Big Data Analytics in the fraud investigation process. On the other hand, the 'consumers-based insurtech' refers to those solutions that consumers are more likely to have the opportunities to engage in, such as the comparison portal that enable the comparisons of different insurance products or services. To reinforce the focal point of the present study, Table 2.1 lists, summarises and explains some of the 'consumers-based insurtech'.

Table 2.1: Major Type of Insurtech Solutions for Consumers

Adapted from	Type of Insurtech	How Insurtech Benefited Consumers
(Braun & Schreiber, 2017; Holiday, 2017)	Comparison Portal	Enable the comparisons of different insurance products or insurance providers/companies

Table 2.1: Major Type of Insurtech Solutions for Consumers (Continued)

Adapted from	Type of Insurtech	How Insurtech Benefited Consumers
(Braun & Schreiber, 2017; TIBCO Software Inc., n.d.; OECD, 2017)	Smart Contract	Fully execution of insurance contracts delivered, which protects the consumers in eliminating breach of contract by the powerful parties or preventing the modification of contact that could disadvantage the weaker counterparties, and speed up the claim management process as some of the terms in the contract are automated
(Braun & Schreiber, 2017; Holiday, 2017)	Usage-Based Insurance	Insured will use the connected devices that enable the insurers to collect data; for instance, the wearables for life and health insurance or telematics for car insurance, in which the policies, claims and insurance rate are determined based on data collected and the prescribed criteria
(Braun & Schreiber, 2017)	P2P Insurance	Construct a private insurance pool that comprised of a group of individuals who have similar interests in a mutual insurance coverage
(OECD, 2017)	Robo Advisor	Provide automated advisory services to the customers without human interaction, which saved the time of reaching an agent or advisor, and it provides the consultations anytime and anywhere, as well as enhances the accessibility of information
(Braun & Schreiber, 2017)	Digital Insurer	Offer the insurance products or services fully via the digital channel; with that being said, there will be no physical outlet or appearance

Source: Developed for this study

2.3 Malaysian Millennials

Millennials, also known as Generation Y, is a generation that witnessed and grew with various cutting edge technologies. Noticeably, there is no consensus about the year definition of the Generation Cohort. In fact, the concept of generation cohort was initially popularised in the United State of America (USA) in the 1960s (Loh, 2020). The generation cohort theory suggested that individuals who were born in the same period and experienced the same incidents or events (in terms of historical, social, political, economics, etc.) will share similar behaviours, attitudes, beliefs and values (Eger et al., 2021; Carpenter et al., 2012). However, as criticised by Loh (2020), the year definition and defining events of the generation cohort are developed in a Western context; hence, it might not be completely applicable in other countries. Concerning this, Malaysian researchers, Tung and Comeau (2014)

contributed a new perspective in redefining the generation cohort to adapt to the Malaysian context (as listed in Table 2.2). Hence, the present study adopted the year definition of Malaysian Millennials that was suggested by Tung and Comeau (2014). With that being said, this study defined Malaysian Millennials as those Malaysians who were born between the years 1982 to 2004.

Table 2.2: Malaysian Generation Labels

Cohort Label	Year Definition	Defining Event & Brief Characteristics
Boomer	1943-1960	World War 2 & Independence in 1957 Born in a period of conflict, seeking for independence
Baby Boomer	1961-1981	Restructuring after the World War 2 New economic policy Industrialisation and urbanisation
Millennials	1982-2004	Vision 2020 Grew in a prosperous environment with technological advancement and greater job opportunities

Source: Tung & Comeau (2014)

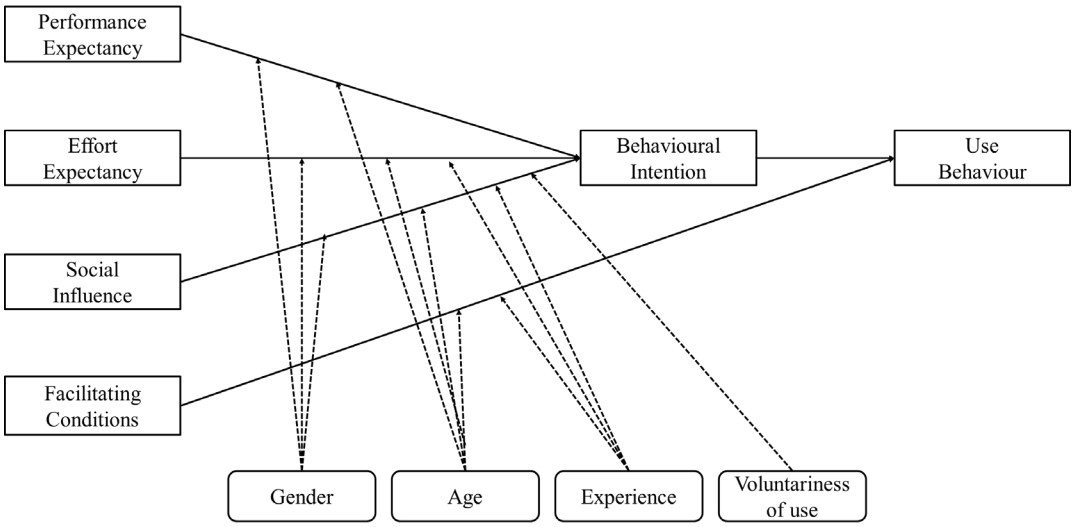
Malaysian Millennials are the largest generational cohort in Malaysia. They accounted for nearly 44% of the Malaysian total population (DOSM, 2020). Due to this fact, they are also the most significant consumer group with the greatest purchasing power (Loh, 2020; Ng, 2019). It is to be noted that one of the key characteristics that distinguish the Malaysian Millennials from other generations is that they were born in the golden years of Malaysia's booming economy, and they have experienced the rapid development of a vast of emerging technologies (Loh, 2020). Hence, they are more exoteric and willing to accept the new technologies as compared to the older generation, not to mention most of them were highly educated (Admin, 2018; Jenkins, 2017). These characteristics asserted that Malaysian Millennials are a significant participant in the insurtech promotion.

2.4 Unified Theory of Acceptance & Use of Technology

To better explain technology acceptance, Venkatesh et. al. (2003) formulated the UTAUT model by synthesizing and integrating eight prominent theories in the information system field, namely Theory of Reasoned Action (TRA), Technology

Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behaviour (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT). As illustrated in Figure 2.2, effort expectancy, performance expectancy and social influence are the determinants of behavioural intention; whereas facilitating conditions and behavioural intention are the direct determinants of the use behaviour. Meanwhile, gender, age, experience and voluntariness to use are served as the moderators.

Figure 2.2: UTAUT Model



Source: Venkatesh et al. (2003)

UTAUT model has been widely applied in various technology acceptance studies due to its convincing explanatory capability. However, Venkatesh et al. (2003) advocated that modification of the research model is necessary to enhance its applicability in other technology acceptance contexts. In fact, most existing studies that were underlying the UTAUT model have modified the research model to strengthen the relevancy in their respective field; for instance, the study by Kettles and Belle (2019) in the context of autonomous car acceptance, the research by Khalilzadeh et al. (2017) in the context of near field communication mobile payment usage intention, the study by Hussain et al. (2019) in the context of mobile phone-based chabot usage intention and etc. Hence, this study modified the UTAUT model to enhance its applicability in the context of Malaysian Millennials' insurtech acceptance, by removing some irrelevant variables, altering the relationships

between variables, and incorporating convenience, trust and regulatory expectancy as the predictors of insurtech acceptance into the research framework.

Firstly, this study removed the construct 'actual usage' from the original UTAUT model. Former studies have proven that 'behavioural intention' could be integrated with 'actual usage' and labelled as 'behavioural intention to use' (Chang et al., 2017). These are further supported by Khechine et al. (2014), asserting that the intention reflects people's willingness to try, and it is assumed to capture the motivational factors that influence people's behaviour. Moreover, the study of Wang and Wang (2010) removed the 'actual usage' construct as the usage of mobile services during 2010 was low. In the same vein, the usage of insurtech is relatively low at present. Hence, 'behavioural intention to use insurtech' was incorporated as the dependent variable in this research framework, which measures Malaysian Millennials' insurtech acceptance.

Besides, this study eliminated 'voluntariness to use' from the research framework. Venkatesh et al. (2003) incorporated voluntariness as the moderating variable in the original UTAUT model to distinguish between the voluntary and mandatory of using technology in the organisational setting. However, technology usage in most consumer contexts is voluntary; consumers may freely decide on whether to use the technology (Janssen, 2009). Notably, the dissertation of Silinskyte (2014) removed 'voluntariness to use', arguing that the use of cryptocurrency is completely voluntary. Likewise, the present study argued that the voluntariness to use is not applicable in the insurtech context as its usage is not mandatory.

Moreover, the present study also removed 'experience' from the research framework. In the original UTAUT model, Venkatesh et al. (2003) measured experience by applying longitudinal research with three different time dimensions to capture increasing levels of users' experience. However, this approach is not applicable in the relatively new technology context as most users barely have any past experiences, and it is difficult to measure the users' experience at different stages (Cheng, 2020; Silinskyte, 2014; Janssen, 2009). Hence, this study argued that the development of insurtech in Malaysia is at a relatively early stage and consumers hardly have experience in using insurtech.

'Age' is irrelevant to this study as the present study measured the Malaysian Millennials' acceptance of insurtech. The focal point of this research is on a homogeneous generation, namely Millennials. Hence, it is not applicable to measure the age difference in insurtech acceptance in this study.

In the original UTAUT model, facilitating conditions is the direct determinant of actual usage in the organizational context as various supports will be provided by the organisation which will directly trigger the usage behaviour (Venkatesh et al., 2003). However, the availability of resources and supports in the consumers' context is varied across vendors, technology generations, etc., which will influence consumers' intentions (Venkatesh et al., 2012). Also, the present study removed the 'actual usage' construct. Hence, this study posited that facilitating conditions will influence the behavioural intention to use insurtech.

This study also incorporated trust, convenience and regulatory expectancy as the predictors of insurtech acceptance. Zarifis (2020) argued that trust must be explored in the insurtech context as the perception of the risk always arises along with the new technology. Also, insurance is built on the foundation of trust between insurers and insureds (Cranley & Wenger, 2020). In addition, insurance customers are expecting a seamless experience (Insurance Information Institute, 2020); convenience was found to be the strongest motivator for the Malaysian younger generation to use online insurance services (ReMark , 2021). Besides, legislatures play an essential role in creating the normative rules prevailing in the society, which affect the behaviours and the decisions making of individuals (Zhu, 2009). In view of the above arguments, the present study incorporated these predictors into the UTAUT model.

2.5 Review of Variables

This subsection mainly reviews and conceptualises the variables that are used in the research model based on empirical studies. There are one dependent variable and seven independent variables discussed in this subsection, namely behavioural

intention to use insurtech, facilitating conditions, social influence, effort expectancy, performance expectancy, trust, convenience and regulatory expectancy respectively. As mentioned in Section 2.4, the UTAUT model is an integration of various theoretical models and frameworks. Having said that, the constructs in the UTAUT model were integrated from several root constructs. Furthermore, the label of some constructs is interchangeable with other research frameworks' constructs, which consist of the same definition and meaning.

2.5.1 Behavioural Intention to Use Insurtech

Behavioural intention could be broadly conceptualised as an individual's level of intensity in performing a specific behaviour (Madan & Yadav, 2016; Warshaw & Davis, 1985). In fact, the definition has been widely adopted among researchers. For instance, the study of Saari et al. (2021) advocated that behavioural intention reflects an individual's readiness to behave in a specific way, which is the direct factor of actual behaviour. In the tourism studies, Saha and Nath (2017) defined behavioural intentions as desirable behaviour such as the tendency to revisit, willingness to pay more and desire to share positive comments. Likewise, the study of Chang and Lee (2020) in the insurance services context measured behavioural intention as the willingness to reuse and recommend insurance products or services.

Whereas in the technology usage or acceptance context, behavioural intention is an essential predictor in the original UTAUT model, which measured the technology acceptance (Venkatesh et al., 2003). Liébana-Cabanillas et al. (2018) also supported that behavioural intention is an important indicator of the use of information technology. Similarly, the study by Al-Rahmi et. al. (2019) in identifying students' intention to engage in e-learning conceptualised behavioural intention as the students' options in deciding whether or not to use the e-learning system. In the same vein, Rodriguez Cardona et al. (2021) asserted that behavioural intention to interact with the insurance chatbot reflects the desire of potential insurance customers or current insurance customers to use the insurance chatbot.

The present study comprised the definitions of empirical studies. Therefore, this study defined behavioural intention to use insurtech as the degree of interest and tendency of the insurtech users or potential insurtech users to use insurtech. In-depth, it reflects the insurtech acceptance by insurance customers or potential insurance customers.

2.5.2 Performance Expectancy

The construct 'performance expectancy' was integrated from five root constructs, namely 'perceived usefulness', extrinsic motivation, job-fit, relative advantage, and 'outcome expectation' (Venkatesh et al., 2003). Worth mentioning, some researchers; for instance, Jiang et al. (2019) and Tang et al. (2021) argued that 'performance expectancy' is interchangeable with the term 'perceived usefulness' due to their similarities in meaning.

In the original UTAUT model, performance expectancy is defined as the individual's belief that using technology will enhance the performance or provide benefits in performing certain activities (Venkatesh et al., 2003). Meanwhile, the study by Ndifon et al. (2020) that adopted the UTAUT model defined performance expectancy as the users' expectation of the mobile-supported health insurance system that could assist them in accessing a better health insurance service. Whereas some researchers who adopted the term 'perceived usefulness'; for instance, Lan et al. (2021) defined perceived usefulness as the potential users' subjective perception that the use of a system will enhance their performance. Likewise, Zhang et al. (2017) viewed perceived usefulness as the individual's perception that using the healthcare wearable technology will enhance his/her health status.

The present study adopted the term 'performance expectancy' although it is interchangeable with the term 'perceived usefulness', as the present study used the UTAUT model. Hereinafter, the study explained on the term 'performance expectancy' which refers to the evaluation of the usefulness of insurtech by insurtech users or potential insurtech users.

2.5.3 Effort Expectancy

Similar to the abovementioned variable, the concept of effort expectancy was obtained from three constructs that contained substantial similarities, namely perceived ease of use, complexity and ease of use (Venkatesh et al., 2003). Just like performance expectancy, some researchers claimed that the term 'effort expectancy' and 'perceived ease of use' are interchangeable (Tang et al., 2021; Lai, 2017). In fact, there are similar definitions across previous research and studies despite different terms have been labelled. For instance, Gao et al. (2015) viewed effort expectancy as the measurement of consumers' perception of easiness of using wearable healthcare devices. Meanwhile, the study of Tian et al. (2020) in regard to the Millennials' acceptance of insurance telematics defined effort expectancy as the users' expectation that the system is free from effort. On the other hand, Wang and Wang (2019) labelled the term 'perceived ease of use' in their study of identifying the intention to purchase insurance via an online channel, which contained a similar definition with the effort expectancy.

Based on the arguments above, this study adopted the term 'effort expectancy', and conceptualised it as the level of effort that needs to be invested in learning and familiarising the insurtech systems.

2.5.4 Social Influence

Venkatesh et al. (2003) asserted that the definition of subjective norm, social factors and image contained explicit and implicit notions that an individual's behaviour in using technology is influenced by other persons. As a result, the construct 'social influence' was introduced to formulate the UTAUT model. Social influence is defined as the individual perception of whether to use technology is affected by the opinion of the persons who are important to them (Venkatesh et al., 2003). It is underlying assumed that individuals tend to seek consultations from their social networks to minimise the anxiety that arises from the uncertainty of new technology (Slade et al., 2015).

Notably, the definition of social influence by Venkatesh et al. (2003) has been extensively replicated in various studies, such as the study of Gan et al. (2021) in examining the Malaysians' acceptance of financial robo-advisor, the research of Tang et al. (2021) in studying the Malaysians' acceptance of mobile payment, the study of Milanović et al. (2020) in identifying the acceptance of telematics for car insurance, the study of Jiang et al. (2019) in exploring the purchase intention of customers towards online life insurance and etc.

In view of the arguments above, the present study defined social influence as the power of close families, friends and surrounding people in altering an individual's decision or desirableness to try out and use insurtech.

2.5.5 Facilitating Conditions

Similar to other constructs in the UTAUT model, 'facilitating conditions' integrated the concept of three root constructs, namely perceived behavioural control, facilitating conditions and compatibility (Venkatesh et al., 2003). In the original UTAUT model, facilitating conditions is the perception that the resources or technical infrastructures are present to support the use of technology (Venkatesh et al., 2003). In the study of Gan et al. (2021) with regard to the Malaysian's acceptance of financial robo-advisor, the researchers adopted the original definition of facilitating conditions, defined the construct as the perceived barriers or enablers that influence the perception of easiness or level of difficulties to conduct a task. Similarly, Ndifon et al. (2020) conceptualised facilitating conditions as the individuals believe that they are supported by the organisation or technical infrastructures in using the mobile-supported health insurance system.

In line with the empirical studies, the present study adopted the definition given by previous researchers. Therefore, this study defined facilitating conditions as the perception that technical infrastructures, organisations and resources are available to support the use of insurtech.

2.5.6 Convenience

Convenience is a commonly-used construct in the technology acceptance context and yet it is a concept difficult to be defined precisely. Nie and Amarayoun (2019), Yang and Lin (2017) and Okazaki and Mendez (2013) asserted that convenience includes agility, accessibility and the instantaneous of the particular service which generates the time and places flexibility. Meanwhile, the study by Bankole & Bankole (2017) described convenience as mobility and instantaneous. In the study of wireless local area network (LAN) acceptance, Yoon & Kim (2007) conceptualised convenience into three dimensions, that are time dimension, place dimension and execution dimension. The time dimension refers to the users' anticipation of accomplishing their job by using wireless LAN at a time that is convenient for them; the place dimension refers to anywhere that is convenient for the users; the execution dimension reflects the users' perception that the wireless LAN is convenient in the process of performing the work (Yoon & Kim, 2007). Notably, this perception was agreed upon and adopted by Zhang et al. (2017) in the study of healthcare wearable technology usage intention. Not to mention, Chen and Tsai (2019) provided a distinct point of view, by defining perceived convenience as the users' perception that the products or services are easy to be found and easy to be used. However, the problem is, Chen and Tsai's view of perceiving 'perceived convenience' as 'easily to be used' conveyed a very similar meaning to the construct of effort expectancy.

To avoid confusion and overlapping, this study clearly distinguished the concept and definition of effort expectancy and convenience. In-depth, this study defined convenience as the mobility, portability, and accessibility when using insurtech which generates time and place flexibility.

2.5.7 Trust

The definition of trust varies across various literatures and there are little consensus on the exact definition of trust. Bankole and Bankole (2017)

conceptualised users' trust as a combination of two dimensions, namely perceived honesty and benevolence. This definition has been further extended by Jiwasiddi et al. (2019), who defined trust as the sense of belief and reliability which consist of three elements, namely benevolence, honesty and competence. However, other researchers who study digital banking have different perspectives on trust. For instance, Nguyen (2020) viewed trust as the customers' perception of security in using the services without concerning the risks or other issues. Meanwhile, Sinha and Mukherjee (2016) defined trust as individuals' perception that technology is secure and trustworthy. Whereas in the context of mobile payment, Qasim and Abu-Shanab (2016) defined trust as a party's willingness to entrust another party to conduct important action on behalf.

By integrating the various perspective of the aforementioned definitions, this study defined trust as the degree of confidence of the insurtech users or potential insurtech users towards the insurtech and the insurtech companies, even they realise that there is no guarantee in any risky circumstances.

2.5.8 Regulatory Expectancy

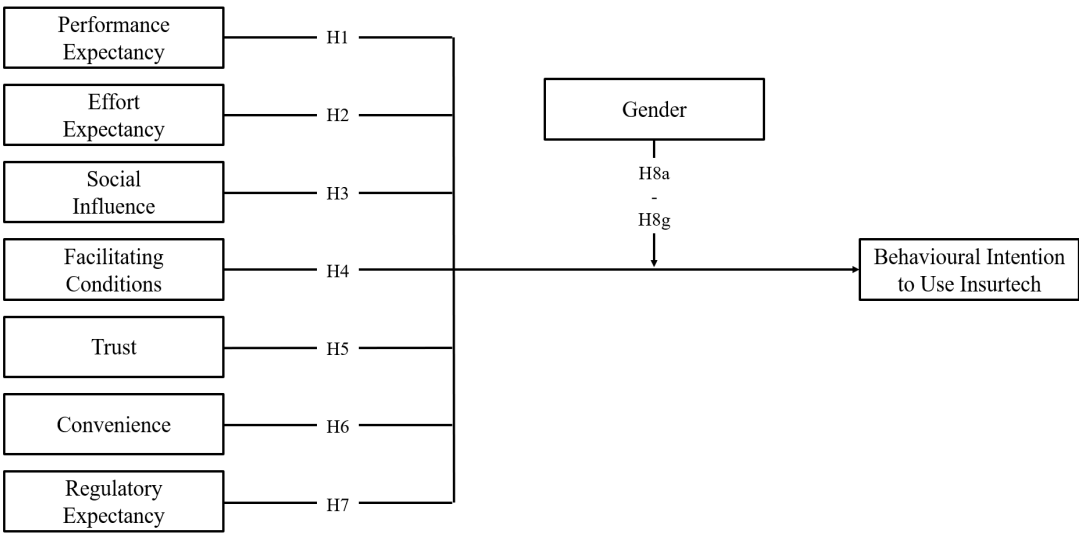
The arguments on the roles of regulatory bodies and legislation are never-ending. Among all these arguments, the roles of regulatory bodies and legislation can be generally classified into two different perspectives, namely the promotion perspective and the protection perspective. For instance, the study of Wong et. al. (2020) in the context of blockchain adoption by Malaysian SMEs adopted the promotion perspective, defining 'regulatory support' as policies and laws that significantly promote the intention of adopting the blockchain technology. On the other hand, the study by Madan and Yadav (2018) in the context of mobile shopping acceptance and the study by Madan and Yadav (2016) in the context of mobile wallets acceptance defined 'perceived regulatory support' as the consumers' belief that the regulatory frameworks are able to protect their interests from any disputes.

In line with Madan and Yadav (2018), the present study proposed that a formal regulatory framework significantly enhances and strengthens the users' confidence in any new technologies. Hence, this study conceptualised regulatory expectancy as the level of insurtech users' or potential insurtech users' belief in regard to the legislation and regulations could safeguard their interest from any dispute or misuse of their information.

2.6 Research Framework

The present study selected the UTAUT as the underpinning theory and extended the model by modifying the relationship, removing irrelevant constructs and incorporating new constructs. Figure 2.3 illustrates the proposed research framework for this study.

Figure 2.3: Proposed Research Framework



Source: Developed for the study

2.7 Hypotheses Development

This section mainly reviews the empirical studies, understands the relationship between variables, and ultimately formulates the hypotheses.

2.7.1 Performance Expectancy & Behavioural Intention

Performance expectancy has been widely recognised as one of the significant factors in the technology acceptance context, particularly in financial and insurance-related studies. According to the study by Gan et al. (2021), performance expectancy was found to be a critical factor that influences the Malaysian's intention to use financial robo-advisor. Besides, the study by Ndifon et al. (2020) and Milanovic et. al (2020) asserted that performance expectancy influenced behavioural intention to use the mobile-supported health insurance system and telematics car insurance respectively. Likewise, Jiang et al. (2019) demonstrated that customers are motivated to purchase life insurance online if they perceived higher productivity, effectiveness and usefulness. Based on the above argument, this study hypothesised that:

H1: Performance expectancy influences Malaysian Millennials' behavioural intention to use insurtech

2.7.2 Effort Expectancy & Behavioural Intention

Effort expectancy, however, has yielded a mixed result in explaining the behavioural intention to adopt the technology. As asserted by Jiang et al. (2019), insurance customers will have a stronger intention to purchase life insurance online only if they perceive that the procedure is not difficult and does not require much effort. In contrast, the study by Gan et al. (2021) found that effort expectancy is not significant in influencing the Malaysian's intention to use financial robo-advisor. This is further supported by Rodríguez Cardona et al (2021) who also found that the easiness of using technology is insignificant in affecting the intention to use insurance chatbots. As supported by the above arguments, this study developed the following hypothesis:

H2: Effort expectancy influences Malaysian Millennials' behavioural intention to use insurtech

2.7.3 Social Influence & Behavioural Intention

Bankole & Bankole, 2017 argued that individuals are easily influenced by the majority, and peoples tend to adjust their beliefs according to the social group they belong to. Whereas in the technology usage context, Jiang et al. (2020) alleged that the uncertainty that arises from the use of new technology could cause consumers or users to interact with their relatives or friends in obtaining opinions. In fact, their study has proven that social influence will have an impact on individuals' intention to purchase insurance via online channels. Whereas in the study of Milanovic et. al (2020), social influence was found to be a significant predictor in explaining the behavioural intention to use car telematics insurance. Not to mention, the influence of the social network on technology acceptance has been stressed in the younger generation. Tian et al. (2020) claimed that the younger generation's usage intention on insurance telematics is easily being affected by peers, families or social networks. With the abovementioned discussions, the present study recognised the importance of social influence on technology acceptance and Millennials. Therefore, this study postulated the following hypothesis:

H3: Social influence influences Malaysian Millennials' behavioural intention to use insurtech

2.7.4 Facilitating Conditions & Behavioural Intention

In the original UTAUT model, facilitating conditions is the direct determinant of actual usage (Venkatesh et al., 2003). However, the present study removed the 'actual usage' construct. In addition, the availability of resources and supports in the consumers' context is varied across vendors, technology generations, etc., which will influence consumers' intention (Venkatesh et al., 2012). Mentionable, the role of facilitating conditions has been substantiated in the insurance context. In the research by Ndifon et al. (2020), facilitating conditions influenced behavioural intention to use the mobile-supported health insurance system. Likewise, Milanovic et. al (2020) justified that

facilitating conditions is crucial in explaining the behavioural intention to use car telematics insurance. Based on the above arguments, the present study argued that most users need more guidance and tutorials regardless of how familiar they are with the technology, as insurtech is relatively new to consumers. Hence, the present study posited the following hypothesis:

H4: Facilitating conditions influences Malaysian Millennials' behavioural intention to use insurtech

2.7.5 Convenience & Behavioural Intention

Insurtech provides seamless experience and convenience to customers, such as the robo-advisor that provides 7/24 consultancy services without the need to queue, the comparison portal that enables the comparison between different insurers or premiums with just a single entry and so on. In fact, insurance customers are expecting and demanding a seamless experience (Insurance Information Institute, 2020). The result of the research conducted by Tian et al. (2020) advocated that insurers should emphasize the role of convenience in insurance telematics to attract and retain young customers due to the impact of user experience. For these reasons, the influence of convenience on behavioural intention to use insurtech needs to be validated in the context of Malaysian Millennials. As a result, this study established the below hypothesis:

H5: Convenience influences Malaysian Millennials' behavioural intention to use insurtech

2.7.6 Trust & Behavioural Intention

Researchers have contributed various opinions in explaining the importance of trust, as well as clarifying how the trust will affect the intention to use technology. According to Jiang et al. (2020), online trust is essential as the

uncertainty in a virtual environment is much higher than in a physical environment. Besides, Tang et al. (2021) argued that when there is a lack of trust in using technology among consumers, uncertainties will further affect them, and this in turn influences their intention to use mobile payment. In a similar fashion, Tian et al. (2020) claimed that trust is a critical issue in insurance telematics as users are unable to observe directly how much the data has been collected, how the data will be used and whether the insurance companies will strictly adhere to the data protection. In fact, the role of trust has been validated in various contexts, such as the context of online purchase insurance (Jiang et al., 2019), the context of mobile payment (Qasim & Abu-Shanab, 2016), the study of mobile banking (Merhi, Hone and Tarhini, 2019), etc. Thereafter, the present study postulated the following hypothesis at the foundation of previous research studies:

H6: Trust influences Malaysian Millennials' behavioural intention to use insurtech

2.7.7 Regulatory Expectancy & Behavioural Intention

Madan and Yadav (2018) found that perceived regulatory support has no impact on mobile shopping intention, as the mobile shopping activities consist of various activities such as browsing, and comparing prices and it is not necessarily involving the financial transaction. From the result and the interpretation by the researcher of the aforementioned study, it is clear that the roles of regulations and authorities were merely limited to the regulation of the financial transactions. However, this should not be the case. Their roles should extend beyond financial and monetary disputes when it comes to insurtech. It should not be neglected that there is a chance that the comparison portal site purposely provides false information to the potential insurance buyers, or the insurers collect the usage-based insurance customers' data from wearables devices for illegal use. As supported by the argument of Hu et al. (2019), the authorities have the influence in increasing the credibility and reliability of products or services, thus strengthening the confidence of

consumers in accepting fintech services. Likewise, Zhu (2009) claimed that legislatures or government agencies play a crucial role in creating the normative rules prevailing in society, which affect the behaviour and the decision making of individuals. Therefore, it is reasonable to posit that regulatory expectancy is critically essential in a new technology acceptance. Based on the arguments above, the present study established the following hypothesis:

H7: Regulatory expectancy influences Malaysian Millennials' behavioural intention to use insurtech

2.7.8 Gender as Moderator

For the aim of achieving gender parity, Fan et al. (2019) stressed the urgency to identify gender differences, the type of solutions to be provided as well as the methods for the solutions to be provided by the insurance companies as women and men are way different in their buying behaviours. Hence, the present study formulated the following hypotheses:

H8a: Gender moderates the relationship between performance expectancy and Malaysian Millennials' behavioural intention to use insurtech

H8b: Gender moderates the relationship between effort expectancy and Malaysian Millennials' behavioural intention to use insurtech

H8c: Gender moderates the relationship between social influence and Malaysian Millennials' behavioural intention to use insurtech

H8d: Gender moderates the relationship between facilitating conditions and Malaysian Millennials' behavioural intention to use insurtech

H8e: Gender moderates the relationship between convenience and Malaysian Millennials' behavioural intention to use insurtech

H8f: Gender moderates the relationship between trust and Malaysian Millennials' behavioural intention to use insurtech

H8g: Gender moderates the relationship between regulatory expectancy and Malaysian Millennials' behavioural intention to use insurtech

2.8 Chapter Summary

This chapter has illustrated the evolution of insurtech, provided a substantial and comprehensive analysis of the definition of insurtech, described how the insurtech enhances the traditional insurance value chain, and justified its application based on the insights from industrial practitioners and theoretically studies. In short, the present study has defined insurtech as the adoption of various technologies in providing insurance industry-specific solutions, in which the solutions offered are not general solutions that could be widely applied across various industries. The present study has also proposed a new perspective in viewing the insurtech, namely the consumers-based insurtech and company-based insurtech.

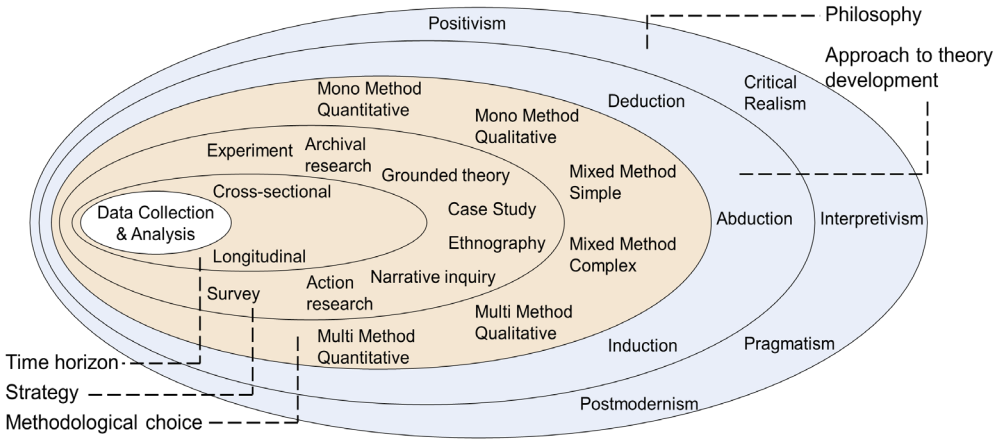
Subsequently, this chapter has justified the need of modifying the underlying theory (UTAUT model), and has determined the range of years of Malaysian Millennials and explained their characteristics. This study defined Malaysian Millennials as Malaysians who were born between 1982 to 2004. This chapter has also conceptualised the variables that were incorporated into the research framework, which in turn guided the hypotheses development. The hypotheses developed in Chapter 2 will be examined and validated in the following chapters with appropriate and suitable methodologies.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter mainly covers the research methodology to achieve research objectives and validate research hypotheses. To develop an effective research methodology, the present study adopts the 'research onion' that was established by Saunders et al. (2019). As illustrated in Figure 3.1, there are six main layers in the research onion, namely the research philosophy, research approach, methodological choices, research strategy, time horizon and data collection and analysis method, in which the premise will start from the outside and 'peels' each layer away until reaching the core.

Figure 3.1: Research Onion



Source: Saunders et al. (2019)

3.2 Research Philosophy & Approach to Theory Development

Research philosophy is the system of belief and assumptions in knowledge development, and it is critical in directing and justifying the research activities (Saunders et al., 2019; Creswell, 2014). In fact, various research philosophies are available. Therefore, it is vital to differentiate each research philosophy and select the most appropriate research philosophy, by leveraging three philosophical

assumptions, namely ontological assumption, epistemological assumption and axiological assumption (Saunders, et al., 2019; 'Research Philosophy and Assumptions – SOBT', n.d.). Ontological assumption refers to the researchers' belief in the nature of reality, the epistemological assumption refers to the researchers' approach to understanding and discovering the knowledge while the axiological assumption refers to the researchers' value in the study (Majeed, 2019; Saunders et al., 2019). The present study adhered to the positivism philosophy. Table 3.1 lists the criterion of positivism research philosophy and justifies the rationales of using positivism research philosophy.

Table 3.1 Justification of Research Philosophy

Assumption	Criterion for Positivism	Application in the Present Study
Ontology Assumption	Only one reality that is stable, measurable and observable, allows prediction by a causal framework, which is external and independent of social actors	Assume there is only one universe reality that explains the insurtech acceptance Insurtech acceptance could be measured; if measured, it will be readily visible to all who observe it (generalisation)
Epistemological Assumption	Knowledge is developed objectively without researcher's value in influencing the development	The assumptions and statements are logically developed through carefully reviewing the past literature and supported by reliable statistics or sources
	Governed by the existing theories; the goal of science is to test or expand the existing theories	The present study underlies the UTAUT model and aims to enhance its applicability by extending the model
	The only reality has a law-like generalisation; future prognoses are determined by the present knowledge and past knowledge	The present study predicts insurtech acceptance by investigating the relationship between the proposed variables and the intention to use insurtech
Axiological Assumption	Preferable for objectivity, subjectivity is inherently misleading	Objectivity is crucial in this study to avoid any bias from the researcher Adhering to the dualism principles, in which the researcher is neutral and independent from the study, and free from participation or providing any opinions

Sources: Alharahsheh & Pius (2020); Saunders, et al. (2019); Park et al. (2019); Al Mansoori (2017); ReadingCraze.com (2017); 'Research Philosophy and Assumptions – SOBT' (n.d.)

Concerning the approach to theory development, this study adhered to the deductive approach, in which the hypotheses were developed according to the existing theory, and subsequently, an appropriate research strategy was designed for hypotheses

testing (Wilson, 2010). In this study, the UTAUT model is underpinning, not to mention the hypothesises were developed logically in accordance with the review of literatures.

3.3 Research Design

As suggested by Saunders et al. (2019), the research design which acted as a blueprint that guided the research should consist of the following aspects, namely purpose of research, methodological choices and research strategy, as well as the time horizon.

3.3.1 Purpose of Research

This study adopted a mixture of descriptive research, exploratory research and explanatory research. Descriptive research is applied by obtaining respondents' demographic profile, their insurance and insurtech awareness, as well as insurtech acceptance to illustrate the accurate characteristic, profiles or events. Meanwhile, exploratory research is applied in this study as there are limited studies and a lack of insights in regard to insurtech from a consumer's perspective. Also, the present study intended to extend and enhance the applicability of the UTAUT model in the context of insurtech. Not to mention, this study also investigated the antecedents (independent variables) that will affect the acceptance of Malaysian Millennials towards insurtech (dependent variables). As such, explanatory research is applied to investigate the causal relationship between these variables.

3.3.2 Methodological Choices & Research Strategy

This study adopted the mono-method quantitative research and survey strategy due to several reasons. First of all, it is because this study replicated

the approach from the original UTAUT model as it is formulated by using a series of quantitative data via survey. Also, the quantitative method is often associated with the positivism research philosophy and deductive research approach (Saunders, et al., 2019). Moreover, in the meantime, the survey instrument was developed by using online survey tools and distributed via online platforms or channels.

3.3.3 Time Horizon

Although the longitudinal study was applied in the original UTAUT model, this study adhered to the cross-sectional study due to time constraints issues. However, the cross-sectional study allows the study of a particular phenomenon in a particular period. The data collection period for this study was from 15 January 2022 to 15 March 2022.

3.4 Sampling Design

Once the research design was formulated, the subsequent procedure is to develop the sampling design. An appropriate sampling design is crucial and inevitable in ensuring and enhancing the generalization. Therefore, the following subsections justify the target population, sampling frame, sampling location, sampling technique as well as the sample size of the present study.

3.4.1 Target Population

Malaysian Millennials are the target respondents of this study. In this study, Malaysian Millennials refers to individuals who were born between 1982 and 2004. As of 2020, the total population of Malaysia was 32,655,400, and Malaysian Millennials accounted for nearly 44% of the total population (DOSM, 2021).

3.4.2 Sampling Frame & Sampling Location

The sampling frame refers to the list of samples that are drawn from the population. However, the sampling frame was undefinable in this study as the population is extremely large. Meanwhile, the sampling location of this study was in Malaysia. Therefore, Malaysian Millennials who reside in Malaysia are the targeted respondents of this study.

3.4.3 Sampling Technique

This study adhered to the non-probability convenience sampling technique with several rationales. Firstly, the sampling frame is undefinable in this study; hence, the probability sampling technique is not applicable, and the only option is the non-probability sampling technique (Saunders, et al., 2019). In-depth, convenience sampling enables the researchers to obtain information from large populations easily and it is more cost-effective. Besides, one of the key characteristics of this study is the homogeneity of the sociodemographic of the target respondents. Malaysian Millennials is the only generation cohort that is being investigated in this study. As advocated by Jager et al. (2017), convenience sampling based on homogeneous sociodemographic could reduce the limitations of conventional convenience sampling technique, which has the issue of poor generalizability that might lead to estimate bias.

3.4.4 Sample Size

The issue of sample size in non-probability sampling (except for quota sampling) is ambiguous; unlike probability sampling, there are no consensus or predefined rules (Saunders, et al., 2019). Hence, this study adopted Cochran's formula in calculating the ideal sample size that is based on the estimated proportion of the population, desired level of precision and confidence level. Cochran's formula is particularly suitable in situations like this study that comprise a large population (Glen, 2022).

The Cochran's formula is listed below:

$$n = \frac{Z^2 p(1-p)}{e^2}$$

Whereby, Z = The Z-value that based on the confidence level
p = Estimated proportion of the population
e = Margin of error

The ideal margin of error and confidence level of this study are 5% and 95% respectively (with a given Z-Value of 1.96). Besides, the Malaysian Millennial accounts for an estimated 44% of the total population of Malaysia, hence:

$$n = \frac{1.96^2 \text{ x } 0.44\ (1-0.44)}{0.05^2}$$
$$= \frac{3.8416 \text{ x } 0.44\ (0.56)}{0.0025}$$
$$= 378.6281 \approx 379$$

Based on the calculation by using Cochran's formula, the ideal sample size for the present study is 379.

3.5 Research Instruments & Construct Measurement

As mentioned in section 3.3.2, this study adopted the use of survey as such method could facilitate the researcher to compute the result in a shortened time and provides more flexibility and convenience. For this, a questionnaire was developed via online survey tools. The layout of the questionnaire was divided into three parts, namely the cover page and the main body of questions that consist of two sections.

Firstly, the cover page of the questionnaire clearly listed the research topic, introduction and background of the researcher and study, the personal data protection statement that assures confidentiality, as well as the screening questions

to exclude those respondents who are non-Malaysian Millennials. Notably, a short introduction to insurtech was included.

The Section A of the questionnaire mainly gathered information on the demographic profiles and the awareness of insurance and insurtech of the respondents. These questions were developed to identify the right and suitable respondents for this research. Table 3.2 lists the questions and measurement scale of Section A.

Table 3.2: Research Instruments & Measurement Scale of Section A

Question	Options	Construct Measurement
Gender	Male Female	Nominal
Educational Level	Secondary School or Below STPM / UEC / Foundation / Certificate / Diploma Undergraduate Postgraduate	Nominal
Income Level	B40 (RM4,849.00 or below) M40 (RM 4,850.00 - RM10,959.00) T20 (RM 10,960.00 or above)	Nominal
Type of Insurance owned	Life & Health Insurance Non-Life Insurance Both I don't have any insurance	Nominal
Intention to purchase insurance in future	Yes No	Nominal
Insurance Literacy	1 = Very Poor 2 = Poor 3 = Moderate 4 = Strong 5 = Very Strong	Interval
Need for further guidelines on insurance	Yes No	Nominal
Perception regarding the importance of insurance	Yes No Maybe	Nominal
Awareness of Perlindungan Tenang Voucher programme	Yes No	Nominal
Awareness of Insurtech	Yes No	Nominal

Source: Developed for this study

Meanwhile, Section B of the questionnaire mainly captured respondents' degree of interest in using insurtech (dependent variable), and the factors that influence respondents' acceptance of insurtech (independent variables). In order to create a useable and reliable scale that could match the conceptualized definitions in the present study, existing scales were scrutinized in selecting the items that best measure or represent the conceptual definitions of each construct. A five-point likert scale anchored from 1=strongly disagree to 5=strongly agree was used to measure all constructs. Table 3.3 lists the sources of measurement items, the operational definition of the constructs and the measurement scale of Section B.

Table 3.3: Research Instruments & Measurement Scale of Section B

Source(s)	Construct	Item	Operational Definition	Construct Measurement
Venkatesh et al. (2003)	Behavioural Intention	BI1	I intend to use insurtech in the future	Interval
		BI2	The value of insurtech will trigger me to use the insurtech	
		BI3	I predict I would use insurtech in the future.	
Venkatesh et al. (2003)	Performance Expectancy	PE1	Overall, Insurtech is very useful.	Interval
		PE2	Using Insurtech allows me to accomplish insurance-related matters such as purchasing, researching information, etc. more quickly.	
		PE3	Using Insurtech increases the productivity of insurance-related matters such as purchasing, researching information, etc. more quickly.	
		PE4	Using Insurtech improves my chances of achieving goals that are important to me	
Venkatesh et al. (2003)	Effort Expectancy	EE1	I would find Insurtech easy to use.	Interval
		EE2	I think I would learn to use Insurtech quickly.	
		EE3	My interaction with Insurtech would be clear and understandable.	
		EE4	It would be easy for me to become skilful at using Insurtech.	
Venkatesh et al. (2003)	Social Influence	SI1	People who are important to me think that I should use Insurtech.	Interval
		SI2	People whose opinions that I value prefer that I use Insurtech.	
		SI3	People in my environment think that I should use Insurtech.	
Venkatesh et al. (2003)	Facilitating Conditions	FC1	I have the resources necessary to use Insurtech.	Interval
		FC2	I have the knowledge necessary to use Insurtech.	
		FC3	Insurtech is compatible with other technologies I use.	
		FC4	I can get help from others when I have difficulties in using Insurtech	

Table 3.3: Research Instruments & Measurement Scale of Section B (Continued)

Source(s)	Construct	Item	Operational Definition	Construct Measurement
Yang & Lin (2017)	Convenience	CV1	Using insurtech is an efficient way at anytime and anyplace.	Interval
		CV2	Using Insurtech is convenient at anytime and anyplace.	
		CV3	Using Insurtech makes my life easier	
		CV4	Using Insurtech fits in with the pace of my life.	
Maduku (2014)	Trust	T1	I think insurtech has enough safeguards to make me feel comfortable using it.	Interval
		T2	I feel confident that technological advances in insurtech make it safe for me to use Insurtech.	
		T3	In general, Insurtech is safe for conducting any insurance-related activities.	
Wiegard et al. (2019).	Regulatory expectancy	RE1	I believe that the law should protect me from the disputes that arise with Insurtech companies.	Interval
		RE2	I believe that the law should govern and interpret the practice of how Insurtech companies collect, use, and protect my private information.	
		RE3	I believe that the law should be able to address violations or disputes by Insurtech companies.	

Source: Developed for this study

3.6 Data Processing

The raw data was extracted from the collected questionnaire responses, and further processed to generate meaningful information. The data processing procedures include four steps, namely the data screening, data coding, data transcribing and data cleaning.

Firstly, all the non-Malaysia Millennials' responses were excluded as they are not the target respondents of this study. On the cover page of the questionnaire, 2 screening questions were imposed to identify and ensure the respondents are Malaysian and Millennials. The response of 'No' implies that the particular response was not being answered by the target respondent in this study. Hence, it was excluded from the data set.

Once the non-Malaysian and non-Millennial responses were screened out, the remaining data were coded to ease and shorten the data transferring to the data analytics software. All the data were coded in Arabic number order ranging from 1 to 5. Table 3.4 lists the data coding.

Table 3.4: Coding for Collected Data

Question	Options	Coding
Gender	Male	1
	Female	2
Educational Level	Secondary School or Below STPM /	1
	UEC / Foundation / Certificate / Diploma	2
	Undergraduate	3
	Postgraduate	4
Income Level	B40 (RM4,849.00 or below)	1
	M40 (RM 4,850.00 - RM10,959.00)	2
	T20 (RM 10,960.00 or above)	3
Type of Insurance owned	Life & Health Insurance	1
	Non-Life Insurance	2
	Both	3
	I don't have any insurance	4
Intention to purchase insurance in future	Yes	1
	No	2
Insurance Literacy	Very Poor	1
	Poor	2
	Moderate	3
	Strong	4
	Very Strong	5
Need for further guidelines on insurance	Yes	1
	No	2
Perception regarding the importance of insurance	Yes	1
	No	2
	Maybe	3
Awareness of Perlindungan Tenang Voucher programme	Yes	1
	No	2
Awareness of Insurtech	Yes	1
	No	2
All questions in Section B (Total 30 questions)	Strongly Disagree	1
	Disagree	2
	So-so	3
	Agree	4
	Strongly Agree	5

Source: Developed for this study

The coded data were transcribed into the IBM SPSS 25 software for data cleaning purposes. The data cleaning process consists of the identification and removal of the missing data, followed by the identification and removal of the outliers. For the data cleaning procedure, any missing data were excluded by leveraging the IBM SPSS 25 software to sort out all the missing data. Subsequently, all the outliers that consist of extreme values of the variable were excluded as they will distort and mislead the interpretation of data. To determine the outlier, this study adopted the univariate outlier that is calculated based on Z-Score and the multivariate outlier that is calculated based on Mahalanobis distance. Table 3.5 summarises the guideline and rules of thumb for the outlier determination.

Table 3.5: Rule of Thumb for Outlier Determination

Assessment	Criterion	Threshold/Guideline for Outlier Determination
Univariate Outlier	Z-Score	If Z-score value is greater than 3 or less than -3
Multivariate Outlier	Mahalanobis distance	If Mahalanobis-probability value is less than 0.001

Source: Loh (2020)

3.7 Data Analytics Techniques

A pilot study was conducted prior to the actual distributions of the finalised survey questionnaire. The pilot test is essential in discovering any potential mistakes in the questionnaire, and ensuring the questions are understandable and clear for respondents. Once the pilot test was conducted and all the possible issues have been resolved, the finalised survey questionnaire was distributed, and descriptive and inferential analyses were conducted based on the collected responses. The following subsections mainly outline the data analysis techniques for the pilot study, descriptive and inferential analysis.

3.7.1 Pilot Test

The survey questionnaire was distributed to 20 male and 20 female respondents. The feedbacks from the respondents were taken into

consideration to revise and enhance the questionnaire. Also, the Conbranch Alpha was used to assess the reliability of the questionnaire. The threshold of ≥0.6 was applied; a measurement item will be determined as low reliability if the value is less than 0.6 (Loh, 2020). This allows the researcher to discover if any measurement item(s) should be removed due to low reliability.

3.7.2 Descriptive Study

The descriptive analysis was conducted to illustrate and describe the demographical information of the respondents, their insurance and insurtech awareness, as well as their insurtech acceptance. These information was recorded and presented in a table with the frequency and the percentage of the respondents. Besides, the cross-tabulation was included to identify the relationship between the respondents' perceived insurance literacy rate and insurtech awareness, insurance literacy and requirement for further guidance on insurance, as well as respondents' income level & awareness of government programs. The Statistical Package for Social Science (SPSS) and Microsoft Excel were used in analysing the descriptive data.

3.7.3 Inferential Analysis

Structural Equation Modelling (SEM) was selected for the inferential analysis with the following rationales. SEM is a multivariate analytical approach that simultaneously tests the complex relationship among variables. SEM enable the analysis of all structural relationships simultaneously, rather than the traditional approach such as Multiple Linear Regression (MLR) which evaluates the structural relationship by path analysis separately (examining each path separately). Indeed, the Partial Least Square SEM (PLS-SEM), one of the 'SEM family members' was chosen in this study. As supported by Hair et al. (2011), the PLS-SEM is a more suitable method if the research is an extension of an existing theory. Concerning this, one of the research objectives of this study is to enhance the applicability of the UTAUT model.

Notably, the PLS-SEM consists of a two-stage analytical procedure, namely the measurement model assessment, followed by the structural model. SmartPLS version 3 was selected for conducting the PLS-SEM analysis.

To assess the measurement model, the internal consistency reliability, indicator reliability, convergent validity, and discriminant validity were examined (Hair et al., 2017). In PLS-SEM, the internal consistency reliability is measured by the composite reliability instead of Conbranch Alpha (Hair et al., 2017). Unlike Conbranch Alpha which assumes all measurement items are equally weighted, composite reliability takes into consideration the different outer loadings of the measurement items (Hair et al., 2017). Subsequently, the indicator reliability is measured by the outer loadings; the convergent validity is measured by the Average Variance Extracted (AVE), and the discriminant validity is measured by the heterotrait-monotrait (HTMT) ratios (Hair et al., 2017). Table 3.6 summarises the guideline and rules of thumb for the measurement model assessment.

Table 3.6: Rule of Thumb for Measurement Model Assessment

Assessment	Criterion	Threshold/Guideline
Internal Consistency Reliability	Composite Reliability	≥0.7
Indicator Reliability	Outer Loadings	≥0.7, remain ≥0.4 but <0.7, if the deletion will not increase the measure threshold, the indicator should be retained, vice versa <0.4, remove
Convergent Validity	AVE	≥0.5
Discriminant Validity	HTMT	<0.9

Source: Hair et al. (2017)

For the assessment of the structural model, the collinearity assessment, path coefficient and the coefficient of the determinant were tested. Firstly, the collinearity assessment is measured by Variance Inflated Factors (VIF) to identify if there is any collinearity issue (Hair et al., 2017). Subsequently, the significance of path coefficients is measured by the p-value to identify the relationship between the exogenous variable and the endogenous variable.

Furthermore, the model predictive power is measured by the Coefficient of Determination (R^2) to identify the percentage of the variance of the endogenous variable explained by the exogenous variable of the model (Hair et al., 2017). Table 3.7 summarises the guideline and rules of thumb for the structural model assessment.

Table 3.7: Rule of Thumb for Structural Model Assessment

Assessment	Criterion	Threshold/Guideline
Collinearity Assessment	VIF	<5
Significance of Relationship	Significance of Path Coefficients	p-value at significant (at least 0.05)
Model Explanatory Power	Coefficient of Determination (R^2)	0.670 – substantial 0.333 – moderate 0.190 – weak

Sources: Hair et al. (2017); Chin (1998)

3.8 Chapter Summary

Grounded on the research onion, this chapter has covered the methodology that was applied in this study, that was, positivism research philosophy, deductive approach to theory development, a combination of descriptive research, exploratory research and explanatory research, mono-method quantitative method, survey strategy and cross-sectional time horizon. This chapter has also justified the sampling design and technique, namely Malaysian Millennials as the target population, Malaysia as the sampling location, 379 ideal sample sizes calculated by the Cochran formula and non-probability convenient sampling technique. Also, this chapter has listed research instruments and constructs measurement that was adopted from the existing studies, the procedure of data processing which includes data screening, data coding, data transcribing and data cleaning. Furthermore, this chapter has also justified the approach for conducting pilot study, descriptive study and PLS-SEM by using Microsoft Excel, IBM SPSS and SmartPLS 3.0.

CHAPTER 4: RESULTS & FINDINGS

4.1 Introduction

This chapter mainly presents the results of the data analysis based on the methodology chartered in Chapter 3, begins from the results of the pilot test, the results of actual survey responses which comprises the outlier determination, the descriptive analysis as well as the inferential analyses.

4.2 Reliability Test for Pilot Study

40 respondents were gathered for the pilot test study. Among the responses received, there are 20 male and female respondents respectively. As shown in Table 4.1, the result of the reliability test indicated that the measurement items are reliable.

Table 4.1: Reliability Test for Pilot Study

Constructs	Conbranch Alpha	Threshold
Behavioural Intention	0.738	
Performance Expectancy	0.786	
Effort Expectancy	0.797	
Social Influence	0.793	Conbranch Alpha
Facilitating Conditions	0.861	shall >0.6
Convenience	0.804	
Trust	0.619	
Regulatory Expectancy	0.873	

Source: Developed for this study

4.3 Data Screening

A total of 457 responses were collected and transferred into the data coding process. At first, 3 non-Malaysian respondents were identified and removed from the dataset. Subsequently, 2 univariate outliers and 35 multivariate outliers were detected and withdrawn from the dataset. Eventually, 417 usable data remained in the dataset and were processed for descriptive analysis and inferential analysis.

4.4 Descriptive Analysis

The following subsection mainly analyses the demographic profile of respondents as well as their insurance and insurtech awareness.

4.4.1 Basic Demographic Profile of Respondents

Table 4.2 illustrates the general demographic profile of the respondents, which includes gender, educational level as well as income level.

Table 4.2: Respondents' Demographic Profile

Participants' Demographic Characteristic		Frequency	Percentage
Gender	Male	213	51.08%
	Female	204	48.92%
Educational Level	Secondary School or Below	32	7.67%
	STPM/UEC/Foundation/Certificate/Diploma	104	24.94%
	Undergraduate	265	63.55%
	Postgraduate	16	3.84%
Income Level	B40 (RM4,849.00 or below)	361	86.57%
	M40 (RM 4,850.00 - RM10,959.00)	45	10.79%
	T20 (RM 10,960.00 or above)	11	2.64%

Source: Developed for this study

The ratio between male and female respondents is highly symmetrical, 213 respondents (51.08%) are male and 204 respondents (48.92%) are female. This minimises bias for the identification of the gender moderating effect.

For the educational level, 32 respondents (7.67%) achieved secondary school or lower. Meanwhile, 104 respondents (24.94) hold STPM, UEC, Foundation, Certificate or Diploma. Furthermore, 265 respondents (63.55%) at least pursued an undergraduate degree. Lastly, only 16 respondents (3.84%) achieved postgraduate study.

In terms of income level, 361 respondents (86.57%) belonged to B40; 45 respondents (10.79%) belonged to M40, and 11 respondents (2.64%) belonged to T20.

4.4.2 Insurance Awareness

Table 4.3 mainly presents the insurance awareness of respondents.

Table 4.3: Respondents' Insurance Awareness

Participants' Insurance Awareness		Frequency	Percentage
Type of Insurance owned	Life & Health Insurance	234	56.12%
	Non-Life Insurance	42	10.07%
	Both	55	13.19%
	I don't have any insurance	86	20.62%
Intention to purchase insurance in future	Yes	327	78.42%
	No	90	21.58%
Insurance Literacy	Very Weak	39	9.35%
	Weak	90	21.58%
	So-so	176	42.21%
	Strong	85	20.38%
	Very Strong	27	6.47%
Need for further guidelines on insurance	Yes	331	79.38%
	No	86	20.62%
Importance of insurance	Yes	339	81.29%
	No	3	0.72%
	Maybe	75	17.99%
Awareness of Perlindungan Tenang Voucher Programme	Yes	91	21.82%
	No	326	78.18%

Source: Developed for this study

Among 417 respondents, 234 respondents (56.12%) owned life and health insurance, whereas 42 respondents (10.07%) owned non-life insurance. Meanwhile, 55 respondents (13.19%) owned both, and only 86 respondents (20.62%) did not own any insurance. Notably, 327 respondents (78.42%) intend to purchase insurance in future. In contrast, only 90 respondents (21.58%) did not have the intention to purchase insurance in future.

With regard to the perceived insurance literacy, 176 respondents (42.21%) perceived themselves as having a moderate insurance literacy. Only a relatively small portion of respondents rated their insurance literacy rate as 'very weak' or 'very strong', which consisted of 39 respondents (9.35%) and 27 respondents (6.47%) respectively. Meanwhile, 90 respondents (21.58%) perceived their insurance literacy as weak, and 85 respondents (20.38%)

perceived their insurance literacy as strong. Furthermore, more than half of the respondents demanded further guidance on insurance. 331 respondents (79.38%) claimed that they need more information about insurance, whereas only 86 respondents (20.62%) believed that they do not need it. Notably, 339 (81.29%) of respondents placed a high value on the importance of insurance. Only 3 respondents (0.72%) did not appraise the importance of insurance. Meanwhile, 75 respondents (17.99%) respondents did not have any idea about the importance of insurance.

Almost four-fifths of respondents did not aware of the Government's Perlindungan Tenang Voucher (PTV) programme. As indicated, only 91 respondents (21.82%) acknowledged the programme, whereas 326 respondents (78.18%) did not realise it.

4.4.3 Insurtech Awareness & Acceptance

Table 4.4 mainly presents the insurtech awareness and insurtech acceptance of respondents.

Table 4.4: Respondents' Insurtech Awareness & Acceptance

Participants' Insurtech Awareness & Insurtech Acceptance		Frequency	Percentage
Awareness of Insurtech	Yes	85	20.38%
	No	332	79.62%
Intention to Use Insurtech	Strongly Disagree	0	0%
	Disagree	32	7.67%
	Neither Agree nor Disagree	140	33.57%
	Agree	185	44.37%
	Strongly Agree	60	14.39%

Source: Developed for this study

Based on the findings, most respondents did not hear of the concept of insurtech, 332 respondents (79.62%) alleged that they have not noticed insurtech before. Whereas a minor portion of respondents has insurtech awareness; 85 of them (20.38%) alleged that they heard or acknowledged insurtech before. On the other hand, for insurtech acceptance, 60 respondents

(14.39%) expressed a strong interest to embrace insurtech, followed by 185 respondents (44.37%) who expressed interest to use insurtech, 140 respondents (33.57%) who held a fencing attitude, and 32 respondents (7.67%) who demonstrated a negative perception toward insurtech. Notably, none of any respondents demonstrates an extremely negative attitude toward insurtech.

4.4.4 Cross Tabulations

Table 4.5 reflects the correlation between respondents' perceived insurance literacy rate and their awareness of insurtech. As indicated, most respondents did not hear of insurtech. Those respondents who deemed themselves to have a moderate or relatively lower insurance literacy rate were unaware of insurtech. This was the foreseeable outcome. Ironically, more than half of respondents who rated themselves as having high insurance literacy did not realise insurtech before (those respondents who rated their insurance literacy as 'strong' or 'very strong').

Table 4.5: Perceived Insurance Literacy Rate & Awareness of Insurtech

		Awareness of Insurtech		Total	Percentage
		Yes	No		
Insurance Literacy	Very Weak	2	37	39	9.35%
	Weak	11	79	90	21.58%
	So-so	36	140	176	42.21%
	Strong	23	62	85	20.38%
	Very Strong	13	14	27	6.47%
Total		85	332	417	100%
Percentage		20.38%	79.62%	100%	

Source: Developed for this study

Table 4.6 reflects the correlation between respondents' perceived insurance literacy and their requirement for further insurance guidance. Notably, most of the respondents deemed that their insurance literacy rate is at a moderate level; among these respondents, more than half demanded more guidelines or guidance about insurance. In-depth, most respondents (79.38%) required further guidelines on insurance regardless of the insurance literacy rate.

Table 4.6: Insurance Literacy & Further Guidance of Insurance

		Need for Guidance of Insurance		Total	Percentage
		Yes	No		
Insurance Literacy	Very Weak	32	7	39	9.35%
	Weak	82	8	90	21.58%
	So-so	142	34	176	42.21%
	Strong	57	28	85	20.38%
	Very Strong	18	9	27	6.47%
Total		331	86	417	100%
Percentage		79.38%	20.62%	100%	

Source: Developed for this study

Table 4.7 reflects the correlation between respondents' income level and their awareness of the Perlindungan Tenang Voucher programme. As indicated, 285 out of 361 (78.95%) B40 respondents did not aware of the abovementioned programme. Only 76 out of 361 (21.05%) B40 respondents noticed the abovementioned programme. Meanwhile, the same circumstance occurred in both M40 and T20 respondents, most of them did not realise the programme before. This has possessed a huge challenge in encouraging and promoting insurance coverage.

Table 4.7: Income Level & Awareness of Government Program

		Awareness of Government Program		Total	Percentage
		Yes	No		
Income Level	B40	76	285	361	86.57%
	M40	11	34	45	10.79%
	T20	4	7	11	2.64%
Total		91	326	417	100%
Percentage		21.82%	78.18%	100%	

Source: Developed for this study

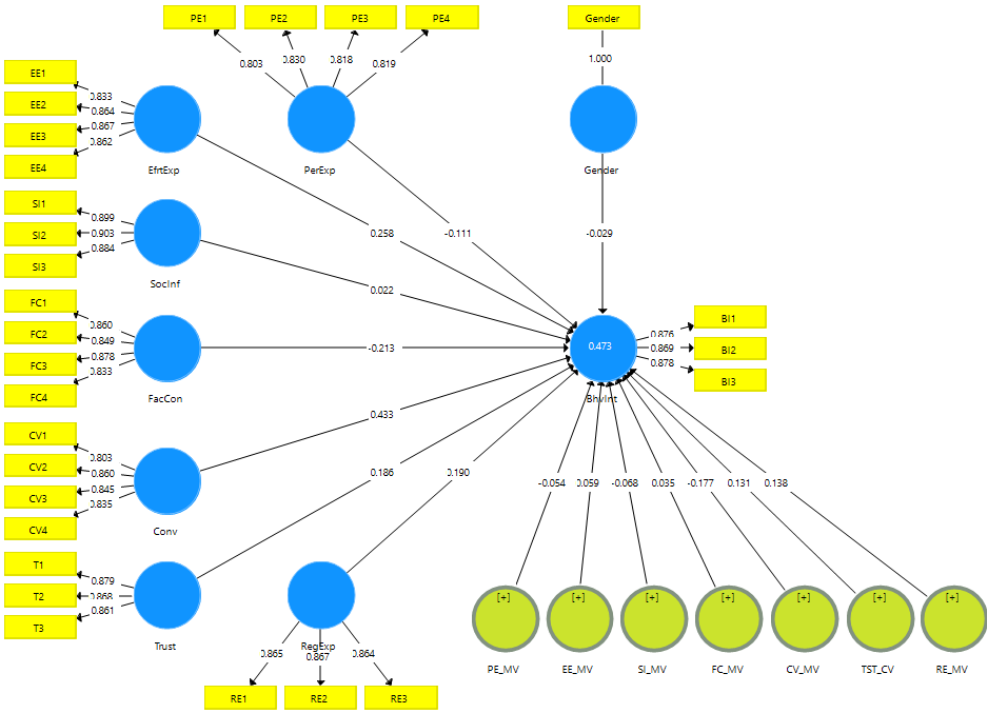
4.5 Partial Least Square Structural Equation Modelling

As mentioned in Chapter 3, the present study adopted the two-stage approach for PLS-SEM, namely the measurement model assessment and structural model assessment. The following subsections mainly present the results of the measurement model and the structural model.

4.5.1 Measurement Model

To assess the measurement model, internal consistency reliability, indicator reliability, convergence validity and discriminant validity were evaluated. Figure 4.1 shows the path model of the measurement model.

Figure 4.1: Measurement Model



Source: Developed for this study

Table 4.8 lists the assessment of the internal consistency reliability (measured by composite reliability), indicator reliability (measured by outer loadings) and convergent validity (measured by AVE). Based on the findings, internal consistency reliability is ascertained as all constructs' composite reliability scored above the threshold of 0.7. Besides, indicator reliability is adequate as all indicators' outer loadings scored higher than the threshold of 0.708. Meanwhile, convergence validity is affirmed as all values of AVE exceeded the threshold of 0.5.

Table 4.8: Outer Loadings, AVE & Composite Reliability

Construct Measurement	Items	Outer Loading	Composite Reliability	AVE
Behavioural Intention (BI)	BI1	0.87	0.904	0.759
	BI2	0.869		
	BI3	0.875		

Table 4.8: Outer Loadings, AVE & Composite Reliability (Continued)

Construct Measurement	Items	Outer Loading	Composite Reliability	AVE
Performance Expectancy (PE)	PE1	0.796	0.886	0.66
	PE2	0.828		
	PE3	0.809		
	PE4	0.815		
Effort Expectancy (EE)	EE1	0.833	0.918	0.736
	EE2	0.864		
	EE3	0.869		
	EE4	0.865		
Social Influence	SI1	0.892	0.921	0.795
	SI2	0.905		
	SI3	0.877		
Facilitating Conditions (FC)	FC1	0.855	0.915	0.73
	FC2	0.849		
	FC3	0.874		
	FC4	0.839		
Convenience (CV)	CV1	0.802	0.902	0.697
	CV2	0.859		
	CV3	0.84		
	CV4	0.837		
Trust (TST)	TST1	0.878	0.903	0.756
	TST2	0.873		
	TST3	0.857		
Regulatory Expectancy (RE)	RE1	0.862	0.899	0.748
	RE2	0.867		
	RE3	0.866		

Source: Developed for this study

Table 4.9 lists the discriminant validity (measured by HTMT ratio) of the study. As indicated, discriminant validity is ascertained in the present study as the HTMT ratios of correlations were lower than the recommended threshold level of 0.9.

Table 4.9: HTMT Ratio

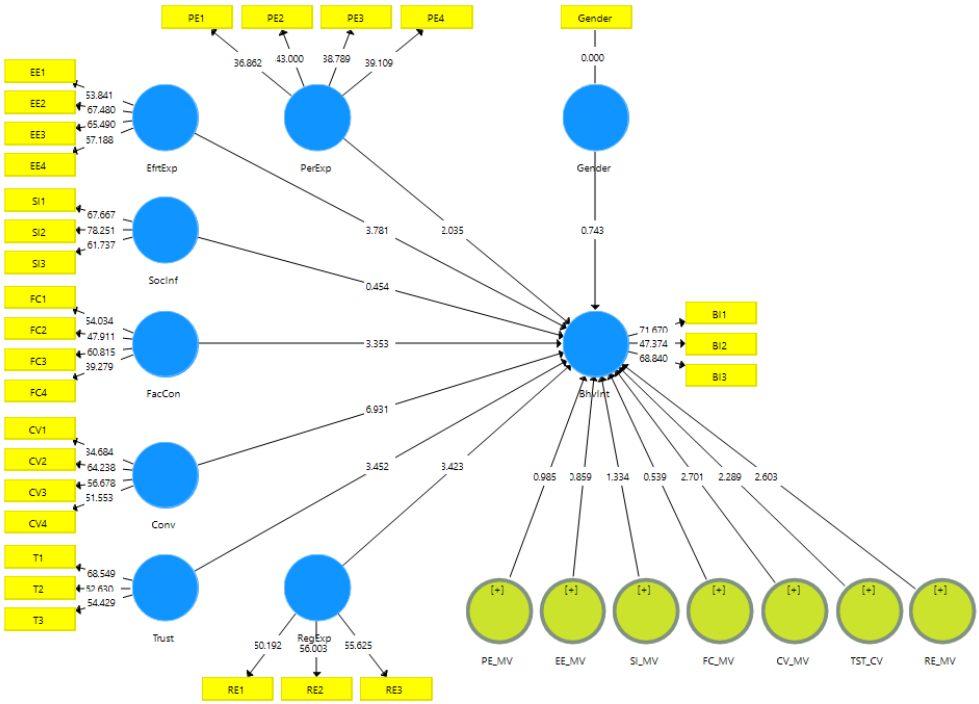
	1	2	3	4	5	6	7	8
BI								
CV	0.68							
EE	0.569	0.679						
FC	0.4	0.787	0.699					
PE	0.51	0.686	0.615	0.545				
RE	0.542	0.468	0.526	0.295	0.725			
SI	0.4	0.525	0.488	0.542	0.685	0.519		
TST	0.566	0.764	0.469	0.626	0.735	0.472	0.606	

Source: Developed for this study

4.5.2 Structural Model

To assess the structural model, collinearity assessment, path coefficient and coefficient of the determinant were evaluated. Figure 4.2 shows the path model of the structural model.

Figure 4.2: Structural Model



Source: Developed for this study

Table 4.10 lists the results for the structural assessment and the results for H1 to H8g. For the assessment of collinearity, the VIF value of each item should be lower than 5. The results suggest that there are no collinearity issues occur. Besides, R^2 indicates the percentage of the variance of the construct in a model. R^2 that was generated for the tested model is 0.473. The result almost reached the threshold of 0.5 for the substantial explanatory power. Therefore, the result suggests that the model has a moderate explanation power.

The result of the structural model supported H1, H2, H4, H5, H6, H7, suggesting that the performance expectancy, effort expectancy, facilitating conditions, convenience, trust and regulatory expectancy significantly influence the behavioural intention to use insurtech. The results indicate that convenience (β=0.433, $p<0.001$) is the strongest predictor of insurtech

acceptance, followed by effort expectancy (β=0.256, p<0.001), facilitating conditions (β=0.209, p<0.001), trust (β=0.188, p<0.05), regulatory expectancy (β=0.184, p<0.001) and performance expectancy (β= 0.108, p<0.05). Meanwhile, H3 is not supported (β= 0.206, p>0.05), indicating that social influence has no impact on behavioural intention of using insurtech.

Furthermore, the results did not support H8a, H8b, H8c and H8d, reflecting that gender has no moderating effect between insurtech acceptance and the performance expectancy, effort expectancy, social influence, as well as facilitating conditions. However, H8e, H8f and H8g were supported, indicating that gender moderated the relationship between convenience and insurtech acceptance (β=0.173, p<0.05), regulatory expectancy and insurtech acceptance (β=0.138, p<0.05), as well as trust and insurtech acceptance (β=0.129, p<0.05).

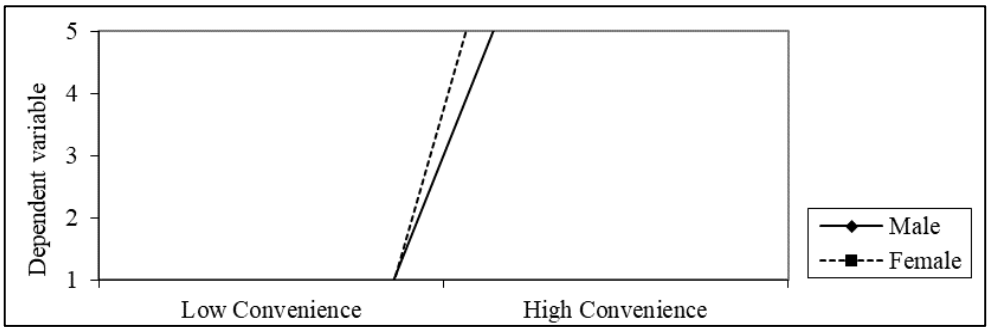
Table 4.10 Result of PLS-SEM for H1 to H8g

Relationship		β	t-value	p-value	VIF	Result
H1:	PE → BI	0.108	2.025	0.022	2.558	Significant
H2:	EE → BI	0.256	3.871	0.000	2.086	Significant
H3:	SI → BI	0.026	0.447	0.327	1.757	Not Significant
H4:	FC → BI	0.209	3.440	0.000	2.465	Significant
H5:	CV → BI	0.433	6.915	0.000	2.677	Significant
H6:	TST → BI	0.188	3.297	0.001	2.206	Significant
H7:	RE → BI	0.184	3.591	0.000	1.802	Significant
H8a:	PE → Gender → BI	0.054	0.996	0.16	2.54	Not Significant
H8b:	EE → Gender → BI	0.062	0.88	0.189	2.064	Not Significant
H8c:	SI → Gender → BI	0.069	1.409	0.08	1.742	Not Significant
H8d:	FC → Gender → BI	0.029	0.531	0.298	2.411	Not Significant
H8e:	CV → Gender → BI	0.173	2.82	0.002	2.639	Significant
H8f:	TST → Gender → BI	0.129	2.345	0.01	2.189	Significant
H8g:	RE → Gender → BI	0.138	2.6	0.005	1.801	Significant

Source: Developed for this study

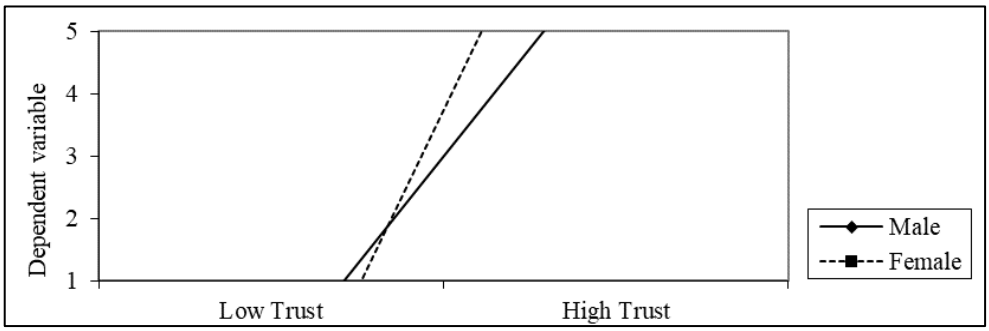
To further elaborate on the significant findings of H8e, H8f and H8g, the interaction plots illustrated in Figure 4.3, Figure 4.4 and Figure 4.5 indicate that the lines labelled 'female' have a steeper gradient than the lines labelled 'male'. Hence, the results signify that females are more concerned with convenience, trust and regulatory expectancy than males in insurtech acceptance.

Figure 4.3: Interaction Plot Effect - Convenience



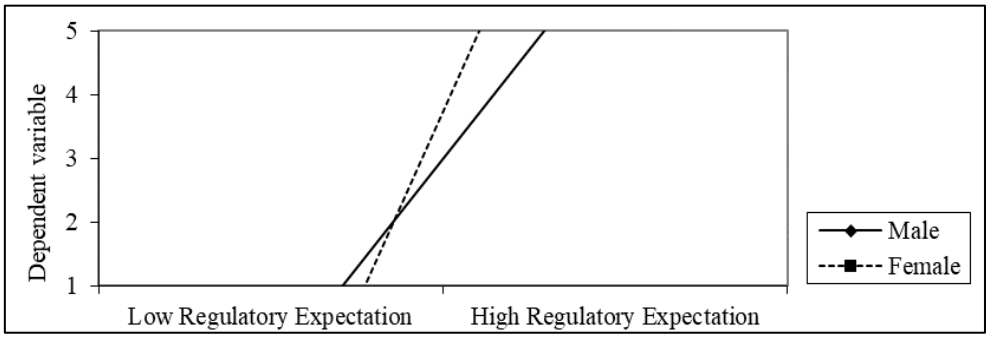
Source: Developed for this study

Figure 4.4: Interaction Plot Effect - Trust



Source: Developed for this study

Figure 4.5: Interaction Plot Effect – Regulatory Expectancy



Source: Developed for this study

4.6 Chapter Summary

This chapter has presented the results based on the data analysis that was conducted. The result of the pilot test asserted the reliability of the survey questionnaire as the Conbranch Alpha exceeded the threshold of 0.6. After eliminating the unusable data,

417 usable data were retained and used for the descriptive and inferential analysis. Overall, the insurance literacy rate of respondents was at a relatively moderate level, and most respondents did not aware of the insurtech. Also, the crosstabulation was performed for the identification of the statistical independence between 2 variables. By conducting the PLS-SEM, the measurement model and structural model were assessed. The results of the measurement model asserted reliability and validity. In addition, the results of the structural model indicated that H3, H8a, H8b, H8c and H8d were not supported.

CHAPTER 5: DISCUSSION & CONCLUSION

5.1 Introduction

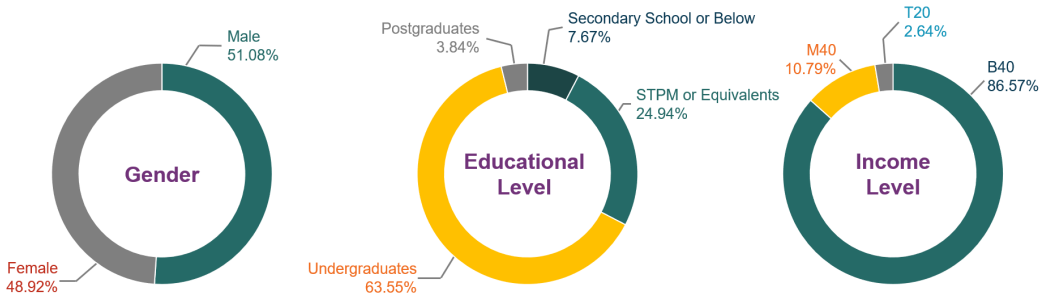
This chapter comprises the discussions on findings that were chartered in Chapter 4 to address the research questions and objectives, the implications of the present study, the limitations of the present study, the recommendation for future studies as well as the conclusion.

5.2 Discussion on 1st Research Objective

The first objective of this study is to determine Malaysian Millennials' perceptions toward insurance and insurtech. To achieve this objective, a survey questionnaire was distributed to capture the abovementioned information.

The following paragraph mainly discusses the information gathered with regard to the basic demographic profile of Malaysian Millennials. Respondents' gender, educational level and income level were captured and presented in Figure 5.1.

Figure 5.1: Respondents' Demographic Profile



Source: Developed for this study

Among 417 respondents, 51.08% of respondents were male and 48.92% of respondents were female. Notably, most respondents had at least achieved undergraduate study, implying that most Malaysian Millennials were highly educated. Only 7.67% of respondents achieved secondary school or lower; 24.94%

of respondents hold STPM, UEC, Foundation, Certificate or Diploma; 63.55% of respondents achieved undergraduate study, and 3.84% of respondents achieved postgraduate study. On the other hand, the income level, most respondents belonged to the B40 category, accounting for 86.57% of the total respondents, followed by the M40 category, accounting for 10.79% of the total respondents, and also the T20 category, accounting for only 2.64% of the total respondents.

The following paragraph mainly discusses the insurance awareness of Malaysian Millennials. Figure 5.2 illustrates the respondents' insurance awareness, which captured their insurance ownership, insurance purchase intention, perceived importance of insurance, perceived insurance literacy, needs for further guidance on insurance and awareness of the PTV programme.

Figure 5.2: Respondents' Insurance Awareness

Source: Developed for this study

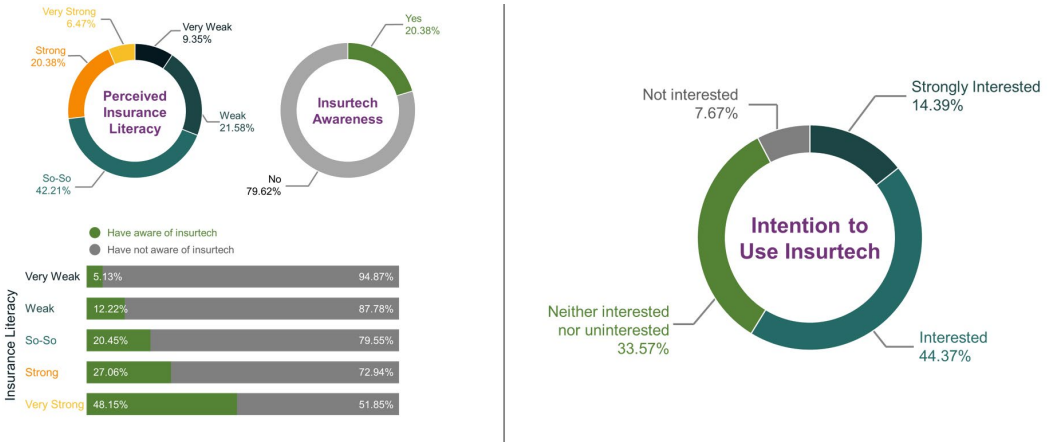
Most respondents had high insurance awareness, and this is reflected by high insurance ownership, high insurance purchase intention and a high portion of respondents who acknowledge the importance of insurance. Most respondents owned at least 1 insurance; 66.19% of respondents owned either life and health insurance or non-life insurance. However, only a minor portion of respondents owned both; accounting for 13.19% of total respondents. The portion of respondents who did not own any insurance is higher than those who owned both insurance, accounting for 20.62% of total respondents. Furthermore, 78.42% of respondents intended to purchase insurance in future whereas only 21.58% of respondents had no intention. Also, 81.29% of respondents acknowledged the importance of insurance whereas only 0.72% of respondents did not, and 17.99% of respondents had no idea about it.

Despite most respondents having high insurance awareness; they were unaware of the government incentives and promotion programmes that aimed to promote insurance coverage. 78.18% of respondents did aware of the government PTV programme, regardless of the respondents' income level. In-depth, more than 60% of respondents from each income level were unaware of the abovementioned programme. Ironically, the proportion of respondents who were unaware of the programme relative to those who were aware is highest among B40 respondents.

Concerning insurance literacy, respondents who perceived their insurance literacy at a moderate level are the largest portion, accounting for 42.21% of the total respondents. Notably, the proportion of respondents who deemed themselves to have a low insurance literacy was higher than those who deemed themselves to have a high insurance literacy rate, representing 30.93% and 26.85% of the total respondents respectively. On the other hand, for the requirement for further guidance on insurance, it is remarkable that the higher the perceived insurance literacy, the lower the needs for further guidance on insurance. However, the portion of those who required further guidance is higher than those who did not require it. Therefore, it is concluded that most respondents still require further guidance on insurance regardless of their insurance literacy.

The following paragraph mainly outlines the insurtech awareness and insurtech acceptance among Malaysian Millennials. Figure 5.3 illustrates the respondents' insurtech awareness and acceptance.

Figure 5.3: Respondents' Insurtech Awareness & Acceptance



Source: Developed for this study

The results from the figure above signify that the awareness of insurtech is low, regardless of their insurance literacy. Although the higher the perceived insurance literacy, the higher the awareness of respondents toward insurtech; the overall portion of those who did not aware of insurtech was higher than those who were aware. Most respondents demonstrated a positive attitude and strong interest in insurtech. They are willing to explore and have an intention to use insurtech. In-depth, there are 44.37% of respondents expressed their interest in using insurtech, and 14.39% of respondents demonstrated a strong interest in insurtech. Only a small portion of respondents expressed a negative attitude toward insurtech, accounting for 7.67% of the total respondents. Remarkably, none of any respondents demonstrated a strongly negative attitude. However, some respondents still hold a fencing and passive attitude toward insurtech, accounting for 33.57% of the total respondents.

In short, the findings indicate that most Malaysian Millennials have a high insurance awareness; they recognised the importance of insurance. However, most of them rated their insurance literacy as moderate level or below, and they demanded more guidance on insurance. Also, most of them have low awareness of the government

incentives and the insurtech. Remarkably, most respondents demonstrated a strong interest in exploring and using insurtech, despite some respondents having a fencing attitude, and only a minor portion of respondents were not interested at all.

5.3 Discussion on 2nd Research Objective

The second objective of this study is to enhance the applicability of the UTAUT model in the insurtech acceptance context. To achieve this objective, the modified research framework was proposed and further validated by using the PLS-SEM.

Based on the literature review in Chapter 2, three variables, namely convenience, trust and regulatory expectancy were incorporated into the UTAUT model. Meanwhile, four irrelevant variables, namely experience, age, the voluntariness of use and actual usage were removed from the model. Moreover, the relationship between facilitating conditions and actual usage was altered since the actual usage construct has been eliminated. Facilitating conditions was posited to have impact on behavioural intention to use insurtech. Subsequently, a modified research framework was proposed and the analysis was conducted.

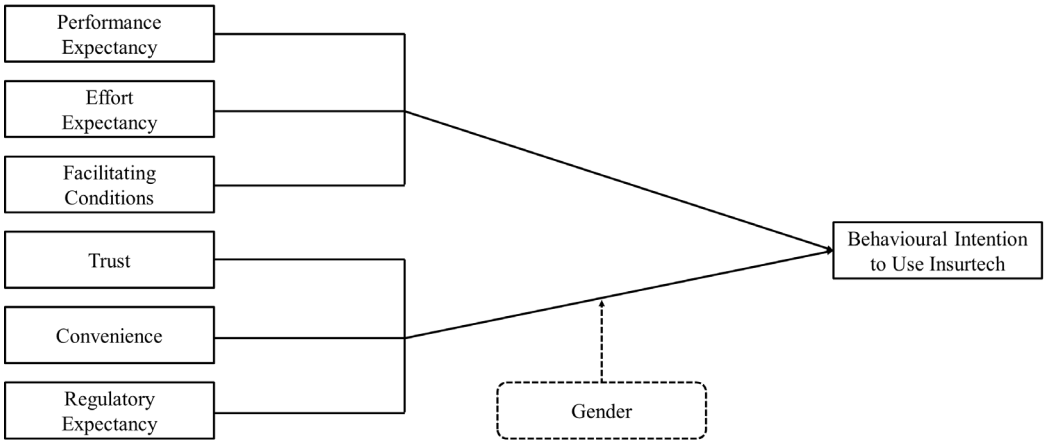
The results stated in Chapter 4 suggest that performance expectancy, effort expectancy, facilitating conditions, convenience, trust and regulatory expectancy are the significant predictor in influencing the behavioural intention of using insurtech. Gender will only moderate the relationship between convenience, trust, regulatory expectancy and behavioural intention.

Apart from that, social influence has no significant impact on affecting Malaysian Millennials to accept insurtech. This is inconsistent with the empirical studies, which found that social influence is important in influencing the users' intention to use insurance telematics (Milanovic et. al, 2020; Tian et al., 2020), as well as in the context of internet insurance (Wang & Wang, 2019). The result of the present study suggests that Malaysian Millennials emphasised convenience, easiness and usefulness of insurtech, trust, regulatory protection, and the resources that support

the use of insurtech over the influence of their social network. One of the possible explanations for this scenario is that the decision of using insurtech is largely driven by personal needs, instead of blindly following their family or peers' opinions. This is similar to the study by Teo et. al (2015), who alleged that the decision to use mobile payment is assertive by the privacy concern or other personal needs rather than the influence of their social network.

Descended from the abovementioned findings and discussions, an enhanced UTAUT model that aims to apply in the insurtech acceptance context was counselled, as listed in Figure 5.4.

Figure 5.4: Enhanced UTAUT Model in Insurtech Acceptance Context



Source: Developed for the study

5.4 Discussion on 3rd Research Objective

The third objective of this study is to investigate the antecedents that influence Malaysian Millennials' acceptance of insurtech. To achieve this objective, PLS-SEM was used to analyze the significant factors that influence insurtech acceptance. Corresponding to Section 5.3 and the results presented in Chapter 4, an enhanced UTAUT model in the context of insurtech acceptance was formulated, and the predictors chartered are proven to have a significant influence on Malaysian Millennials' insurtech acceptance. The following subsection mainly discuss these antecedents that trigger the Malaysian Millennials' acceptance of insurtech.

Convenience was found to be the most significant motivator that triggers the Malaysian Millennials' insurtech acceptance. The result of this study is compatible with the Global Consumers Study 2021-2022 conducted by ReMark (2021), which advocated that convenience is the strongest motivation for the Malaysian younger generation to use online insurance services. Likewise, this is in parallel with the study by Tian et al. (2020), which emphasized the role of convenience in insurance telematics to attract and retain young customers. Notably, Podlesny (2019) asserted that the younger generation expects outstanding convenience in their insurance experience; they are unwilling to invest effort heavily in searching for the most suitable insurance products as insurance has been regarded as a low engagement product. Instead, they expect the insurance offered will be tailored to their needs and could be purchased instantly (Podlesny, 2019). This scenario is particularly enlarged in the era of digitalisation, in which people are even less willing to engage in insurance specificity (Podlesny, 2019). These have reinforced the importance of convenience in influencing Malaysian Millennials' insurtech acceptance.

Effort expectancy was asserted to be the second important predictor of Malaysian Millennials' insurtech acceptance. Despite Millennials growing with various cutting edge technologies, they valued the effortless of learning the insurtech systems as one of the motivations for accepting insurtech. The result is inlined with the study of Gharakhani and Pourhashemi (2020) who found that perceived ease of use significantly influences the intention to use mobile insurance technology as well as the study by Jiang et al. (2019) who advocated that insurance customers will have a higher intention to purchase life insurance online only if they perceived that the procedure is not difficult and does not require high effort. However, the result is contradicted by the study of Rodríguez Cardona et al (2021) who claimed that the easiness has no impact on the intention to use insurance chatbots, as similar measurement items have been used to access perceived ease of use. In the present study, all the definitions of constructs are clearly distinguished. Based on the findings, the higher the perceived easiness of using insurtech, the more likely they will have the intention of using insurtech.

Compatible with the empirical studies, facilitating conditions was substantiated in the insurance context; indeed, the mobile-supported health insurance system

context (Ndifon et al., 2020) as well as car telematics insurance context (Milanovic et. al, 2020). Despite technological advancement and the explosive information available on the internet enabling them to explore a vast of information quickly and easily, most respondents expressed their urge to demand more guidance or resources in guiding them for insurtech usage. Perhaps this is due to the unfamiliarity and low confidence level in understanding and learning the use of insurtech well, as insurtech is something novel for most respondents, corresponding to their low awareness of insurtech.

Trust was justified as the fourth essential antecedent of Malaysian Millennials' insurtech acceptance. The finding is consistent with the research by Tian et al. (2020) in the insurance telematics context, the study by Jiang et al. (2019) in the context of online purchase insurance as well as the research by Rodríguez Cardona et al (2021) in the context of insurance chatbot. Most respondents did not aware of insurtech before, it is deemed as a relatively novel technology for them. With the uncertainties that arise, particularly in the virtual environment where both visual aspects and clarity of the tangible are absent, trust plays a crucial role in influencing and strengthening the users' confidence (Jiang et al., 2020; Alshehri, 2012). As such, the result signifies the importance of trust in influencing Malaysian Millennials' insurtech acceptance.

The result of this study suggests that regulatory expectancy plays a significant role in strengthening the confidence of Malaysian Millennials to accept insurtech. As supported by empirical studies, authorities have the influential power to strengthen the credibility and reliability of products or services, which increases the confidence of consumers (Hu et al., 2019; Zhu, 2009). Despite the authority has started to complement the laws and regulations in the insurtech field, Malaysian Millennials expect well-established legislation and regulations that could safeguard their interest from any dispute or misuse of their information. As such, the role of regulatory expectancy should not be neglected.

Despite performance expectancy being the least significant factor, the finding implies that the Millennials are pragmatism; they stressed the usefulness of insurtech. The result is tallied with the research by Ndifon et al. (2020) who found

that performance expectancy influenced behavioural intention to use the mobile-supported health insurance system, the study by Milanovic et. al (2020) who asserted that performance expectancy influenced behavioural intention to use telematics car insurance respectively, the investigation by Jiang et al. (2019) who demonstrated that customers are motivated to purchase life insurance online if they perceived higher productivity, effectiveness and usefulness, as well as the study by Rodríguez Cardona et al (2021) who affirmed the significance of usefulness in influencing the intention of using insurance chatbot. Indisputably, performance expectancy was proven as a significant predictor of insurtech acceptance as consumers are concerned with the practicability and usefulness of the insurtech.

The findings of the present study revealed that gender has no moderation effect on the factors extracted from the original UTAUT model. This is completely contradicted by the study by Venkatest et al. (2003) who formulated the UTAUT model. However, those additional factors introduced in the study, namely convenience, trust and regulatory expectancy were proven that females have a stronger impact than males. This might be explained from the findings by Cai, Fan, and Du (2017), who conducted a meta-analysis on gender and attitude toward technology. According to the study, males have a more favourable attitude toward technology use than females; however, such differences only account for a minor difference (Cai, Fan, & Du, 2017). Despite females' attitudes toward technology were slightly lower than males, they expressed a positive attitude instead of a negative one (Cai, Fan, & Du, 2017). With this argument, it is reasonable to assume that performance expectancy, effort expectancy and facilitating conditions have become a fundamental requirement by users in the technology acceptance context; therefore, these factors are equally important for both males and females. However, convenience is a matter for females as females generally have a less favourable attitude toward technology use than males. On the other hand, for trust and regulatory expectancy, the findings concur with the argument of Shao et al. (2019), who advocated that females tend to have greater anxiety when comes to a new and unfamiliar environment. Hence, they are concerned about security and privacy issues in the new technology environment (Shao et al., 2019).

5.5 Implications of Study

The present study investigated the Malaysian Millennials' insurance literacy, insurance and insurtech awareness, developed an enhanced UTAUT model that is specifically applied in the insurtech acceptance context as well as investigated the antecedents of Malaysian Millennials' insurtech acceptance. With this, numerous implications were contributed; primarily the theoretical implications and managerial implications. The following subsections mainly cover the implications of the present study.

5.5.1 Theoretical Implication

This study makes several considerable theoretical contributions to the extant literature and academicians in several ways.

First of all, the present study investigated and attempted to understand insurtech from a consumer's perspective. Insurtech has not been vastly explored among academicians, particularly in the context of users' acceptance. Indeed, most empirical studies were carried out from the perspective of industry players. These signify that there is a lack of insights and information concerning the consumers' perspective on insurtech. Therefore, the present study closed the literature and knowledge gaps by providing more insights with regard to insurtech awareness and acceptance. Notably, this study could be used as a reference for any future studies in a similar field.

Besides, the present study enhanced the applicability of the UTAUT model in the insurtech acceptance context. As recommended by Venkatesh et al. (2003), modification of the research model is necessary to strengthen its pertinence and appositeness. In the present study, the original UTAUT was modified by incorporating new constructs into the UTAUT model, eliminating the irrelevant variables from the original UTAUT model, altering the relationship between variables in the original UTAUT model and removing possible

irrelevant variables from the proposed UTAUT model. Based on the analysis, an enhanced UTAUT model that was specifically formulated for the insurtech acceptance context was proposed (as listed in Figure 5.1).

5.5.2 Managerial Implication

Despite the benefits and importance of insurtech that brought to the insurance industry, the development of insurtech in Malaysia is still lagged, and there is a lack of innovative solutions as compared to the global rapid pace. One significant reason is the passive attitudes of incumbents as they were unsure of consumers' acceptance of insurtech. Also, research in this field is relatively scarce. Therefore, the findings of this study enable the practitioners, policymakers and industry players to have a clearer idea and better understanding of the consumers' perception and acceptance of insurtech.

The findings of the present study affirmed that most Malaysian Millennials are keened and excited to explore more about insurance. However, they required more guidance and support. Hence, both authorities and industry players should facilitate more information and counsel on insurance, and minimise the complexity or barrier toward the understanding of insurance to enhance their insurance literacy. Perhaps they might leverage the power of social media, in view of its high penetration rate. In like manner, the aforementioned shall apply to the insurtech context. Most respondents expressed a strong interest to embrace insurtech. Mentionable, effort expectancy and facilitating conditions are the significant antecedents that influence their intention to use insurtech. Therefore, incumbents should treat this as an opportunity by leveraging various insurtech solutions to elevate their current insurance offerings and enhance the customers' satisfaction. Against these significant antecedents, the insurtech developers should reduce or minimise the learning cost of using insurtech by reducing the complexity of the insurtech system, as well as facilitating more support, resources and channels for inquiry.

One should not neglect the role of convenience as it is the most significant factor that motivates Malaysian Millennials to accept insurtech. Therefore, insurtech developers and insurance companies should emphasise the time and place flexibility to the potential insurtech users by enabling and incorporating 3 dimensions, namely portability, mobility as well as accessibility when using insurtech. Notably, there is an increasing trend of smartphone penetration over the past decade. As indicated in Statista, the Malaysian smartphone penetration rate in 2020 was recorded at 87.61%, and it is expected to grow continuously in the future (Muller, 2021). The high penetration rate of smartphones, mobile wallets and mobile banking has seen remarkable growth over the years (Malaysian Communications and Multimedia Commissions [MCMC], 2021; Bank Negara Malaysia, 2021). In fact, the smartphone completely fulfilled the criteria of portability, mobility as well as accessibility. Therefore, the insurtech developers may consider prioritising the development of insurtech features over smartphones channel to enhance the penetration rate.

Furthermore, the usefulness of insurtech is critical in influencing Malaysian Millennials' intention to use insurtech. However, the usefulness consists of multidimensional elements as each individual's perceived usefulness may vary. Therefore, insurtech's features and functions should allow users to accomplish insurance-related matters such as purchasing, researching information and so on more quickly in order to increase productivity. Concerning this, most well-known and mainstream applications including Grab, Touch n Go e-wallet, Maybank MAE and etc. have gradually expanded the functions of their applications by incorporating more features. For this reason, insurtech developers may consider adding more features that allow users to complete multiple tasks at once to accomplish insurance related activities such as requesting consultation (by using a chatbot), comparing different premiums, purchasing insurance, paying premiums and so on.

Moreover, facilitating and maintaining trust is challenging as it may be time-consuming. The financial industry has spent a long-time to repairing its reputation since the missteps of the 2008 financial crisis (Medcalf, 2021).

Indeed, accountability and creditability are critical as they will influence the reputation, which also directly influences trust. To enhance users' confidence, security and transparency should be taken into consideration by the practitioners, as transparency is fundamental to trust-building. Transparency in how users' confidential information is gathered, processed and protected by insurance companies is critical as it facilitates and enhances users' trust (PwC, 2022b; Tapestry Networks, 2019). Furthermore, the disclosure of the necessary information such as the insurance policies and terms or conditions is essential as it increases users' confidence in making the right decision. However, this is intercepting with effort expectancy in which the effort required should be reduced. Moreover, the security features and protection of private and confidential information should always be prioritised.

The results also signified that Malaysian Millennials expect that the legislation and regulations will safeguard their interest from any dispute or misuse of their information. Therefore, the authorities or policymakers should not underestimate their influence in promoting and encouraging the use of insurtech as they have exclusive power in policymaking. However, the complex laws and regulations of the insurance industry might demotivate incumbents to develop insurtech. Therefore, the authority should strive for an equilibrium point by closely cooperating with the industry players and understanding the consumers' concerns to establish the most appropriate regulatory framework that addresses all parties' interests. Not to mention, the existing regulations should be continuously enhanced. These initiatives could motivate the incumbents to invest in insurtech development, meanwhile strengthen users' confidence to accept insurtech.

Particularly, females have a higher concern with regard to convenience, trust and security issues. Hence, insurance companies should facilitate specific measures against female users. For instance, industry players should directly or impliedly convey these 3 dimensions when designing a marketing plan or prospectus that aims to attract female users.

5.6 Limitations of Study

Similar to other research and studies, numerous potential limitations of this dissertation should be taken into consideration.

Firstly, all data used for the present study were collected at a single point in time. However, technology acceptance is a dynamic phenomenon (Milanovic et al., 2020). Therefore, capturing and examining respondents' perceptions in different phases of adoption or in an evolutionary time will generate a higher insightful and meaningful result. In fact, this is the common pain point in the technology acceptance studies, as acknowledged by researchers such as Shaw & Kesharwani (2019) in the mobile payment context, Milanovic et al. (2020) in the context of insurance telematics, Gao et al. (2015) in the context of healthcare wearables.

Besides, the present study merely captured the acceptance of Malaysian Millennials in the context of insurtech; there is a lack of distinctions between these insurtech solutions. As defined in Chapter 2, insurtech is an umbrella term that refers to the adoption of various technologies that offer insurance industry-specific solutions, in which the solutions offered are not general solutions that could be widely applied across various industries. Indeed, insurtech consists of various applications such as smart contracts, comparison portals, usage-based insurance, P2P insurance and etc (as presented in Table 2.1). This scenario is similar to the study by Zhao & Bacao (2021) in the context of mobile payment, in which the researchers acknowledged the limitations of the unspecified distinction between the types of mobile payment (proximity mobile payment and remote mobile payment). Also, it is critical to acknowledge that the factors that influence the users' acceptance of different insurtech solutions might be different. For instance, price value might be applicable in explaining the users' intention to purchase usage-based insurance, but it might not apply in explaining the users' intention to use the insurance comparison portal since it is free.

Moreover, the present study did not account for the differences between conventional insurance and Islamic takaful. In view of the unique environment in

Malaysia, dual-financial systems that consist of the conventional financial system and the Islamic financial system are implemented, and they are governed by the Financial Services Acts 2013 and Islamic Financial Services Acts 2013 respectively. Although takaful is not a religious product and it is open to non-Muslims, Muslims are prohibited to purchase conventional insurance. However, the present study did not acknowledge the difference between insurance and takaful. In the survey, respondents were merely asked for insurance, and takaful was completely omitted in the survey.

Notably, this study did not compare the proposed UTAUT model with the original UTAUT model to identify which research model is preferable due to the complexity and time limits. Indeed, a comparison of both research models, with the use of the same research settings or designs in the same context, including sample size, timeframe, the same data analysis approach and etc. should be conducted in order to better identify a model which has a stronger explanatory power.

5.7 Recommendations

The following paragraphs propose a few recommendations for the direction of future studies against the limitations of the present study.

Recognising the dynamic phenomenon of various technology acceptance contexts, a longitudinal study should be undertaken for future studies in similar fields. This was inspired by researchers who encountered the same issues in various other technology acceptance contexts, such as Saunders et al. (2019), Shaw & Kesharwani (2019), Milanovic et al. (2020), Lee et al. (2015), Gao et al. (2015), etc. The longitudinal study refers to the research design that engages in the repeated observations of the same variables over a short or long period of time (Saunders et al., 2019). The core benefit of the longitudinal study is the ability to capture and study the change and development (Saunders et al., 2019). Adhering to the longitudinal study approach enables the researchers to yield a better result and generate more insightful findings as compared to the cross-sectional study.

Besides, it is suggessted that future studies should explore the users' acceptance in the context of various insurtech applications. As exemplified, the users' acceptance of the insurance smart contract, the users' acceptance of the P2P insurance, the users' acceptance of the usage-based insurance, and so forth. Notably, not all factors apply to the specified insurtech solutions, as chartered in Section 5.6. Therefore, exploring the specific insurtech solutions and investigating the factors against various specific insurtech solutions could generate more insightful findings.

Moreover, future studies should distinguish conventional insurance from takaful. Since Muslims are not allowed to purchase conventional insurance, the survey questionnaire should capture the religion of the respondents (at least classified them into Muslim and Non-Muslim). Notably, the issuance of the discussion paper concerning the licensing framework for the DITO by BNM has implied and signified the unique dual financial systems that consist of conventional finance and Islamic finance in Malaysia. For this reason, takaful should not be omitted and it should be taken into consideration in future research.

It is recommended that the verification of the preferable research model should be carried out by comparing both research models with the use of the same research settings or designs in the same context, including sample size, timeframe, the same data analysis approach, etc. This approach will generate a higher accuracy and enables direct comparison to select the most suitable research model that contributes to a higher explanatory power in explaining the acceptance of insurtech and the intention to use it.

5.8 Conclusion

The present study attempted to understand insurtech from Malaysian Millennials' perspective. Specifically, this study investigated the Malaysian Millennials' perceptions of insurance and insurtech, enhanced the UTAUT model in the insurtech context and identified the antecedents that influence Malaysian Millennials' insurtech acceptance grounded on the proposed framework.

To achieve these objectives, a comprehensive research proposal was chartered. Besides, a systematic literature review was conducted, and it covered all the major domains of the present study in Chapter 2. Subsequently, a comprehensive research methodology was outlined and justified in Chapter 3. Based on the defined methodology, the findings indicate that the Malaysian Millennials have a high insurance awareness, but low insurtech awareness. Mentionable, most of them expressed strong interest in embracing insurtech. Grounding on the modified and enhanced UTAUT model, it is asserted that performance expectancy, effort expectancy, facilitating conditions, convenience, trust and regulatory expectancy have significant impacts on insurtech acceptance. Other than that, the impact of convenience, trust and regulatory expectancy on insurtech acceptance are stronger among females. Based on these findings, an enhanced UTAUT model was formulated in explaining the Malaysian Millennials' insurtech acceptance context.

In short, the findings of this study have contributed some valuable insights and implications to the literature and practitioners toward the understanding of insurtech from Malaysian Millennials' perspective despite the presence of some limitations which could be enhanced in future studies.

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APPENDIX A: SURVEY QUESTIONNAIRE

Understanding of Insurance Technology from a Consumers Perspective: The Antecedents of Malaysian Millennial's Acceptance on Insu ech

Dear Sir/ Madam/ Miss,

I am Chang Yik Khoon, student from Universiti Tunku Abdul Rahman (UTAR) Sungai Long Campus majoring in Bachelor of International Business (Hons). I am currently conducting research in examining the factors affecting Malaysian Millennial's acceptance of Insurance Technology (Insurtech), and I would like to invite you to participate in this survey. Don't worry, the next section will briefly introduce what is insurance technology.

If you have any questions regarding the survey or this research project in general, please do not hesitate to contact us at jaydenchang0914@1utar.my. Please be assured that all information provided in this survey will be kept strictly confidential. Your participation is highly appreciated. Thank you for your time in completing this survey.

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*Required

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.

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:
a) Name
b) Identity card
c) Place of Birth
d) Address
e) Education History
f) Employment History
g) Medical History
h) Blood type
i) Race
j) Religion
k) Photo
l) Personal Information and Associated Research Data

2. The purposes for which your personal data may be used are inclusive but not limited to:
a) For assessment of any application to UTAR
b) For processing any benefits and services
c) For communication purposes
d) For advertorial and news
e) For general administration and record purposes
f) For enhancing the value of education
g) For educational and related purposes consequential to UTAR
h) For replying any responds to complaints and enquiries
i) For the purpose of our corporate governance
j) For the purposes of conducting research/ collaboration

3. 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.

4. 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.

5. 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:
6. By submitting or providing your personal data to UTAR, you had consented and agreed for your personal data to be used in accordance to the terms and conditions in the Notice and our relevant policy.

7. 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 fulfill 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.

8. You may access and update your personal data by writing to us at jaydenchang0914@1utar.my.

1. Acknowledge of Notice *

Mark only one oval.

- ◯ 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

2. What is your nationality? *

Mark only one oval.

- ◯ Malaysian
- ◯ Non-Malaysian

3. Were you born between the year of 1982 - 2004 (18-40 years old) *

Mark only one oval.

- ◯ Yes (Please proceed to the next section)
- ◯ No (You are not our targeted respondents, thank you for your participation)

What is Insurance Technology (Insurtech)?

Insurance technology (Insurtech) is the use of various technologies in providing insurance industry-specific solutions, in which the solutions offered is not a general solution that could be widely applied across various industries

Following are some examples of insurance technology (insurtech)

Comparison Portal

Compare different insurance products or insurance providers/companies via a single portal/website/platform

Smart Contract

Fully execution of insurance contracts delivered, which protect the consumers in eliminating breach of contract by the powerful parties or preventing the modification of contact that could disadvantage the weaker counterparties, and speed up the claim management process as some of the terms in the contract are automated

Usage-Based Insurance

Use the connected devices such as wearable or telematics to enable the insurance companies to collect data, in which the policies, claims and insurance rate are determined based on data collected and the prescribed criteria

Peer-to-Peer (P2P) Insurance

Construct private insurance pool that comprised of a group of individuals who have similar interest for a mutual insurance coverage

Robo Advisor

Provide automated advice to the customer without human interaction, which saved the time of reaching to an agent or advisor, and it allows the consultancy at any time and anywhere

Section A: Demographic Profile

In this section, we would like you to fill in some general information. Please tick for the most appropriate answer for each question, unless indicated otherwise. All answers will be kept strictly confidential.

4. What is your gender? *

Mark only one oval.

- ◯ Male
- ◯ Female

5. What is your highest educational level? *

Mark only one oval.

- ◯ Secondary School or Below
- ◯ STPM / UEC / Foundation / Certificate / Diploma
- ◯ Undergraduate
- ◯ Postgraduate

6. What is your income level *

Mark only one oval.

- ◯ B40 (RM4,849.00 or below)
- ◯ M40 (RM 4,850.00 - RM10,959.00)
- ◯ T20 (RM 10,960.00 or above)

7. What type of insurance(s) do you have? *

Mark only one oval.

- ◯ Life & Health Insurance
- ◯ Non-Life Insurance (such as car insurance, fire insurance)
- ◯ Both
- ◯ I don't have any insurance

8. Do you intend to purchase any insurance(s) in future? *

Mark only one oval.

- ◯ Yes
- ◯ No

9. How would you rate your insurance literacy (knowledge on insurance)? *

Mark only one oval.

	1	2	3	4	5	
Very Poor	◯	◯	◯	◯	◯	Very Strong

10. Do u need more guideline or education on insurance? *

Mark only one oval.

- ◯ Yes
- ◯ No

11. Do you think insurance is important? *

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

12. Have you aware of the Perlindungan Tenang Voucher (PTV) programme that offers an RM50 voucher subsidy to purchase a Perlindungan Tenang protection plan ? *

Mark only one oval.

- ◯ Yes
- ◯ No

13. Have you heard / aware of Insurance Technology? *

Mark only one oval.

- Yes
- No

Section B: Behavioural Intention of Using Insurance Technology & Factors

This section seeks for your opinion on each of the following statements. On a scale of 1 to 5 for each statement, indicate how much you agree with the statement provided.

Behavioural Intention to Use Insurtech

14. I intend to use insurtech in the future *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree						Strongly Agree

15. The value of insurtech will trigger me to use the insurtech *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree						Strongly Agree

16. I predict I would use insurtech in the future. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree						Strongly Agree

Performance Expectancy

17. Overall, Insurtech is very useful. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree						Strongly Agree

18. Using Insurtech allows me to accomplish insurance related matter such as purchasing, researching information, etc. more quickly. *

Mark only one oval.

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

19. Using Insurtech increases the productivity of insurance related matter such as purchasing, researching information, etc. more quickly *

Mark only one oval.

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

20. Using Insurtech improves my chances of achieving goals that are important to me. *

Mark only one oval.

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

Effort Expectancy

21. I would find Insurtech easy to use. *

Mark only one oval.

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

22. I think I would learn to use Insurtech quickly. *

Mark only one oval.

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

23. My interaction with Insurtech would be clear and understandable. *

Mark only one oval.

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

24. It would be easy for me to become skillful at using Insurtech. *

Mark only one oval.

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

Social Influence

25. People who are important to me think that I should use Insurtech. *

Mark only one oval.

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

26. People whose opinions that I value prefer that I use Insurtech. *

Mark only one oval.

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

27. People in my environment think that I should use Insurtech. *

Mark only one oval.

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

Facilitating Conditions

28. I have the resources necessary to use Insurtech. *

Mark only one oval.

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

29. I have the knowledge necessary to use Insurtech. *

Mark only one oval.

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

30. Insurtech is compatible with other technologies I use. *

Mark only one oval.

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

31. I can get help from others when I have difficulties using Insurtech. *

Mark only one oval.

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

Convenience

32. Using Insurtech is an efficient way at anytime and anyplace. *

Mark only one oval.

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

33. Using Insurtech is convenient at anytime and anyplace. *

Mark only one oval.

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

34. Using Insurtech makes my life easier. *

Mark only one oval.

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

35. Using Insurtech fits in with the pace of my life. *

Mark only one oval.

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

Trust

36. I think Insurtech has enough safeguards to make me feel comfortable using it. *

Mark only one oval.

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

37. I feel confident that technological advances for insurtech makes it safe for me to use Insurtech. *

Mark only one oval.

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

38. In general, Insurtech is safe for conducting any insurance related activities. *

Mark only one oval.

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

Regulatory Expectation

39. I believe that the law should protect me from the disputes arises with Insurtech companies. *

Mark only one oval.

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

40. I believe that the law should govern and interpret the practice of how Insurtech companies collect, use, and protect my private information. *

Mark only one oval.

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

41. I believe that the laws and regulations are able to address violations or disputes by Insurtech companies. *

Mark only one oval.

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