EXPLORING CONSUMER ACCEPTANCE OF INSURTECH APPLICATIONS: A STUDY OF DIGITAL TRANSFORMATION IN THE INSURANCE INDUSTRY

BY

CHIA JIA CHUN

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DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of my own work and that dueacknowledgement has been given in the references to ALL sources of informationbe they printed, electronic, or personal.

(2) No portion of this research project 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 **16127** .

Name of Student:	Student ID:	Signature:
Chia Jia Chun	2106018	

Date: 12 December 2025

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DEDICATION

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
BI	Behavioural Intention
EE	Effort Expectancy
HTMT	Heterotrait-Monotrait Ratio
IL	Insurance Literacy
InsurTech	Insurance Technology
IQ	Information Quality
IT	Information Technology
PE	Performance Expectancy
PLS-SEM	Partial Least Squares Structural Equation Modelling
PR	Perceived Risk
SPSS	Statistical Package for the Social Sciences
SRQ	Service Quality
SYQ	System Quality
TA	Technology Anxiety
UB	Use Behaviour
US	User Satisfaction
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflation Factor

PREFACE

This thesis is submitted in partial fulfilment of the requirements for the degree of Bachelor of Finance (Hons) (Financial Technology) at Universiti Tunku Abdul Rahman (UTAR). The thesis was carried out during my final year of study and reflects both the academic training I received and my personal interest in how financial technology reshapes traditional insurance services in Malaysia.

The thesis focuses on the adoption of InsurTech applications among Malaysian insurance policyholders. In recent years, the local insurance industry has started to digitalise through mobile applications that support e-policy management, online premium payments, digital claims, and customer self-service. However, the actual willingness of policyholders to adopt applications remains uncertain. Motivated by this gap, the study integrates the Unified Theory of Acceptance and Use of Technology (UTAUT) and the DeLone and McLean Information Systems Success Model (ISSM), together with adding variables to explain policyholders' behavioural intention and usage behaviour.

The collection of data from Malaysian policyholders and using IBM SPSS and SmartPLS to evaluate the measurement and structural models. Through this process, I have strengthened my understanding of research methodology, statistical analysis, and the practical challenges of conducting empirical work in financial technology.

I hope that this study will provide useful insights for researchers, regulators, and insurance practitioners who are interested in promoting responsible and effective adoption of InsurTech applications in Malaysia.

ABSTRACT

This study examines the determinants of Malaysian policyholders' behavioural intention and uses behaviour towards Insurtech mobile applications. To address limited understanding of adoption, the study integrates the Unified Theory of Acceptance and Use of Technology (UTAUT) and the DeLone and McLean Information Systems Success Model (ISSM) and incorporates with add on varables. Primary data were collected via an online questionnaire from Malaysian policyholders aged 18 and above, yielding 461 usable responses. Data were analysed using IBM SPSS and PLS-SEM in SmartPLS 4. The findings show that trust is the strongest predictor of behavioural intention to use Insurtech applications, followed by insurance literacy, while system and service quality shape user satisfaction and support continued use. Overall, the results showing that building confidence and literacy among policyholders, alongside reliable and user-friendly applications is central to promoting sustainable Insurtech usage in Malaysia. The study extends UTAUT and ISSM to the Insurtech context.

Keywords: Insurtech, insurance mobile applications, UTAUT, ISSM, trust, insurance literacy

CHAPTER 1: INTRODUCTION

1.1 Background of the study

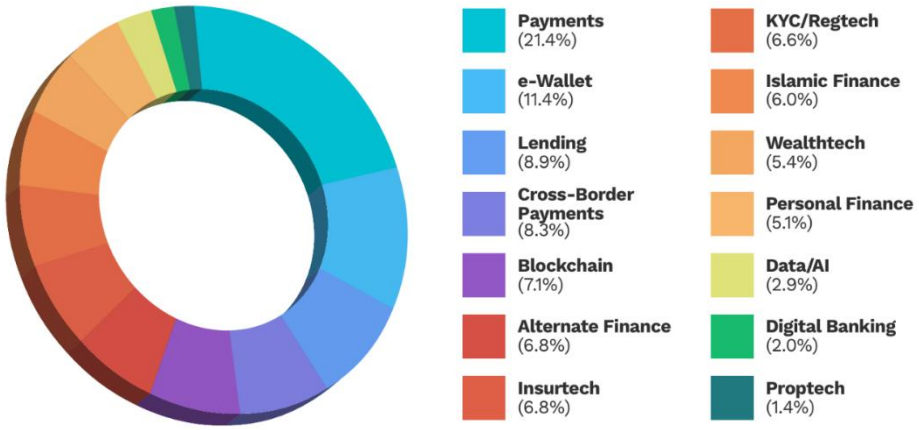
During the preceding ten years, fintech activity has expanded rapidly worldwide. Financial services innovations such as digital banking, e-wallets, and unmanned store technology are gaining popularity and being studied. Obviously, Financial technology (FinTech) has become a defining force in our digital economy. According to estimates by Boston Consulting Group and QED Investors (2025), there are approximately 37,000 active fintech business operating worldwide. Over the past few years, many startups in this space have surged dramatically, growing from approximately 12,131 in 2018 to nearly 29,955 in 2024. This showing an amazing increase of about 147 % (DealPotential, 2024; Ruby, 2025). People have various definitions of Fintech, it can refer to the growing integration of digital innovation within financial services, where new technologies are being applied to create and deliver financial solutions more efficiently across the sector (Pazarbasioglu et al., 2020). FinTech's rapid expansion has also influenced insurance sector too, spawning a wave of comparable innovations commonly call InsurTech.

According to research, InsurTech emerged as a major branch of FinTech in the early 2010s and continued to reshape the business model of the traditional insurance industry (Insurance Information Institute, 2020). Malaysia is currently an immature nation and needs to leverage the power of insutech to innovate. It can use of Industry 4.0 technologies to address many challenges like designing insurance products, delivering services, and driving process innovation (Yan et al., 2018). These innovations have been ongoing. Insurtech enables insurance companies to utilize a variety of tools like online platforms, data analytics, artificial intelligence, blockchain, mobile applications, and the Internet of Things. Cortis et al. (2019)

mention that Insurtech useful to reduce operational costs and improve efficiency for both insurer and insurance companies compared to conventional methods. In addition to streamlining processes, Insurtech also has improved accessibility, which is enables emerging models like usage-based and peer-to-peer insurance, and enhanced customer interactions through automation and personalization.

Malaysia's insurance market has shown steady and robust growth in recent years. The general insurance sector recorded a 6.9% increase in gross written premiums, reaching RM23.1 billion in 2024 based on General Insurance Association (PIAM) report. In terms of economic contribution, the Malaysia's insurance industry increasing approximately RM25.7 billion to the nation's gross domestic product (Statista, n.d.-a). Actually, Malaysia is a developing country in Asia, according to the Department of Statistics reported that Malaysia's population was around 33.4 million in 2024. A financial literacy survey revealed that 33% of Malaysians hold personal medical insurance policies, indicating that aroun11 million individuals are covered by life or medical insurance policy (Statista, n.d.). These data all demonstrate Malaysia's future development potential. The more support statement which is the Malaysia Fintech Report (2022) highlights that Insurtech ranks as the no 7 among the 14 fintech categories in Malaysia (Figure. 1).

Figure 1.1: Malaysia Fintech Ranks



Source: MalaysiaFintech Report (2024)

We can see these figures show that one of the most notable developments in Malaysia's financial sector is the growing presence of insurance technology. This trend reflects the broader digital transformation of the banking industry, with traditional financial institutions gradually moving towards a fully digital model. Traditional banks are also slowly launching their own apps, attempting to innovate and transform. The main driving force behind this shift is the changing preferences of modern consumers. In this era that emphasizes efficiency, users more focus convenience and operational efficiency more than spending a lot of time going to physical branches to conduct business.

Current user pursed a single application capable of managing a wide range of financial activities, because it can help to reduce dependence on in-person services and streamlining daily interactions (Jafri et al., 2024). This shift in behavior became even more pronounced during the COVID-19 pandemic. Ming & Jain (2022) concluded that the crisis accelerated demand for contactless and digital financial solutions, the shift was both urgent and irreversible. People tend to use the device closest to them, which is their mobile phone, and apps are the tools that provide them with the greatest convenience. As a result, Malaysia has developed a sizable and stable user base, creating a favorable environment for innovation. In this context, the emergence of InsurTech applications is very logical to popular.

Simply put, insurance companies are streamlining and standardizing their back-office operations by integrating their services into mobile applications. These platforms can also provide personalized protection through robo-advisors and application programming interfaces (APIs) to enable the sharing of data in real time and customized product offerings (Jung et al., 2018). Many businesses in Malaysia are gradually meeting this requirement. For example, Malaysia's no one e-wallet business Touch 'n Go Group introduced GOprotect feature in their e-wallet app. It integrates a diverse range of insurance products into a single platform. User enable compare offerings from major insurance companies such as AIA Malaysia, Allianz, Etiqa, MSIG, Takaful Ikhlas, Zurich Takaful, and complete purchases in under three minutes. They are also constantly improving and optimizing the interface to attract

users. Though provided step-by-step process and tutorial, it help minimize user friction, supports quicker and doing more informed decisions regarding insurance coverage (tnglobal, 2023). In fact, companies that adopt a holistic digital strategy tend to see improved business performance (Bohnert et al., 2019).

1.2 Problem Definition & Research Problem

Despite the many advantages that Insurtech app brings to policyholders, but its adoption rate in Malaysia remains relatively low. This indicates that potential of online insurance platforms and mobile applications has not yet been fully realized (UOB, 2022). In other countries, Insurtech has progressed rapidly. China has developed comprehensive Insurtech platforms like Tencent WeSure and AntSure, which are embedded in WeChat and Alipay (Wei et al., 2025). It is because many policyholders still heavily rely on traditional channels such as agents and brokers for purchasing policies and making payments, rather than using Insurtech services (Fintech Malaysia Report, 2021). Another factor is policyholder lack of awareness and variety of services available through digital media. It is because policyholders in Malaysia lack formal education on insurance within the country's education system. This has created a strong dependency on agents for advice and service delivery. The Statista (2023) reported that total number of agents in life insurance companies reached approximately 81,655. This number continues to grow in every year, showing Malaysia’s people rely on need demand for agents.

Additionally, many insurance companies are not fully focussing developer the applications, they rely solely on web-based platforms. Concurrently, the rise in cybersecurity events and worries about privacy and information security threats, the adequacy of current security processes and standards has also come under scrutiny. (Balapour et al., 2020). People are always filled with fear of unknown risks. If policyholder perceive uncertain risk about their private information and unfamiliarity with app functionalities, they are more likely to be avoided use them.

As insurance products become increasingly complex, policyholders are becoming more anxious about how to manage their insurance affairs. In the absence of sufficient knowledge, they often have no choice, so they need rely more heavily on the assistance of agents (Antony et al., 2023).

As fintech gains wider acceptance across industries, Insurtech is also gaining attention for policyholders' intentions in using such services. However, existing research still falls short in the areas of accepting Insurtech applications (Hasan et al., 2021; Oladapo et al., 2022). While early research provided valuable factors will influencing consumer acceptance of fintech services, its focus was largely on the technological aspects. Users are now paying more attention to service quality to achieve satisfaction. Therefore, when we incorporate the user perspective and service quality dimensions, we can learn more about the variables influencing fintech service adoption.

Understanding policyholders' perspectives on InsurTech is crucial to clarifying what factors attract and motivate policyholders to adopt this cutting-edge technology. This study adopts the "Unified Theory Acceptance and Use of Technology" (UTAUT) model introduced by Venkatesh et al. (2003) to gain a deeper understanding of the drivers of consumer technology adoption. This model is more widely applied than any other empirical technology acceptance model due to its 70% explanatory power. In this report will mainly examine the variables introduced by the UTAUT model which are performance expectancy, effort expectancy, and social influence. Furthermore, Delone and Mclean Information Systems Success Model (ISSM) have looked into how consumers react to changes brought forth by technology (DeLone & McLean, 2003). By examining system quality, service quality, and information quality to the transformative development of digital technologies, underpinning e-commerce, mobile banking, and fintech adoption (Hassan et al., 2023). These three elements generate user satisfaction, which in turn further motivates them to adopt or directly use the application (Han, 2023). Few studies combined the UTAUT and ISSM Model (Sholihah et al., 2023).

Therefore, this report combines these two models, addressing gaps in prior research that often-overlooked user perspectives and quality dimensions.

As public concern about security and personal data continues to grow, research into perceived risk is a key factor (M. Ali et al., 2021; Xie et al., 2021). Meanwhile, Accenture (2019) highlighted that trust is becoming increasingly crucial in business, especially as digital technologies and services grow in significance. Moreover, a report by Ernst & Young Global Limited (2021) emphasized that the insurance industry is fundamentally based on the trust established between insurance companies and their clients (Cranley & Wenger, 2020). Moreover, this report adds technology anxiety as exogenous variables in the study of Insurtech application. Guo et al. (2013) recommended considering inhibiting factors which is technology anxiety being one such factor in technology acceptance. Prior research has investigated the impact of technology anxiety in several information system development domains (Celik & Yesilyurt, 2013; Cimperman et al., 2016; Guo et al., 2013).

Insurance literacy (IL) can play an important variable measuring a user's understanding of insurance and their risk decision-making ability. This is due to research on technology adoption is very popular in the banking industry, while there is relatively less relevant research in the insurance industry. Therefore, this study adapting Stolper & Walter (2017) definition of financial knowledge, propose a preliminary definition of insurance literacy (IL) within the UTAUT framework. This paper will explore the potential moderating role of insurance literacy in shaping the relationship in UTAUT model. Studying insurance literacy (IL) is particularly important because in today’s information-rich and internet-driven environment, users have become increasingly savvy. Policyholders with sufficient insurance literacy can interpret benefits and risks more accurately, thereby reducing confusion and reliance on hearsay.

1.3 Research Question

In view of the problem statements, this study aims to answer the following research questions:

1. How do quality dimensions (information quality, system quality, service quality) impact policyholder expect satisfaction to acceptance of Insurtech applications?

2. How do the constructs of the UTAUT model (performance expectancy, effort expectancy, social influence) influence the adoption of Insurtech applications?

3. How do perceived risk, trust, technology anxiety and insurance literacy impact policyholder's behavioural intention to adopt Insurtech applications?

4. How does insurance literacy moderate the relationship between consumer perceptions and their behavioural intention to adopt Insurtech applications?

1.4 Research Objectives

This study aims to achieve the following research goals:

1. To analyse the impact of quality dimensions (information quality, system quality, service quality) on impact policyholder expect satisfaction to acceptance of Insurtech applications.

2. To evaluate the influence of UTAUT model constructs (performance expectancy, effort expectancy, social influence) on the adoption of Insurtech applications.

3. To examine the impact of perceived risk, trust, technology anxiety and insurance literacy on consumer behavioural intention to adopt Insurtech applications.

4. To determine how policyholder views and behavioural intention to embrace Insurtech applications are influenced by insurance literacy.

1.5 Significant of Study

Although existing research has explored consumer adoption of Insurtech services, however there is still lack of study specifically focusing on applications in Malaysia. The lack of interest may be because insurance apps are a relatively unpopular area. To fill this gap, this thesis tries to integrate the UTAUT model and ISSM model to provides a comprehensive analytical framework. Because these two models examine both technological factors and user-centric elements, they can provide a more systematic finding of Insurtech acceptance behaviour.

This study wants to suggest the key insights for advance insurance companies' digital transformation and design app. Malaysia has a great research environment and potential for advancement. In addition to the two dimensions mentioned above, this study will also include other variables worthy of exploration. These factors are key influencing factors such as perceived risk, trust, and technology anxiety. This can help insurance companies understand the consumer need and expect and optimize their services to giving personalize services to them.

1.6 Outline of the Study

This thesis is divided into four chapters exclude after this chapters. In Chapter 2 we will reviews the literature about the adoption of InsurTech and background, proposes the research framework, and develops research hypotheses. Chapter 3 focus on the research methods, sampling design, data collection, and analysis process. Chapter 4 will present the finding for data analysis results and hypothesis testing based on Chapter 3 concept. The first four sections all focus on research background. Chapter 5 focus on summarizes and discusses the research findings, will give proposes conclusions and opinions for future study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The literature and relevant studies will be reviewed and discussed in this section. It will explain Insurtech definition and the Insurtech applications in Malaysia. Additionally, this study will introduce the concept for Unified Theory of Acceptance & Use of Technology (UTAUT) model and the DeLone and McLean Information System Success Model (ISSM). Based on this, we will be doing further research hypotheses and build research framework for proposed.

2.2 Insurtech

This section clarifies the concept and key elements of InsurTech, then will extends to its practical applications. It also emphasizes how InsurTech is gradually changing the way policyholders' access and manage their insurance services.

2.2.1 Definition of Insurtech

Insurtech is combine with two terms, which are "Insurance" and "Technology." It refers to the application of technical advancements to increase the insurance industry's efficiency and streamline processes. Insurtech can be broadly correlated with traditional insurance services and can be divided into five major areas.: (1) Big data, AI, and analytics; (2) Digital insurance platforms (web, mobile, and social media); (3) Internet of

Things (IoT); (4) Cyber insurance; and (5) Health and medical insurance (Eling & Lehmann, 2018). Soa (2021) focused her research on the insurance industry itself and less mature players. She defined Insurtech is the application of state-of-the-art technology, software, and user interfaces to solve inefficiencies or take advantage of fresh opportunities in the insurance value chain.

2.2.2 Insurtech Application in Malaysia

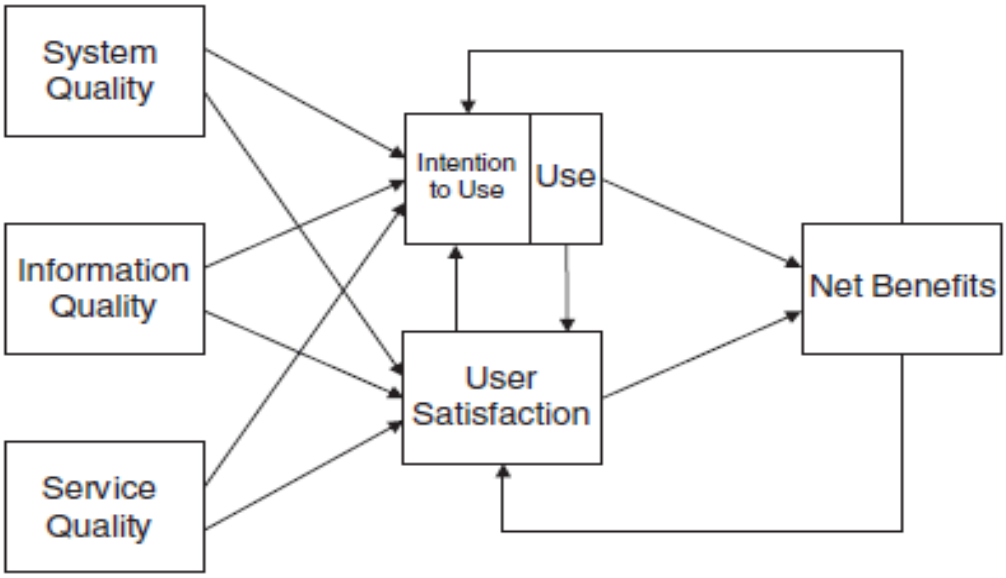
More insurance businesses in Malaysia are using mobile apps to improve customer service and set themselves apart from the competition. DearTime was introduced in 2022 as part of BNM's Fintech Regulatory Sandbox 2, a regulatory framework that gives companies a place to experiment in the nation's financial industry. They also adopted a fully digital model, allowing users to purchase policies, adjust their coverage, and make claims themselves through their app, thus effectively breaking through the limitations of the traditional agent-centric model.

For claims, the app simplifies the process by allowing users to select the product they are claiming for, such as an accident, and authorizing DearTime to access their hospital medical records for verification. The app then prompts users to verify their identity via facial recognition and generates a claim code to provide to the treating hospital (Joycelyn Tan, 2023).

Therefore, insurance apps in Malaysia should be recognized by policyholders for their benefits, as they offer a more efficient alternative to traditional methods. Embracing these apps allows users to streamline their insurance experience and take advantage of modern conveniences.

2.3 Delone and McLean information system success model (ISSM)

Figure 2.1: Updated DeLone and McLean IS success model (ISSM)



Source: DeLone & McLean (2003)

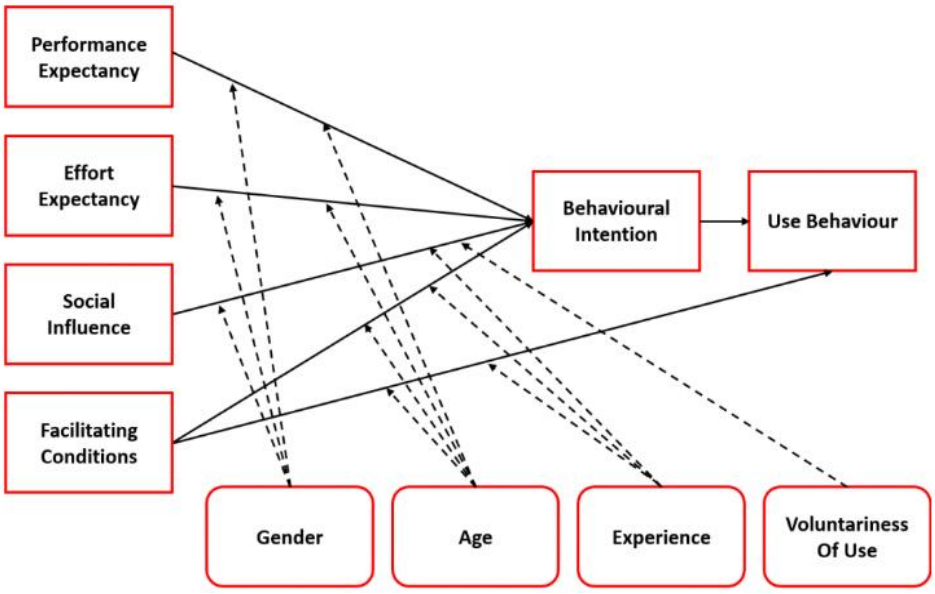
DeLone and McLean developed the Information System Success Model in 1992 to evaluate intention to use, user satisfaction, and organisational impact. The model was updated in 2003 and now incorporates the system quality, which assesses the fundamental features of an information system, like response time and dependability; information quality gauges the thoroughness and pertinence of the system's content; while service quality pertains to the comprehensive assistance provided by the system (DeLone & McLean, 2003). This model is become a popular framework for assessing the effectiveness and usage of IT applications (Ali & Warraich, 2024).

This model has been thoroughly validated and applied in a number of studies on technology adoption and information systems, including evaluating the performance of e-commerce platforms. (Wu & Wang, 2006), adoption of e-learning platforms (Prasetyo et al., 2021), and individual performance in mobile banking

(Tam & Oliveira, 2017), among other technology acceptance frameworks. And there have been many findings in the application of apps, which include the acceptance of sport-themed apps (Won et al., 2023) , digital banking (Almaiah et al., 2022a) and Q2Q mobile commerce (Kim et al., 2021). Won et al. (2023) argued that ISSM provides a robust theoretical basis for describing consumer behaviour, such as the readiness to adopt and the actual utilization of mobile applications. Quality is the key to people's satisfaction. Thus, ISSM enables industry professionals to start with the "quality" element, deepen their understanding of how to improve customer experience, and thus promote behavioural applications. The relationship between quality aspects and user satisfaction in the context of Insurtech apps will be investigated in this thesis as the theoretical framework.

2.4 Unified Theory of Acceptance & Use of Technology

Figure 2.2: UTAUT Model



Source: Venkatesh et al. (2003)

The Unified Theory of Acceptance and Use of Technology (UTAUT) model was first introduced by Venkatesh et al. in 2003. They compared of eight earlier theories

and models of technology acceptance and user behaviour. These theories include a combination of TAM and TPB (C-TAM-TPB), Theory of Rational Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), Personal Computer Use Model (MPCU), Diffusion of Innovations Theory (IDT), and Social Cognition Theory (SCT). UTAUT aims to unify the fundamental contributions of these theories. In terms of explanatory and predictive capacity for technological adoption behaviour, the UTAUT outperforms earlier models since it is a fundamental contribution that unifies disparate theories (Venkatesh et al., 2003).

In the latest applications of Chinese inventions, its explanatory power can reach 68% (Venkatesh & Zhang, 2010). UTAUT was consists with four main variables and four moderating variables. Performance expectation (PE), effort expectation (EE), social influence (SI), and facilitating conditions (FC) are main variables to affect intention behaviour and usage behaviour.

Venkatesh et al. (2003) emphasised the significance of modifying the model to improve its applicability in various contexts where technology is accepted. Many studies using UTAUT model will adjust tailor it to their specific fields of research. This is because the range of research papers is very broad. If we limit ourselves to using only UTAUT variables, we might mislead the factors that should be focused on in that field. Andrés-Sánchez & Gené-Albesa (2023) said expect to use UTAUT original constructs, they finding "trust" is also a key determinant influencing policyholders' use of chatbots. Moreover, Ahmed et al. (2020) emphasized the "computer literacy" metric was successfully incorporated into UTAUT2 for predict healthcare providers' intentions to adopt electronic health records (EMRs).

This report will remain the Performance Expectancy (PE), Effort Expectancy (EE), and Social Influence (SI) as the primary variables. However, the fourth original explanatory factor, Facilitating Conditions refers to the extent to which a person believes that organisational infrastructure and technology are available to support

the usage of a specific technology (Venkatesh et al., 2003). It discusses to the external factors, such as resources, support, and infrastructure, that facilitate the actual use of a system or technology. However, the mobile app is very easy to download, and nearly everyone owns a smartphone and can access it through the Play Store or App Store without restrictions, this factor is not included in the analysis.

For the moderating section, Venkatesh et al. (2012) acknowledged that many researchers applying the UTAUT model to specific contexts, particularly in consumer environments, often exclude irrelevant moderating variables depending on the study goal and contextual characteristics. In this thesis, the potential moderating effects of insurance literacy on the relationships between performance expectancy, effort expectancy and social influence with behavioural intention will be added. Because users with greater knowledge are likely to have different perceptions and behaviours regarding the use of the technology, influencing their intention to adopt it (Maheshwari, 2023).

Many studies have found that relying solely on the three quality dimensions of the ISSM is insufficient to fully explain users' intention to use (Alotaibi & Alshahrani, 2022; Jeyaraj, 2020). Similarly, the UTAUT model does not account for user satisfaction with system quality dimensions. Therefore, this study proposes an integrated model. ISSM focuses on the stability and reliability of system quality, while UTAUT is responsible for detecting the operational characteristics of the system. By combining these two perspectives, the model compensates for the limitations of each framework and provides readers with a more comprehensive finding. Many studies found that the variables of ISSM (system quality, information quality, and service quality) are powerful predictors of user satisfaction, and behavioural intentions. Nevertheless, UTAUT model has shown potential in predicting behavioural intentions and effort expectations. This confirms that integrating UTAUT helps to compensate for the limitations of ISSM in predicting behavioural intention. (Almaiah et al., 2022b).

2.5 Contemporary & Hypotheses Development

This section primarily develops hypotheses, comprehends the relationship between variables, and presents an overview of the empirical investigation.

2.5.1 Information Quality and User Satisfaction

Information quality is defined by the capacity to offer ample, precise, pertinent, and current information sourced from trustworthy origins DeLone & McLean (2003). It can be described as the output quality of an information system (Y. H. Chen & Chengalur-Smith, 2015). For fintech users, the quality of information is also crucial for completing insurance-related transactions on fintech platforms. These practices include integrating robust information systems into insurance applications, and insurance companies need to ensure the information are accuracy, integrity, and reliability to improve user experience (Lee et al., 2020). This satisfaction is further solidified when policyholders believe that high-quality information brings them value (Chen & Ha, 2019). User satisfaction can define as a consumer's affective stresponse to their overall experience with a system. This report suggests that when app featuring giving high information accuracy and personalization to improve users' sustained engagement. DeLone & McLean (2003) shows a strong relationship between system usage and information quality, this finding has been consistently supported in Kim et al. (2021). So, we hypothesize that:

Hypothesis 1: Information Quality has a significant influence on user satisfaction for Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.2 System Quality and User Satisfaction

System quality is used to evaluate a system's reliability, usability, responsiveness, and overall availability (DeLone & McLean, 2003). Also, System quality includes a variety of elements, such as whether there are program errors, interface consistency, usability, documentation quality, even the maintainability of the program code (Seddon, 1997). From a consumer's perspective, a high-quality system embedded in an app should be able to respond quickly to any search request. Low-quality systems often lead to poor transaction experiences and customer dissatisfaction. People often pay great attention to smooth systems. When the app system performance is very weak, it will make user interaction difficult and ultimately reduce users' willingness to utilise the system (Sharma & Sharma, 2019).

This thesis indicates higher quality systems typically translate to greater system reliability, which in turn increases user satisfaction and encourages user adoption of fintech platforms (Wang et al., 2019). According to Tang et al. (2024) study about of mobile shopping applications, they identified System quality (SQ) has been identified as the most important determinant of user satisfaction (SAT). It indicates that a high level of system quality can meet consumer needs and expectations, thereby increasing satisfaction. Existing research has repeatedly shown that system quality is closely related to the extent to which users effectively use mobile applications (Ali et al., 2021) and their willingness to using them (Mouakket, 2020; Wang et al., 2020). Hence, we proposed:

Hypothesis 2: System Quality has a significant influence on user satisfaction for Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.3 Service Quality and User Satisfaction

In order to determine a customer's sense of service quality, it is necessary to compare their actual experience with the service they receive with their initial expectations (Gronroos, 1984). According to Lin et al. (2024), SERVQUAL includes dimensions such as system availability, content, fulfillment, responsiveness and compensation. They are also very focused on this aspect in the insurance field. This means that policyholders perceive high-quality service and high satisfaction when applications are comprehensive.

In the InsurTech context, service quality mainly depends on how well the AI chatbots, and in-app customer service are used (Nguyen et al., 2021)at forms (Sharma & Sharma, 2019), have consistently found a positive relationship between Service Quality and user satisfaction. Therefore, this thesis proposes the following hypothesis:

Hypothesis 3: Service Quality has a significant influence on user satisfaction for Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.4 User Satisfaction, Behaviour Intention and Use Behaviour

User satisfaction is a core framework in information systems (IS) research. It refers to the cognitive assessment of a user's entire experience following the use of a certain technology or service (DeLone & McLean, 2003). These assessments will greatly improve your skills. In this study, it is reflected in

the satisfaction level of the policyholders with their experience using the application. (Tang et al., 2024). The formation of user satisfaction is driven by multiple antecedents. Moreover, the Expectation-Confirmation Model (ECM) mention that when an application's perceived performance meets or exceeds user's initial expectations, it will generate confirmation and perceived usefulness, leading to increase their satisfaction. (Al Amin et al., 2024).

One of the most promising indicators of a user's intention to adopt a technology is user satisfaction (Hariguna & Ruangkanjanases, 2020). When user expect this technology can make them feel satisfied, they will be more intentional to use it. This relationship has been consistently validated across various domains, including mobile banking (Saadilah et al., 2021) and mobile app (Al-Hammouri et al., 2020). In a weighted analysis of use behaviour in mobile financial services, satisfaction emerged as one of the seven best predictors, with a weight of 0.94 (Uddin & Nasrin, 2023). Consequently, we put up the following:

Hypothesis 4: User satisfaction has significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

Hypothesis 5: User satisfaction has significant influence Malaysian policyholders' use behaviour of Insurtech applications.

2.5.5 Performance Expectancy and Behaviour Intention

Performance expectation (PE) refers to the extent to which a person thinks that utilising a specific system or piece of technology would enable them to do tasks more effectively (Venkatesh et al., 2012). It is composed of

multiple theories. Like relative advantage (IDT), job-fit (MPCU), perceived usefulness (TAM), extrinsic motivation (MM), and outcome expectations (SCT) (Tan & Leby Lau, 2016). Fan & Lee (2023) emphasize that unrestricted access to online insurance platforms will enhances the perceived usefulness for user.

Multiple literature reviews indicate that PE is an important variable explaining new technology intention behavior (Dendrinos & Spais, 2024; Yanida et al., 2025). It also found that PE firms influence user adoption of mobile banking (K. P. Gupta et al., 2019), Fintech (Mansyur & Ali, 2022), and Insurtech (Umran et al., 2025). In this study, when policyholder believe that insurance app can enhances their performance in managing insurance matters, like handling policies and achieving faster issue resolution. They are more likely intention to use it. This pattern aligns with the "perceived usefulness" concept in the Technology Acceptance Model (TAM) (Tan & Leby Lau, 2016). So, the hypothesize in this study is:

H6: Performance expectancy has significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.6 Effort Expectancy and Behaviour Intention

Following statement of Venkatesh et al. (2003), Effort Expectancy (EE) can refer to the perceived level of effort required to use a particular technology for user. It embodies the Technology Acceptance Model's (TAM) notion of perceived ease of use (Davis, 1989). Essentially, users will evaluate whether a technology is simple, intuitive, and easy to use to decide whether to use it. Effort Expectancy has a major impact on users' inclination to adopt new technologies, according to a study on e-wallet usage in Malaysia (Jiang

et al., 2019). Also, users' intention to buy insurance on the insurance platform is significantly influenced by their view that online services are easier to use and require less work (Horvey et al., 2025).

In this thesis, "effort expectancy" refers to the policyholder's belief that they can easily interact with Insurtech applications. It includes they can be easy to access the application, understand its features, and guide the user interface. This has been validated in multiple research scenarios like travel apps (Gupta et al., 2018), mobile apps (Kang, 2014), and high educational mobile tools (Xue et al., 2024). For study its strong influence on users 'behaviour intentions, we proposed:

Hypothesis 7: Effort Expectancy significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.7 Social Expectancy and Behaviour Intention

The degree to which a person takes other people's opinions into account while determining whether to adopt a new technology is known as social influence (SI) (Venkatesh et al., 2003). Especially close relatives such as family, friends, teachers, and so on. Evon & Lau (2016) claim that Social Influence is conceptually similar to the subjective norm found in Ajzen and Fishbein's Theory of Planned Behaviour (TPB) and Davis's Technology Acceptance Model (TAM). Numerous studies have pointed out that social influence is a important determinant of technology adoption in different contexts. For instance, Hsu & Lin (2016) found that others' opinions significantly impact users' intention to make in-app purchases. De Veer et al. (2019) further demonstrates that users are more likely to use mobile travel apps when they experience a high level of social impacts.

In this thesis, SI refers to how policyholders who have never used insurance apps rely on recommendations and opinions from friends and family to decide whether to adopt the technology. Additionally, if people around them are using insurance apps, it will let them have more interested to try the new technology. Hence, we proposed:

Hypothesis 8: Social Expectancy significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.8 Trust and Behaviour Intention

According to M. Ali et al. (2021), Trust can refer to an individual's willingness to rely on a partner with confidence. Morgan & Hunt (1994) argue that trust is at the core of all interpersonal relationships. In insurance area, trust can help builds the foundation for successful interactions between customers and service providers. The goal of this thesis is to understand how much confidence policyholders have in the corporate image of insurance companies and the company's applications. This includes resolving claims, checking policies, and addressing other insurance-related issues. Research by Alalwan et al. (2017a) has demonstrated that trust significantly influences customers' intentions to use mobile banking and positively impacts their performance expectations. Also, Andrés-Sánchez & Gené-Albesa (2023b) found that trust has a strongly variables for influences policyholders' intentions to accept chatbot services. Therefore, the following assumptions are made:

Hypothesis 9: Trust significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.9 Perceived Risk and Behaviour Intention

Perceived risk (PR) refers to the potential losses or negative consequences that an insured person believes they may encounter when using a certain technology (Featherman & Pavlou, 2003). With the increase in online fraud (such as phishing scams) and data breaches, modern people's trust in online platforms is gradually declining, especially when it comes to sensitive personal or financial information. Therefore, people always maintain a suspect attitude towards accepting new technologies. (Hwang & Choe, 2019).

In this thesis, Perceived Risk is defined as the potential negative outcomes associated with using Insurtech applications. These risks may include the unintentional or intentional disclosure of personal data, receive fraudulent insurance policies, or fall victim to fraudulent activities. This causes policyholders to hesitate when using online platforms (Naffaa, 2019). Al-Saedi & Al-Emran (2021) have shown that perceived risk is inversely related to the intention to use mobile wallets. Alrawad et al. (2023) demonstrated a negative correlation between perceived risk and the intention when user using NFC mobile payments. This implies that user are less likely to embrace new payment systems when they believe there is a high degree of security and privacy risk. Hence, we proposed:

Hypothesis 10: Perceived Risk significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.10 Technology Anxiety and Behaviour Intention

Technology anxiety emphasizes consumers' worries about utilising and embracing technology (Mokmin & Ibrahim, 2021). This idea was initially

proposed and studied by scholars researching human-computer interaction and psychology. It expresses people's anxiety or concern about modern technology (Guo et al., 2013). Because new technologies always feel unfamiliar to people, and they worry about making mistakes when using them. One of the reasons can define an App Fatigue, it means that users will feel overwhelmed and anxiety by installing and using too many apps (Koetter et al., 2019).

Apps need to be updated regularly, requiring customers to constantly spend time managing and learning new features. This indirectly increases their psychological burden, making them hesitant to adopt new applications. Ngusie et al. (2024) highlight that technology anxiety creates negative emotions that hinder users' willingness to engage with a technology system, such as an Electronic Health Record (EHR). The anxiety can weaken users' positive attitude and willingness to use the product. So, we propose the following hypothesis:

Hypothesis 11: Technology anxiety significantly influences Malaysian policyholders' behavioural intention to adopt Insurtech applications.

2.5.11 Insurance literacy (IL) and Behaviour Intention

In some studies, the concept of "insurance literacy" is used interchangeably with "insurance education" and "insurance knowledge," all of which fall under the broader category of "financial literacy" (Wei et al., 2025). In other words, insurance literacy refers to an individual's understanding of basic insurance concepts and their ability to successfully apply this knowledge to real situations. Sanjeewa & Hongbing (2019) elaborated on several key dimensions of insurance literacy. It is including about user awareness of

personal risk exposure, plan risk management strategies, understanding insurance mechanisms work, selection of appropriate insurance products and protect their rights and obligations of insurance companies.

Based on previous studies on how financial knowledge affects behavioural intentions, this study want to explore the same concept of moderating effect on the UTAUT model. In the context of mobile banking, Ullah et al. (2022) showed that through the mediation of perceived usefulness, financial literacy positively influences intention to utilise.

Rahmat Akbar et al. (2021) found that literacy significantly enhances behavioural intention by moderating perceived usefulness in the fintech sector, Thus, we would propose the hypothesize:

Hypothesis 12: Malaysian policyholders' intentions to use InsurTech applications are significantly influenced by their level of insurance literacy.

Hypothesis 12a: The relationship between performance expectations (PE) and behavioral intentions (BI) is influenced by insurance literacy for policyholders when they adopt Insurtech applications.

Hypothesis 12b: The relationship between effort expectations (EE) and behavioral intentions (BI) is influenced by insurance literacy for policyholders when they adopt Insurtech applications.

Hypothesis 12c: The relationship between Social Influence (SI) and behavioral intentions (BI) is influenced by insurance literacy for policyholders when they adopt Insurtech applications.

2.5.12 Behaviour Intention and Use Application

Behavioural intention is a person's subjective likelihood of engaging in a particular behaviour (Ajzen & Fishbein, 1994). When people can accept the features and benefits of many apps, they become interested in using them. In this thesis, the indicators used to measure the behavioural intention variable are based on factors such as future use, familiarity, and affordability.

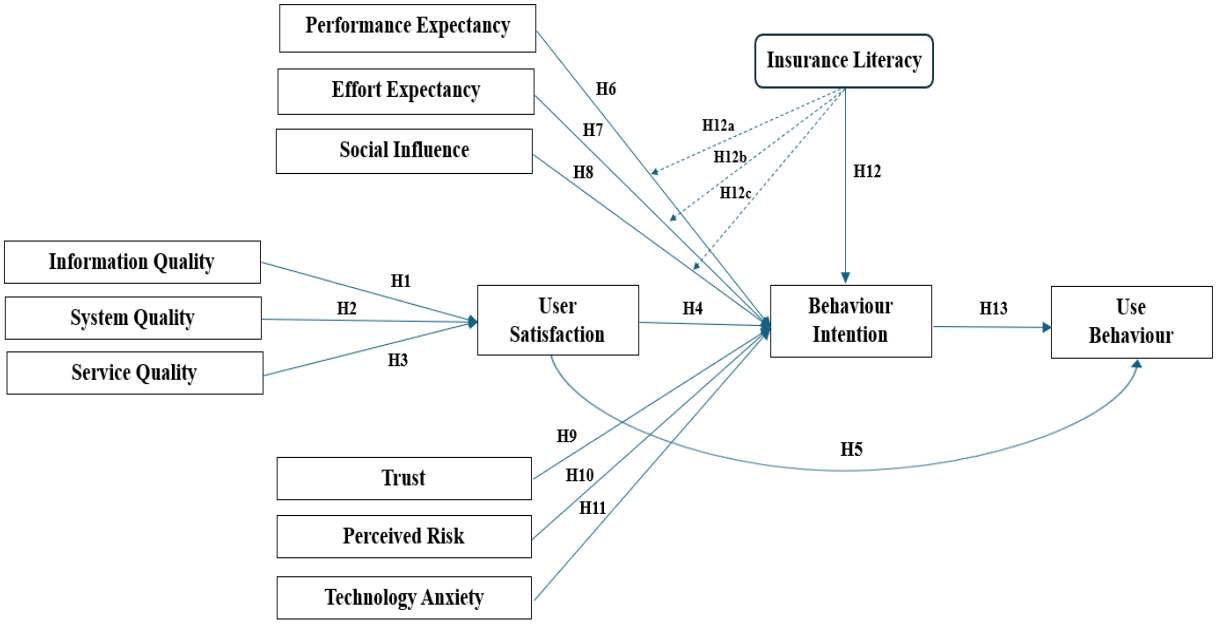
User intent is significantly influenced by familiarity in the context of mobile applications. The more familiar a user is with an application, the more likely they are to continue using it (Fan & Lee, 2023). This addition expands the scope of the indicators by highlighting the importance of familiarity-driven intention, which may influence how users perceive the usefulness and ease of use of mobile apps. Previous research has consistently demonstrated that behavioural intention significantly impacts actual usage behaviour, serving as a important predictor of whether consumer will adopt to use a technology. Therefore, my final hypothesis is:

Hypothesis 13: Behavioural intention significant influence on Malaysian policyholders' use behaviour of Insurtech applications.

2.6 Research Framework

Below will present the research framework for this study, which are adopts UTAUT and ISSM model as the foundational theories and introduces new variables to extend the model.

Figure 2.3: Proposed Research Framework



Source: Developed for the research

Table 2.1: Roles & Paths Summary Table

Construct	Role	Points To	Hypothesis
Information Quality (IQ)	Independent	US	H1
System Quality (SEQ)	Independent	US	H2
Service Quality (SRQ)	Independent	US	H3
User Satisfaction (US)	Mediator	BI; US	H4; H5
Performance Expectancy (PE)	Independent	BI	H6
Effort Expectancy (EE)	Independent	BI	H7
Social Influence (SI)	Independent	BI	H8
Trust (TR)	Independent	BI	H9
Perceived Risk (PR)	Independent	BI	H10
Technology Anxiety (TA)	Independent	BI	H11
Insurance Literacy (IL)	Independent + Moderator	BI; moderates PE/EE/SI→BI	H12; H12a–H12c
Behaviour Intention (BI)	Proximal Mediator / Dependent	UB	H13
Use Behaviour (UB)	Final Dependent	-	-

Source: Developed for the research

The model incorporates the perspectives of ISSM and UTAUT. IQ, SEQ & SRQ all affect user satisfaction (H1–H3). US increases behaviour intention and uses behaviour, mediating the effect of quality antecedents on actual usage (H4–H5).

PE, EE & SI directly raise Behaviour Intention (H6–H8). TR has a positive effect, whereas PR and TA have negative effects on Behaviour Intention (H9–H11). Insurance literacy directly and positively influences behavioural intentions (Hypothesis H12), it moderates the impact of PE, EE & SI on behavioural intentions (Hypotheses H12a–H12c). Finally, it is hypothesized that behavioural intentions further predict actual usage behaviours (Hypothesis H13).

2.7 Research Gap

While there is a wealth of research on the adoption of FinTech, there is a significant gap in research on consumer acceptance of Insurtech, particularly in the context of Malaysia. Most prior research has concentrated on financial services such as e-wallets, digital banking, or online payment systems. It is very absence study in the understanding of how policyholders perceive and adopt Insurtech applications. Furthermore, while some studies have explored general factors influencing fintech adoption, research on the unique challenges and driving factors of InsurTech application adoption in the insurance industry remains very limited.

Another key research gap lies in the lack of empirical research with an integrated theoretical framework, such as combining UTAUT and ISSM Model to explore the adoption behaviour of Insurtech. Most studies focus on only one aspect to explain They are also highly explanatory but are still rarely used when assessing the acceptance of Insurtech services. Furthermore, research on app-specific adoption is relatively scarce, particularly in the insurance industry. This emphasises the necessity of doing targeted research to examine the effects of both technology and

user-centric aspects, like technology anxiety, trust, and perceived risk, on insurtech adoption behaviour. By filling this research gap, this thesis will provide valuable suggestion for academic and industry stakeholders, particularly helping insurance companies develop more effective digital transformation strategies. Ultimately, it will promote wider acceptance of Insurtech among Malaysian consumers.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This part will present information of the data collection process. It will cover the research philosophy, sample design, research design, data collection techniques and research tools, and will cite relevant previous research.

3.2 Research Design

The study applies positivist ontology Positivist. From a positivist perspective, the core assumption is that there exists a single, stable, and objective reality. Researchers operating under this paradigm believe that there is only one reality, which is stable, measurable, and observable, and exists independently of social actors (Saunders et al., 2019). By gathering enough information and analysing causal links, this study may explain and forecast the acceptance intention of Insurtech application solutions.

Besides, empirical epistemology (or positivist epistemology) concerns the methods by which researchers acquire and discover knowledge. Guided by positivist philosophy, the acquisition of knowledge must be based on verifiable observations and data (Saunders et al., 2019). In this thesis, all proposed hypotheses and statements are logically developed and supported through a careful examination of past literature as well as reliable statistical or scholarly sources. Therefore, this research relies on quantifiable evidence collected from the actual world.

On the other hand, the study's character is explanatory. Previous research on technology adoption makes it clear that authors employed explanatory research to determine how various factors affected technology adoption (Won et al., 2023). Therefore, the thesis using a quantitative research approach, designed to comprehensively examine causal relationships between variables through rigorous hypothesis testing (Quick & Hall, 2015). Therefore, this study will employ a deductive technique to explore the relationships between multiple variables. This method collects aggregate data at specific points in time, enabling researchers to analyse effective behaviours and characteristics at those points in time (Thomas, 2023).

3.3 Data Collection Methods

This thesis used questionnaires as the primary data collection tool. This approach is consistent with the positivist philosophy and deductive reasoning of the study, as it allows for standardized data collection to test hypotheses and explore relationships between variables (Saunders et al., 2019). The questionnaire employed closed-ended questions, it can provide structured and consistent answers and reduces ambiguity and cognitive burden for respondents. (Hassan et al., 2023).

For practical and strategic reasons, the questionnaire was distributed online via Google Forms using mobile phones and email. Online distribution is a cost-effective method, eliminating the expenses associated with printing and physical delivery. Additionally, it reduces logistical and health-related risks by avoiding face-to-face interactions (Lefever et al., 2007).

3.4 Sampling Design

Sampling design must be developed after the study design and data collection methods are determined.

3.3.1 Target Population

The target population of this thesis is individuals aged 18 or above residing in Malaysia who currently hold at least one valid insurance policy (general insurance or life insurance). The age threshold is set with reference to the Age of Majority Act 1971 (Malaysia), under which individuals attain legal adulthood at 18 and therefore have the capacity to make financial and contractual decisions and to provide informed consent. Limiting the population to policyholders ensures a baseline level of insurance literacy and a relevant need context, enabling respondents to understand core features of an insurance mobile application (e.g., e-KYC, e-policy, online renewal and premium payment, e-claims, notifications, and customer service/agent linkage) and to make meaningful assessments of their intention to use such an app.

3.3.2 Sampling Frame & Sampling Location

A list of particular items that researchers employ to create samples is called a sampling frame. It aids in guaranteeing that the samples accurately reflect the features of the population. When researchers plan to use probability sampling techniques, a reliable sampling framework is needed to prevent selection bias. This also ensures that the sample represents a broader

population.However, in many studies a sampling frame cannot be delineated because the population is extremely large or lacks an accessible registry (Rao et al., 2022).

Similarly, when focusing on residents of Malaysia in this study, a definitive and reliable sampling frame cannot be obtained. On the other hand, the sampling location is Malaysia, with data collection conducted in the Klang Valley, which encompasses Kuala Lumpur and adjacent districts in Selangor. This region serves as Malaysia's economic hub and the country's most densely populated urban area, making it suitable for accessing a diverse pool of respondents (Tang et al., 2022).

3.3.3 Sampling Techniques

For a number of reasons, this study used a non-probability convenience sampling technique. Since it is impossible to build a soundproof box/anechoic chamber to measure the overall noise. So only on-site non-anechoic measurement methods can be used, and the anechoic chamber method is not applicable (Saunders et al., 2019).

3.3.4 Sample Size

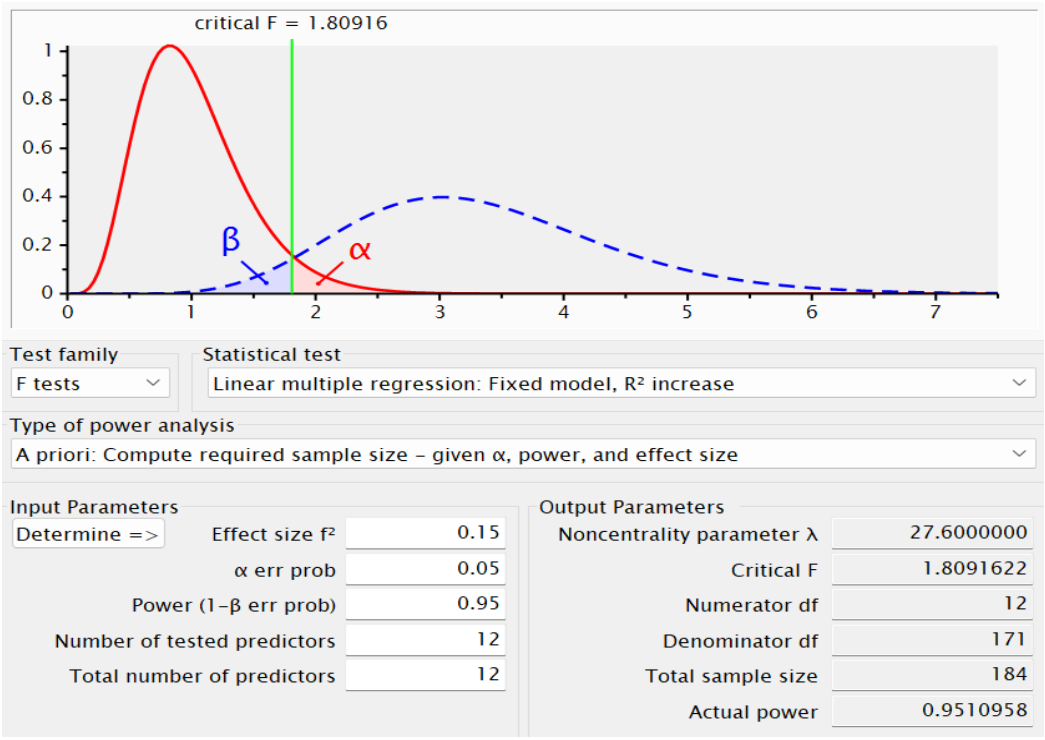
This thesis used G*Power 3.1.9.4 to determine the minimum sample size. G*Power is an effectiveness analysis software popular in social science and management research. It is very useful for calculating the required sample size for various statistical tests (Quick & Hall, 2015). Refer to figure 3.1, it

selected linear multiple regression for power analysis, with the fixed model and R^2 increase as the statistical test types.

This method is most appropriate for evaluating the influence of multiple predictors on a dependent variable, especially in models like this study's multi-path structural equation model (SEM), where multiple predictors are involved in predicting a specific dependent variable such as behavioural intention and use behaviour (Memon et al., 2021).

A minimal sample size of 184 respondents was computed using a 95 percent alpha value, 0.8 probability, 12 predictors, and an effect size of 0.15.

Figure 3.1: Calculation Using G*Power



Sources: G*Power 3.1.9.4 Calculation

3.5 Research Instruments & Constructs Measurement

3.5.1 Questionnaire Design

The survey is divided into sections A through C and the cover page. First, the research topic, introduction, and the researcher's and study's background were all prominently shown on the questionnaire's cover page. Secondly, the questionnaire's Section A primarily collected data on the respondents' insurance-related background and awareness as well as their demographic profiles. As outlined in Table 3.1, this section gathers key characteristic like gender, age, education level, employment status, insurance awareness, and Insurtech app experience. These variables are categorized and measured using nominal and ordinal scales to ensure precise and structured data collection.

Table 3.1: Research Instrument & Constructs Measurement of Section A

Question	Options	Construct Measurement
Gender	Male	Nominal
	Female	
Age	18-20 years	Ordinal
	21-25 years	
	26-30 years	
	31-35 years	
	36-40 years	
	41-45 years	
	46 years or above	
Married Status	Single (never married)	Ordinal
	Married	
	Divorced	
	Widowed	
Education Level	No Formal Education	Ordinal
	Primary School	
	Secondary School	
	Pre-university/Foundation/STPM	
	Certificate of Diploma	
	Bachelor of Degree	
	Postgraduate	
	Professional Qualifications	

Employment Status	Student	Nominal
	Employee - Private Sector	
	Employee - Government Sector	
	Gig Worker	
	Employer	
	Self-employed	
	Unemployed	
	Housewife	
Insurance Awareness	Very important	Ordinal
	Important	
	Neutral	
	Not very important	
	Not important at all	
	More than 5 years	
Type of insurance(s)	Life Insurance	Nominal
	Health Insurance (Medical Card, Critical Illness, etc.)	
	Non-Life Insurance (like car insurance, travel insurance, etc.)	
	I do not have any insurance	

Source: Developed for the research

Third, the respondents' assessments of Insurtech applications using ISSM theory were recorded in section B. The goal is to understand how these quality factors affect user satisfaction, and consequently, the adoption and acceptance of Insurtech applications. Finally, the section C is based on the UTAUT theory, supplemented with additional exogenous factors.

Researchers should carefully review existing scales to determine which items best reflect or measure the definition of each construct. Therefore, sections B through C of the survey used a five-point Likert scale, where 1 represents “strongly disagree” and 5 represents “strongly agree”. This way is easy for respondents to understand and provides a balanced measure of their attitudes. This method is an effective tool for objectively evaluating psychological positions, as Table 3.2 shows. (Pornel & Saldaña, 2013), facilitating efficient data collection and enabling reliable statistical analyses for meaningful results. Additionally, the sources of the measurement items, the operational description of the constructs, and the measurement scale for Sections B and C are listed in Table 3.3.

Table 3.2: Five-Point Likert Scale

5-Point Likert Scale				
1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Source: (Pornel & Saldaña, 2013)

Table 3.3: Research Instrument & Constructs Measurement of Section B & C

Construct	Source(s)	Item	Statement
		Section B	
Information Quality	Eldrandaly et al. (2015)	IQ1	The information provided in the Insurtech app is to be understandable.
	Almaiah et al. (2022)	IQ2	The information provided by Insurtech app is to be up to date.
		IQ3	The information provided on Insurtech app is to be complete and abundant.
		IQ4	The information provided on Insurtech app is to be reliable.
		IQ5	The information provided by the Insurtech app is interesting.
Services Quality	Tam & Oliveira (2016)	SRQ 1	The Insurtech app is to be always willing to help whenever I need support with the insurance services.
		SRQ 2	I think the Insurtech app has enough knowledge to answer my questions concerning insurance.
		SRQ 3	The Insurtech app is to be provide personal attention when I experience problems using the apps.
		SRQ 4	The Insurtech app is to be provide services related to insurance at the promised time.
System Quality	Tam & Oliveira (2016)	SEQ 1	I think the page layout Insurtech app is clear.
		SEQ 2	Insurtech apps is to be offer appropriate functionality. (like allow users to submit claims online, track policy status).
		SEQ 3	Insurtech app is to be allows me to easily operate specific functions (such as looking up payment information).
		SEQ 4	Insurtech app services is to be allow me to find insurance information effortlessly.
		SEQ 5	I think the Insurtech app system is well structured for insurance activities.
User Satisfaction	Eldrandaly et al. (2015)	US1	I think I would be content with the overall experience of using an Insurtech app.
	Almaiah et al. (2022)	US2	I anticipate that I would be delighted with the overall experience of using an Insurtech app.
		US3	I expect I would be pleased with the overall experience if I used an Insurtech app.

Section C			
Performance Expectancy	Venkatesh et al. (2012)	PE 1	Using Insurtech app is very useful in my insurance-related transactions.
	Martín & Herrero (2012)	PE 2	Using Insurtech app increases my productivity in insurance policy handling.
		PE 3	Using Insurtech app enables me to faster resolution of issues with my policies.
		PE 4	Using Insurtech app improves my overall insurance-related transaction performance.
Effort Expectancy	Venkatesh et al. (2012)	EE 1	I find the Insurtech app easy to use.
	Martín & Herrero (2012)	EE 2	It would be easy for me to become skillful at using the Insurtech app.
		EE 3	I find the Insurtech app flexible to interact with me.
		EE 4	My interaction with Insurtech app is clear and understandable.
Social Influence	Venkatesh et al. (2003)	SI 1	People who are important to me think that I should use Insurtech app.
	Venkatesh et al. (2012)	SI 2	People who influence my behavior think that I should use Insurtech app.
		SI 3	People whose opinions that I value prefer that I use Insurtech app.
		SI 4	People around me consider it appropriate to use Insurtech app.
Trust	Joshi (2025)	TR 1	The Insurtech app enable the insurance company to fulfil its commitments and obligations.
	Andrés-Sánchez & Gené-Albesa (2023)	TR 2	The Insurtech app to interact with the insurance company considers the interests of policyholders.
		TR 3	I believe my insurance company's app is trustworthy.
		TR 4	Insurtech apps have capable features to protect my privacy.
Perceived Risk	Munoz-Leiva et al. (2017)	PR 1	Compared with traditional agency assistance, information security problems are more likely to appear in Insurtech app.
		PR 2	Using Insurtech app is associated with a high level of risk.
		PR 4	The decision to use Insurtech app are risky.
		PR 4	Others may know information about my insurance-related transactions if I use this app.
Technology Anxiety	Rana et al. (2015)	TA 1	I feel apprehensive about using Insurtech app.
		TA 2	It scares me to think that I could cause the Insurtech app to induce bad consequences due to wrong operation.
		TA 3	I hesitate to use technology for fear of making mistakes I cannot correct.
		TA 4	Insurtech apps are somewhat intimidating to me.
Insurance Literacy	Andrés-Sánchez & Gené-Albesa (2023)	IL 1	I have a good level of knowledge about insurance matters.
		IL 2	I have a high ability to apply my knowledge about insurance in practice.
		IL 3	I understand the different types of insurance policies available and their benefits.
		IL 4	I can effectively assess my insurance needs and choose appropriate coverage options.

Behavioral Intention	Venkatesh et al. (2003)	BI 1	I intend to use the Insurtech app in the future.
	Venkatesh et al. (2012)	BI 2	I agree in interacting with an Insurtech app to make procedures with my insurer.
		BI 3	I believe that I will employ Insurtech app to interact with the insurer regarding my policies.
		BI 4	I will recommend Insurtech app to my friends for insurance-related activities and transactions.
Use Behavioral	Venkatesh et al. (2003)	UB 1	I sometimes use Insurtech app to conduct insurance-related activities.
	Venkatesh et al. (2012)	UB 2	I would take advantage of Insurtech app for my insurance-related activities.
		UB 3	I always use Insurtech app to conduct insurance-related activities.
		UB 4	Given that I have access to a mobile phone, I would use Insurtech app.

Source: Developed for the research

3.5.2 Pilot Test

A pilot test is an initial investigation carried out before to the primary study in order to assess the viability, validity, and reliability of the research tools, such as questionnaires (In, 2017) . It helps identify ambiguous issues or technical errors to ensure the main research proceeds smoothly. The goal of a pilot test is to improve the data collection tools, enhance the study design, and confirm the appropriateness of the methods (Kunselman, 2024). By addressing these aspects, a pilot test increases the accuracy of results, reduces potential biases, and saves time and resources during the main study.

3.6 Data Processing

This part involves several steps, including data cleaning, data coding, and preparation for analysis, to ensure the data is accurate, organized, and ready for meaningful interpretation.

3.6.1 Data Checking & Data Cleaning

Data cleaning involves checking the dataset to ensure there are no missing values, duplicate entries, erroneous data, or outliers. For example, this includes verifying that all survey questionnaires are fully completed, identifying logical inconsistencies in the responses, and detecting any data points that deviate significantly from the expected range (outliers). Additionally, as mentioned in Section 3.3.1, respondents who have never insurance policy and below 18 years will be removed from the dataset to ensure the accuracy of the study.

3.6.2 Data Coding

In order to facilitate statistical analysis, data coding entails giving numerical values to categorical survey replies. As an example, the variable "Gender" is coded as 1 for Male and 2 for Female in this thesis. This process standardizes the data, ensuring it is organized and ready for quantitative analysis. For the purpose of data cleansing, the coded data in this study were transcribed into IBM SPSS 25. . IBM SPSS 25 was used to data cleaning process which is to identify and remove missing data. Table 3.4 displays the detail coding data.

Table 3.4: Collected Data (Coding)

Question	Options	Coding
Gender	Male	1
	Female	2
Age	18-20 years	1
	21-25 years	2
	26-30 years	3
	31-35 years	4
	36-40 years	5
	41-45 years	6
	46 years or above	7

Married Status	Single (never married)	1
	Married	2
	Divorced	3
	Widowed	4
Education Level	No Formal Education	1
	Primary School	2
	Secondary School	3
	Pre-university/Foundation/STPM	4
	Certificate of Diploma	5
	Bachelor of Degree	6
	Postgraduate	7
	Professional Qualifications	8
Employment Status	Student	1
	Employee - Private Sector	2
	Employee - Government Sector	3
	Gig Worker	4
	Employer	5
	Self-employed	6
	Unemployed	7
	Housewife	8
Insurance Awareness	Very important	1
	Important	2
	Neutral	3
	Not very important	4
	Not important at all	5
Type of insurance(s)	Life Insurance	1
	Health Insurance (Medical Card, Critical Illness, etc.)	2
	Non-Life Insurance (such as car insurance, travel insurance, etc.)	3
	Life & Health Insurance	4
	Life & Non-Life Insurance	5
	Health & Non-Life Insurance	6
	Life, HI & Non-Life Insurance	7
	I do not have any insurance	8

Source: Developed for the research

3.7 Data Analysis Techniques

This study will divide the data analysis into three steps. Firstly, the respondents' answers were collected and stored in Google Spreadsheet, after that the data was transferred to Microsoft Excel for coding purposes. This ensured the data was systematically organized for subsequent analysis.

Secondly, the dataset was analysed using IBM SPSS to exclude respondents who had never held any insurance policies and were under 18 years of age. IBM SPSS was chosen for its robust statistical capabilities and ease of use in handling data cleaning and preliminary analysis, making it an essential tool for preparing the dataset for advanced analysis (Rahman & Muktadir, 2021).

Finally, we will utilize the Partial Least Squares Structural Equation Modelling (PLS-SEM) method to analysis the collected data. This approach was chosen because it can assess measurement and structural models together, as well as its effectiveness in handling complex variables and testing multiple hypotheses (Hair et al., 2017; Sarstedt et al., 2021). Software called SmartPLS 4.0 was used to do the analysis, including descriptive analysis to summarize data characteristics and inferential analysis to test relationships and hypotheses in the research model.

3.7.1 Descriptive Analysis

Descriptive analysis is a method used to summarize and show analysis in a clear and understandable manner (Hassan et al., 2023). It is showing a simple overview of population characteristics and answers questions such as "what," "when," and "how." (Kaliyadan & Kulkarni, 2019). This study uses descriptive analysis to present users' statistical characteristics and their understanding and acceptance of Insurtech applications.

3.7.2 Inferential Analysis

This study will use SmartPLS 4.0.1.9 software for analyses. This is because Partial Least Squares Structural Equation Modeling (PLS-SEM) can handle complex models with multiple structures and indices and does not require

the data to satisfy strict distribution assumptions (Sarstedt et al., 2021). Measurement model evaluation and structural model evaluation are the two main stages of the PLS-SEM process.

3.7.2.1 Measurement Model Assessment

Measurement models are responsible for predicting the relationship between latent variables and their observable indicators (Anderson & Gerbing, 1982). They can be broadly classified into formative models and reflective models. According to Haaniyah (2020), latent variables in formative models are considered as outcomes of their related indices. And Reflective model indicate that one construct leads to another. The question in this paper such as PE 1, “Using Insurtech app is very useful in my insurance-related transactions.,” reflects people’s relative willingness to use Insurtech apps. It is showing that a causal relationship between this item and the construct, therefore study can be considered reflective.

Outer Loadings

In reflective measurement models, the estimated relationships are called external loadings (often called factor loadings). A framework that can account for more than 50% of the variance in a project's metrics can be used to illustrate its reliability (Hair et al., 2019). It should be at least 0.708 and below that should be discarded.

Cronbach's Alpha

The Cronbach's α coefficient is standard indicator to assess internal consistency or reliability. According to ISLAM (2025), this coefficient uses a numerical scale between 0 and 1 to measure the degree of consistency between items. When participants show a strong response to one item, they are more likely to respond strongly to other items. It values at least 0.70 and below this should be discarded (Hair et al, 2019).

Composite Reliability

Comparable to Cronbach's alpha, composite reliability is a parameter evaluation of a composite scale's dependability. Omega-a (rho a) and omega-c (rho c) are the two combinatorial scales that constitute combinatorial reliability. This study uses only Omega-c (rho c) to estimate reliability based on a five-point Likert scale (Bacon et al., 1995). While a combinatorial reliability of 0.70 is considered satisfactory, higher combinatorial reliability is better. However, combinatorial reliability of 0.95 or higher indicates correlation between error terms in the indicators (Hair et al., 2019).

Average Variance Extracted (AVE)

The Average Variance Extracted (AVE) measures how much of the variance that may be attributable to measurement mistakes is captured by a group of variables (Santos & Cirillo, 2023). According to Hair et al. (2019), the mean can account for 50% of the variance if the AVE value is more than 0.50.

Discriminant Validity- Heterotrait Monotrait Ratio (HTMT)

HTMT utilizes statistical methods to identify differences between latent variables (Hair et al., 2017). With sensitivity and specificity values ranging from 97% to 99%, it has the most benefit (Hamid et al., 2017). In other words, the HTMT can more accurately determine the adequacy of discriminant validity between constructs. According to Hair et al. (2019), a threshold of less than 0.90 is recommended. If the HTMT value exceeds this threshold, it indicates a lack of discriminant validity.

Table 3.5: Summary Rule for Measurement Model Assessment

Assessment	Criterion	Standard Level
Convergent Validity	Factor Loadings	**> 0.708**
	Cronbach's alpha	**≥ 0.70**
	Composite Reliability	**≥ 0.70**
	AVE	**≥ 0.50**
Discriminate Validity	HTMT	**< 0.90**

Source: Hair et al. (2019)

3.7.2.2 Structural Model Assessment

This thesis will proceed to the structural model evaluation stage after measurement model validation. This stage mainly examines the potential relationships between the model's latent variables. By employing this "two-step method," the strength of each structure can be guaranteed. Therefore, the use of PLS-SEM aligns with the research objective of exploring complex interactions while maintaining methodological rigor and adaptability.

Collinearity

Multicollinearity occurs when there are interdependencies among the independent variables in a regression analysis. The degree of multicollinearity among variables is usually measured and determined using the variance inflation factor (VIF), as shown in the table below.

Table 3.6: VIF measurement

VIF	Multicollinearity Level
Equal to 1	No
between 1 and 5	Moderate
More than 5	High
More than 10	Serious

Sourch: Johnston et al. (2018)

Significance on Path Coefficient

Path coefficient analysis can help determine the importance of the relationship between independent and dependent variables in a study (Hair et al., 2019). This paper uses a 5% significance level ($\alpha = 0.05$), which allows for a 5% probability of Type I error.

In this study, the explanatory power of the model is evaluated using R^2, which shows the proportion of endogenous variable variance explained by exogenous variables in the model (Hair et al., 2017). When model is proven to have explanatory power, it means that this study has demonstrable significance. Table 3.7 lists the standards and guidelines used to evaluate structural models.

Table 3.7: Summary Rule of Thumb for Structural Model Assessment

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

Sources: According to Hair et al. (2019) Study

3.8 Chapter Summary

This chapter introduces an empirical approach, utilizing both quantitative and cross-sectional designs to explore the factors influencing the adoption of InsurTech applications in the Malaysian insurance industry. The data was collected from online questionnaires completed by insured individuals aged 18 and older, using non-probability convenience sampling. A good study requires knowing the minimum sample size. We are using G*Power calculations and result show need a minimum of 184 valid samples were required. The questionnaire integrated existing frameworks such as the ISSM and the UTAUT Model to measure respondents' cognition. Data processing and analysis used SPSS 3.1.9.4 and PLS-SEM 4.1.0.9 to test hypotheses.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This thesis collected 509 questionnaires between 8 May 2025 and 28 July 2025, according to my final year project (FYP) study's timeline. When collected all data, this study already doing analyse for survey results, it includes pilot test results, visitor demographics, and descriptive analysis. This study will use SmartPLS 4.1.0.9 to utilize for inferential analysis through the PLS-SEM model.

4.1 Pilot Study

The questionnaire was first given to 23 male and 17 female respondents who made up the pre-test sample. Reliability and validity tests conducted later revealed that every construct satisfied the necessary standards for validity and internal consistency. The results are illustrated in Table 4.1.

Table 4.1: Pilot Test (Reliability Test)

	Items	Cronbach's alpha	Composite reliability
Information Quality	5	0.949	0.962
System Quality	5	0.895	0.922
Services Quality	4	0.871	0.913
User satisfaction	3	0.882	0.928
Performance Expectancy	4	0.889	0.922
Effort Expectancy	4	0.879	0.916
Social Influence	4	0.937	0.954
Trust	4	0.901	0.931
Perceived Risk	4	0.844	0.891

Technology Anxiety	4	0.933	0.936
Insurance Literacy	4	0.891	0.924
Behaviour Intention	4	0.921	0.944
Use Behaviour	4	0.787	0.852

Source: Developed for the research

4.2 Data Filtering and Data Cleaning

Data screening was done for this survey. In Google Form, it set the age limit to 18 years and above to avoid responses from individuals under 18. Finally received a total of 509 responses, and after sorting the data, it found that 48 respondents did not have any insurance policies. These responses were removed, leaving a final total of 461 eligible responses for the final test.

4.3 Descriptive Analyses

This section will present the insurance awareness and demographic characteristics of 461 respondents. The results are shown in Tables 4.2 and 4.3.

Table 4.2: Respondents' Demographic Profile

Participant' Demographic Information		Number	Percentage
Gender	Male	254	55.10%
	Famale	207	44.90%
Age	18-20 years	47	10.20%
	21-25 years	195	42.30%
	26-30 years	170	36.88%
	31-35 years	24	5.20%
	36-40 years	0	0.00%
	41-45 years	7	1.52%
	46 years or above	18	3.90%
Marital Status	Single (never married)	365	79.18%

	Married	96	20.82%
Education Level	No Formal Education	7	1.52%
	Primary School	21	4.55%
	Secondary School	17	3.69%
	Pre-university/Foundation/STPM/A-level	52	11.28%
	Certificate of Diploma	40	8.68%
	Bachelor of Degree	210	45.55%
	Postgraduate	108	23.43%
	Professional Qualifications	6	1.30%
Employment Status	Student	201	43.61%
	Employee - Private Sector	160	34.71%
	Employee - Government Sector	63	13.68%
	Gig Worker	3	0.07%
	Employer	10	2.18%
	Self-employed	20	4.33%
	Unemployed	2	0.44%
	Housewife	2	0.44%

Source: Developed for the research

In terms of age distribution, the age group of 21 to 25 had the highest percentage (42.30%), followed by the 26–30 age group (36.88%). Respondents aged 18–20 accounted for 10.20%; the remaining age groups (31–35, 36–40, and 41–45) accounted for a smaller proportion. The majority of respondents (79.18%) were single, with only 20.82% of respondents being married. In educational attainment, most respondents held a Bachelor of degree (45.55%), responder with postgraduate degrees ranked second. (23.43%). Other qualifications like foundation/foundation/STPM/A-level, certificates or diplomas, secondary or primary school showing for a smaller proportion.

Regarding employment status, the highest percentage was among students (43.61%), followed by private sector employees (34.71%) and government employees (13.68%). This study is somewhat unique, as the occupational distribution varies significantly. The remaining respondents included self-employed individuals, employers, gig workers, the unemployed, and housewives, all of whom accounted for a smaller proportion.

Table 4.3: Respondents' Insurance Awareness

		Frequency	Percentage
Insurance Awareness	Very important	215	46.64%
	Important	224	48.59%
	Neutral	20	4.34%
	Not very important	2	0.43%
	Not important at all	0	0.00%
Type of insurance(s)	Life Insurance	82	17.79%
	Health Insurance (Medical Card, Critical Illness, etc.)	92	19.96%
	Non-Life Insurance (such as car insurance, travel insurance, etc.)	17	3.68%
	Life & Health Insurance	178	38.62%
	Life & Non-Life Insurance	7	1.52%
	Health & Non-Life Insurance	24	5.20%
	Life, Health Insurance & Non-Life Insurance	61	13.23%

Source: Developed for the research

Research participants generally placed great importance on insurance, as shown in Table 4.3. Specifically, 48.59% rated insurance as important and a further 46.64% as very important, resulting in 95.23% who view insurance positively. By comparison, only 4.34% were neutral and 0.43% considered it not very important, while none rated it not important at all. With respect to the types of insurance owned, coverage is concentrated in protection-oriented products. The largest group holds both life and health insurance (38.62%). This is followed by health insurance only (19.96%) and life insurance only (17.79%). In addition, 13.23% reported owning life, health, and non-life policies concurrently. Mixed pairs are less common, with health and non-life at 5.20% and life and non-life at 1.52%, while non-life only accounts for 3.68%. Overall, these data indicate that respondents consider insurance important and that there is widespread demand for core life and health insurance products, which aligns with the focus of this study on policyholder behaviour.

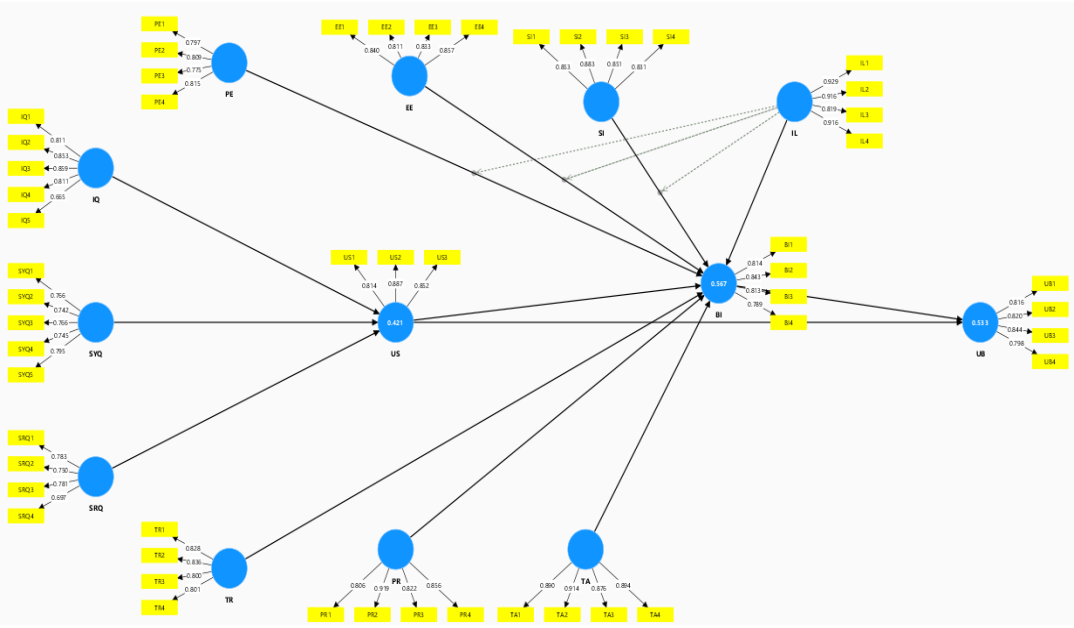
4.4 Measurement Model Assessment

This part employs the main two stage of using PLS-SEM method, including measurement model evaluation and structural model evaluation.

4.4.1 Convergent Validity

The measuring model was used to investigate convergent and discriminant validity. Figure 4.1 showed the assessment of the measurement model.

Figure 4.1: Measurement Model



Source: Developed for the research

Based on Table 4.4, this study found that the outer loadings for most of the constructs are greater than 0.708, indicating strong indicator reliability. However, it is worth noting that IQ 5 and SRQ 4 have outer loadings lower than 0.708. As a result, cross-loadings were conducted, and IQ 5 did not meet the required threshold and was removed, while SRQ 4 passed the standard and was retained (Bong et al., 2023).

Table 4.4: Outer loadings

	IQ	SYQ	SRQ	US	PE	EE	SI	TR	PR	TA	IL	BI	UB
IQ1	0.811												
IQ2	0.853												
IQ3	0.859												
IQ4	0.811												
IQ5	**0.665**												
SYQ1		0.766											
SYQ2		0.742											
SYQ3		0.766											
SYQ4		0.745											
SYQ5		0.795											
SRQ1			0.783										
SRQ2			0.750										
SRQ3			0.781										
SRQ4			**0.697**										
US1				0.814									
US2				0.887									
US3				0.852									
PE1						0.797							
PE2						0.809							
PE3						0.775							
PE4						0.815							
EE1							0.840						
EE2							0.811						
EE3							0.833						
EE4							0.857						
SI1								0.853					
SI2								0.883					
SI3								0.851					
SI4								0.831					
TR1									0.828				
TR2									0.836				
TR3									0.800				
TR4									0.801				
PR1										0.806			
PR2										0.919			
PR3										0.822			
PR4										0.856			
TA1											0.890		
TA2											0.914		
TA3											0.876		
TA4											0.894		
IL1												0.929	
IL2												0.916	
IL3												0.819	
IL4												0.916	
BI1													0.814
BI2													0.843
BI3													0.813
BI4													0.789
UB1													0.816
UB2													0.820
UB3													0.844
UB4													0.798

Source: Developed for the research

Table 4.5 shows that all constructions have Cronbach's alpha values greater than 0.7, which indicates excellent internal consistency dependability. Similarly, all constructions' composite dependability (rho_c) values, which range from 0.840 (SRQ) to 0.942 (IL), are higher than the suggested cutoff of 0.7. These high values suggest excellent construct reliability across all variables. For all AVE values are above the threshold of 0.5, with TA (0.798) and IL (0.803) being the highest. This indicates that the constructs explain more than 50% of the variance in their indicators, confirming their validity are reasonable.

Table 4.5: Cronbach's alpha and Composite Reliability Scores

Variables	Cronbach's alpha (>0.7 & < 0.95)	Composite Reliability (rho_c) (>0.7 & < 0.95)	AVE (>0.5)
IQ	0.879	0.916	0.731
SYQ	0.827	0.874	0.582
SRQ	0.748	0.840	0.568
US	0.810	0.888	0.725
PE	0.812	0.876	0.639
EE	0.856	0.902	0.698
SI	0.877	0.915	0.730
TR	0.833	0.889	0.666
PR	0.873	0.913	0.726
TA	0.916	0.941	0.798
IL	0.917	0.942	0.803
BI	0.831	0.888	0.664
UB	0.837	0.891	0.671

Source: Developed for the research

4.4.2 Discriminant Validity

From Table 4.6, it noted that there was high discriminant validity among the constructs, as most HTMT scores were below the 0.90 standard. However, there is one notable exception which are the HTMT value between SRQ and SYQ is 0.926. Despite the HTMT value high than 0.9, the constructs were retained. First, these constructs are conceptually linked, as SRQ (Service Quality) and SYQ (System Quality) measure quality from different perspectives, and a high correlation between them is expected. Second, the HTMT value of 0.926 slightly exceeds the threshold, which can be considered an edge case and not significant enough to impact the overall validity of the model. Furthermore, retaining these constructs helps maintain the theoretical consistency of the model and avoids compromising its integrity. Lastly, other reliability and validity indicators, such as Composite Reliability, Cronbach's alpha, and AVE, meet the required standards, indicating that the inclusion of these constructs does not negatively affect the quality of the model.

Table 4.6: HTMT scores

	BI	EE	IL	IQ	PE	PR	SI	SRQ	SYQ	TA	TR	UB	US
BI													
EE	0.711												
IL	0.586	0.483											
IQ	0.547	0.615	0.174										
PE	0.719	0.802	0.393	0.609									
PR	0.468	0.522	0.538	0.277	0.503								
SI	0.654	0.714	0.541	0.347	0.709	0.587							
SRQ	0.696	0.725	0.313	0.857	0.738	0.407	0.566						
SYQ	0.694	0.732	0.298	0.829	0.796	0.380	0.519	**0.926**					
TA	0.396	0.372	0.497	0.141	0.346	0.819	0.549	0.278	0.229				
TR	0.814	0.733	0.584	0.426	0.719	0.548	0.712	0.686	0.606	0.477			
UB	0.813	0.675	0.622	0.346	0.717	0.552	0.679	0.588	0.519	0.496	0.709		
US	0.668	0.801	0.432	0.480	0.808	0.483	0.735	0.737	0.700	0.386	0.728	0.720	

Source: Developed for the research

4.5 Structural Model Assessment

Based on the results of Table 4.7, it is determined that there are no multicollinearity problems because every variable met the threshold value, which is less than 5. The evaluation of the structural model can then come next.

Table 4.7: VIF Result

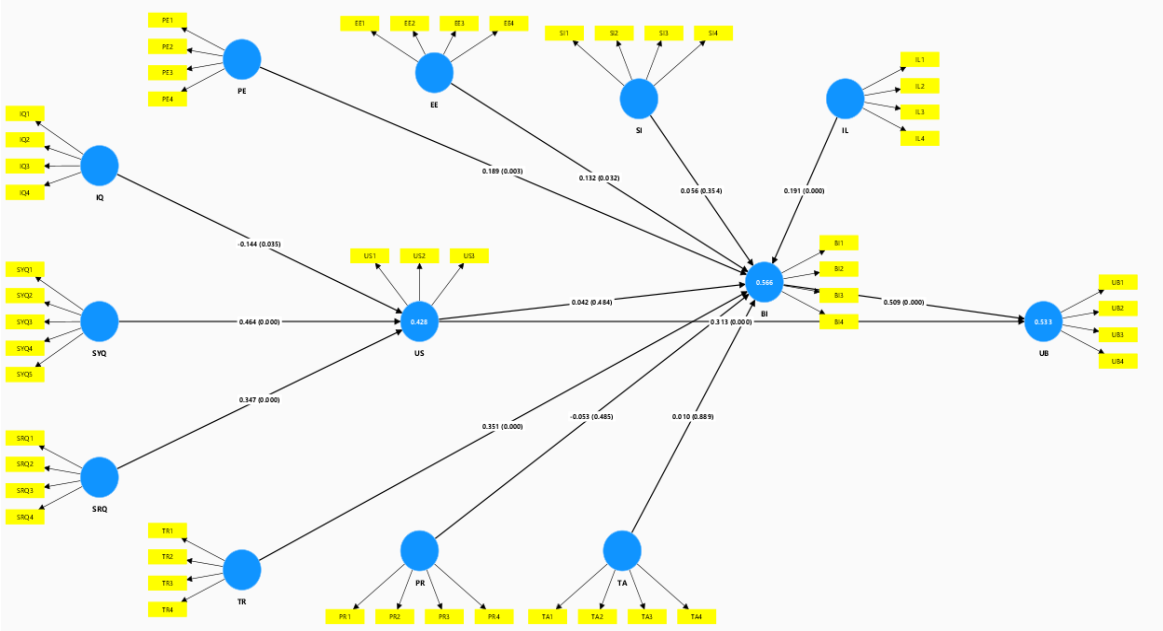
	VIF (<5)
BI1	2.022
BI2	2.868
BI3	2.623
BI4	1.848
EE1	2.461
EE2	2.117
EE3	2.238
EE4	2.530
IL1	4.395
IL2	3.859
IL3	2.024
IL4	3.611
IQ1	2.597
IQ2	3.296
IQ3	3.219
IQ4	2.668
PE1	2.020
PE2	2.116
PE3	2.020
PE4	2.086
PR1	2.047
PR2	3.483
PR3	2.221
PR4	2.124
SI1	2.374
SI2	3.403
SI3	3.013
SI4	2.050
SRQ1	1.551
SRQ2	1.463
SRQ3	1.947
SRQ4	1.775
SYQ1	1.727
SYQ2	2.238
SYQ3	1.916
SYQ4	2.391
SYQ5	1.948
TA1	2.773
TA2	3.672

TA3	2.800
TA4	3.256
TR1	2.030
TR2	2.357
TR3	2.191
TR4	1.877
UB1	2.279
UB2	2.006
UB3	2.355

Source: Developed for the research

This analysis used a 5,000 bootstrap sample using a two-tailed setup, as recommended by Guenther et al. (2023). The result is illustrated in table 4.8. Additionally, the path model utilised in the structural model study is shown in figure 4.2.

Figure 4.2: Structural Model



Source: Developed for the research

According to results presented in Table 4.8, several significant and non-significant relationships were identified. Specifically, hypotheses H1, H2, H3, H5, H6, H7, H9, H12, and H13 yielded significant results, while hypotheses H4, H8, H10, and H11 were found to be non-significant.

For the direct effects, Hypothesis 1 (Information Quality → User Satisfaction) is significant, with a path coefficient of β = -0.114 and a p-value of 0.035. Hypothesis 2 (System Quality → User Satisfaction) shows a significant positive effect, the path coefficient of β = 0.464 and a p-value of 0.000. Next, Hypothesis 3 (Service Quality → User Satisfaction) has a significant positive effect (β = 0.347, $p < 0.001$).

Next, Hypothesis 5 (User Satisfaction → Use Behavior) reveals a positive and significant effect (β = 0.313, $p < 0.001$), indicating that User Satisfaction significantly drives Use Behavior. Hypothesis 6 (Performance Expectancy → Behavioral Intention) also shows a significant effect, path coefficient of β = 0.198 and a p-value of 0.004.

After that, the Hypothesis 7 (Effort Expectancy → Behavioral Intention) is significant with β AS the path coefficient equal 0.120 and a p-value of 0.046. Hypothesis 8 (Social Influence → Behavioral Intention) shows a significant effect (β = 0.067, p = 0.279). Hypothesis 9 (Trust → Behavioral Intention) is also significant, with a path coefficient of β = 0.345 and a p-value of 0.000. Finally, Hypothesis 13 (Behavioral Intention → Use Behaviour) reveals a strong and significant relationship (β = 0.509, $p < 0.001$).

On the other hand, the relationships between User Satisfaction (US) and behavioral intention (BI) (H4: β = 0.044, p = 0.462), Social Influence (SI) and BI (H8: β = 0.067, p = 0.279), Perceived Risk (PR) and BI (H10: β = -0.055, p = 0.467), and Technology Anxiety (TA) and BI (H11: β = 0.073, p = 0.941) were not significant.

In terms of moderating effects, the interactions tested in hypotheses H12a, H12b, and H12c were found to be non-significant. Specifically, Insurance Literacy (IL) did not significantly moderate the relationships between PE and BI (H12a: β = 0.030, p = 0.872), EE and BI (H12b: β = -0.030, p = 0.584), or SI and BI (H12c: β = 0.010, p = 0.590).These results suggest that IL does not play a meaningful moderating role in the relationships tested in this study.

Table 4.8: Path Coefficient Result

Direct effects	β	T statistics & P value	P values
H1: IQ -> US	-0.114	2.114 (0.035)	**Significant**
H2: SYQ -> US	0.464	5.378 (0.000)	**Significant**
H3: SRQ -> US	0.347	3.807 (0.000)	**Significant**
H4: US -> BI	0.044	0.736 (0.462)	Not Significant
H5: US -> UB	0.313	5.478 (0.000)	**Significant**
H6: PE -> BI	0.198	2.865 (0.004)	**Significant**
H7: EE -> BI	0.120	1.994 (0.046)	**Significant**
H8: SI -> BI	0.067	1.089 (0.276)	Not Significant
H9: TR -> BI	0.345	4.655 (0.000)	**Significant**
H10: PR -> BI	-0.055	0.727 (0.467)	Not Significant
H11: TA -> BI	0.005	0.073 (0.941)	Not Significant
H12: IL -> BI	0.197	3.861 (0.000)	**Significant**
H13: BI -> UB	0.509	9.522 (0.000)	**Significant**
Moderating effects	**β**	**T statistics & P value**	**P values**
H12a: IL x PE -> BI	0.030	0.161 (0.872)	Not Significant
H12b: IL x EE -> BI	-0.030	0.548 (0.584)	Not Significant
H12c: IL x SI -> BI	0.010	0.539 (0.590)	Not Significant

Source: Developed for the research

4.6 Coefficient of Determination (R^2)

According to Hair et al. (2021), a larger R^2 indicates stronger explanatory power. R^2 values of 0.75, 0.50, and 0.25, respectively, are generally regarded as high, moderate, and weak power, respectively. Table 4.9 shows the R^2 result for this study.

Table 4.9 : Coefficient of Determination

Constructs	R^2	Explanatory Power
BI	0.566	moderate
US	0.428	weak
UB	0.533	moderate

Source: Developed for the research

The R^2 value of BI is 0.566, which means that the factors (i.e. PE, EE, SI, TR and IL) have moderate explanatory power and can explain 56.60% of the BI variance. Subsequently, the R^2 value for the US was 0.428, indicating that exogenous variables (i.e., IS, SYQ, and SRQ) explained 42.80% of its variance, which also suggests insufficient explanatory power. Finally, UB had moderate explanatory power, with an R^2 value of 0.533, meaning that BI explained 53.30% of its variance.

4.7 Chapter Summary

After the data was cleaned and filtered, this chapter provided a thorough examination of the information gathered from 461 eligible respondents. The results of the measurement model show that all constructs have sufficient discriminant validity and convergent validity, with only a few biases supported by theory. However, there was no discernible moderating influence from insurance literacy. The model exhibited moderate predictive power and explanatory strength for the endogenous constructs. All things considered, the study offers a solid basis for talking about the consequences of these discoveries in chapter 5.

CHAPTER 5: DISCUSSION & CONCLUSION

5.1 Introduction

In order to address the research objectives and questions, the data reported in Chapter 4 are evaluated in this chapter, along with recommendations for additional research, the implications of the current study, the limitations of the current investigation, and conclusions.

5.2 Discussion on 1st Research Objective

The primary objective of this study is to determine how policyholders' expectations regarding the adoption of InsurTech applications are influenced by quality dimensions (information quality, system quality, and service quality). This research indicates that when insurance apps possess these three dimensions, the policyholder consistently enhance user satisfaction expectations.

System quality and service quality, like the previous application study (Dube & Humbani, 2024; J. Wang et al., 2024), both show a positive correlation with satisfaction. Regarding system quality, this indicates that robust system technical performance such as fast response times and ease of use will contributes to higher satisfaction. This is because system quality represents the most direct and tangible experience for users. This proves that a stable, responsive, clear, and smooth-operating application can directly solve users' pain points (Wang et al.,2019). Next, service quality follows the same principle, as it serves as the “human touch” compensation for digital channels. When policy holder encounter issues while using the app such as unclear operations or failed claims, the efficient online customer

service and AI chatbots provide instant assistance, compensating for the lack of face-to-face interaction inherent in digital channels (Agnihotri & Bhattacharya, 2024). Furthermore, the fulfilment of service commitments, the ability of an application to process user requests within the promised timeframe (e.g., expediting claims processing) is a key metric for measuring service quality.

Surprisingly, the results indicate that information quality has a significant negative impact on user satisfaction, contrary to the expectations of previous studies (Alksasbeh et al., 2019; Salisu et al., 2025). The complexity of insurance product data is the reason for this phenomenon. which contain many terms, disclaimers, and financial terms. This vast amount of information is putting hidden pressure and cognitive burden on policyholders. If developers present this information directly to policyholders in the application interface, it will confuse and frustrate them, thereby reducing their satisfaction.

Furthermore, when the information pushed by the app (such as notifications or product updates) fails to accurately match the user's personal policy status or needs, the policyholder often regards it as irrelevant "information noise" or "junk information." The study by Mullins & Sabherwal (2022) also supports this view, pointing out that both information insufficiency and information overload can have a negative impact on user experience.

As mentioned earlier in this article regarding problem statements, this result further demonstrates that many policyholders have become accustomed to relying on insurance agents as their primary source of information and are used to receiving "filtered" and "interpreted" information from insurance agents. Therefore, they may feel resistant due to the lack of intuitiveness and humanization in the content, leading to a decrease in satisfaction.

On the other hand, although all three quality dimensions (system quality, information quality, and service quality) improve policyholder satisfaction, but behavioural intentions do not substantially reflect this change. This is consistent with the conclusions of Ashrafi et al. (2022) and Sørebø et al. (2009), but inconsistent with the results of Saadilah et al. (2021). There are two potential reasons exist for this outcome. First, "satisfaction" is not equal to "willingness to use". It means thet “satisfaction” does not equate to “willingness to use.” Policyholder may be satisfied with certain aspects of an application like a good interface design or functional experience, but these factors alone are not enough to overcome their long-standing habit of relying on agents. They often view the application as an "alternative tool," using it only in special circumstances, such as when the agent cannot be contacted, rather than as their preferred service channel.

5.3 Discussion on 2nd Research Objective

The second goal of this thesis is to evaluate the influence of UTAUT model constructs (performance expectancy, effort expectancy, social influence) on the adoption of Insurtech applications. Performance expectations significantly influence behavioral intentions. It can be explained by people's high pursuit of efficiency and convenience today. This study demonstrates that when policyholders perceive tangible benefits from using Insurtech apps, such as saving time traveling to branches or contacting agents will let them occur interesting to use the app. This view of “usefulness” is the core driver of their adoption intent (K. P. Gupta et al., 2019).

Furthermore, this study demonstrates that effort expectation highlights the importance of “availability,” which is consistent with the results of UTAUT’s adoption study in the Iranian Women’s Health App (mHealth) (Asadollahi et al., 2025). This study demonstrates that when policyholders perceive an app as having

a user-friendly interface, simplifying navigation, and reducing operational difficulty, they are very willing to try using it.

In addition, the effect of social influence on behavioural intention is insignificant, consistent with findings from previous studies (Apau et al., 2025; Moorthy et al., 2020). This is because purchasing and managing insurance constitutes a highly personalized and private economic decision, unlike the social display aspects associated with using social media or consuming fashion items. Consequently, the influence of family or friends' opinions on their decision-making is relatively weak. Furthermore, when selecting insurance products or app, users prioritize functionality and reliability over whether the product is "trendy." Policyholders are more inclined to trust their own judgment or the advice of professional's agents than to yield to peer pressure.

5.4 Discussion on 3rd Research Objective

Our further objective is to make the UTAUT model more applicable to the field of Insurtech applications. Four factors were added to the UTAUT model based on the literature analysis in Chapter 2 which are perceived risk, trust, technology anxiety, and insurance literacy. In this study, trust emerged as one of the most powerful predictors of behavioural intention, with a t-value of 4.655. Numerous studies have demonstrated that trust serves as an indispensable foundation for app usage (Alalwan et al., 2017; Sleiman et al., 2021). This is particularly true in the insurance industry, which is inherently built upon trust. Policyholder will believe that insurance companies will honour their commitments. In stark contrast, this study found that perceived risk did not have a significant impact on behavioural intentions. Policyholders may worry about personal information leaks or system errors causing policy issues. But when they believe the application and the insurance company behind it can properly manage these risks, will increasing their trust and occur strong behaviour intentions form.

Insurance literacy also performed exceptionally well in this study, ranking second with a t-value of 3.861. This indicates that when policyholders possess solid insurance knowledge like understanding policy terms and claims processes, they will be more confident to use insurance applications independently, rather than relying on agents to handle every step for them. This finding demonstrates that policyholders with high insurance literacy are more inclined to shift from the traditional "agent-dependent" model to a "self-management" model, and insurance technology applications are the tools that facilitate this shift.

Technology anxiety has no impact on behavioural intentions in this study. The possible reason are respondents were mainly from the younger generation and had higher levels of education. They are all digital natives, and therefore generally have a higher acceptance of technology. For this group of people, using mobile apps has long been a part of daily life, and they rarely feel anxious about "fear of making mistakes". Therefore, when designing applications, insurance companies don't need to worry excessively about policyholders developing a resistance due to technology anxiety. Instead, they should focus on optimizing user experience and ease of use to further enhance user willingness and satisfaction.

Behavioural intention is the most powerful predictor of usage behaviour in out finding. Intention is the most direct basis for action. The salience of this path fully confirms that an individual's behavior ultimately depends on their intention. When policyholder form a clear intention such as “I intend to use this app”, they are highly likely to translate it into actual usage behaviour when the opportunity arises. Although insurance decisions are often complex and involve certain risks, this study confirms that once a policyholder accepts an Insurtech application, this intention effectively drives them to download, open, and use the application.

By comparing the different results of H4 and H5, we can discover the policyholder's underlying thoughts. "Satisfaction" with the application may not directly translate into a strong desire to "use it" (assuming H4 is not significant). However, once they

begin using it, satisfaction directly increases their usage frequency and depth (H5 significant). Ultimately, the fundamental driver motivating them to open the app and complete actions remains that explicit "behavioural intention" (H13 significant).

In summary, the strong effect (high β value) of this pathway indicates that the theoretical model constructed in this study possesses robust predictive power. Behavioural intention successfully serves as the "integrator" for all antecedent variables (such as trust, performance expectations, insurance literacy, etc.), effectively conveying and reflecting the combined influence of these factors in the final actual usage behaviour.

5.5 Discussion on 4th Research Objective

The fourth objective of this study is to assess how insurance literacy moderates the relationship between policyholder perceptions and behavioural intention to adopt Insurtech applications. In this study's findings, insurance literacy did not significantly moderate the effects of performance expectancy, effort expectancy, and social influence on behavioral intention, this same with Andrés-Sánchez & Gené-Albesa (2023) overcome. This is because H12's results indicate that insurance literacy functions more as an independent, direct influence rather than an "amplifier." Regardless of whether users perceive the app's usefulness or ease of use as high or low, individuals with higher insurance literacy inherently possess a stronger intention to use it. Its effect pathway is direct, rather than manifested through enhancing or weakening relationships with other factors. According to a study based on the Theory of Reasoned Action (TRA), young working individuals in Malaysia's intention to buy life insurance through Insurtech platforms is directly and significantly positively impacted by insurance literacy (Ashikin et al., 2024).

5.6 Implications of Study

This research provides valuable opinion into the theoretical development and practical application of Insurtech, particularly within the Malaysian context. The findings not only enrich the academic discussion on technology acceptance but also offer practical recommendations for insurance companies and policymakers.

5.6.1 Theoretical Implication

Firstly, this study successfully combines the Information Systems Success Model (ISSM) with the Unified Theory of Acceptance and Use of Technology (UTAUT) to construct a more comprehensive framework to explain the adoption behaviour of InsurTech applications. Although these two models are widely used in the field of technology adoption, there is still little research on their combined use in insurance area. The integrated model proposed in this study can explain 56.6% of the variance in behavioural intention and 53.3% of the variance in use behaviour, thus verifying the robustness and usefulness of the model.

Secondly, the study extends the UTAUT framework by incorporating additional constructs such as trust, perceived risk, technology anxiety, and insurance literacy. Among these new constructs, trust and insurance literacy have been shown to be significant predictors of behavioral intention, allowing developers to focus on these two aspects when designing apps. Moreover, the study challenges some conventional assumptions. While information quality is generally believed that the two have a positive impact on user satisfaction, but this study found a negative relationship. This suggests that in information-intensive products like insurance, information overload or poor information presentation may reduce user satisfaction. This finding helps remind researchers and practitioners that information

quality depends not only on the quantity and completeness of the content, but also on a balance between clarity, relevance, and comprehensibility.

Finally, the non-significant moderating role of insurance literacy on UTAUT constructs suggests that its influence may be more direct than interactive. This result helps to understand that "competency factors" directly influence users' intentions and behaviours in fields that require expertise, rather than simply playing a role by modulating other variables.

5.6.2 Managerial Implication

From a practical view, this thesis~ offers valuable insights for insurance companies, app developers, and regulatory bodies. The important relationships of system and service quality on user satisfaction gives insurance companies a priority when designing their apps. They can focus on features such as rapid response, intuitive navigation, and efficient customer service (e.g., AI chatbots) to enhance the overall customer experience. Next, insurance companies must prioritize transparency, data security, and consistent service delivery in order to build and maintain policyholder trust.

Finally, the strong relationship between behavioural intention and actual usage behaviours suggests that insurance companies can promote their apps by cultivating positive user perception through marketing, trial activities, and user recommendations. It is showing the advantages of its digital platform in terms of performance expectation and effort expectation, thereby promoting continued user adoption.

5.7 Limitations of Study

This thesis has several limitations that need to be explained. Firstly, this thesis reliance on a convenience sampling method, which resulted in a sample size from more young, highly educated, and urban policyholders from the Klang Valley, it will constrain the generalizability of the findings.

This cross-sectional study designs cannot fully reflect the dynamic changes in user acceptance and actual usage behavior over a long period of time. This Thesis can only offer a "static snapshot" of user perception at a certain moment in time due to time constraints. Next, the thesis relies on self-reported data to measure key constructs like behavioral intentions and usage behaviors, which may occur problems such as social desirability bias. Meanwhile, the lack of objective behavioral indicators from app analytics also limits the validity of the results. Finally, while the integrated model is comprehensive, its contextual specificity to Malaysia may limit its applicability to other regions with different cultural and market dynamics, cautioning against broad generalization of the results

5.8 Recommendations for Future Research

Based on the identified limitations, future research can explore several fruitful directions. To overcome sampling limitations, subsequent research should employ stratified or purposive sampling techniques to encompass more diverse and representative demographic characteristics, with particular attention to older adults, those with lower levels of education, and policyholders in rural areas. Comparative research on intergenerational and urban-rural disparities will advance our knowledge of how the digital divide affects InsurTech uptake.

This paper suggests that future research could employ a longitudinal research design to gain a deeper understanding of the dynamic process of technology adoption. Researchers could conduct studies on the same group of users from initial contact to continued use. This could reveal how key factors, such as trust, evolve as user experience accumulates.

To verify the robustness and universality of the integrated ISSM–UTAUT model, this study recommended to conduct cross-cultural replication studies in different national contexts, especially in Southeast Asia. It is because developing countries allow us to capture more insights. Lastly, to further understand the contextual elements underlying important findings, future research should use qualitative research techniques like in-depth interviews in addition to quantitative research.

5.9 Conclusion

This study identifies the key determinants of InsurTech adoption among Malaysian policyholders using an integrated ISSM–UTAUT framework. The study's findings show that while performance expectations, effort expectations, trust, and insurance literacy are the main factors influencing adoption intention, system and service quality can greatly increase customer satisfaction. Research indicates that successful InsurTech implementation requires a two-pronged strategy: developing high-quality, user-friendly applications and building digital trust while enhancing users' insurance literacy. This approach addresses both the technical and human factors involved in adoption.

For practitioners, these results provide clear guidance for prioritizing digital initiatives. For academia, the validated models lay the foundation for further research into the application of InsurTech. Ultimately, this study advances understanding of how to bridge traditional insurance practices with digital innovation in the Malaysian market.

REFERENCES

Accenture. (2019). *Time for insurers to build on customers' trust*. https://insuranceblog.accenture.com/insurers-youve-earned-customers-trust-now-build-on-it

Agnihotri, A., & Bhattacharya, S. (2024). Chatbots' effectiveness in service recovery. *International Journal of Information Management*, *76*. https://doi.org/10.1016/j.ijinfomgt.2023.102679

Ahmed, M. H., Bogale, A. D., Tilahun, B., Kalayou, M. H., Klein, J., Mengiste, S. A., & Endehabtu, B. F. (2020). Intention to use electronic medical record and its predictors among health care providers at referral hospitals, north-West Ethiopia, 2019: Using unified theory of acceptance and use technology 2(UTAUT2) model. *BMC Medical Informatics and Decision Making*, *20*(1). https://doi.org/10.1186/S12911-020-01222-X

Ajzen, I. , & Fishbein, M. (1994). *Belief, attitude, intention and behaviour: An introduction to theory and research*. https://www.researchgate.net/publication/233897090_Belief_attitude_intention_and_behaviour_An_introduction_to_theory_and_research

Al Amin, M., Muzareba, A. M., Chowdhury, I. U., & Khondkar, M. (2024). Understanding e-satisfaction, continuance intention, and e-loyalty toward mobile payment application during COVID-19: an investigation using the electronic technology continuance model. *Journal of Financial Services Marketing*, *29*(2), 318–340. https://doi.org/10.1057/s41264-022-00197-2

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017a). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, *37*(3), 99–110. https://doi.org/10.1016/J.IJINFOMGT.2017.01.002

Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017b). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with

trust. *International Journal of Information Management*, *37*(3), 99–110. https://doi.org/10.1016/j.ijinfomgt.2017.01.002

Al-Hammouri, Q., Nusairat, N. M., & Muslim Saraireh Associate Professor, S. (2020). Determinants of Users' Satisfaction with Mobile Apps. *International Journal of Advanced Science and Technology*, *29*(3), 14613–14624. https://www.researchgate.net/publication/344258662

Ali, I., & Warraich, N. F. (2024). Information systems success in libraries: a meta-analysis of ISSM and future direction. *Electronic Library*, *42*, 158–171. https://doi.org/10.1108/EL-06-2023-0163

Ali, M., Raza, S. A., Khamis, B., Puah, C. H., & Amin, H. (2021). How perceived risk, benefit and trust determine user Fintech adoption: a new dimension for Islamic finance. *Foresight*, *23*(4), 403–420. https://doi.org/10.1108/FS-09-2020-0095/FULL/PDF

Alksasbeh, M., Abuhelaleh, M., Almaiah, M. A., Al-Jaafreh, M., & Karaka, A. A. (2019). Towards a model of quality features for mobile social networks apps in learning environments: An extended information system success model. *International Journal of Interactive Mobile Technologies*, *13*(5), 75–93. https://doi.org/10.3991/ijim.v13i05.9791

Almaiah, M. A., Al-Rahmi, A. M., Alturise, F., Alrawad, M., Alkhalaf, S., Lutfi, A., Al-Rahmi, W. M., & Awad, A. B. (2022a). Factors influencing the adoption of internet banking: An integration of ISSM and UTAUT with price value and perceived risk. *Frontiers in Psychology*, *13*, 919198. https://doi.org/10.3389/FPSYG.2022.919198/BIBTEX

Almaiah, M. A., Al-Rahmi, A. M., Alturise, F., Alrawad, M., Alkhalaf, S., Lutfi, A., Al-Rahmi, W. M., & Awad, A. B. (2022b). Factors influencing the adoption of internet banking: An integration of ISSM and UTAUT with price value and perceived risk. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.919198

Alotaibi, R. S., & Alshahrani, S. M. (2022). An extended DeLone and McLean's model to determine the success factors of e-learning platform. *PeerJ. Computer Science*, *8*, e876. https://doi.org/10.7717/peerj-cs.876

Alrawad, M., Lutfi, A., Almaiah, M. A., & Elshaer, I. A. (2023). Examining the influence of trust and perceived risk on customers intention to use NFC mobile payment system. *Journal of Open Innovation: Technology, Market, and Complexity*, *9*(2), 100070. https://doi.org/10.1016/J.JOITMC.2023.100070

Al-Saedi, K., & Al-Emran, M. (2021). A Systematic Review of Mobile Payment Studies from the Lens of the UTAUT Model. *Studies in Systems, Decision and Control*, *335*, 79–106. https://doi.org/10.1007/978-3-030-64987-6_6

Anderson, J. C., & Gerbing, D. W. (1982). Some Methods for Respecifying Measurement Models to Obtain Unidimensional Construct Measurement. *Journal of Marketing Research*, *19*, 453. https://doi.org/10.2307/3151719

Andrés-Sánchez, J., & Gené-Albesa, J. (2023a). Explaining Policyholders' Chatbot Acceptance with an Unified Technology Acceptance and Use of Technology-Based Model. *Journal of Theoretical and Applied Electronic Commerce Research*, *18*(3), 1217–1237. https://doi.org/10.3390/JTAER18030062

Andrés-Sánchez, J., & Gené-Albesa, J. (2023b). Explaining Policyholders' Chatbot Acceptance with an Unified Technology Acceptance and Use of Technology-Based Model. *Journal of Theoretical and Applied Electronic Commerce Research*, *18*(3), 1217–1237. https://doi.org/10.3390/JTAER18030062

Antony, J., Budi, H., & Sudaryanto, S. (2023). Determinants of Insurance Awareness and Perceived Value and Their Impact on Unit Linked Insurance Customer Retention With The COVID-19 Pandemic as Moderator. *Journal of Social Science*, *4*, 483–505. https://doi.org/10.46799/jss.v4i2.532

Apau, R., Titis, E., & Lallie, H. S. (2025). Towards a Better Understanding of Mobile Banking App Adoption and Use: Integrating Security, Risk, and Trust into UTAUT2. *Computers*, *14*(4). https://doi.org/10.3390/computers14040144

Asadollahi, F., Zagami, S. E., & Roudsari, R. L. (2025). Understanding pregnant women's intention to use mobile health apps and its determinants: applying the UTAUT model in a mixed-methods study. *BMC Primary Care*, *26*(1). https://doi.org/10.1186/s12875-025-02950-7

Ashikin, N., Rom, M., Hidayah, N., Malek Beh, A., Shima, N., Rani, A., Hassan, N. M., Zafira, F., & Lokman, A. (2024). *INTERNATIONAL JOURNAL ON INFORMATICS VISUALIZATION journal homepage : www.joiv.org/index.php/joiv INTERNATIONAL JOURNAL ON INFORMATICS VISUALIZATION Assessing InsurTech Purchase Intentions Among Young Working Adults in Malaysia: A TRA Approach*. www.joiv.org/index.php/joiv

Ashrafi, A., Zareravasan, A., Rabiee Savoji, S., & Amani, M. (2022). Exploring factors influencing students' continuance intention to use the learning management system (LMS): a multi-perspective framework. *Interactive Learning Environments*, *30*(8), 1475–1497. https://doi.org/10.1080/10494820.2020.1734028

Bacon, D. R., Sauer, P. L., & Young, M. (1995). Composite Reliability in Structural Equations Modeling. *Educational and Psychological Measurement*, *55*, 394–406. https://doi.org/10.1177/0013164495055003003

BNM's Fintech Regulatory Sandbox 2. (n.d.). *Regulatory Sandbox - Bank Negara Malaysia*. Retrieved September 15, 2024, from https://www.bnm.gov.my/sandbox

Bohnert, A., Fritzsche, A., & Gregor, S. (2019). Digital agendas in the insurance industry: the importance of comprehensive approaches†. *Geneva Papers on Risk and Insurance: Issues and Practice*, *44*(1), 1–19. https://doi.org/10.1057/S41288-018-0109-0/METRICS

Bong, A., Ling, Y. U., Hwee, C., Soh, L., Soh, M. H., & Sin, Y. (2023). *A STUDY ON MALAYSIAN'S INTENTION TO ACCEPT DIGITAL BANK*.

Boston Consulting Group & QED Investors. (2025). *Fintech's next chapter: Scaled winners and emerging disruptors (Global Fintech Report 2025, 3rd ed.)*. Https://Web-Assets.Bcg.Com/E8/4d/5eeb786b4aefbf6c7270ed4d0afe/Fintechs-next-Chapter-May-2025.Pdf?Utm_source=chatgpt.Com.

Celik, V., & Yesilyurt, E. (2013). Attitudes to technology, perceived computer self-efficacy and computer anxiety as predictors of computer supported education.

Computers & Education, *60*(1), 148–158. https://doi.org/10.1016/J.COMPEDU.2012.06.008

Ceyla Pazarbasioglu, Alfonso Garcia Mora, Mahesh Uttamchandani, H. N., Erik Feyen, & Mathew Saal. (2020). *How Countries Can Expand Access to Digital Financial Services*. https://www.worldbank.org/en/topic/financialsector/publication/digital-financial-services

Chen, J. C., & Ha, Q. A. (2019). Factors Affecting the Continuance to Share Location on Social Networking Sites: The Influence of Privacy Concern, Trust, Benefit and the Moderating Role of Positive Feedback and Perceived Promotion Innovativeness. *Contemporary Management Research*, *15*(2), 89–121. https://doi.org/10.7903/CMR.19268

Chen, Y. H., & Chengalur-Smith, I. (2015). Factors influencing students' use of a library Web portal: Applying course-integrated information literacy instruction as an intervention. *The Internet and Higher Education*, *26*, 42–55. https://doi.org/10.1016/J.IHEDUC.2015.04.005

Cimperman, M., Makovec Brenčič, M., & Trkman, P. (2016). Analyzing older users' home telehealth services acceptance behavior—applying an Extended UTAUT model. *International Journal of Medical Informatics*, *90*, 22–31. https://doi.org/10.1016/J.IJMEDINF.2016.03.002

Cortis, D., Debattista, J., Debono, J., & Farrell, M. (2019). *Disrupting Finance*. https://doi.org/10.1007/978-3-030-02330-0

Cranley, T., & Wenger, J. (2020). *NextWave Insurance: personal lines and small commercial - How insurers must change to thrive in the next normal - EY*. https://www.readkong.com/page/nextwave-insurance-personal-lines-and-small-commercial-3921886

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, *13*(3), 319–339. https://doi.org/10.2307/249008

De Veer, A. J. E., Peeters, J. M., Brabers, A. E. M., Schellevis, F. G., Rademakers, J. J. D. J. M., & Francke, A. L. (2019). BEHAVIOURAL INTENTION TO USE TRAVEL MOBILE APPS IN MALAYSIA. *JTHEM*, *15*(1). https://doi.org/10.1186/S12913-015-0765-8

DealPotential. (2024). *Global fintech market analysis: Trends, investments, emerging startups & future outlook.Untitled Document*. Https://Dealpotential.Com/Wp-Content/Uploads/2024/03/Global-Fintech-Market-Analysis-Report-2024.Pdf?Utm_source=chatgpt.Com.

DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, *19*(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748

Dendrinos, K., & Spais, G. (2024). An investigation of selected UTAUT constructs and consumption values of Gen Z and Gen X for mobile banking services and behavioral intentions to facilitate the adoption of mobile apps. *Journal of Marketing Analytics*, *12*, 492–522. https://doi.org/10.1057/s41270-023-00271-1

Dube, N., & Humbani, M. (2024). Testing a modified information system success model in a mobile travel app context. *Electronic Journal of Information Systems in Developing Countries*, *90*(6). https://doi.org/10.1002/isd2.12339

Eling, M., & Lehmann, M. (2018). The Impact of Digitalization on the Insurance Value Chain and the Insurability of Risks. *Geneva Papers on Risk and Insurance: Issues and Practice*, *43*(3), 359–396. https://doi.org/10.1057/S41288-017-0073-0/TABLES/8

Ernst & Young Global Limited. (2021). *2021 Global Insurance Outlook: Accelerating change to create value | EY - Global*. https://www.ey.com/en_gl/insights/insurance/2021-global-insurance-outlook-accelerating-change-to-create-value

Evon, T., & Lau, J. (2016). Behavioural intention to adopt mobile banking among the millennial generation. *Young Consumers*, *17*(1), 18–31. https://doi.org/10.1108/YC-07-2015-00537/FULL/PDF

Fan, C. K., & Lee, C.-Y. (2023). An Empirical Study of Internet Insurance in Taiwan Adopting the Theoretical Framework of UTAUT2. *Journal of Applied Finance & Banking*, *13*(5), 1–28. https://doi.org/10.47260/jafb/1351

Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, *59*(4), 451–474. https://doi.org/10.1016/S1071-5819(03)00111-3

Fintech Malaysia Report. (2021). *Fintech Malaysia Report 2021 - Fintech Reaches an Inflection Point in Malaysia - Fintech News Malaysia*. https://fintechnews.my/27070/malaysia/fintech-malaysia-report-2021/

General Insurance Association (PIAM). (2023). *GENERAL INSURANCE INDUSTRY PREMIUM GREW 7.8% YoY AND UNDERWRITING PROFIT REDUCED BY 26% YoY IN 2023. INSURANCE CLAIMS PAYOUT RISES TO RM21M DAILY – Persatuan Insurans Am Malaysia*. https://www.piam.org.my/news-media/stay-ahead/articles/page/General-insurance-premiums-up-6-9-in-2024--but-profits-down/?utm_source=chatgpt.com

Gronroos, C. (1984). A Service Quality Model and its Marketing Implications. *European Journal of Marketing*, *18*(4), 36–44. https://doi.org/10.1108/EUM0000000004784

Guenther, P., Guenther, M., Ringle, C. M., Zaefarian, G., & Cartwright, S. (2023). Improving PLS-SEM use for business marketing research. *Industrial Marketing Management*, *111*, 127–142. https://doi.org/10.1016/j.indmarman.2023.03.010

Guo, X., Sun, Y., Wang, N., Peng, Z., & Yan, Z. (2013). The dark side of elderly acceptance of preventive mobile health services in China. *Electronic Markets*, *23*(1), 49–61. https://doi.org/10.1007/S12525-012-0112-4/METRICS

Gupta, A., Dogra, N., & George, B. (2018). What determines tourist adoption of smartphone apps?: An analysis based on the UTAUT-2 framework. *Journal of Hospitality and Tourism Technology*, *9*(1), 48–62. https://doi.org/10.1108/JHTT-02-2017-0013/FULL/PDF

Gupta, K. P., Manrai, R., & Goel, U. (2019). Factors influencing adoption of payments banks by Indian customers: extending UTAUT with perceived credibility. *Journal of Asia Business Studies*, *13*, 173–195. https://doi.org/10.1108/JABS-07-2017-0111

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. In *European Business Review* (Vol. 31, pp. 2–24). Emerald Group Publishing Ltd. https://doi.org/10.1108/EBR-11-2018-0203

Hair, J. F., T, H. G., Ringle C. M., &, & M, S. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). *Research Gate*, 384. https://www.researchgate.net/publication/354331182_A_Primer_on_Partial_Least_Squares_Structural_Equation_Modeling_PLS-SEM

Han, J.-S. (2023). A Study on the Quality of Delivery App, User Satisfaction and Continuous Usage Intention Based on Information Systems Success Model(ISSM): Focusing on Analysis of Differences among Individual Innovation Group. *Foodservice Management Society of Korea*, *26*, 211–237. https://doi.org/10.47584/jfm.2023.26.2.211

Hariguna, T., & Ruangkanjanases, A. (2020). *Elucidating E-satisfaction and Sustainable Intention to Reuse Mobile Food Application Service, Integrating Customer Experiences, Online Tracking, and Online Review*. *XXIX*, 122–138. https://doi.org/10.24205/03276716.2020.704

Hasan, R., Ashfaq, M., & Shao, L. (2021). Evaluating Drivers of Fintech Adoption in the Netherlands. *Https://Doi.Org/10.1177/09721509211027402*. https://doi.org/10.1177/09721509211027402

Hassan, M. S., Islam, M. A., Yusof, M. F., & Nasir, H. (2023). Users' fintech services acceptance: A cross-sectional study on Malaysian Insurance & takaful industry. *Heliyon*, *9*, e21130. https://doi.org/10.1016/j.heliyon.2023.e21130

Horvey, S. S., Godspower-Akpomiemie, E., & Asare Boateng, R. (2025). An Empirical Evaluation of the Technology Acceptance Model for Peer-to-Peer Insurance Adoption: Does Income Really Matter? *Journal of Risk and Financial Management*, *18*. https://doi.org/10.3390/jrfm18040209

Hsu, C. L., & Lin, J. C. C. (2016). Effect of perceived value and social influences on mobile app stickiness and in-app purchase intention. *Technological Forecasting and Social Change*, *108*, 42–53. https://doi.org/10.1016/J.TECHFORE.2016.04.012

Hwang, J., & Choe, J. Y. (Jacey). (2019). Exploring perceived risk in building successful drone food delivery services. *International Journal of Contemporary Hospitality Management*, *31*(8), 3249–3269. https://doi.org/10.1108/IJCHM-07-2018-0558/FULL/PDF

In, J. (2017). Introduction of a pilot study. *Korean Journal of Anesthesiology*, *70*, 601–605. https://doi.org/10.4097/kjae.2017.70.6.601

Insurance Information Institute. (2020). *Background on: Insurtech | III*. https://www.iii.org/article/background-on-insurtech

Jafri, J. A., Mohd Amin, S. I., Abdul Rahman, A., Mohd Nor, S., & Fachrudin, K. A. (2024). Determinants of Consumers' Intention to Use Mobile Banking in Malaysia: The Moderating Role of Education. *Malaysian Journal of Consumer and Family Economics*, *32*(1), 550–573. https://doi.org/10.60016/majcafe.v32.21

Jeyaraj, A. (2020). DeLone & McLean models of information system success: Critical meta-review and research directions. *International Journal of Information Management*, *54*. https://doi.org/10.1016/j.ijinfomgt.2020.102139

Jiang, S. J., Liu, X., Liu, N., & Xiang, F. (2019). Online life insurance purchasing intention: Applying the unified theory of acceptance and use of technology. *Social Behavior and Personality*, *47*(7). https://doi.org/10.2224/SBP.8141

Johnston, R., Jones, K., & Manley, D. (2018). Confounding and collinearity in regression analysis: a cautionary tale and an alternative procedure, illustrated by studies of British voting behaviour. *Quality & Quantity*, *52*, 1957–1976. https://doi.org/10.1007/s11135-017-0584-6

Joycelyn Tan. (2023). *DearTime, a Malaysian app making digital insurance more inclusive*. https://vulcanpost.com/830251/deartime-malaysian-app-digital-insurance-inclusive/

Jung, D., Dorner, V., Glaser, F., & Morana, S. (2018). Robo-Advisory: Digitalization and Automation of Financial Advisory. *Business and Information Systems Engineering*, *60*(1), 81–86. https://doi.org/10.1007/S12599-018-0521-9/METRICS

Kaliyadan, F., & Kulkarni, V. (2019). Types of variables, descriptive statistics, and sample size. *Indian Dermatology Online Journal*, *10*, 82–86. https://doi.org/10.4103/idoj.IDOJ_468_18

Kang, S. (2014). Factors influencing intention of mobile application use. *International Journal of Mobile Communications*, *12*(4), 360–379. https://doi.org/10.1504/IJMC.2014.063653

Kim, Y., Wang, Q., & Roh, T. (2021). Do information and service quality affect perceived privacy protection, satisfaction, and loyalty? Evidence from a Chinese O2O-based mobile shopping application. *Telematics and Informatics*, *56*, 101483. https://doi.org/10.1016/J.TELE.2020.101483

Koetter, F., Blohm, M., Drawehn, J., Kochanowski, M., Goetzer, J., Graziotin, D., & Wagner, S. (2019). Conversational Agents for Insurance Companies: From Theory to Practice. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *11978 LNAI*, 338–362. https://doi.org/10.1007/978-3-030-37494-5_17

Kunselman, A. R. (2024). A brief overview of pilot studies and their sample size justification. In *Fertility and Sterility* (Vol. 121, Issue 6, pp. 899–901). Elsevier Inc. https://doi.org/10.1016/j.fertnstert.2024.01.040

Lee, Y. P., Tsai, H. Y., & Ruangkanjanases, A. (2020). The Determinants for Food Safety Push Notifications on Continuance Intention in an E-Appointment System for Public Health Medical Services: The Perspectives of UTAUT and Information System Quality. *International Journal of Environmental Research and Public Health 2020, Vol. 17, Page 8287*, *17*(21), 8287. https://doi.org/10.3390/IJERPH17218287

Lefever, S., Dal, M., & Matthíasdóttir, Á. (2007). Online data collection in academic research: Advantages and limitations. *British Journal of Educational Technology*, *38*, 574–582. https://doi.org/10.1111/j.1467-8535.2006.00638.x

Lin, P. M. C., Au, W. C. W., & Baum, T. (2024). Service quality of online food delivery mobile application: an examination of the spillover effects of mobile app satisfaction. *International Journal of Contemporary Hospitality Management*, *36*(3), 906–926. https://doi.org/10.1108/IJCHM-09-2022-1103/FULL/PDF

Maheshwari, G. (2023). Factors influencing students' intention to adopt and use ChatGPT in higher education: A study in the Vietnamese context. *Education and Information Technologies*, *29*(10), 12167–12195. https://doi.org/10.1007/S10639-023-12333-Z/METRICS

Malaysia Fintech Report. (2022). *Fintech Report 2022: Malaysia Charts a New Path for Fintech Growth - Fintech News Malaysia*. https://fintechnews.my/31945/malaysia/fintech-report-malaysia-2022/

Mansyur, A., & Ali, E. M. T. bin E. (2022). The Adoption of Sharia Fintech Among Millenial in Indonesia: Moderating Effect of Islamic Financial Literacy on UTAUT 2. *International Journal of Academic Research in Business and Social Sciences*, *12*. https://doi.org/10.6007/ijarbss/v12-i4/13035

Memon, M. A., Ramayah, T., Cheah, J. H., Ting, H., Chuah, F., & Cham, T. H. (2021). PLS-SEM STATISTICAL PROGRAMS: A REVIEW. *Journal of Applied Structural Equation Modeling*, *5*, i–xiv. https://doi.org/10.47263/JASEM.5(1)06

Ming, K. L. Y., & Jais, M. (2022). Factors Affecting the Intention to Use E-Wallets During the COVID-19 Pandemic. *Gadjah Mada International Journal of Business*, *24*(1), 82–100. https://doi.org/10.22146/gamaijb.64708

Mokmin, N. A. M., & Ibrahim, N. A. (2021). The evaluation of chatbot as a tool for health literacy education among undergraduate students. *Education and Information Technologies*, *26*(5), 6033–6049. https://doi.org/10.1007/S10639-021-10542-Y

Moorthy, K., Chun T'ing, L., Chea Yee, K., Wen Huey, A., Joe In, L., Chyi Feng, P., & Jia Yi, T. (2020). What drives the adoption of mobile payment? A Malaysian perspective. *International Journal of Finance & Economics*, *25*(3), 349–364. https://doi.org/10.1002/ijfe.1756

Morgan, R. M., & Hunt, S. D. (1994). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, *58*(3), 20. https://doi.org/10.2307/1252308

Mullins, J. K., & Sabherwal, R. (2022). Just Enough Information? The Contingent Curvilinear Effect of Information Volume on Decision Performance in IS-Enabled Teams. *MIS Quarterly*, *46*(4), 2197–2228. https://doi.org/10.25300/MISQ/2022/17290

Naffaa, E. (2019). *Testing the Main Drivers of Intention to Use E-Insurance: An Empirical Study from the Jordanian Clients' Perspective*.

Najib, M., Ermawati, W. J., Fahma, F., Endri, E., & Suhartanto, D. (2021). FinTech in the Small Food Business and Its Relation with Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 88. https://doi.org/10.3390/JOITMC7010088

Ngusie, H. S., Kassie, S. Y., Zemariam, A. B., Walle, A. D., Enyew, E. B., Kasaye, M. D., Seboka, B. T., & Mengiste, S. A. (2024). Understanding the predictors of health professionals' intention to use electronic health record system: extend and apply UTAUT3 model. *BMC Health Services Research*, *24*(1). https://doi.org/10.1186/S12913-024-11378-1

Nguyen, D. M., Chiu, Y. T. H., & Le, H. D. (2021). Determinants of Continuance Intention towards Banks' Chatbot Services in Vietnam: A Necessity for Sustainable Development. *Sustainability 2021, Vol. 13, Page 7625*, *13*(14), 7625. https://doi.org/10.3390/SU13147625

Pornel, J. B., & Saldaña, G. A. (2013). Four Common Misuses of the Likert Scale. In *Philippine Journal of Social Sciences and Humanities University of the Philippines Visayas* (Vol. 18, Issue 2). https://www.researchgate.net/publication/309240449

Prasetyo, Y. T., Ong, A. K. S., Concepcion, G. K. F., Navata, F. M. B., Robles, R. A. V., Tomagos, I. J. T., Young, M. N., Diaz, J. F. T., Nadlifatin, R., & Redi, A. A. N. P. (2021). Determining Factors Affecting Acceptance of E-Learning Platforms during the COVID-19 Pandemic: Integrating Extended Technology Acceptance Model and DeLone & McLean IS Success Model. *Sustainability 2021, Vol. 13, Page 8365*, *13*(15), 8365. https://doi.org/10.3390/SU13158365

Quick, J., & Hall, S. (2015). Part three: The quantitative approach. *Journal of Perioperative Practice*, *25*, 192–196. https://doi.org/10.1177/175045891502501002

Rahman, A., & Muktadir, Md. G. (2021). SPSS: An Imperative Quantitative Data Analysis Tool for Social Science Research. *International Journal of Research and Innovation in Social Science*, *05*, 300–302. https://doi.org/10.47772/ijriss.2021.51012

Rahmat Akbar, Y., Zainal, H., Basriani, A., Zainal, R., Tinggi, S., & Persada, I. E. (2021). Moderate Effect of Financial Literacy during the Covid-19 Pandemic in Technology Acceptance Model on the Adoption of Online Banking Services. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *4*(4), 11904–11915. https://doi.org/10.33258/BIRCI.V4I4.3253

Rao, A., Schwartz, S., Viswasam, N., Rucinski, K., Van Wickle, K., Sabin, K., Wheeler, T., Zhao, J., & Baral, S. (2022). Evaluating the quality of HIV epidemiologic evidence for populations in the absence of a reliable sampling frame: a modified quality assessment tool. *Annals of Epidemiology*, *65*, 78–83. https://doi.org/10.1016/j.annepidem.2021.07.009

Ruby, D. (2025). *77+ Fintech Statistics (2025) – Growth & Market Size*. Https://Www.Demandsage.Com/Fintech-Startups-Statistics/?Utm_source=chatgpt.Com.

Saadilah, Moh. R., Hurriyati, R., & Dirgantari, P. D. (2021). Determination of User Satisfaction in Mobile Banking Services Using the Information Systems Success Model (ISSM) Perspective. *Proceedings of the 5th Global Conference on Business, Management and Entrepreneurship (GCBME 2020)*, *187*. https://doi.org/10.2991/aebmr.k.210831.050

Salisu, I., Sappri, M. M., Omar, M. F., Nasir, A., Ejaz, S., & Hossain, M. B. (2025). Social media applications through the lens of DeLone and McLean's information system success model: does perceived privacy matter? *Humanities and Social Sciences Communications*, *12*(1). https://doi.org/10.1057/s41599-025-05010-8

Sanjeewa, W. S., & Hongbing, O. (2019). Consumers' Insurance Literacy: Literature Review, Conceptual Definition, and Approach for a Measurement Instrument. *European Journal of Business and Management*. https://doi.org/10.7176/EJBM/11-26-05

Santos, P. M., & Cirillo, M. Â. (2023). Construction of the average variance extracted index for construct validation in structural equation models with adaptive regressions. *Communications in Statistics: Simulation and Computation*, *52*, 1639–1650. https://doi.org/10.1080/03610918.2021.1888122

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research* (pp. 1–47). Springer International Publishing. https://doi.org/10.1007/978-3-319-05542-8_15-2

Saunders, M. , Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students" Chapter 4: Understanding research philosophy and approaches to theory development*. https://www.researchgate.net/publication/330760964_Research_Methods_for_Business_Students_Chapter_4_Understanding_research_philosophy_and_approaches_to_theory_development

Seddon, P. B. (1997). A Respecification and Extension of the DeLone and McLean Model of IS Success. *Https://Doi.Org/10.1287/Isre.8.3.240*, *8*(3), 240–253. https://doi.org/10.1287/ISRE.8.3.240

Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, *44*, 65–75. https://doi.org/10.1016/J.IJINFOMGT.2018.09.013

Sholihah, E., Antari, I. S. W., Rochimawati, R. F., & Ulwiyyah. (2023). Determinants of BSI mobile banking adoption intentions: DeLone & McLean and UTAUT Model integration with religiosity. *Asian Journal of Islamic Management (AJIM)*, 1–17. https://doi.org/10.20885/AJIM.VOL5.ISS1.ART1

Sleiman, K. A. A., Juanli, L., Lei, H., Liu, R., Ouyang, Y., & Rong, W. (2021). User Trust levels and Adoption of Mobile Payment Systems in China: An Empirical Analysis. *SAGE Open*, *11*(4). https://doi.org/10.1177/21582440211056599

Soa. (2021). *InsurTech: A Guide for the Actuarial Community*.

Sørebø, Ø., Halvari, H., Gulli, V. F., & Kristiansen, R. (2009). The role of self-determination theory in explaining teachers' motivation to continue to use e-learning technology. *Computers and Education*, *53*(4), 1177–1187. https://doi.org/10.1016/j.compedu.2009.06.001

Statista. (n.d.). *Malaysia: total number of agents at life insurance companies 2023 | Statista*. Retrieved September 13, 2024, from https://www.statista.com/statistics/1079134/malaysia-total-number-of-agents-at-life-insurance-companies/

Stolper, O. A., & Walter, A. (2017). Financial literacy, financial advice, and financial behavior. *Journal of Business Economics*, *87*, 581–643. https://doi.org/10.1007/s11573-017-0853-9

Tam, C., & Oliveira, T. (2017). Understanding mobile banking individual performance: The DeLone & McLean model and the moderating effects of individual culture. *Internet Research*, *27*(3), 538–562. https://doi.org/10.1108/INTR-05-2016-0117

Tan, E., & Leby Lau, J. (2016). Behavioural intention to adopt mobile banking among the millennial generation. *Young Consumers*, *17*(1), 18–31. https://doi.org/10.1108/YC-07-2015-00537/FULL/PDF

Tang, K. L., Tan, P. M., & Fong, C. L. (2022). Impact of Perceived Severity and Susceptibility of Covid-19 Pandemic on m-Payment Continuance Intention: Using Technology Continuance Theory. *The Journal of Management Theory and Practice (JMTP)*, 1–9. https://doi.org/10.37231/jmtp.2022.3.3.263

Tang, K. L., Tan, P. M., Hooi, R., Low, M. P., Tan, K. E., & Yeo, K. C. (2024). PREDICTING CONTINUANCE INTENTION AND USE OF MOBILE SHOPPING APPS WITH PLS-SEM AND NECESSARY CONDITION ANALYSIS IN TANDEM. *Journal of Applied Structural Equation Modeling*, *8*(1). https://doi.org/10.47263/JASEM.8(1)02

tnglobal. (2023). *Touch 'n Go eWallet establishes one-stop insurance hub GOprotect - TNGlobal*. https://technode.global/2023/04/14/touch-n-go-ewallet-establishes-goprotect-a-one-stop-insurance-hub/

Uddin, Md. K., & Nasrin, S. (2023). Customer Satisfaction and Intention to Use Mobile Financial Services: A Systematic Literature Review. *European Journal of Business and Management Research*, *8*(1), 274–283. https://doi.org/10.24018/ejbmr.2023.8.1.1815

Ullah, S., Kiani, U. S., Raza, B., & Mustafa, A. (2022). Consumers' Intention to Adopt m-payment/m-banking: The Role of Their Financial Skills and Digital Literacy. *Frontiers in Psychology*, *13*, 873708. https://doi.org/10.3389/FPSYG.2022.873708/BIBTEX

Umran, M. F., Maupa, H., Irawan, A. P., & Sadat, A. M. (2025). Factors Influencing the Intention to Use Insurance Technology (Insurtech) Among Generation Z Using the Extended D-M Model. *Journal of Applied Data Sciences*, *6*, 1301–1318. https://doi.org/10.47738/jads.v6i2.726

UOB. (2022). *Shifting consumer habits drive Malaysia FinTech growth | UOB Tech Start-up Ecosystem*. https://www.uobgroup.com/techecosystem/news-insights-consumer-research-malaysia.html

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly: Management Information Systems*, *36*(1), 157–178. https://doi.org/10.2307/41410412

Venkatesh, V., & Zhang, X. (2010). Unified theory of acceptance and use of technology: U.S. vs. China. *Journal of Global Information Technology Management*, *13*, 5–27. https://doi.org/10.1080/1097198X.2010.10856507

Wang, J., Zhang, W., Jiang, P., Zhao, S., & Evans, R. (2024). The role of mGovernment applications in building trust during public crises: Evidence from the COVID-19 epidemic. *Heliyon*, *10*(12). https://doi.org/10.1016/j.heliyon.2024.e32476

Wang, Z., GUAN, Z., Hou, F., Li, B., & Zhou, W. (2019). What determines customers' continuance intention of FinTech? Evidence from YuEbao. *Industrial Management and Data Systems*, *119*(8), 1625–1637. https://doi.org/10.1108/IMDS-01-2019-0011/FULL/PDF

Wei, A., Abdul Talib, Y. Y., & Sharif, Z. (2025). Comparative analysis of digital health insurance platform adoption among urban–rural users: A UTAUT and financial literacy integration perspective. *Digital Health*, *11*. https://doi.org/10.1177/20552076251346656

Won, D., Chiu, W., & Byun, H. (2023). Factors influencing consumer use of a sport-branded app: the technology acceptance model integrating app quality and perceived enjoyment. *Asia Pacific Journal of Marketing and Logistics*, *35*(5), 1112–1133. https://doi.org/10.1108/APJML-09-2021-0709

Wu, J. H., & Wang, Y. M. (2006). Measuring KMS success: A respecification of the DeLone and McLean's model. *Information & Management*, *43*(6), 728–739. https://doi.org/10.1016/J.IM.2006.05.002

Xie, J., Ye, L., Huang, W., & Ye, M. (2021). Understanding FinTech Platform Adoption: Impacts of Perceived Value and Perceived Risk. *Journal of Theoretical and Applied Electronic Commerce Research 2021, Vol. 16, Pages 1893-1911*, *16*(5), 1893–1911. https://doi.org/10.3390/JTAER16050106

Xue, L., Rashid, A. M., & Ouyang, S. (2024). The Unified Theory of Acceptance and Use of Technology (UTAUT) in Higher Education: A Systematic Review. *SAGE Open*, *14*(1). https://doi.org/10.1177/21582440241229570/ASSET/IMAGES/LARGE/10.1177_21582440241229570-FIG10.JPEG

Yan, T. C., Schulte, P., & Lee Kuo Chuen, D. (2018). InsurTech and FinTech: Banking and Insurance Enablement. *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1: Cryptocurrency, FinTech, InsurTech, and Regulation*, 249–281. https://doi.org/10.1016/B978-0-12-810441-5.00011-7

APPENDIX A: SURVEY QUESTIONNAIRE

Exploring Consumer Acceptance of Insurtech Application in Malaysia

Dear Sir/ Madam/ Miss,

I am Marcus Chia Jia Chun, a final year undergraduate students of Bachelor of Financial Technology from Universiti Tunku Abdul Rahman (UTAR) and currently conducting a survey on “Exploring Consumer Acceptance of Insurtech Application in Malaysia” for my Final Year Project (FYP).

If you have any questions regarding the survey or this research project in general, please do not hesitate to contact me at jiachun125@1utar.my. Of course, you can also inquire about it with my supervisor, Dr. Lee Hui Shan, whose email is hslee@utar.edu.my.

Please be assured that all information provided in this survey will be **kept strictly confidential**. This questionnaire will roughly take **10 - 15 minutes** to complete. Your participation is highly appreciated.

Thank you very much for your time and support! Have a wonderful day!🥰🥰🥰

* Indicates required question

1. Email *

Skip to question 2Skip to question 2

Section A : Initial Demographic Profilers

The following questions refer to general demographic information. Please provide the appropriate responses by placing a **(√)** in the brackets provided to represent your answer.

2. Q1. What is your gender? *

Mark only one oval.

- ◯ Male
- ◯ Female

3. Q2. What is your age? *

Mark only one oval.

- 18-20 years
- 21-25 years
- 26-30 years
- 31-35 years
- 36-40 years
- 41-45 years
- 46 years or above

4. Q3. What is your marital status? *

Mark only one oval.

- Single (never married)
- Married
- Divorced
- Widowed

5. Q4. What is your education level? *

Mark only one oval.

- No Formal Education
- Primary School
- Secondary School
- Pre-university/Foundation/STPM/A-level
- Certificate of Diploma
- Bachelor of Degree
- Postgraduate
- Professional Qualifications

6. Q5. What is your employment status? *

Mark only one oval.

- Student
- Employee - Private Sector
- Employee - Government Sector
- Gig Worker
- Employer
- Self-employed
- Unemployed
- Housewife
- Retired

7. Q6. Do you think insurance is important? *

Mark only one oval.

- Very important
- Important
- Neutral
- Not very important
- Not important at all

8. Q7. What type of insurance(s) do you have? (Tick as many as apply) *

Tick all that apply.

- [ ] Life Insurance
- [ ] Health Insurance (Medical Card, Critical Illness, etc.)
- [ ] Non-Life Insurance (such as car insurance, travel insurance, etc.)
- [ ] I don't have any insurance

9. Q8. What company are you currently insured with? *

Tick all that apply.

- [ ] AIA
- [ ] Allianz
- [ ] AmMet
- [ ] Etiqa Takaful & Insurance
- [ ] Prudential
- [ ] Great Eastern
- [ ] Zurich
- [ ] Manulife
- [ ] Hong Leong Assurance (HLA)
- [ ] Tokio Marine
- [ ] AXA Affin
- [ ] MSIG Insurance
- [ ] RHB Insurance
- [ ] FWD
- [ ] MCIS
- [ ] Sun Life Insurance
- [ ] Berjaya Sompo （General Insurance)
- [ ] Chubb (General Insurance)
- [ ] Liberty (AMG,General Insurance)
- [ ] Liberty (LIB,General Insurance)
- [ ] Lonpac (General Insurance)
- [ ] I don't have any insurance
- [ ] Other: _____

10. Q9. Do you have experience using Insurtech applications? *

Insurtech refers to *"insurance technology"*, which leverages innovations such as artificial intelligence (AI), big data, blockchain, and machine learning to enhance and automate processes in the traditional insurance industry.

In this study, **Insurtech applications** refer specifically to **mobile apps** that incorporate these technologies to provide users with more efficient, accessible, and personalized insurance services—such as managing policies, filing claims, and purchasing coverage.

Mark only one oval.

- ◯ Yes *Skip to question 11*
- ◯ No *Skip to question 12*

Skip to question 12

Section A1: Current Insurance Provider

This section is aimed at understanding which insurance provider or InsurTech app you are currently using to help us analyze user preferences and market coverage.

11. Q10: Which is/are the Insurtech app you use currently? (Tick as many as apply) *

Tick all that apply.

- [ ] AIA +
- [ ] MyAlianz MY
- [ ] AmMet
- [ ] Etiqa+
- [ ] MyPrudential
- [ ] Great Eastern (E-connect) / Great Eastern Life
- [ ] Zurich Malaysia : MyZurich
- [ ] Manulife
- [ ] HLA360°
- [ ] MyTokioApp
- [ ] AXA - Global Healthcare
- [ ] MY MSIG
- [ ] RHB Insurance
- [ ] FWD
- [ ] MCIS
- [ ] Sun Life Insurance
- [ ] MySOMPO
- [ ] Chubb
- [ ] Liberty
- [ ] Touch 'n Go eWallet (Goprotect, Car insurance, etc)
- [ ] Lonpac
- [ ] Other: _____

Skip to question 12

Section B : Expected Satisfaction for InsurTech App

In this section, we aim to understand your expected satisfaction level with potential use of InsurTech applications. Whether or not you have used such applications, based on the **information you know or your understanding** of this technology, please evaluate how the service quality, system quality, and information quality of an Insurtech app **might enhance your satisfaction and increase your intention to use it**.

[1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree]

Note: Scale 1 indicates that you strongly disagree with the statement and 5 indicates you strongly agree with the statement

12. **Information Quality** *

Definition : The effectiveness of Information Systems (IS), including usefulness, understandability, and reliability.

Mark only one oval per row.

	1	2	3	4	5
The information provided in the Insurtech app is to be understandable.	◯	◯	◯	◯	◯
The information provided by Insurtech app is to be up to date.	◯	◯	◯	◯	◯
The information provided on Insurtech app is to be complete and abundant.	◯	◯	◯	◯	◯
The information provided on Insurtech app is to be reliable.	◯	◯	◯	◯	◯
The information provided by the Insurtech app is interesting.	◯	◯	◯	◯	◯

13. **Services Quality** *

Definition : Service Quality is defined as the overall evaluation of the support services provided by an information system. It includes aspects such as responsiveness, reliability, technical support and customer services support.

Mark only one oval per row.

	1	2	3	4	5
The Insurtech app is to be always willing to help whenever I need support with the insurance services.	⬭	⬭	⬭	⬭	⬭
I think the Insurtech app has enough knowledge to answer my questions concerning insurance.	⬭	⬭	⬭	⬭	⬭
The Insurtech app is to be provides personal attention when I experience problems using the apps.	⬭	⬭	⬭	⬭	⬭
The Insurtech	⬭	⬭	⬭	⬭	⬭

app is to be provides services related to insurance at the promised time.

14. **System Quality** *

Definition : The effectiveness of systems, including ease of use, functionality, and convenient access.

Mark only one oval per row.

	1	2	3	4	5
I think the page layout Insurtech app is clear.					
Insurtech apps is to be offer appropriate functionality. (like allow users to submit claims online, track policy status).					
Insurtech app is to be allows me to easily operate specific functions (such as looking up payment information).					
Insurtech app services is/should be allow me finding insurance information effortlessly.					

I think the

Insurtech app system are well structured for insurance activities.					

15. **User Satisfaction** *

Definition : Expected satisfaction refers to the expected level of contentment a person believes they will derive from a product or service before actually experiencing it.

Mark only one oval per row.

	1	2	3	4	5
I think I would be content with the overall experience of using an Insurtech app.	⬭	⬭	⬭	⬭	⬭
I anticipate that I would be delighted with the overall experience of using an Insurtech app.	⬭	⬭	⬭	⬭	⬭
I expect I would be pleased with the overall experience if using an Insurtech app.	⬭	⬭	⬭	⬭	⬭

Skip to question 16

Section C : Behavioural Intention of Using Insurtech Application & Factors

Please indicate your level of agreement with the following statements regarding your intention to use Insurtech applications and the factors influencing it. It mean that if the Insurtech app possesses these features, how are you intention to use it?

[1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree]

Note: Scale 1 indicates that you strongly disagree with the statement and 5 indicates you strongly agree with the statement

16. **Performance Expectancy** *

Definition : The degree to which people believe a technology will improve their performance.

Mark only one oval per row.

	1	2	3	4	5
Using Insurtech app is very useful in my insurance-related transactions.	◯	◯	◯	◯	◯
Using Insurtech app increases my productivity in insurance policy handling.	◯	◯	◯	◯	◯
Using Insurtech app enables me to faster resolution of issues with my policies.	◯	◯	◯	◯	◯
Using Insurtech app improves my overall insurance-related transaction performance.	◯	◯	◯	◯	◯

17. **Effort Expectancy** *

Definition : How easily a person feels they can use a technology, reflecting their comfort and effort to learn and operate it.

Mark only one oval per row.

	1	2	3	4	5
I find the Insurtech app easy to use.	◯	◯	◯	◯	◯
It would be easy for me to become skillful at using the Insurtech app.	◯	◯	◯	◯	◯
I find the Insurtech app flexible to interact with me.	◯	◯	◯	◯	◯
My interaction with Insurtech app is clear and understandable.	◯	◯	◯	◯	◯

18. **Social Influence** *

Definition : Social Influence refers to the degree to which an individual perceives that important others, such as friends or family, believe they should use a particular technology or service.

Mark only one oval per row.

	1	2	3	4	5
People who are important to me think that I should use Insurtech app.					
People who influence my behaviour think that I should use Insurtech app.					
People whose opinions that I value prefer that I use Insurtech app.					
People around me consider it appropriate to use Insurtech app.					

19. **Trust** *

Definition : Trust is the confidence a user places in a technology, based on the expectation of reliable, effective, and secure performance.

Mark only one oval per row.

	1	2	3	4	5
The Insurtech app enable the insurance company to fulfil its commitments and obligations.	⬭	⬭	⬭	⬭	⬭
The Insurtech app to interact with the insurance company considers the interests of policyholders.	⬭	⬭	⬭	⬭	⬭
I believe my insurance company's app is trustworthy.	⬭	⬭	⬭	⬭	⬭
Insurtech app has capable features to protect my privacy.	⬭	⬭	⬭	⬭	⬭

20. **Perceived Risk** *

Definition : Perceived Risk is the extent to which a user feels uncertain about the potential negative consequences of using a technology.

Mark only one oval per row.

	1	2	3	4	5
Compared with traditional agency assistance, information security problems are more likely to appear in Insurtech app.	◯	◯	◯	◯	◯
Using Insurtech app is associated with a high level of risk.	◯	◯	◯	◯	◯
A decision to use Insurtech app are risky.	◯	◯	◯	◯	◯
Others may know information about my insurance-related transactions if I use this app.	◯	◯	◯	◯	◯

21. **Technology Anxiety** *

Definition : Technology Anxiety refers to the apprehension or fear a user experiences when faced with using new or complex technology.

Mark only one oval per row.

	1	2	3	4	5
I feel apprehensive about using Insurtech app.					
It scares me to think that I could cause the Insurtech app to induce bad and consequences due to wrong operation.					
I hesitate to use technology for fear of making mistakes I cannot correct.					
Insurtech apps are somewhat intimidating to me.					

22. **Insurance Literacy** *

Definition : Insurance literacy is your knowledge on insurance products.

Mark only one oval per row.

	1	2	3	4	5
I have a good level of knowledge about insurance matters.					
I have a high ability to apply my knowledge about insurance in practice.					
I understand the different types of insurance policies available and their benefits.					
I can effectively assess my insurance needs and choose appropriate coverage options.					

23. **Behavioral Intention** *

Definition : Behavioral Intention refers to a person's perceived likelihood or willingness to engage in a particular behavior, such as using a technology or service, based on their attitudes, beliefs, and perceptions.

Mark only one oval per row.

	1	2	3	4	5
I intend to use the Insurtech app in the future.	⬭	⬭	⬭	⬭	⬭
I agree in interacting with a Insurtech app to make procedures with my insurer.	⬭	⬭	⬭	⬭	⬭
I believe that I will employ Insurtech app to interact with the insurer regarding my policies.	⬭	⬭	⬭	⬭	⬭
I will recommend Insurtech app to my friends for insurance-related activities and transactions.	⬭	⬭	⬭	⬭	⬭

24. **Use Behavioral** *

Definition : Use Behavior refers to the actual actions taken by individuals when they interact with and utilize a technology or service, as distinct from their intentions or attitudes.

Mark only one oval per row.

	1	2	3	4	5
I sometimes use Insurtech app to conduct insurance-related activities..	◯	◯	◯	◯	◯
I would take advantage of Insurtech app for my Insurance-related activities.	◯	◯	◯	◯	◯
I always use Insurtech app to conduct insurance-related activities..	◯	◯	◯	◯	◯
Given that I have access to a mobile phone, I would use Insurtech app.	◯	◯	◯	◯	◯

25. **Perceived Credibility** *

Definition : Perceived Credibility refers to the extent to which a user views a technology or its provider as having expertise and authority in their field.

Mark only one oval per row.

	1	2	3	4	5
Insurtech app seem dependable.	◯	◯	◯	◯	◯
Insurtech app seem reliable.	◯	◯	◯	◯	◯
I will not incur the risk of financial losses by using Insurtech app.	◯	◯	◯	◯	◯
The Insurtech app providers are known for their credibility.	◯	◯	◯	◯	◯