DECODING CRYPTOCURRENCY ADOPTION INTENTIONS IN MALAYSIA: A TRUST DRIVEN TAM MODEL WITH FINANCIAL LITERACY AS A MODERATOR

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DECEMBER 2025

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BY

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A research project submitted in partial fulfilment of the requirement for the degree of

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DECLARATION

I hereby declare that:

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

(2) No portion of this 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.

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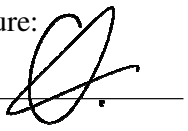
Chen Chloe	2206567	

Date: 15/12/2025

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to Dr Agha Jahanzeb, my supervisor, whose patience and guidance has led me to finish this research soothingly. From our earliest discussions that refined the scope and sharpened the research questions to the detailed feedback that strengthened the analysis and presentation of results, his mentorship has been invaluable. Dr Agha's intellectual generosity and high standards of academic rigour, even amidst numerous times has challenged me to think more critically, write more precisely, and persevere when the work became demanding. I am sincerely and profoundly grateful.

My heartfelt appreciation also goes to University Tunku Abdul Rahman (UTAR) and the Faculty of Accountancy and Management (FAM) for providing the resources and supportive environment that made this study possible. The access to facilities, software, and library databases enabled me to carry out my research conveniently and efficiently, providing me with the necessary equipment.

I would also like to express my gratitude to all respondents who took their time out to answer my survey. Their willingness to share their perspectives and answer all of the tedious questions made this research viable and meaningful. I recognise that participation in research requires trust and consideration, and I have endeavoured to honour that trust through careful data handling, ethical practice, and transparent reporting. Without their thoughtful responses, the findings presented here would not have achieved their current relevance.

I am extremely grateful to my family and friends for their unconditional love and support throughout this journey. Their steady reassurance during periods of doubt, and constant belief in my ability to complete this work provided the emotional anchor I needed. To all of my friends, thank you for your motivation, and unwavering support in letting me sacrifice my time and energy into this research, instead of spending quality time with everyone. Your support transformed

challenges into manageable steps and made the process far more purposeful and rewarding.

I also wish to acknowledge my peers and colleagues who offered thoughtful suggestions and shared references with openness and generosity. I am truly grateful for those, even if the relationship between us were not close, who provided help, whether about interpreting a result, refining a survey item, or cross checking our research papers.

To everyone who, in ways big and small, strengthened this project—Dr Agha Jahanzeb; UTAR and FAM; the survey respondents; my family and friends; and supportive peers and colleagues—please accept my sincere thanks. Your collective contributions are woven into every chapter of this thesis.

DEDICATION

This thesis is dedicated with deepest gratitude to Dr Agha Jahanzeb, whose guidance, encouragement, and constant support have shaped every stage of this research. His thoughtful feedback and continuous recommendation on improving my work have continually challenged me to think more critically and work harder than ever. I am truly privileged to have learned under his supervision.

I dedicate my work to University Tunku Abdul Rahman (UTAR) and the Faculty of Accountancy and Management (FAM) for providing such helpful environment and resources and that made this study possible. My appreciation goes beyond to the administrative and academic staff whose assistance smoothed the practical aspects of conducting the research.

With heartfelt thanks, I dedicate this achievement to my family and friends, whose tolerance, motivation, and unwavering support in me kept me going from the beginning to end. Finally, I would like to express my gratitude to all of the respondents who devoted their time and effort to complete my survey. It is because of their contributions only am I able to build the foundation of my analysis

PREFACE

This study was conducted due to the rapid evolution of financial technology where cryptocurrency was becoming one of the major investment decisions worldwide, thanks to blockchain technology. This has contributed to the of growth of investment knowledge and digital platforms related to digital financial investing. In Malaysia, investment literacy is growing, yet investor adoption continues to progress at different speeds. That is why this observation has motivated the research titled "Decoding Cryptocurrency Adoption Intentions in Malaysia: A Trust Driven TAM Model with Financial Literacy as a Moderator".

This study was also shaped by the researcher's personal interest in investments and digital wealth management, where the idea of finance and technology merging together creates anticipation and futurism on where the industry could develop into, especially on the topic of cryptocurrency. Although cryptocurrency is widely talked about and is growing in interest by many people, adoption levels in Malaysia still varies among individuals. While some users are drawn to the advantages and potential innovation of cryptocurrency, some users have concerns about its security, trustworthiness and riskiness. Hence, it is crucial to determine which of these variables affects the intention to adopt cryptocurrency, particularly in Malaysia where user's level of financial capability and literacy varies. Future more, there is limited research on the adoption of cryptocurrency in developing countries like Malaysia, and especially to younger generations.

I hope that this research study could be beneficial to other researchers, educators and practitioners by highlighting the factors that affect cryptocurrency adoption in Malaysia for young adults. Future research is encouraged to expand on the results reported in this study, and limitations that are pointed out in this study are acknowledged.

ABSTRACT

This study explores the adoption intentions of cryptocurrency for young adults in Malaysia, considering both the financial and psychological aspects in adopting cryptocurrency. This study focuses on using the Technology Acceptance Model (TAM), representing the psychological factors, while employing external factors like perceived risk, perceived security and perceived trust, along with financial literacy as the moderating variable. The research was conducted through distributing questionnaires using Google Forms to a total target audience of 315. For this study, Partial Least Square Structural Equation Modelling (PLS-SEM) is the statistical method used to analyse the data, while using SmartPLS as the supporting software. Results in this research concluded that Perceived Risk, Perceived Trust, Perceived Security and Financial Literacy were only partially supported by the model. Perceived Ease of use has significance in the behavioural intention to adopt, while Perceived Usefulness does not. These results tell us that the main driver for cryptocurrency adoption is behavioural intention and perceived ease of use, while perceived usefulness is not as significant. This study helps understand the factors that pushes cryptocurrency adoption rate in Malaysia. Insights from this study could be beneficial to policymakers and financial institutions to improve the cryptocurrency adoption rate in Malaysia, aiming to push our technological and financial development one step further. Developers could also develop applications that are more user-friendly where clear instructions are essential to enhance simplicity, increasing the overall adoption rate in Malaysia, especially towards younger generations.

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LIST OF ABBREVIATIONS

AU	Actual Usage
AVE	Average Variance Extracted
BI	Behavioral Intention
BNM	Bank Negara Malaysia
CFA	Confirmatory Factor Analysis
CR	Composite Reliability
EE	Effort Expectancy
FL	Financial Literacy
GDP	Gross Domestic Product
HTMT	Heterotrait-Montrait Ratio
OECD	Organization for Economic Co-operation and Development
PEoU	Perceived Ease of Use
PLS	Partial Least Square
PR	Perceived Risk
PS	Perceived Security
PT	Perceived Trust
PU	Perceived Usefulness
SEM	Structural Equation Modelling
TAM	Technology Acceptance Model
TPM	Theory of Planned Behavior

TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and use of Technology
VIF	Variance Inflation factor

CHAPTER 1 : INTRODUCTION

1.0 Research Background

Cryptocurrency, a ground-breaking invention that has completely changed our perception about money, investments, and technology. In just over a decade, cryptocurrency has causing worldwide disruption in the financial sector, but in a positive and innovative way. It went from being written off as a fraud or "magic internet money" to becoming a multi-trillion-dollar market. The value and widespread acceptance of cryptocurrency has been rapidly growing in the coming years. According to CoinMarketCap[1], the cryptocurrency market cap is at $3.68 trillion USD as of 13 July 2025. Despite the appearance of thousands of cryptocurrencies, Bitcoin managed to maintain its position as one of the largest cryptocurrency because of its great brand awareness, network security, and first-mover advantage. One of the reasons for committing so much commotion is because it was the first time people viewed money that exists in a digital form, beyond control from government and banks, and only accessible through the Internet. This mind blowing concept of money has captivated and gained the attention of everyone, which caused cryptocurrency to become what it is today. Due to the increasing popularity and growing acceptance of cryptocurrencies like Bitcoin and Ethereum, it resulted in the global economy and the financial industry to change and evolve (Albayati et al., 2020).

Surprisingly, Bitcoin was not the first cryptocurrency ever created. The concept of digital currency was first explored during the 1990s with projects like eCash and B-money (Reiff, 2024). However, it was never fully implemented. Bitcoin was the first successful cryptocurrency to surface, created by an anonymous group or computer programmer that goes by the name of Satoshi Nakamoto in 2009. Its aim for creating Bitcoin was to offer a safe, autonomous way to store value and conduct

[1]CoinMarketCap: A widely used online platforms for monitoring cryptocurrencies activities and other digital assets.

business with anyone globally without the help of third party services like banks, payment processors, or currency exchanges. Nakamoto is determined to prove that transactions could be conducted online without the assistance of a financial institution since they felt that trust between the buyer and seller was the only thing required. Without the ability to intervene, a limited currency with no central manager would simply let the market to determine its value.

Blockchain technology makes it possible for any decentralized digital currency to become what it is by providing a transparent and automatic data storage without requiring a centralized control (Delgado-Von-Eitzen et al., 2025). In a nutshell a blockchain is an unchangeable chain of data records, each marked with a timestamp. Decentralization is ensured by the fact that these records are run by a network of computers as opposed to a single owner. Every block of data is secured using cryptography and linked together to form a continuous, tamper-proof chain (Fang et al., 2022). Essentially, blockchain technology is a platform that powers cryptocurrency. It functions as a network-wide shared digital ledger that enables transactional activity and the sharing of secured information. It is a system for electronic transactions that does not rely trust, and that is what makes cryptocurrency appreciated by everyone (Satoshi Nakamoto, 2008).

With several universities offering specialized courses in blockchain and cryptocurrency, there has been a discernible trend in recent years of students growing interested in cryptocurrencies not only as financial opportunities but also as a promising career route (Venkatesh & Sangavi, 2024). This further proves how legitimately accepted this field is advancing, underscoring the fact that cryptocurrencies are no longer only seen as speculative assets but are now recognized as a crucial field of study and expertise for future economic and professional advancement. According to the New Straits Time (Yusof, 2021), it is announced that one of Malaysia's biggest cryptocurrency platform, Luno Malaysia, has amassed more than RM1 billion in digital assets under management (DAUM), marking a significant milestone ever since its establishment in Malaysia in 2019. This report shows that there is an increasing positive cryptocurrency demand in

Malaysia, which signals the growing market for alternative investment instruments and its potential into building a broader financial ecosystem.

Furthermore, there are various studies exploring the intention to adopt cryptocurrency among young generations like Gen Z and millennials (Olowolayemo et al., 2023b; Janteng et al., 2024). This further proves that the potential in young adults in this generations are keen and open to adopting to new innovations. According to Gagarina et al. (2019), young people tend to exhibit a deeper curiosity and enthusiasm for cryptocurrency and is more likely to accept the associated risk. Janteng et al. (2024) results indicate that although millennials have limited expertise in managing their financials, they somehow show high interest and acceptance for conducting transactions with blockchain-based technologies like cryptocurrency. This goes to show that young adults are the suitable target population to be studied, which further pushes the justification of studying young Malaysian's intention to adopt cryptocurrency in this study. Prior studies have found that individuals between that age bracket of 18 years old to a range of someone in their 30s tend to seek interest in the intention to adopt cryptocurrency (Janteng et al., 2024; Doblas, 2019).

Although the cryptocurrency market is rapidly widening in Malaysia, it is important to note that Bitcoin is not recognised as legal tender in Malaysia. Bitcoin's operation is not being regulated by the Central Bank. Therefore, the public is advised to be cautious when dealing with the usage of such digital currency as many might underestimate the risk associated with utilizing digital currency (Bank Negara Malaysia, n.d.) Despite this barrier, Malaysians are still not afraid to venture into the world of digital currency (Wong, S. C. et al., 2022). Hence, it is crucial for us to understand the factors that influence cryptocurrency adoption behaviour among Malaysians.

1.1 Problem Statement

Over the past ten years, the cryptocurrency market has expanded significantly, reaching a new high in November 2021 with a market valuation of $3 trillion as Ethereum and Bitcoin raced to reach all-time highs (Lau, 2021). With the growing adaptation on cryptocurrency usage in today's day and age, there is insignificant knowledge about how Malaysians perceive and adopt to these digital assets, especially in the setting where their legal use is limited to investing in Malaysia, representing a critical knowledge gap for regulators and policymakers. Most of the past studies either primarily focuses on the technical and financial aspects on the intention of cryptocurrency or the psychological and behavioural aspects.

Behavioural and psychological studies usually focus on factors like trust, attitude, perceived benefits and other factors to determine the intention of cryptocurrency adoption for Malaysians. According to Olowolayemo et al. (2023), their paper on "Understanding the Determinates of Cryptocurrencies Adoption Among Young Malaysians" has proven that Perceived Benefits and Perceived Trust in crypto significantly influenced the behavioural intentions, with perceived benefits having the highest influence. Technical and financial studies often examine factors like economic conditions, inflation, financial literacy and more to determine how economic measures influence the intention of cryptocurrency adoption for Malaysians. Examples of using technical and financial perspective were Guo et al. (2025), where they concluded that cryptocurrency adoption has negative relationships with GDP growth rate, unemployment rate, and governance quality corruption index. However, they have found out that factors like digital readiness, economic situation and monetary policies helps drive cryptocurrency adoption.

The current research gap thus lies in the absence of an integrated studies where it combines both the financial-risk and psychological perspectives within a single model, especially in Malaysia. For example, a study conducted by Ali (2024) stated that their study attempts to address to gap of including factors theoretically and empirically, but it was only limited to the Lebanese market. It was also advised that other variables such as financial literacy, perceived ease of use of crypto

applications, perceived risk, etc other variables could be added to the model. This gap hinders regulators and educators to properly promote the use and adoption of cryptocurrency to Malaysians without truly understanding the motivation and reason behind the limitation. Therefore, this study aims to address the said gap by combining both financial and psychological aspects in a single TAM model, where factors like perceived usefulness, perceived ease of use, perceived risk, perceived security and trust affect the behavioural intention of Malaysians to use cryptocurrency with financial literacy as the moderating variable

1.2 Research Questions

RQ1: Does perceived usefulness and perceived ease of use significantly influence Malaysians' behavioural intention to use cryptocurrency?

RQ2 : Does external variables (perceived trust, perceived security and perceived risk) significantly influence Malaysians' intention to adopt cryptocurrency?

RQ3 : Does financial literacy moderate the relationship of perceived usefulness and perceived ease of use on behavioural Intention in the intention to adopt cryptocurrency?

RQ4 : Does behavioural intention affect the actual usage of users in the intention to adopt cryptocurrency?

1.3 Research Objectives

RO1: To examine the influence of perceived usefulness and perceived ease of use on Malaysians' behavioural intention to use cryptocurrency.

RO2 : To investigate the effect of the external variables (perceived trust, perceived security and perceived risk) on the adoption of cryptocurrency.

RO3 : To examine the moderating effect of financial literacy on the relationship of perceived usefulness and perceived ease of use on behavioural Intention in the intention to adopt cryptocurrency.

RO4 : To determine the relationship between Behavioural Intention and Actual Usage on the adoption of cryptocurrency.

1.4 Significance of Study

With rapid technological progress, cryptocurrency has emerged as a groundbreaking force in the financial world, holding the potential to reshape the global financial system and possibly take the place of traditional banking models (Mohammed, 2021). However according to Doblas (2019), the future of cryptocurrency all depends on the how much people choose to use it and how willing businesses are to accept it. Knowing what drives cryptocurrency adoption is key to better predicting its future and identifying new opportunities in this fast-changing space. For instance, a study conducted by Kim (2021) revealed that power-prestige, retention-time, and mistrust were the key factors in affecting the behavioural intention to use. These findings could address the reason why customers are more inclined to adapt and utilise Bitcoin for their everyday transactions after COVID-19. The adoption of cryptocurrency is crucial because it is a form of money offers strong security, fast transactions, operates independently of banks, and allows for complete anonymity. If businesses gained acceptance of using cryptocurrency, it could indicate a bright future for our technological advancements (Alomari & Abdullah, 2023)

This study could play a significant role to us as the acceptance of cryptocurrency in Malaysia is still in its early stages for adoption compared to other developed countries (Wong et al., 2022). There are many studies conducted on the adoption of

cryptocurrency in developed countries like USA, UK or EU. However, there is still insufficient research about the adoption of cryptocurrency in Malaysia, especially concerning the perceptions of existing and potential users. The shortage of local research makes it harder for decision-makers and businesses to make informed financial decisions. Relying on strategies and trends from developed countries risks overlooking Malaysia's unique economic, cultural, and regulatory context. One of the main obstacles is the lack of understanding and awareness of cryptocurrencies, as individuals are either unaware of the fundamental risk and reward system before exploring into this trading world. (Sukumaran et al., 2022) Particularly in the domains of taxation and licensing, a lack of regulatory information breeds ambiguity and confusion, which is then followed by potential fraud and scams that call for enforcement and monitoring.(Agarwalla et al.,2012). Following the above statement, adoption must also be adopted with the correct intention, otherwise the opposite effect could fall into play, which is not desired. Understanding how cryptocurrency adoption plays out in a developing country like Malaysia can help other developing countries that are in similar economical situations and growth.

The implication of this study could provide justice to those individuals who needs answers on cryptocurrency adoptions in Malaysia. This research could greatly benefit policy makers and regulators in developing a robust legal and regulatory framework aimed towards cryptocurrency usage in Malaysia (Kajol et al., 2025). Understanding public perceptions, especially with relation to security and awareness, is important when developing policies that boost confidence and reduce cybercrime risks. Due to the emphasis on financial literacy in this study, it emphasises the need for educational programmes and organisations to raise the public's awareness on the benefits and drawbacks of cryptocurrencies, especially among young individuals and college students, as it could help Malaysians make better-informed investment choices and encourage sustainable financial practices (Janteng et al., 2024).

1.5 Outline of Study

This chapter has summarized the introduction and background study of cryptocurrency, while stating the problem statement for the intention to adopt cryptocurrency in Malaysia. This research aims to investigate subjective norms like perceived trust, perceived security and perceived risk, using financial literacy as a moderating variables. Other than that, research objectives and questions were stated, along with the explanation on the significance in conducting this study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter, foundational theories has been further explored, examining them in greater depth to better understand their significance and applications. This includes deeper understanding of the independents and dependent variables, while exploring the conceptual framework and how it links between the independent and dependent variables. Lastly, this chapter concludes with the hypothesis development for the intention to adopt cryptocurrency in Malaysia.

2.2 Historical Context on Cryptocurrency

The rise of cryptocurrency represents an exciting and significant innovation in the financial market, positioning itself to potentially be what seems like the next chapter for traditional financial systems (Mohammed, 2021). The emergence and evolution of cryptocurrencies roots from blockchain technology, an inventive computing design that allows a new and transparent peer-to-peer (P2P) electronic payment network without the help from third party financial services. It is built on a decentralized concept where it does not require direct trust between parties and organizations (Nakamoto, 2010). The birth of cryptocurrency was essentially founded in 2008, when the white paper "Bitcoin: A Peer-to-Peer Electronic Cash

System" was published under the pseudonym Satoshi Nakamoto (Tredinnick, 2019). After this groundbreaking invention, The first and most famous cryptocurrency, Bitcoin, was initially utilized in 2009. From then on, Bitcoin started to grow and gain popularity. Due to its anonymity and lack of regulation, it was first utilised for illicit activities, but later on developed into a speculative financial asset whose value was largely determined by investor sentiment

The rapid development of cryptocurrency became as such not just because it benefited individuals, but also benefited the entire financial banking system. The main reason was because of its peer-to-peer transactions that made payment methods quicker, cheaper and more efficient, especially when they are conducted internationally (Kim, 2021). Due to its decentralized nature, it erases the need for financial institutions to act as intermediaries, meaning that transactions do not need to go through multiple parties, which lowers transaction costs and increases the overall efficiency (Doblas, 2019). Other than that, the potential cryptocurrency has is revolutionary, especially towards national economies and ultimately, developing countries (Patil et al., 2020b). It can promote financial inclusion by providing diverse tools to customers who are neglected or underserved by the traditional banking system. Moreover, it acts as an opportunity for investors to diversify their portfolios. Investing in cryptocurrency opens up a new portal for investors as it contains thousands of different tools for investors to invest in. It also acts as a a "store of assets and value" or a "digital gold" during uncertain economic times (Tönnissen et al., 2020). Additionally, because of this innovative development, consumer's financial interest and payment preferences have changed, while introducing new competitive forces to the existing financial intermediaries in the market (Schaupp & Festa 2018).

Of course, the adoption of cryptocurrency is not applicable to everyone. The intention to adopt depends on the individual's perceived perception and their values and beliefs in implementing cryptocurrency in their financial program. Despite cryptocurrency's rapid expansion, cryptocurrencies still face major challenges like high market volatility, investment risks and legal pressures (Ante et al., 2020). Many users might not fully comprehend these risks, particularly new investors (P.

Venkatesh & Sangavi, 2024b). Similarly, Cryptocurrency's perceived utility as a medium of exchange is diminished by the limitations of actual services that accept cryptocurrency as a payments method (Giudici et al., 2020). Reasons like these are why the adoption of cryptocurrency among Malaysian millennials and the public are lacking.

Though, cryptocurrency in the Malaysian market still plays a significant effect in our financial market. Between August 2020 and September 2021, digital assets worth more than MYR 16 billion (USD 3.85 billion) and cryptocurrencies were traded, according to an October 2021 announcement from Malaysia's Securities Commission (SC), suggesting a growth in the number of active crypto investors in Malaysia (Albayati et al., 2020). According to Olowolayemo et al. (2023), Malaysian university students and young graduates still continuous shows interest in digital currencies. Even after all these effort to adopt, it must be reminded that Although there is use no explicit prohibition or ban on the use of cryptocurrency, it is not recognized as a legal tender in Malaysia (Hamedani et al., 2025).

2.3 Theoretical Framework and Models

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), originally developed by Davis (1989) and later improved by other scholars, is one of the most widely recognized frameworks for evaluating the adoption of new technologies (Hobeika et al., 2025). Built on the Theory of Reasoned Action (TRA), TAM focuses on the psychological and cognitive factors that influence technology adoption. Over the years, it has proven useful across many areas, including education systems, e-commerce platforms, and even newer digital innovations. In a financial aspect, TAM is usually used to predict or forecast the adoption or acceptance of cryptocurrency (Folkinshteyn & Lennon, 2016).

In a typical TAM model, there are two essential construct : Perceived Usefulness (PU) and Perceived Ease of Use (PEoU). PU refers to the extent where a user

believes that utilizing a specific system would enhance the job performance (Aljarrah et al., 2016). For instance, employee's intention to adopt a new tool might potentially increase if they see it as helping them save time or complete tasks more effectively. On the other hand, PEoU refers to the degree which an individual perceives that using the system will be effortless and uncomplicated to operate. A system that is straightforward and easy to understand is far more likely to gain acceptance, especially among users who aren't very tech-savvy.

TAM has been used many times in studies related to technology usage and has shown good results in calculating behavioural intention for new technology. However, it often needs customization and integration with external variables to accurately assess new technologies like blockchain and cryptocurrencies (Albayati et al., 2020). For example, one study extended TAM with attitude, government support, digital financial literacy, and value of status quo to study FinTech adoption among women in Indonesia (Igamo et al., 2024). It is also supported by other peers as scholars have recommended that extending the TAM model could be suitable for studying FinTech adoption (Nakisa et al., 2023; Wu et al., 2022). Another study conducted by Albayati et al., (2020b) used the TAM model as a foundational theory for understanding cryptocurrency adoption, while extending it with external factors like trust, regulatory support, social influence, design, and experience to give to provide a more comprehensive explanation of user behavioural intentions toward blockchain-based cryptocurrency transactions. It is safe to say that the TAM model have been approved by several studies on technology usage (V. Venkatesh & Bala, 2008; V. Venkatesh & Davis, 2000)

2.4 Empirical Literature Review

2.4.1 Actual Use

Actual Use (DFU), sometimes referred to as "use behaviour" or "system use", indicates a user's direct engagement with a technology or system (Igamo et al.,

2024). It is different from, but closely related to, "Behavioural Intention," which is the belief that one will engage in a specific behaviour. As often seen from models like the Unified Theory of Acceptance and Use of Technology (UTAUT), the Theory of Reasoned Action (TRA) and the Technology Acceptance Model (TAM), “Behavioural intention” is proposed as an immediate antecedent of actual use in well-known technology acceptance frameworks (Mazambani & Mutambara, 2019). However, several studies have pointed out that behavioural intention does not always translate into actual use, emphasizing that there are other various factors that might come into play in this relationship or that the two constructs are not entirely interchangeable, even though they are related (Abikari et al., 2022; Chao, 2019).

2.4.2 Behavioural Intention

Behavioural Intention (BI) refers the user’s anticipated possibility or probability of engaging in a specific behaviour, in this case, using the new technology (Albayati et al., 2020). Behavioural Intention is a cornerstone in several prominent behaviours and technology acceptance theories like the Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), and especially in technology Acceptance Model (TAM). Among all these theories, Behavioural Intention serves as the core construct to determine acceptance and adaptation behaviour for users. The reason for this is due to the high correlation between behaviour and intention. Thus, it is widely considered a strong predictor of actual behaviour (Davis, 1985). This concept is essential for predicting and understanding human behaviour in various fields, including the adaptation to FinTech innovations like blockchain and cryptocurrencies (Kim, 2021). In the early phases of system development, BI helps identify well-formed measures of user acceptance, allowing the rejection of unsound technologies and the acceptance of great and impactful ones, therefore reducing the risk of spreading unsuccessful technologies

2.4.3 Perceived Ease of Use

Perceived Ease of Use (PEoU) refers to the degree where the user thinks utilizing a new technology would be effortless (Davis, 1989). It is an essential variable in the TAM model, along with perceived usefulness. This concept is further elaborated by other studies, where it refers to an individual's perception that minimal mental effort is required to operate and use a system, implying that high complexity is its inverse (Albayati et al., 2020). In a broader theoretical framework like the Unified Theory of Acceptance and Use of Technology (UTAUT), it is modified into Effort Expectancy (EE) where it explains the amount of ease associated to utilize a specific technology (Arias-Oliva et al., 2019b) Perceived Ease of Use (PEoU) and Effort Expectancy (EE) have been used in various studies related to the adoption of technology. For example, Igamo et al. (2024) used PEoU to find out the woman adoption to Fintech services.

2.4.4 Perceived Usefulness

Perceived Usefulness (PU) refers to the extent to which a user feels that utilizing the new technology will improve his or her performance (Davis, 1989). Davis originally explained that Perceived Usefulness means to which a person believes that utilising a specific item or tool would improve the productivity or efficiency of their work. It is often interpreted into other studies as perceived utility or performance expectancy, usually when studying about adopting a specific technology (Ebizie et al., 2022; Alomari & Abdullah, 2023b). It is theoretically sound, suggesting utilizing this concept is encouraged as its potential to enhance their performance is greatly beneficial to users (Albayati et al., 2020b). User's Perceived Usefulness could be caused by multiple circumstances, such as unusual environmental events that could influence the customers' perceptions on the changes in technologies. It is hypothesized that the contextual factors of perceived environmental unpredictability and decentralization will affect the PU of aggregated data, which suits the attitude and behaviour of end-users when adopting an new technology in the early stages (Henhall & Morris, 1986).

2.4.5 Perceived Trust

According to McCloskey (2006), trust refers to the degree of security, comfort and assurance that users experience when using technology. Especially when utilizing cryptocurrency, it is essential for users to adopt trust with blockchain technology as cryptocurrency revolves around it. Trust plays a crucial role in promoting innovation, especially in cases of cryptocurrencies like Bitcoin where it reduces the likelihood of fraud by requiring proof of work procedures to ensure the legitimacy and validity of transactions (Jalan et al., 2022). Users are more inclined to adopt when they are less concerned about the potential drawbacks like the system's dependability, security and integrity. Thus, if a platform is able to deliver their promises of being a reliable and safe platform, consumers will eventually develop a stronger intention to trust cryptocurrency platforms (Rodrigues et al., 2025b).

2.4.6 Perceived Security

Perceived security refers to the user's perceived degree of protection against threats related to using online technology (Alomari & Abdullah, 2023). According to this concept, risks may come from unauthorized access via faulty or false authentication, or they may come from network and data transaction attacks. Blockchain technology in cryptocurrency would not possibly have high risks in such threats. However, it is up to the users to believe that this statement is true, despite it being true or false. Thus, the perceived security of a platform is extremely important to a user. (Belanger et al., 2002).It is not about the actual technical safeguards a system has, rather it focuses on how secure the user feels when using the platform. Because of its security in cryptocurrency, people would be more inclined to use the technology, which would lead to its general acceptance as a substitute for cash. (Schaupp et al., 2022). While it is not a core construct of the TAM Model, it is often used to act as an external construct in many other studies that influences perceived

usefulness, perceived ease of use, and behavioural intention (Albayati et al., 2020; Janteng et al., 2024).

2.4.7 Perceived Risk

In the context of a behavioural perspective, perceived risk is defined by Faqih (2016) as the degree of uncertainty and potential unfavourable outcomes that consumers experience when utilising or purchasing a product. In the context of technology adoption, it refers to the degree of unpredictability and the potential negative consequences of utilizing a technological platform or service. It carries the possibility from suffering a loss when trying to achieve a goal with an ambiguous mindset (Kajol et al., 2025). There are various risks involved when using cryptocurrencies, such as exchange rate risk, price volatility, technical issues, scams and threats. Perceived risk has been used extensively in studies related to technology adoption. However, most of them does not show a positive relationship, but instead a negative one. Rodrigues et al. (2025) is one the examples that uses perceived risks as a moderating variable, and indicated that perceived risks weakens the adoption in technology.

2.4.8 Financial Literacy

Financial literacy is refer to as a person who possesses the knowledge necessary to make financially sound decisions (Chan et al., 2022). As defined by OECD, financial literacy is defined as "A combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing." (OECD INFE, 2011). In this study, we used financial literacy as a moderator as it is crucial for users to have good financial knowledge when dealing with cryptocurrencies or other financial tools. More research needs to be conducted by including moderating variables along with TAM model to better understand the behavioural use patterns with financial literacy (Putri

et al., 2023). Financial Literacy is also used in this study to act as the financial aspect and fill in the research gap in this study. There are multiple studies stating that financial literacy and behavioural intention contained a positive relationship. According to Van Rooij et al. (2011), those who lack financial literacy are significantly less inclined to invest in equities, demonstrating how financial literacy influences financial decision-making. An individual will be inclined to have better financial decisions, better credit management and more savings.

2.5 Hypothesis Development

2.5.1 Behavioural Intention

Understanding behavioural intention (BI) is essential for determining customer acceptability and guiding deployment of new systems in the context of technological adoption, including cryptocurrency (Jariyapan et al., 2022). Studies have constantly used BI to measure the adoption or acceptance of cryptocurrencies such as Bitcoin, Ethereum and Litecoin (Ali, 2024; Alqaryouti et al., 2020). Models that predict BI can have a significant overall explanatory power; some of these models can account for more than 59% (TPB) or 74% (TAM-based) of the variation in BI to adopt cryptocurrencies (Mazambani & Mutambara, 2019). In the case of Arias-Oliva et al. (2019b) 84.8% of the variation in the intention to utilize cryptocurrency was explained by the model. Based on these findings, we can hypothesis that:

H1 : Behavioural Intention has a positive and significant impact on the intention to adopt cryptocurrency in Malaysia

2.5.2 Perceived Ease of Use

Perceived Ease of Use (PeoU) , otherwise known as Effort Expectancy (EE) continuously demonstrates a noteworthy impact on the adoption of technology across various domains. Multiple studies have found a positive correlation where behavioural intention to adopt technology depended on perceived ease of use and utility (Nuryyev et al., 2020; Nuryyev et al., 2021). For example, Perceived Ease of Use is also found to be related to the willingness on the adoption of cryptocurrencies for payments in hospitality and tourism industries in France (Chaarani et al., 2023). Previous studies have shown a positive correlation between PEoU and Fintech adoption (Abdul-Halim et al., 2021; Agyei et al., 2020). In light of these empirical evidence, the following hypotheses is posited:

H2 : Perceived Ease of Use has a positive and significant impact on the intention to adopt cryptocurrency in Malaysia

2.5.3 Perceived Usefulness

This variable has been repeatedly affirmed with positive correlation when relating to studies about adopting and sustaining the use of technology (Yan et al., 2022). To support this variable's existence, Davis (1989) explained that adoption and acceptance by end-users are the keys to improve and motivate the framework to perform those capabilities, in this case, cryptocurrency. Baba et al. (2023) showed a positive correlation and relationship with the adopting of technology and perceived usefulness. Another study conducted Chaarani et al. (2023) concluded perceived usefulness is the most influential variable in the intention to adopt cryptocurrencies for electrical payments. Hence, we can hypothesis that:

H3 : Perceived Usefulness has a positive and significant impact on the intention to adopt cryptocurrency in Malaysia

2.5.4 Perceived Trust

There are multiple studies that indicate that positive significance between the intention to adopt cryptocurrency and perceived trust, or closely related categories like perceived trustworthiness and security, especially those that concentrate on Malaysia. A study conducted in Lebanon has showed that behavioural intentions toward cryptocurrencies are positively impacted by trust (Ali, 2024). Similarly, Albayati et al. (2020) found trust as the main factor affecting consumer's behaviour and decision, ultimately affecting the acceptance of using cryptocurrency. Based on the positive remarks by other studies, we can hypothesis that:

H4a : Perceived trust has a positive and significant impact on perceived usefulness

H4b : Perceived trust has a positive and significant impact on perceived ease of use

2.5.5 Perceived Security

Popović and Hocenski (2010) demonstrated that when it comes to the adoption of high-tech products or services, perceived security was recognised as the first main matter for majority of users. Wong et al. (2022) indicated a strong positive influence of perceived security on adoption behaviour with a significant positive relationship of ($\beta = 0.403$, $p < 0.01$). Another study conducted by Alomari & Abdullah (2023b) investigating cryptocurrency adoption among Saudi Arabia public university students concluded that perceived security was the most important predictor of behavioural intention by an Artificial Neural Network (ANN) analysis, determining perceived security as a positive factors of crypto- currency adoption. Thus, it is reasonable to hypothesis that:

H5a : perceived security have a positive and significant impact on perceived usefulness

H5b : perceived security have a positive and significant impact on perceived ease of use

2.5.6 Perceived Risk

A study conducted by Dehghani et al. (2023) showed that perceived risk negatively affects the approach behavioural intention, believing that users will avoid adopting cryptocurrency if they perceive it as highly volatile. Studies related to cryptocurrency like Mendoza-Tello et al. (2018) demonstrated that the intention to adopt cryptocurrency for digital payments is not much influenced by perceived risk, despite it being a critical factor in cryptocurrency acceptance. Although the study indicates a high perceived risk, its variability is insufficient to explain the intention to use cryptocurrencies (Arias-Oliva et al., 2019).

H6a : perceived risk has no significant impact on perceived usefulness

H6b : perceived risk has no significant impact on perceived ease of use

2.5.7 Financial Literacy

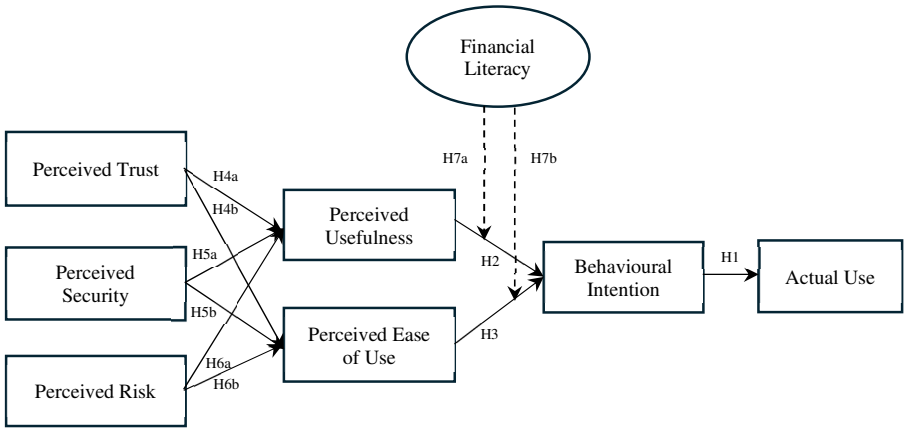
There are multiple studies that incorporate financial literacy as a moderator variable. Alomari & Abdullah (2023b) utilize financial literacy as a moderator and has been to positively moderate the relationships between the behavioural intention to use cryptocurrency, alongside side with other variables like security and social influence. Another study by Williams (2019) investigated the relationship between cryptocurrency usage and financial literacy. She believed acquiring financial literacy is a beneficial factor to increase cryptocurrency usage.

H7a : Financial Literacy moderates the relationship between perceived usefulness and behavioural intention

H7b : Financial Literacy moderates the relationship between perceived ease of use and behavioural intention

2.6 Conceptual Framework

Figure 1.1 : *Proposed Conceptual Framework*



2.7 Conclusion

In summary, this chapter reviewed the theoretical foundations, empirical literature, and hypothesis development for the intention to adopt cryptocurrency in Malaysia. The foundational theory used was Technology Acceptance Model (TAM) as the main framework, emphasizes how important Perceived Utility (PU) and Perceived Ease of Use (PEoU) are in influencing Behavioural Intention (BI), which in turn predicts Actual Use. To further expand this research, external variables were added such as Perceived Trust, Perceived Security and Perceived Risk, with Financial Literacy as the moderating variable. The empirical literature review explained the importance of including such variables and their definitions to further deepen our understanding According to the hypothesis developed, it suggests that Behavioural Intention has a strong influence on Actual Use (H1), while Perceived Ease of Use

and Perceived Usefulness both considerably drive Behavioural Intention (H2a & H2b). External variables like Perceived Trust and Perceived Security is hypothesized to have positive and significant impact to PU and PeoU (H3a–H5b). However, Perceived Risk is estimated to have no significance, aligning with mixed findings in prior studies (H6a–H6b). Lastly, financial literacy is expected to strengthen the relationship between PU, PEoU, and BI (H7a–H7b) to shape cryptocurrency adoption decision by addressing the financial knowledge.

CHAPTER 3 : METHODOLOGY

3.0 Introduction

Chapter three will provide a deeper understanding of the methodology and data analysis techniques used to figure out the adoption intention in Malaysia. It includes the elaboration of research designs and data collection methods. This research will be using primary data. Other than that, this chapter explores the different sampling design and research instrument used to collect the necessary data. Different measurement methods has been covered to ensure the validity and reliability during the data analysis process.

3.1 Research Design

A research design is the logical, methodical framework created to guide a study. It implements suitable strategies based on the goals listed in the study, making sure that the research problems are effectively addressed. It serves as a manual for gathering, handling, and evaluating data (Khanday & Khanam, 2023).

A quantitative research design was adopted to determine the intention to adopt cryptocurrency in Malaysia. Quantitative research is a systematic approach for

collecting and analysing numerical data. It strongly emphasized on measurement, objectivity, and statistical inference, which suits the hypothesis-driven research method this study has implemented in order to investigate the relationships between the variables (Sathishkumar et al., 2013). According to Creswell and Creswell (2017), the most suitable way to evaluate hypothesis is through quantitative research design as it is effective in analysing connections and rationalizing interdependencies across variables. Thus, using this research method is highly suitable investigating technology adoption, especially in cryptocurrency.

The study will rely on primary data to gather the relevant data necessary for this study. Using Google Forms as the foundational platform, the online survey has been distributed and shared to the public. The data is then thematically analysed to identify patterns and provide conclusions that would address the research questions. This designs makes it possible to evaluate the hypothesised relationship between the variables and evaluate the predictive power of the proposed conceptual framework

3.2 Data Collection Methods

To generate results, data needs to be collected to run the relevant tests. "Data Collection methods" refers to the various types of approaches used to collect and gather information for a certain study. Determining the type of data collection methods in the initial steps of a study is crucial as it could compromise the quality of results and reduce the likelihood of errors occurring during the study. As for this study, primary data has been used to collect information directly from the respondents.

A structured questionnaire has been prepared through Google Forms for respondents to answer. The collected data will be in a quantitative form, which is suitable for this type of study.

3.2.1 Primary Data

This study was primarily relied on primary data collected directly from respondents. This method helps ensure that the data is relevant and specific to the research's goals. It could also be tailored to capture the precise perceptions and intentions associated with the adoption of cryptocurrency, which might be hard to find in secondary datasets. Several methods could be utilised to obtain primary data like interviews, surveys and observations. In this study, online surveys were used by providing a structured questionnaire, using Google Forms as a platform to reach out to respondents. Inside the questionnaire contains different sections tailored to each specific variables in the study. Plus, the questionnaire employed a Likert Scale to measure the degree to agreement or disagreement to the given statement about the study's construct

3.3 Sampling Design

Sampling Designs are sampling techniques that combines estimations of the outcomes from the statistical sample, while adhering to specific rules and procedures (Turner, 2020). The aim of a sampling design is to create estimates that are accurate and reliable enough to align with the survey's requirements. The elements of sampling design includes target population, sampling technique and sampling size.

3.3.1 Target Population

Target population refers to the subset and groups of people who fulfil the requirements of a research objective based on the specification of a study. For this study, the target populations are Malaysians that are generally tech-savvy and receptive to new innovations, focusing on young adults who are 18 years old to 33 years old and any individuals that have an interest in cryptocurrency and its relevant

field. Prior studies have found that individuals between that age bracket of 18 years old to a range of someone in their 30s tend to seek interest in the intention to adopt cryptocurrency. Janteng et al. (2024) utilized the range gap from 18 to 38 years old, while Doblas (2019) investigated the age ranging from 18 to 34 years old.

3.3.2 Sampling Technique

In quantitative research, sampling techniques involve a systematic process for selecting a subset of individuals or units from a larger population for study participation. The purpose of employing a sampling technique is to ensure the selected sample accurately reflects the target population, thereby facilitating the generalization of research results.

Non-probability findings does not involve random selection, meaning that not every member of a population have an equal chance of being selected. This method is often used when researchers needs to target a specific group of individuals or when there is no sampling frame available. In this study, non-probability sampling is chosen as our sampling technique due to multiple reasons. Firstly, concerning the intention to adopt cryptocurrency, there is no complete list of cryptocurrency users. Even if there is, it is hard to determine the accuracy of it. Secondly, the study involves the need for a target population in the respondents, which is not suitable for probability sampling.

In other words, convenience sampling has been used in this study. This method selects individuals who are available and willing to participate, which makes data collection convenient and cost-effective. Many studies related to cryptocurrency adoption has also employed this method of sampling (Wong et al. 2022; Hasan et al., 2022).

3.3.3 Sampling Size

Determining the sample size is crucial in a study to avoid wasting time and resources, while having sufficient sensitivity in the analysis to construct a significant relationship between the variables. G*Power has been chosen to determine the sample size for this study. The recommended sample size generated by G*Power was 119, providing that there was an effect size of 0.15, a power of 0.95, an error probability of 0.05 and the number of predictors at 3. Thus, the sample size used for this study will be concluded to 130 as it allows room for incomplete or invalid data to be processed out. This sample size allows the data collection process to be practical within the parameters of this study, while also allowing meaningful statistical results between the variables.

3.4 Research Instrument

This research intend to use primary data to analyse and generate results by surveying participants using the prepared questionnaire in Google Form as a platform. Researchers can more easily examine public intentions and maintain total control over the data they collect when they use questionnaires as their data collection method (Stewart, 2024). The survey has been shared though a Google Form link to collect the necessary answers to determine the intention to adopt cryptocurrency in Malaysia.

3.4.1 Questionnaire Design

The questionnaire has been separated into five sections and contains a total of 32 questions. Section A talks about the demographic information like age, gender, occupation and so on. Section B consists of the independent variables like Perceived Ease of Use (PeoU) and Perceived Usefulness (PU). Section C includes the Actual Usage (AU) of Malaysian's intention to use cryptocurrency. Section D consists like Perceived Security (PS), Perceived Trust (PT) and Perceived Risk (PR) as the external variables to the existing TAM model. Lastly, section E includes the

moderating variable Financial Literacy (FI) to test the respondent's financial knowledge and address the financial aspect of the study.

3.4.2 Pilot Test

Before distributing the official survey, a pilot test has been conducted. This allows the research process to proceed smoothly by identifying early errors and adjusting the survey design or instruments before launching the full study. A pilot test also helps determine whether the overall structure actually work together in practice (Teijlingen & Hundley, 2002). The pilot test targets around 30 to 40 respondents. According to Ruel et al. (2016), the pilot tests of 35 respondents helps improve the quality of questions and reducing data failure rates based on the feedback of the pilot survey.

Table 3.1: Pilot Test's Cronbach Alpha Result

Variables	Coefficient of Cronbach's Alpha	Reliability Level
PT	0.895	Very Good
PR	0.845	Very Good
PS	0.818	Very Good
PEoU	0.917	Excellent
PU	0.951	Excellent
DFU	0.907	Excellent
BI	0.931	Excellent

The pilot test based on the table above shows that the result is statistically sound and mostly reliable when looking at the strength of association. The common rule for Cronbach Alpha is: the higher the Cronbach Alpha, the better the internal consistency and reliability. It proves that the survey items are appropriate and consistent enough to be used in the actual and official survey without major revision.

3.5 Construct Measurements

3.5.1 Nominal Scale

Nominal scale is a level of indication where qualitative variables are categorised into groups with no inherent order or hierarchy. The purpose is to label or name the categorised groups, they do not carry any significant numerical values. Examples of nominals scales in this research are gender, occupation and cryptocurrency usage.

3.5.2 Ordinal Scale

Quantitative variables are categorised and ranked in a meaningful order using an ordinal scale. We can discern that one category is "more" or "less" than another, but not by how much, because the gaps between the ranks could not be measurable. Examples of nominals scales in this study are education level, age and monthly income.

3.5.3 Likert Scale

A Likert scale is a rating system that measures the attitude and perceptions by stating their level of agreements or disagreements. The scale ranges from 1 to 5, with 1 representing “strongly disagree” to 5 representing “strongly agree” (Sukumaran et al., 2022). The section that implied the use of the Likert scale will be from Section B to Section E.

3.5.4 Scale Measurement

Table 3.2: Scale Measurement

Perceived Risk

Code	Variables	Items	Sources
PR 1	Perceived Risk (PR)	I am concerned that using cryptocurrency could lead to financial loss.	Featherman & Pavlou (2003); Pavlou (2003); Alalwan et al. (2017)
PR 2		I believe cryptocurrencies are reliable for financial transactions.	
PR 3		I feel that using cryptocurrency could result in errors or mistakes.	

Perceived Trust

Code	Variables	Items	Sources
PT 1	Perceived Trust (PT)	I trust that cryptocurrency will protect my financial information.	Gefen et al. (2003); McKnight et al. (2002); Alalwan et al. (2017)
PT 2		I believe cryptocurrency are reliable for financial transactions.	
PT 3		I feel confident that using cryptocurrency platforms will not misuse my data.	
PT4		I trust that cryptocurrency platforms will provide accurate financial advice	

Perceived Security

Code	Variables	Items	Sources
PS 1	Perceived Security (PS)	I believe unauthorized parties will not be able to view the information I provide when using cryptocurrency.	Gefen et al. (2003); McKnight et al. (2002); Alalwan et al. (2017)
PS 2		I would be free to give out my personal information when conducting cryptocurrency transactions.	
PS 3		I would continue using cryptocurrency even when I hear there was a branch in security	
PS 4		I am not worried about the security of using cryptocurrency for financial purposes.	

Perceived Usefulness

Code	Variables	Items	Sources
PU 1	Perceived Usefulness (PU)	The intention to adopt cryptocurrency would enhance my effectiveness in managing finances.	Davis (1989); Venkatesh et al. (2003); Alalwan et al. (2017)
PU 2		I find cryptocurrency useful for making financial decisions.	
PU 3		Using cryptocurrency would improve my financial productivity.	

PU 4		Cryptocurrency would make it easier to manage my finances.	

Perceived Ease of Use

Code	Variables	Items	Sources
PEU 1	Perceived Ease of Use (PEoU)	Learning to use cryptocurrency would be easy for me.	Davis (1989); Venkatesh et al. (2003); Alalwan et al. (2017)
PEU 2		I find cryptocurrency easy to use.	
PEU 3		Interacting with cryptocurrency systems are clear and understandable.	
PEU 4		It would be easy for me to become skilful at using cryptocurrency.	

Behavioural Intention (BI)

Code	Variables	Items	Sources
BI 1	Behavioural Intention (BI)	I intend to use cryptocurrency in the future.	Davis (1989); Venkatesh et al. (2003); Alalwan et al. (2017)
BI 2		I plan to use cryptocurrency regularly.	
BI 3		I will recommend cryptocurrency to others.	
BI 4		I will explore more features of cryptocurrency in the future.	

Actual Usage

Code	Variables	Items	Sources
AU 1	Actual Usage (AU)	I frequently use cryptocurrency for financial transactions.	Venkatesh et al. (2003); Taylor & Todd (1995); Alalwan et al. (2017)
AU 2		I use cryptocurrency for various financial activities.	
AU 3		I spend a significant amount of time using cryptocurrency	

Financial Literacy

Code	Variables	Items	Sources
FL 1	Financial Literacy (FL)	I am aware of using cryptocurrencies for digital payments such as Bitcoin, Ethereum, USDT, and so on	Ravikumar et al (2022); Igamo et al (2024)
FL 2		I know about the online trading of cryptocurrencies and digital assets	
FL 3		I know about cryptocurrency-based lending methods such as DeFi lending, peer-to-peer crypto lending, and so on	

FL 4		Insurance products can be purchased online	

3.6 Data Processing

When raw data is transformed and modified into an easy and understandable format that is compatible with the statistical software used, it is called data processing (Duggal, 2025). By processing data, it ensures the robustness and the integrity of the data. Further analyzation of the data has been continued after the checking and editing of data.

3.6.1 Data Checking

Data Checking is the procedure of reviewing the data that had been collected to verify and detect any problems that may have compromised and endangered the quality of data. This is most typically done by ensuring that the response patterns are consistent, accurate and complete. To illustrate, in case of missing or incomplete responses throughout the survey, the data will be deemed invalid and incomplete to gather (Mohapatra, 2018).

3.6.2 Data Editing

Data editing is a process of correcting mistakes in the responses, dealing with inconsistencies and eliminating problematic items to improve and refine the overall quality of the data. In situations like Albayati et al. (2020), a total of 250 questionnaire were distributed, but only 110 were considered suitable for analysis.

3.6.3 Data Coding

Data coding entails an operation of transforming qualitative data into numerical format that is standard and capable of being statistically analysed. Ordinal coding has been implied in this study to represent respondent's position (Rashid, 2024). As for questions using the Likert Scale, it is represented as a scale from 1 to 5, ranging from "strongly disagree" to "strongly agree".

Table 3.3 : Data Coding for Questionnaire Responses

Section A : Demographic Information		
1.	Gender	"Male" = 1 "Female" = 2
2.	Age	"18-22 years" = 1 "23-27 years" = 2 "28-32 years" = 3 "Above 33 years" = 4
3.	Occupation	"Student" = 1 "Self-employed" = 2 "Employed" = 3 "Unemployed" = 4
4.	Education	"SPM / IGCSE" = 1 "Diploma / STPM / Foundation" = 2 "Undergraduate (Bachelor's degree)" = 3 ""Postgraduate" = 4 "PhD (Doctor of Philosophy)" = 5 "Master's Degree" = 6
5.	Monthly Income	"Below RM2500" = 1 "RM2500 - RM6000" = 2

		"Above RM6000" = 3 "> RM10000" = 4
6.	Have you ever used cryptocurrency before?	"Yes" = 1 "No" = 2

Section B : Independent Variables		
Perceived Ease of Use (PEU)		
1.	Learning to use cryptocurrency would be easy for me.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I find cryptocurrency easy to use.	
3.	Interacting with cryptocurrency systems are clear and understandable.	
4.	It would be easy for me to become skilful at using cryptocurrency.	
Perceived Usefulness (PU)		
1.	The intention to adopt cryptocurrency would enhance my effectiveness in managing finances.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I find cryptocurrency useful for making financial decisions.	
3.	Using cryptocurrency would improve my financial productivity.	
4.	Cryptocurrency would make it easier to manage my finances.	
Section C : Dependent Variables		
Actual Usage (DFU)		

1.	I frequently use digital finance applications for financial transactions.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I use digital fintech applications for various financial activities.	
3.	I spend a significant amount of time using digital finance applications.	
Behavioural Intention (BI)		
1.	I intend to use cryptocurrency in the future.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I plan to use cryptocurrency regularly.	
3.	I will recommend cryptocurrency to others.	
4.	I will explore more features of cryptocurrency in the future.	

Section D : External Variables		
Perceived Security (PS)		
1.	I believe unauthorized parties will not be able to view the information I provide when using cryptocurrency.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I would be free to give out my personal information when conducting cryptocurrency transactions.	
3.	I would continue using cryptocurrency even when I hear there was a branch in security	
4.	I am not worried about the security of using cryptocurrency for financial purposes.	

Perceived Risk (PR)		
1.	I am concerned that using cryptocurrency could lead to financial loss.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I believe cryptocurrencies are reliable for financial transactions	
3.	I feel that using cryptocurrency could result in errors or mistakes.	
Perceived Trust (PT)		
1.	I trust that cryptocurrency will protect my financial information.	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I believe cryptocurrency are reliable for financial transactions	
3.	I feel confident that using cryptocurrency platforms will not misuse my data.	
4.	I trust that cryptocurrency platforms will provide accurate financial advice.	

Section E : Moderating Variables		
Financial Literacy (FL)		
1.	I am aware of using cryptocurrencies for digital payments such as Bitcoin, Ethereum, USDT, and so on	Strongly Disagree = 1 Disagree = 2 Neutral = 3 Agree = 4 Strongly Agree = 5
2.	I know about the online trading of cryptocurrencies and digital assets	
3.	I know about cryptocurrency-based lending methods such as DeFi lending, peer-to-peer crypto lending, and so on	
4.	Insurance products can be purchased online	

3.7 Data Analysis

During this study, Partial Least Square Structural Equation Modelling (PLS-SEM) is the statistical method used to analyse the data, while using SmartPLS as the supporting software.

3.7.1 Descriptive Analysis

The basic steps to follow in the processing of raw data are the process of descriptive analysis. It provides a preliminary understanding and determines the characteristics of the collected sample data. It usually includes the mean, standard deviation, frequency and percentage of the variables (Manikandan, 2011). By analysing these measurements, it helps provide a clear overviews of the dataset and helps identify outliers or irregularities that might affect the quality and accuracy of the results.

3.7.2 Internal Consistency Reliability (Cronbach Alpha)*

The reliability analysis has been performed to test the internal consistency of measuring scales, so that measurements used will produce a consistent and stable result. Cronbach Alpha is the most frequently used coefficient to determine the internal consistency of a scale since it assesses the degree of the relationship of a group of items (Trinchera et al., 2018). The larger the Cronbach Alpha value, the larger is the internal consistency of the items of a certain construct.

Figure 2.1 : *Coefficient Range of Cronbach Alpha*

Alpha Coefficient Range	Strength of Association
< 0.6	Poor
0.6 to < 0.7	Moderate
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
0.9 >	Excellent

Source : Nawi et al. (2020)

3.7.3 Common Method Bias*

Common Method Bias has been employed in this study to avoid potential data bias as data collection through the same questionaries will be distributed at the same time. To overcome this concern, the Harman Single Factor test is implemented as it is the most widely used statistical test according to prior studies (Fuller et al., 2016). Harman's single factor test indicates that if the overall variance is more than 50%, CMB may be present (Podsakoff et al., 2012).

3.7.4 Normality Test

Normality test has been conducted to find out whether the dataset is normally distributed. In summary, it verifies the kurtosis and skewness value of the observed variables. To ensure that the data are at normal, Ryu (2011) proposes that a skewedness should be less than 2 and a kurtosis should be less than 7. The SPSS helped to identify and eliminate the 10 outliers in the dataset collected.

3.7.5 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis has been used to provide proof of validity and reliability by measuring how well the observed variables reflects the underlying latent constructs or the hypothesized measurement model in a theoretical model (Hoyle, 2000). CFA can be determined by referring to the indicator sources included in the measurement model. The standard for sufficient convergent validity is where $P < 0.5$ (Hair et al., 2021). Critical Ratio (CR) of $p < 0.001$ represents statistical significance in the variables, along with factor loadings which should be significant and reasonably high to determine convergent validity.

3.7.6 Variance Inflation factor (VIF)

Multicollinearity occurs when two or more independent variables have high level of correlation with each other. This poses as a concern because it could lead to an erroneous study. Before testing for hypothesised relationships, assessment of multicollinearity is suggested to ensure a reliable result (Hair et al., 2019). Variance Inflation Factor (VIF) is what is used to measure multicollinearity and to quantify the level of inflation of the regression coefficient variance. Many studies often consider if the VIF value is below 3.3, it indicates that there is no significant multicollinearity issues (Diamantopoulos & Siguaw, 2006; Alomari & Abdullah, 2023b), while other studies sets a more lenient threshold of below 5 (Hair et al., 2019).

3.7.7 Inferential Analysis

Inferential statistics is a quantitative based method of inference that is frequently used in research to make conclusions and test hypothesis about the population by using sample data.. It works using descriptive statistics' data to draw conclusions or assumptions about unknown data (Allanson & Notar, 2020).Using this analysis is a useful tool to determine how the user's decision are impacted based on different factors when examining the intention to adopt cryptocurrency in Malaysia .

3.7.8 Composite Reliability

Composite reliability is crucial to employ as it measures the internal consistency of scale items (Netemeyer et al., 2003). It is similar to Cronbach's alpha, but more precise as it considers actual factor loadings, rather than assumptions. A CR value of 0.7 is preferred to be regarded as reliable. Stated otherwise, a measurement model's internal consistency dependability is deemed good if its CR value is higher than 0.7

3.7.9 Average Variance Extracted (AVE)

To measure validity, this study has decided to use Average Variance Extracted (AVE), a popular method of gauging convergent validity. It works by measuring the amount of variance of the items to the construct induced by measurement errors. A value of 0.5 or higher shows that the construct explains more than half of its items' variance, proving convergent validity (Hair et al., 2021). If the AVE not fulfil a the criteria of 0.5 and above, it indicates that the variance is a result of a measurement error.

3.7.10 Discriminant Validity

Discriminant validity is the level to which the indicators vary with each other, that is, different with the other construct in the model. It quantifies the overlapping of construct, so that any two latent variables are not equal. Under the criterion given by Fornell and Larcker (1981), a latent variable ought to explain more variance on its indicators as compared to the joint variance of the latent variables. In this way, the level of discriminant validity is taken to be satisfactory when the correlations of each construct is below the square root of AVE. The Heterotrait-Monotrait ratio

(HTMT) can be used as a measure of discriminant validity indicating the correlation within constructs against that between constructs. A value of less than or equal to 0.85 in the HTMT means that the discriminant validity is achieved (Diamantopoulos and Siguaw, 2006).

3.7.11 Moderating Effect

For examining the influence of financial literacy as a moderator to the intention to adopt cryptocurrency in Malaysia, two hypotheses were postulated in the proposed model.

3.8 Summary

The chapter gives a summary of the research methodology such as the research design and data collection process through questionnaires. The justification of the choice of the target population is presented, as well as the description of the sampling process and sample size of 130 participants. The analysis of the data will involve both descriptive and inferential statistics, and the tests to determine the validity and reliability of the data. In the next chapter, the findings of the analysis of data will be provided.

CHAPTER 4 : DATA ANALYSIS

4.0 introduction

This chapter outlines the research methodology used to accomplish the study's objectives. After completing the initial data cleaning procedures, the final dataset included 243 valid responses for analysis out of 310 responses. A descriptive

analysis was conducted where it organises raw data into useful information. This is followed by statistical analysis using Partial Least Squares–Structural Equation Modelling (PLS-SEM) to determine the depth of relationship between independent, dependent and moderating variable.

4.1 Descriptive Analysis

Descriptive Analysis is conducted to generate baseline information while summarising the characterised data (Almarashdeh et al., 2021). The data analysed in this chapter are the demographic information of the respondents and the usage of cryptocurrency. Demographic data collected includes Gender, Age, Occupation, Education and Monthly Income. The analysis was proceeded with a total of 310 respondents out of the initially collected 315 respondents, due to 5 respondents whom disagree with the personal information acknowledgement

4.1.1 Respondent Demographic Information

The demographic information of the respondents was analysed by presenting the frequency and percentage of each demographic question such as Gender, Age, Occupation, Education, Monthly Income and the usage of cryptocurrency. There should be a total of 310 respondents collected in Malaysia.

4.1.1.1: Gender

Table 4.1: Scale Measurement

	Frequency	**Percentage (%)**
Male	141	45.48
Female	169	54.52
Total	310	100

Out of the total 243 respondents, there are a striking equality in the number of females and males, 141 and 169 respectively. As shown in the table, 45.48% makes up for the male population, while 54.52% makes up for the female population.

4.1.1.2: Age

Table 5.2: Age

	Frequency	**Percentage (%)**
18 – 22 years old	216	69.68
23 – 27 years old	62	20.00
28 – 32 years old	15	4.84
Above 33 years old	17	5.48
Total	310	100

As seen from the table above, 69.68% of the respondents are between the age of 18 to 22 years old with the highest frequency of 216, following with 20.00% respondents between the age of 23 to 27 years old. However, only 4.84% of the respondents are between the age of 28 to 27 years old, slightly lesser 5.48% than respondents aged above 33.

4.1.1.3: Occupation

Table 6.3: Occupation

	Frequency	**Percentage (%)**
Employed	9	2.90
Self-Employed	4	1.29
Student	295	95.16
Unemployed	2	0.65
Total	310	100

Out if 243 respondents, majority are identified as students, which makes up about 95.16% of the sample. Only a small number of respondents are either employed or self-employed with 2.90% and 1.29% respectively. Lastly, only one respondent is unemployed, making up less than 1% of the group. Overall, the table shows that the sample is overwhelmingly student-based, with very few respondents in other occupational categories.

4.1.1.4 Education

Table 7.4: Education

	Frequency	**Percentage (%)**
Diploma/STPM/Foundation	19	6.13%
Postgraduate	4	1.29%
Professional	5	1.61%
Undergraduate (Bachelor's degree)	282	90.97%
Total	310	100

Through this table, we can conclude that 282 respondents or 90.97% are undergraduates currently pursuing a Bachelor's degree, which holds majority of the education demographic. 19 respondents (6.13%) reported in completing a diploma, STPM, or foundation programme. Minor groups include postgraduate respondents with just over 1% of 4 respondents and those with professional qualifications around 1.6%. In short, the sample is dominated by undergraduate students, with only a few individuals in other educational categories.

4.1.1.5 Monthly Income

Table 8.5: Monthly Income

	Frequency	**Percentage (%)**
Above RM6,000	19	6.13

Below RM2,500	254	81.94
More than RM10,000	3	0.97
RM2,500-RM6,000	34	10.97
Total	310	100.00

From the table above, we can analyse that the vast majority of the respondents have a monthly income below RM2,500 per month. A total of 254 respondents are in this category, making up more than 81.94% of the entire group. The following group of 34 respondents reportedly earn between RM2,500 to RM6,000, which is about 10.97%. 19 of the respondents have the ability to earn above RM6,000, representing about 6.13% of the sample. Last but not least, only 3 respondents report earning more than RM10,000, making this the smallest group at less than 1%. Overall, the table clearly shows that most respondents fall into the lower-income bracket, with only a small number earning mid to high monthly incomes.

4.1.1.6 Cryptocurrency Usage

Table 9.6: Cryptocurrency Usage

	Frequency	**Percentage (%)**
No	57	18.39%
Yes	253	81.61%
Total	310	100.00%

From the table, we can conclude that out of all the 310 respondents, 253 respondents or 81.61% of people have used cryptocurrency before, outnumbering the group of respondents with 57 people denying the use of cryptocurrency, which makes up 18.39% of the group. In short, there is a third-quarter of respondents who have used or dabbled into cryptocurrency before

4.1.2 Central Tendencies Measurement of Construct

4.1.2.1: Actual Usage

Table 10.7: Actual Usage

Variables	**Statements**	**Mean**	**Standard Deviation**
DFU1	I frequently use digital finance applications for financial transactions.	3.8519	0.0698
DFU2	I use digital fintech applications for various financial activities.	3.6831	0.0673
DFU3	I spend a significant amount of time using digital finance applications.	3.9095	0.0673

The score above shows a relatively high mean amongst the variables, indicating that there is a strong level of engagement with users utilizing digital financing applications. DFU3 have the highest mean value of 3.9095, showing that users do spend a large amount of time using digital finance applications for financial transactions, according to DFU. The overall standard deviation remains relatively low around 0.67 to 0.69, representing that the respondents responses are quite consistent and there are only slight variations in the answers. Through this, it shows that users do use digital finance application on a daily basis, which could also translate to a possible usage in cryptocurrency.

4.1.2.2: Behavioural Intention

Table 11.8: Behavioural Intention

Variables	**Statements**	**Mean**	**Standard Deviation**

BI1	I intend to use cryptocurrency in the future.	3.7243	0.0747
BI2	I plan to use cryptocurrency regularly.	3.4403	0.0733
BI3	I will recommend cryptocurrency to others.	3.6337	0.0811
BI4	I will explore more features of cryptocurrency in the future.	3.7202	0.0743

The result of the behavioural intention construct leans towards a moderately positive attitude in adopting cryptocurrency. BI4 and BI1 showed a high mean value with 3.7202 and 3.7243 respectively, indicating that users have high intentions to use cryptocurrency and are comfortable in having a deeper exploration and understanding for cryptocurrency in the future. BI2 have the lowest mean amongst other variables, suggesting that user are not keen to recommend cryptocurrency to the people around them, demonstrating a cautious attitude towards cryptocurrency. The standard deviation are quite similar to one another ranging from 0.7 to 0.8. This shows that the responses collected are similar and consistent to one another. However, BI3 have a slightly higher value, proving that users have different opinions in recommending cryptocurrency to others.

4.1.2.3: Perceived Ease of Use

Table 12.9: Perceived Ease of Use

Variables	**Statements**	**Mean**	**Standard Deviation**
PEoU1	Learning to use cryptocurrency would be easy for me.	3.6708	0.0719

PEoU2	I find cryptocurrency easy to use.	3.7083	0.0756
PEoU3	Interacting with cryptocurrency systems are clear and understandable.	3.5514	0.0776
PEoU4	It would be easy for me to become skilful at using cryptocurrency.	3.7284	0.0798

From the table above, the results showed a favourable view from the respondents regarding the ease of using cryptocurrency. PEoU1 and PEoU2 showed that respondents perceive both the learning process and practical use of cryptocurrency as relatively easy. Many respondents agreed that it is easy to master he skill at using cryptocurrency according to the highest mean value in PEoU4. However, not all respondents agreed with PEoU3 where using cryptocurrency would be clear and understandable. As for the standard deviation, all of them remained low, indicating that most users share the same perception with the ease of using cryptocurrency.

4.1.2.4: Perceived Usefulness

Table 13.10: Perceived Usefulness

Variables	**Statements**	**Mean**	**Standard Deviation**
PU1	The intention to adopt cryptocurrency would enhance my effectiveness in managing finances.	3.6996	0.0815
PU2	I find cryptocurrency useful for making financial decisions.	3.6872	0.0772

PU3	Using cryptocurrency would improve my financial productivity.	3.6132	0.0692
PU4	Cryptocurrency would make it easier to manage my finances.	3.6173	0.0744

PU1 and PU2 both have a higher mean of 3.6996 and 3.6872, suggesting that users believe cryptocurrency can enhance financial effectiveness and support financial decisions. However, PU3 and PU4 both recorded a slightly lower but similar mean value, indicating that users have a moderate confidence in cryptocurrency's usefulness and ability improve financial productivity and simplify financial management. PU3's standard deviation is the lowest with 0.0692, stating that there is a consistent response in improving financial productivity. On the other hand, PU1 shows the highest standard deviation, indicating that there are more inconsistencies as the responses varies. Although PU1 has the highest standard deviation, it is still very low, showing consistent agreement across the sample.

4.1.2.5: Perceived Security

Table 14.11: Perceived Security

Variables	**Statements**	**Mean**	**Standard Deviation**
PU1	I believe unauthorized parties will not be able to view the information I provide when using cryptocurrency.	3.6996	0.0723
PU2	I would be free to give out my personal information when conducting cryptocurrency transactions.	3.6996	0.0834

PU3	I would continue using cryptocurrency even when I hear there was a branch in security	3.5597	0.0839
PU4	I am not worried about the security of using cryptocurrency for financial purposes.	3.5514	0.0760

PS1 and PS2 recorded the highest mean values at 3.6996, demonstrating that users generally trust cryptocurrency platforms to protect their information and are open to provide personal information when conducting cryptocurrency transactions. However PS3 and PS4 showed a slightly lower mean score ranging around 3.5 compared to PS1 and PS2, indicating that respondents might be more cautious in regards to security branches and using cryptocurrency for financial purposes. With that said, the overall mean score is above neutral. The scores for standard deviation for all variables are considered quite low, showing little variation in the consistency of responses. Even though the score for PU3 is slightly higher, it still remains in the low range, suggesting a little more variation in the user's willingness to continue using cryptocurrency after hearing about security branches. Overall, there is a positive perception about security for cryptocurrency

4.1.2.6: Perceived Risk

Table 15.12: Perceived Risk

Variables	**Statements**	**Mean**	**Standard Deviation**
PR1	I am concerned that using cryptocurrency could lead to financial loss.	3.8025	0.0787
PR2	I believe cryptocurrencies are reliable for financial transactions	3.4979	0.0698

PR3	I feel that using cryptocurrency could result in errors or mistakes.	3.7407	0.0705

Looking at the result for perceived risk, PR1 and PR2 showed a similar mean score of 3.8025 and 3.7407. This shows that users are worried that using cryptocurrency could lead to mistake and errors that could end up leading to potential financial loss. PR2 with a mean of 3.4979 demonstrates that users feel as if cryptocurrency are maybe not reliable for financial transactions. The standard deviation for all variables are positively consistent with the responses received, especially where the responses for PR2 shows that most people agree with the potential unreliability for using cryptocurrency for any financial transactions.

4.1.2.7: Perceived Trust

Table 16.13: Perceived Trust

Variables	**Statements**	**Mean**	**Standard Deviation**
PT1	I trust that cryptocurrency will protect my financial information.	3.6214	0.0711
PT2	I believe cryptocurrency are reliable for financial transactions	3.6626	0.0752
PT3	I feel confident that using cryptocurrency platforms will not misuse my data.	3.5432	0.0703
PT4	I trust that cryptocurrency platforms will provide accurate financial advice.	3.7572	0.0800

PT4 have the highest mean score, indicating that users generally trust in cryptocurrency providing accurate financial advice. On the other hand, users might

lose confidence in cryptocurrency platform promising on not misusing their data, as shown in the mean score of PT3. PT1 and PT2 both have similar mean values ranging around in 3.6 more or less. PT1, PT2 and PT3 show a consistent reply by respondents where they all range around 0.07, which is considered low. Compared to PT4, respondents might vary in their answers on their trust for accurate financial advice by cryptocurrency platforms. Overall, there is a positive influence for the perceived trust in cryptocurrency amongst users.

4.1.2.8: Financial Literacy

Table 17.14: Financial Literacy

Variables	**Statements**	**Mean**	**Standard Deviation**
PT1	I am aware of using cryptocurrencies for digital payments such as Bitcoin, Ethereum, USDT, and so on	3.7572	0.0696
PT2	I know about the online trading of cryptocurrencies and digital assets	3.8230	0.0702
PT3	I know about cryptocurrency-based lending methods such as DeFi lending, peer-to-peer crypto lending, and so on	3.6132	0.0690
PT4	Insurance products can be purchased online	3.7942	0.0797

The mean ranged between 3.6 to 3.8, which indicates a moderately strong awareness of user's financial literacy. PT2 has the highest mean of 3.8230, which means that users are aware of the presence and functionality of cryptocurrency. The lowest mean score of 3.6132 in PT3 indicates that the overall confidence is lower for users who knows something about cryptocurrency-based lending, but the knowledge is

consistent across the group with the lowest standard confidence of 0.0690. PT4 has the highest score for standard deviation, showing a slight gap in the awareness of online insurance products. Overall, the financial literacy for users on cryptocurrency are relatively moderate with a good amount of awareness.

4.2 Key Findings

4.2.1 Reliability, Validity and Multicollinearity

Table 18.15: Measurement Model Assessment

Construct	Indicator	Outer Loading	AVE	pa	pc	α	VIF
DFU	DFU1	0.798	0.662	0.757	0.854	0.746	1.507
	DFU2	0.796					1.461
	DFU3	0.845					1.496
BI	BI1	0.812	0.668	0.836	0.889	0.834	1.774
	BI2	0.832					1.960
	BI3	0.837					1.922
	BI4	0.787					1.662
PEoU	PEoU1	0.803	0.677	0.843	0.893	0.841	1.787
	PEoU2	0.815					1.929
	PEoU3	0.840					1.953
	PEoU4	0.832					1.981
PU	PU1	0.845	0.730	0.880	0.915	0.877	2.115
	PU2	0.884					2.508
	PU3	0.865					2.302
	PU4	0.823					1.954
PS	PS1	0.862	0.806	0.921	0.943	0.919	2.396
	PS2	0.913					3.577
	PS3	0.897					2.953
	PS4	0.917					3.567

PR	PR1	0.815	0.678	0.769	0.863	0.763	1.572
	PR2	0.832					1.474
	PR3	0.823					1.627
PT	PT1	0.861	0.764	0.898	0.928	0.897	2.387
	PT2	0.914					3.373
	PT3	0.865					2.432
	PT4	0.855					2.309
FL	FL1	0.786	0.633	0.811	0.873	0.807	1.693
	FL2	0.804					1.785
	FL3	0.814					1.749
	FL4	0.778					1.576

The table above demonstrates the reliability, validity and consistency of the data collected. Outer loadings measures how strongly each indicator relates to its construct. An outer loading of >0.7 and above is considered good as higher outer loadings means a stronger convergent validity (Hair et al., 2023). The values for all the construct is generally high, which indicates strong, reliable indicators. The Average Variance Extracted (AVE) measures how the construct can be explained by the indicators. Based on the results generate for AVE, all of the constructs have an AVE of >0.5, which is desirable as the construct explains more than half of its items' variance, proving convergent validity (Hair et al., 2021). Composite reliability (rho_a and rho_c) measures the internal consistency of scale items (Netemeyer et al., 2003). The results showed a good CR where most of the CR are above the threshold of >0.7, especially for construct PU, PS and PT. Cronbach's Alpha is adopted to examine the internal consistency of measurement scales, ensuring that the measurements used will generate a stable and consistent result as shown in Table 4.15. From the results generated, all the construct in the study falls within the "Good" and "Very Good" range, which indicates a strong internal consistency and reliability. PS have an excellent strength of association as it has the highest alpha value. The Variance Inflation Factor (VIF) helps detect multicollinearity or overlapping between variables. A VIF of > 0.5 is considered not acceptable, luckily this is not an issue for the results generated. Most of the VIF values are quite low, with 3.577 being the highest for PS2 and with 1.461 being the

lowest for DFU2. Overall, there are no identified reliability or validity concerns and as it shows consistent responses across all variables, making it statistically sound and suitable for further analysis

4.2.2 Discriminant Validity

Table 19.16: Heterotrait-Monotrait Ratio

	BI	**DFU**	**FL**	**PEoU**	**PR**	**PS**	**PT**	**PU**	**FL x PU**	**FL x PEoU**
BI										
DFU	0.754									
FL	0.852	0.891								
PEoU	0.891	0.701	0.798							
PR	0.847	0.773	0.895	0.746						
PS	0.051	0.102	0.116	0.034	0.055					
PT	0.081	0.060	0.138	0.064	0.054	0.737				
PU	0.054	0.103	0.111	0.052	0.034	0.736	0.821			
FL x PU	0.070	0.040	0.080	0.023	0.030	0.231	0.106	0.239		
FL x PEoU	0.082	0.183	0.284	0.184	0.062	0.066	0.057	0.077	0.057	

The table above demonstrates the result of the Heterotrait-Monotrait Ratio where it measures the discriminant validity of the data collected. Looking at the overall table, most of the values fall below the threshold of 0.90, stating that the discriminant validity is still acceptable. However, there is a few high values that should be acknowledged. Values like FL – BI (0.852) and PR – BI (0.847) are quite high, especially with values like PEoU – BI (0.891and FL – DFU (0.891), but they all still remain under 0.90, which means that they are still in the acceptable range. The rest of the values like PS – PEoU (0.034), FL × PU – PR (0.023) and FL × PU –

PS (0.030) remain very low, meaning the constructs are high distinct and different. Overall, the results proves that there is no issue of construct overlapping and that the model is statistically sound and suitable for hypothesis testing.

Table 20.17: Fornell and Larcker Criterion

	BI	**DFU**	**FL**	**PEoU**	**PR**	**PS**	**PT**	**PU**
BI	**0.817**							
DFU	0.601	**0.813**						
FL	0.705	0.697	**0.795**					
PEoU	0.750	0.560	0.663	**0.823**				
PR	0.681	0.585	0.702	0.604	**0.823**			
PS	0.014	-0.037	-0.069	0.014	0.011	**0.898**		
PT	-0.015	-0.031	-0.083	-0.004	-0.017	0.670	**0.874**	
PU	-0.025	-0.078	-0.065	-0.001	0.006	0.662	0.731	**0.855**

The Fornell and Larcker test was also conducted to measure the discriminant validity of the data by square rooting the AVE. Discriminant validity is deemed satisfactory if the correlations for each construct is less than the square root of AVE. Referring back to the table, above it is safe to say that each construct shares more variance with its own indicators than with any other construct because the square root of the AVE values is greater than the related inter-construct correlations. Some correlations are high, like PEoU - BI (0.750) and FL – BI (0.705), they still remain below the diagonal values, confirming that these constructs are still statistically distinct. Meanwhile, low correlations such as PS - BI (0.014) and PT - PR (–0.017) demonstrates clear conceptual separation among constructs. Overall, none of the correlation exceeds the square root of the AVE values and are within the threshold, the results deem to have a strong discriminant validity and allows the structural model to be interpreted with confidence.

4.2.3 Path Coefficient

Table 21.18: Path Coefficient

	Path Coefficient (O)	T- statistic	P values
BI -> DFU	0.601	13.028	0.000
FL -> BI	0.405	6.133	0.000
FL x PEoU -> BI	0.129	2.055	0.040
FL x PU -> BI	-0.052	1.308	0.191
PEoU -> BI	0.500	7.012	0.000
PR -> PEoU	0.604	12.282	0.000
PR -> PU	0.011	0.250	0.803
PS -> PEoU	0.006	0.082	0.935
PS -> PU	0.313	4.775	0.000
PT -> PEoU	0.002	0.025	0.980
PT -> PU	0.521	7.934	0.000
PU -> BI	0.012	0.297	0.767

The table above demonstrates the significance of the relationships between the constructs. The strongest effect in the model goes to BI → DFU with $\beta = 0.601$and a T-statistic of 13.028. This shows that behavioural intention is a very strong predictor of actual use of cryptocurrency. Another strong relationship present is PR → PEoU with a β of 0.604 and a T-statistic of 12.282, suggesting that a lower perceived risk heavily increases the ease of use for cryptocurrency. In total, there are 6 total significant relationships in the model. For relationships that are non-significant like PU → BI , PR → PU, PS → PEoU, and PT → PEoU showed that perceived risk, perceived security, and perceived trust does not effect usefulness or ease of use of cryptocurrency. As for the moderating effect, FL × PEoU→ BI did prove some significance, while FL × PU→ BI did not. This goes to show that students who are financially literate depend more on the ease of use when forming behavioural intention for cryptocurrency.

4.2.4 Model Fit

Table 22.19: Model Fit

	Saturated model	**Estimated model**
SRMR	0.060	0.083
d_ULS	1.696	3.178
d_G	0.799	0.918
Chi-square	1170.827	1241.894
NFI	0.772	0.758

The table above demonstrates the overall fitness of the model. The SRMR value for saturated and estimated are both below 0.10, which indicates a good fit where there are no major misspecification with predicted and actual correlations of the data. The Squared Euclidean Distance (d_ULS) and Geodesic Distance of the model shows some discrepancy, but this is usually common in PLS-SEM. Both indicates a reasonable fit. Next, the Chi-square, though not heavily emphasized for PLS-SEM, still showed a reasonable result as it is sensitive to large sample size. Lastly, the Normal Fit Index (NFI) are both above 0.7, which indicates an acceptable model fitness.

4.2.5 R-Square for Dependent Variables

Table 23.20: R-square and Adjusted R-square

	R-square	**R-square adjusted**
BI	0.654	0.646
DFU	0.361	0.358

PEoU	0.365	0.357
PU	0.588	0.583

The R-square for Behavioural Intention is the highest with 0.654, indicating that 65.4% of the BI construct can be explained by the model. Perceived Usefulness is also a high explanatory power of 58.8% by the model. However, Actual Usage and Perceived Ease of Use have a lower R-square of 0.361 and 0.365 respectively. From the results, we can state that the model has a good predictive strength, especially for BI and PU.

CHAPTER 5 : CONCLUSIONS AND IMPLICATIONS

5.0 introduction

After analysing the results generated form SmartPLS, this chapter focuses on interpreting and drawing conclusions of the findings from the research on the adoption of cryptocurrency in Malaysia, as well as addressing the limitations and recommendations of the research.

5.1 Summary of Statistical Analysis

Table 5. 1: Summary of Statistical Analysis

Types of Tests	Findings

Convergant Validity Test (AVE)	Indicated good convergent validity, most value is above 0.5, ranges between 0.6 o 0.8
Consistency Test (CR)	Showed good internal consistency, all values above 0.7, especially PU, PS and PT
Discriminant Validity Test (HTMT)	Discriminant validity is still acceptable, most remain low, except some with high values like PEoU – BI (0.891), FL – DFU (0.891), FL – BI (0.852) and PR – BI (0.847)
Multicollinearity Test (VIF)	No multicollinearity issues or overlapping between variables, all values below 0.5, PS2 (3.577) has the highest VIF
Reliability Test (Cronbach Alpha)	Showed good reliability, all construct fall between "Good" and "Very Good" range
Model Fit	Acceptable model fitness, no huge disruption
Goodness of fit (R^2) of dependent variables	Most variables can be explained by the model, decent model prediction, lowest value from DFU (0.361)

All AVE values for the constructs in the model exceeded the minimum threshold of 0.5, ranging between 0.6 to 0.8 which indicates a strong shared variance between indicators. This proves that each construct are highly correlated with one another and each construct has good explanatory power over its indicators.

The results shows a strong composite reliability as all construct exceeds the minimum threshold of 0.7. This is especially exceptional for all the external variables like Perceived Usefulness (PU), Perceived Security (PS) and Perceived Trust (PT), which indicates that these constructs has a high internal consistency

Most of the HTMT values are below 0.85, which is a good benchmark to represent no overlapping with constructs. However, there are 4 constructs that have a high HTMT value above 0.85 which are PEoU – BI (0.891), FL – DFU (0.891), FL – BI (0.852) and PR – BI (0.847) , but since they do not exceed 0.9, they are still acceptable. With that, Behavioural Intention (BI) is highly related to some of the construct like Perceived Ease of Use (PEoU) and Actual Usage (DFU), while

Financial Literacy showed its strong association with Behavioural Intention (BI) and FL – DFU (0.891).

Overall, there are no multicollinearity issues or overlapping between variables as all the VIF values are below 0.5. Even though PS2 (3.577) is the highest VIF value, it still does not exceed the threshold of 0.5. This means that each variable contributes uniquely to the model and no construct is overly similar to one another

For the Cronbach Alpha test, all construct scored above 0.70, falling in the range of "Good" (0.7-0.79) or "Very Good" (0.80-0.89). This indicates that the respondents answers were consistent and the entire model is reliable, pairing together with the CR values.

The fitness of the model shows no disruptency, stating that the model is fit. With the R-square values of Behavioural Intention (0.654), Perceived Ease of Use (0.365) and Actual Usage (0.361), it determines that the model is good in predicting behavioural outcomes but not so good in predicting outcomes for Perceived Ease of Use (PEoU) and Actual Usage (DFU). Although Actual Usage (DFU) has the lowest R-square, it is still considered acceptable.

In summary, the model is statistically sound and theoretically robust based on the results given. The construct demonstrates strong reliability and convergent validity, as well as an acceptable discriminant validity despite a few higher correlations. There are no major multicollinearity issues, proving that the predictors are unique and stable. The fitness of the model is mostly accurate. Behavioural Intention (BI) and Perceived Usefulness (PU) shows strong explanatory power, with an moderate and acceptable result for Perceived ease of use (PEoU) and Actual Usage (DFU).

Table 5. 2: Summary of Hypothesis Testing

Hypothesis	Statement	p-value	Result
H1	Behavioural Intention has a positive and significant impact on the intention to adopt cryptocurrency in Malaysia	0.000	Do not Reject
H2	Perceived Ease of Use has a positive and significant impact on the intention to adopt cryptocurrency in Malaysia	0.000	Do not Reject
H3	Perceived Usefulness has a positive and significant impact on the intention to adopt cryptocurrency in Malaysia	0.767	Reject
H4a	Perceived trust has a positive and significant impact on perceived usefulness	0.000	Do not Reject
H4b	Perceived trust has a positive and significant impact on perceived ease of use	0.980	Reject
H5a	perceived security have a positive and significant impact on perceived usefulness	0.000	Do not Reject
H5b	perceived security have a positive and significant impact on perceived ease of use	0.935	Reject
H6a	perceived risk has no significant impact on perceived usefulness	0.803	Reject
H6b	perceived risk has no significant impact on perceived ease of use	0.000	Do not Reject
H7a	Financial Literacy moderates the relationship between perceived	0.191	Reject

	usefulness and behavioural intention		
H7b	Financial Literacy moderates the relationship between perceived ease of use and behavioural intention	0.040	Do not Reject

Overall, there are a total of 6 hypothesis (H1, H2, H4a, H5a, H6b and H7b) which are supported by the research model. Behavioural Intention (BI) greatly affects the intention to adopt cryptocurrency in Malaysia, which means that users with stronger intentions and willingness to utilise cryptocurrency will most likely adopt it. This aligns with the Technology Acceptance Model (TAM), where it confirms that behaviour is the key driver for intention, further proving the psychological perspective of adopting cryptocurrency. Next, Perceived Ease of use (PEoU) also positively affects the behavioural intention to adopt cryptocurrency. The possible reason for this result could be due to the complexity of cryptocurrency. Since cryptocurrency is relatively new to the market, consumer might care more about the effort and ease to use rather than the presumed usefulness. If the process feels simple when using, the intention to adopt will increase. This indicates that those who find cryptocurrencies simple to will probably want to adopt them. Another one of the drivers to convince investors to utilise cryptocurrency is Perceived Trust (PT) as users are more likely to see cryptocurrency as useful, proving that trust is a crucial psychological factor in shaping the user's perceptions of utility. Other than that, Perceived Security (PS) directly affects user's the perceived utility of cryptocurrency. This suggests that users will perceive cryptocurrency as useful if they feel secure with the platform or technology. Perceived risk (PR) concluded a strong negative relationship on the ease of use of cryptocurrency, where the risker they feel, the harder it is to use. Due to fears, anxiety and the pure riskiness of cryptocurrency, users might have complicated thoughts on crypto. Lastly, Financial Literacy (FL) does moderately moderate the relationship between perceived ease of use and behavioural intention, suggesting that users with a higher financial literacy may find cryptocurrency easier to use and more useful. This also proves the role of financial perspective for users in the intention to adopt cryptocurrency.

On the other hand, there are a total of 5 hypothesis (H3, H4b, H5b, H6a and H7a) which are not supported by the research model. It is unexpected to see that Perceived Usefulness (PU) does not relate to Behavioural Intention (BI), indicating that Malaysians does not see cryptocurrency as a practical and useful tool they intend to adopt. This result could stem from the difference in cryptocurrency's motivation. When people think about cryptocurrency, they think of it more as an investment tool , not something that will improve their performance in their daily lives. So, PU measures may no capture what cryptocurrency actually values. Rather, adoption might be primarily driven by trust, risks and the ease of use compared to the perceived benefits and usability. Perceived Trust (PT) sees no impact to Perceived Ease of Use (PEoU), showing that users do not assume that cryptocurrency is easier to use just because they trust the technology. From the results, it shows that Perceived Security (PS) does not affect the ease of use. Security adds value, not simplicity and convenience. Technological complications does not affect security concerns. Moreover, users do not perceive risk (PR) as an indicator of the utility of cryptocurrency. No matter how high or low the perceived risk is by users, it does not affect the usefulness of cryptocurrency to them. Lastly, Financial Literacy (FL) does not influence the relationship between Perceived Usefulness and Behavioural Intention, which means that users who are knowledgeable in finance do not rely on the usability when intending to adopt cryptocurrency, showing that the lack of utility may be overshadowed by financial knowledge.

5.2 Implications of the Study

5.2.1 Theoretical Implications

Understanding Young Malaysians Investor Behaviour

The main motivation for this study was to focus on cryptocurrency adoption, specifically in Malaysia because there are many previous studies that only study cryptocurrency adoption on developed countries like UK, US, EU and others, making empirical research into developing countries like Malaysia rare (Chen et al., 2022). Thus, this study helps fill in the gap by offering insightful information about cryptocurrency acceptance from the perspective of Malaysian consumers. Furthermore, this research study also contributed to the theory of consumer behaviour, by presenting a different and innovative perspective on how Malaysian go about adopting to new investment instruments like cryptocurrencies or technologies, involving a combination of both financial and psychological factors. This could also serve as a contributing baseline for future research papers in understanding adoption intentions for Malaysians. In the research paper "Determinants of Cryptocurrency Adoption Behaviour in Malaysia", the targeted demographic age was 21 to 66 years old, targeting mostly older generations (Wong et al., 2022). In this study, the targeted demographic of age range was 18 to 31 years old, which represents the younger generation's behaviour. Through this, conclusions can be drawn differently if future researchers wanted to observe adoption of cryptocurrencies through the perspective of younger generations. Overall, this paper contributes to the target audience of the young generations in Malaysia.

Advancing Moderation Theory

The inclusion of the moderating variable, Financial Literacy, have deepen the complexity and depth of this study. Financial literacy does play a crucial part in how young Malaysians view innovative investment, as evidenced by the fact that it has a considerable and favourable impact on the desire to adopt cryptocurrencies in Malaysia. By realizing how this variable could affect behavioural impact, it shows importance in having a good financial knowledge before experimenting with risky endeavours like cryptocurrency. Including a Financial Literacy as a moderator in this study also contributes to the advancement of the existing knowledge in the adoption of cryptocurrency in developing countries like Malaysia.

Highlights Centrality of Trust

Lastly, the theoretical implications that this study brings is highlighting the centrality of trust in the adoption of cryptocurrency. Since this study implements a "Trust-based TAM Model", it showcased the importance of the perceived trust in young Malaysians adopting cryptocurrency. With the nature of cryptocurrency being unregulated, it presents a hardship of having difficulties in building trust for consumers (Chellappa & Pavlou, 2002). There are many studies that have stated the importance of trust in affecting consumer's adoption in cryptocurrencies (Kianieff, 2021; Arli et al.,2021). That is the reason why Perceived trust was chosen to be included in the external variables.

5.2.2 Practical Implications

Enhance Product Design

The findings in this study might offer a lot of constructive feedback to the product design of finance applications. Developers may utilize the findings in this study to enhance their features in the technology. After concluding that the Perceived Ease of Use strongly and positively affect the consumer's behavioural intention to adopt cryptocurrency, it demonstrates that lower effort and fewer barriers in the usage of cryptocurrency helps increase intention to adopt, since consumer greatly reply on the ease to use. Another practical implication could be to develop applications that are more user-friendly where clear instructions are essential to enhance simplicity. Other than that, this study demonstrated that trust plays a strong role in the user's perceived usefulness for cryptocurrency. This implements that trust-building strategies like greater transparency and a stable platform can indirectly increase the perceived usefulness of cryptocurrency to young Malaysians. Moreover, strong safety features like two-factor authentication and guaranteed fraud protection could possibly enhance the user's confidence in cryptocurrency's utility.

Develop Legal and Regulatory Frameworks

Through the results of this study, Perceived Trust (PT), Perceived Security (PS) and Perceived Risk (PR) partially plays a role in the intention to adopt cryptocurrency

in Malaysia. Thus, this can greatly affect how policymakers develop the official regulatory frameworks. Policymakers can utilize the findings in this study and implement it to develop frameworks that suits to the Malaysian's adoptive measures and convince Malaysians to better adopt to these legal regulations (Kajol et al., 2025). For example, the findings in this study could help Malaysia's policymakers to develop an effective, efficient and transparent policies for cryptocurrency, aligning with Malaysia's national goal, which is to enhance digital infrastructure (Sukumaran et al., 2022).

Empowering informed decisions through education

Educators could utilise the findings in this study to encourage and motivate younger generations in Malaysia to start their investment journey through cryptocurrencies. For example, since this study have demonstrated that trust, security, risk and financial literacy partially plays a role in the adoption for cryptocurrency amongst young Malaysians, universities and educating organisations could use these variables to empower and teach the next generation to make better informed financial decisions (Alomari & Abdullah, 2023).

5.3 Limitations of the Study

One of the limitations in this study is the data collection method used. Convenience sampling was used, however this method of data collection might cause potential biasness in the respondents as it relies on the convenience on the respondents, causing generalization limits. Since the study was conducted through online surveys, it was a self-declarative where respondents provide answers that is not factual or not verified, it was based on their opinions and feelings. This could lead to respondents giving over-exaggerated answers, leading to social desirability bias where they answer in a manner that makes them favourable by others, not truthfully and honestly. Moreover, the data collected through online surveys were only responded at one point of time, making it a cross-sectional approach. This approach has its limitations where it does not account for behavioural changes overtime.

Cryptocurrency is relatively new and is still evolving its position in Malaysia as a reliable and trusted investment option, so user's adoption towards cryptocurrency might change overtime, affecting the relevancy of this research.

5.4 Recommendations for Future Research

In the future, instead of conducting similar research on a cross-sectional approach, a longitudinal approach is recommended as cross-sectional approach does not accurately reflect the adoption rate of cryptocurrency in Malaysia, knowing that cryptocurrency is still in its early adoption stages. A longitudinal approach to these kinds of adoption studies serves better accuracy and results on the actual adoption rates as it tracks the rise of cryptocurrency acceptability overtime by investigating post-adoption behaviour. This is essential for understanding the behaviour of adoption or new and emerging markets. By having these understandings, the results could not only be used in the technology industry but also to other markets. Since this research only focuses on young generations in Malaysia, future studies could expand the generalizability to other developing countries like Indonesia, Saudi Arabia, Thailand and so on, conducting cross-country analysis. Not only does this benefit developing countries, it could help the development of the entire ASEAN community. This could also help policymakers in developing legal and regulatory frameworks to enhance clarity in the regulatory environment. Since this study only focuses on quantitative measures in collecting data, future research should also try to utilize qualitative methods for data collection to acquire deeper understandings on attitudes, perceptions and contextual factors. This can help triangulate the quantitative data and identify whether more information would be obtained.

5.5 Conclusion

In conclusion, the findings show that behavioural intention shapes actual adoption usage, confirming that intention is key to adoption. Behavioural intention itself is shaped by Perceived Ease of Use (PEoU), but not Perceived Usefulness (PU), which means that users care more about the usability and ease in usage rather than the performance enhancing features it provides to the user's daily live. In addition, Perceived trust and security plays a role in Perceived Usefulness, while Perceived risk is shaped by Perceived Ease of Use. This indicates that even is users find cryptocurrency trustworthy or secure, the complexity in navigation for cryptocurrency still affects their intention to adopt, while as the higher the perceived risk for users, the harder it is for users to use as cryptocurrency becomes more intimidating. As for financial literacy, results show that it strengthens the relationship between perceived ease of use and behavioural intention, meaning users with high financial knowledge will find cryptocurrency easier to use and are more likely to adopt it. To summarise everything, the external factors like Perceived trust, security and risk are only partially significant to the model, while Perceived Ease of Use and Behavioural Intention is mainly the driving motivation in the model. However, Perceived Usefulness is not a decisive factor in this study. With that, this study could be used to understand Malaysians investor behaviour towards young adults, enhance product design and help policymakers develop legal and regulatory frameworks. However, there are several limitations to this study including the sampling method used which could cause biasness and the cross-sectional approach where it does not truly account for adoption. Few recommendations could be implied for future researchers when conducting similar research, which is to adopt a longitudinal approach where post-adoption behaviour could be studied to accurate measure the realistic adoption rate, conducting cross-country analysis to enhance the generalization of this study's findings and lastly, to include qualitative data collection methods to acquire deeper understandings on attitudes, perceptions and contextual factors.

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APPENDICES

Appendix 1: *Questionnaire*

Dear respondents,

I am a second-year undergraduate student of Bachelor of finance (financial technology) with Honours at Universiti Tunku Abdul Rahman (UTAR). I am currently conducting my final year project with the topic of "Decoding Cryptocurrency Intentions in Malaysia: A Trust-Driven TAM Model with Financial Literacy as a Moderator".

Your input would mean a lot to me! This survey is expected to take approximately 5 to 10 minutes. Your responses will remain PRIVATE and CONFIDENTIAL. If you have any questions or concerns, please do not hesitate to contact me.

Your participation is greatly appreciated. Thank you so much in advance.

Name: Chen Chloe

Email: chloeww@1utar.my

_____

Personal data Collection Notice

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

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:

a) Name

b) Identity card

c) Place of Birth

d) Address

e) Education History

f) Employment History

g) Medical History

h) Blood type

i) Race

j) Religion

k) Photo

l) Personal Information and Associated Research Data

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

a) For assessment of any application to UTAR

b) For processing any benefits and services

c) For communication purposes

d) For advertorial and news

e) For general administration and record purposes

f) For enhancing the value of education

g) For educational and related purposes consequential to UTAR

h) For replying any responds to complaints and enquiries

i) For the purpose of our corporate governance

j) For the purposes of conducting research/ collaboration

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

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

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

Consent:

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

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

Acknowledge of Notice

[√] I have been notified and that I hereby understood, consented and agreed per UTAR above notice.

[√] I disagree, my personal data will not be processed.

Section A: Demographic Information

Please choose one answer only for each question.

1. Gender
   - Male
   - Female

2. Age
   - 18-22 years
   - 23-27 years
   - 28-32 years
   - Above 33 years

3. Occupation
   - Student
   - Self-employed
   - Employed
   - Unemployed

4. Education
   - SPM / IGCSE
   - Diploma / STPM / Foundation
   - Undergraduate (Bachelor's degree)
   - Postgraduate
   - PhD (Doctor of Philosophy)
   - Master’s Degree

5. Monthly Income
   - Below RM2500
   - RM2500 - RM6000

- Above RM6000
- > RM10000

6. Have you ever used cryptocurrency before?

- Yes
- No

Section B: Independent Variables (IVs)

This section used the Likert Scale (Noted that: Strongly Disagree-1, Disagree-2, Neutral-3,

Agree-4, and Strongly Agree-5).

Perceived Ease of Use (PEU)	1	2	3	4	5
Learning to use cryptocurrency would be easy for me.					
I find cryptocurrency easy to use.					
Interacting with cryptocurrency systems are clear and understandable.					
It would be easy for me to become skilful at using cryptocurrency.					
Perceived Usefulness (PU)	1	2	3	4	5
The intention to adopt cryptocurrency would enhance my effectiveness in managing finances.					
I find cryptocurrency useful for making financial decisions.					
Using cryptocurrency would improve my financial productivity.					
Cryptocurrency would make it easier to manage my finances.					

Section C: Dependent Variable (DV)

This section used the Likert Scale (Noted that: Strongly Disagree-1, Disagree-2, Neutral-3,

Agree-4, and Strongly Agree-5).

Actual Usage (DFU)	1	2	3	4	5
I frequently use digital finance applications for financial transactions.					
I use digital fintech applications for various financial activities.					
I spend a significant amount of time using digital finance applications.					
Behavioural Intention (BI)	1	2	3	4	5
I intend to use cryptocurrency in the future.					
I plan to use cryptocurrency regularly.					
I will recommend cryptocurrency to others.					
I will explore more features of cryptocurrency in the future.					

Section D: External Variables (EVs)

This section used the Likert Scale (Noted that: Strongly Disagree-1, Disagree-2, Neutral-3,

Agree-4, and Strongly Agree-5).

Perceived Security (PS)	1	2	3	4	5
I believe unauthorized parties will not be able to view the information I provide when using cryptocurrency.					
I would be free to give out my personal information when conducting cryptocurrency transactions.					
I would continue using cryptocurrency even when I hear there was a branch in security					

I am not worried about the security of using cryptocurrency for financial purposes.					
Perceived Risk (PR)	1	2	3	4	5
I am concerned that using cryptocurrency could lead to financial loss.					
I believe cryptocurrencies are reliable for financial transactions					
I feel that using cryptocurrency could result in errors or mistakes.					
Perceived Trust (PT)	1	2	3	4	5
I trust that cryptocurrency will protect my financial information.					
I believe cryptocurrency are reliable for financial transactions					
I feel confident that using cryptocurrency platforms will not misuse my data.					
I trust that cryptocurrency platforms will provide accurate financial advice.					

Section E: Moderating Variable (MV)

This section used the Likert Scale (Noted that: Strongly Disagree-1, Disagree-2, Neutral-3,

Agree-4, and Strongly Agree-5).

Financial Literacy (FL)	1	2	3	4	5
I am aware of using cryptocurrencies for digital payments such as Bitcoin, Ethereum, USDT, and so on					
I know about the online trading of cryptocurrencies and digital assets					
I know about cryptocurrency-based lending methods such as DeFi lending, peer-to-peer crypto lending, and so on					
Insurance products can be purchased online					

THE END OF QUESTIONNAIRE

We are committed to keep your personal data strictly confidential.

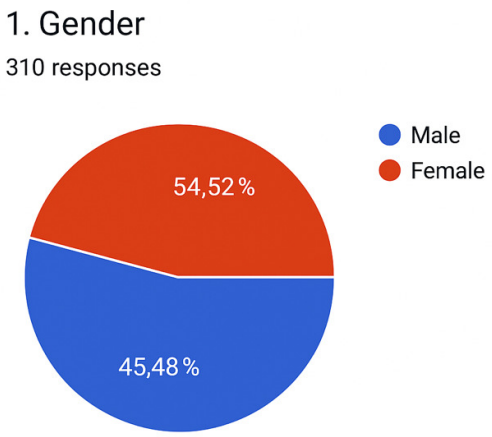
Please be informed that in accordance with Personal Data Protection Act 2010 (PDPA) which came into effect on 15 November 2013, Universiti Tunku Abdul Rahmah (UTAR) is obligated to notify and obtain your consent regarding the collection, recording, storage, usage, and transfer of your personal information.

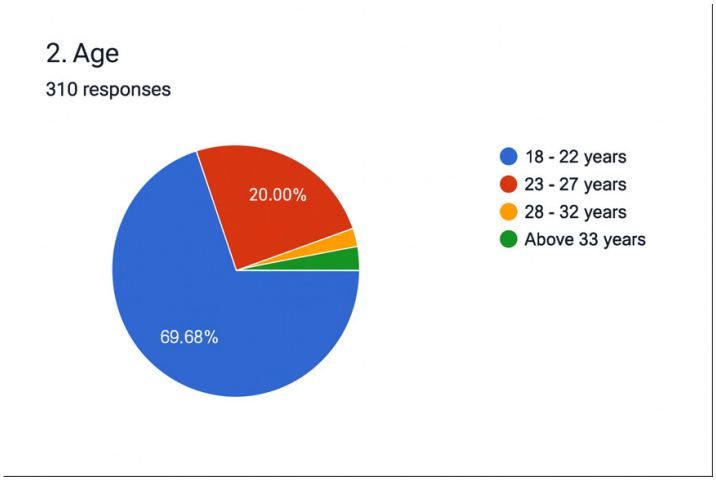
If you have any question regarding this questionnaire, please feel free to contact the researcher at chloeww@1utar.my

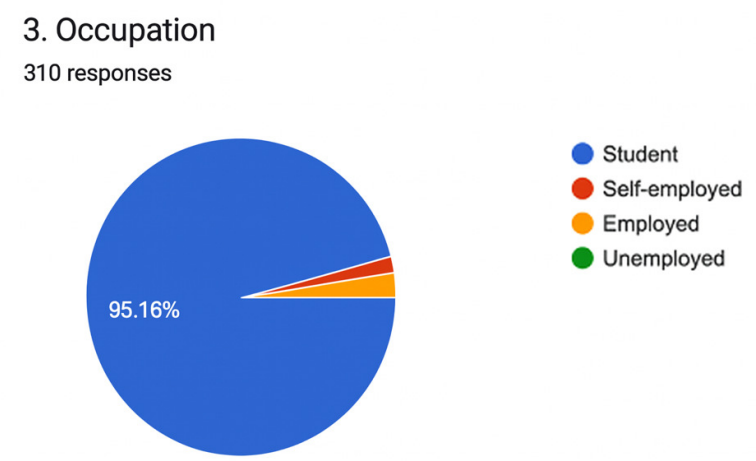
THANK YOU FOR YOUR TIME!

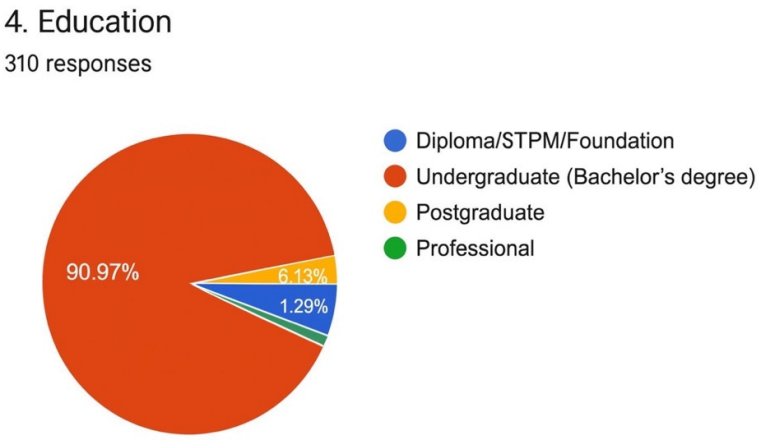
Appendix 2: Data Statistics from Google Form Survey

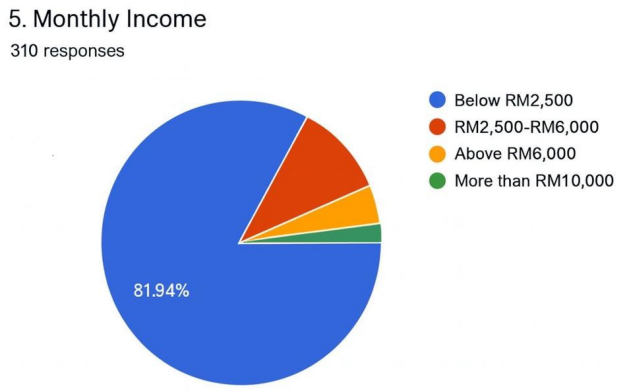
Section A: Demographic Information

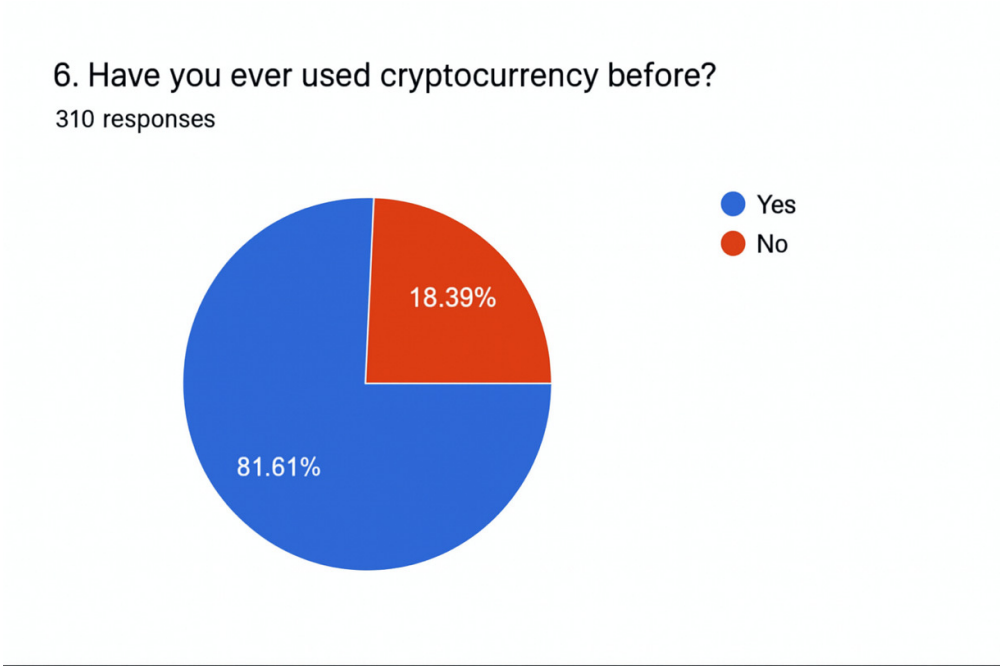




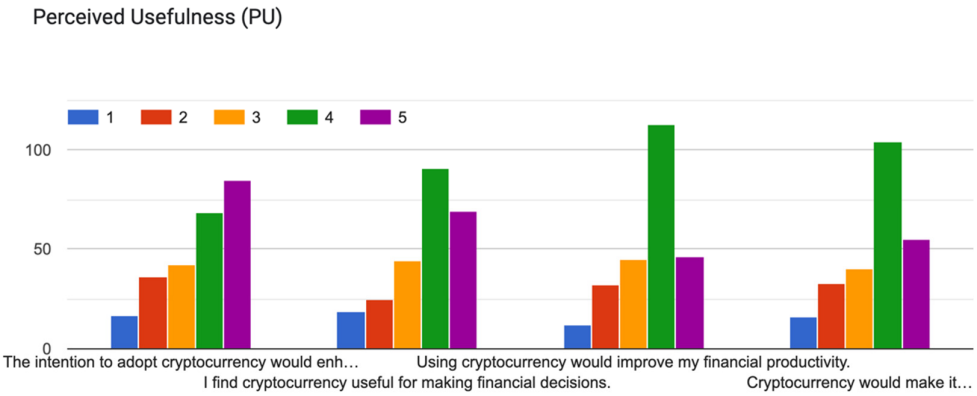

3. Occupation
310 responses
95.16%
Student
Self-employed
Employed
Unemployed

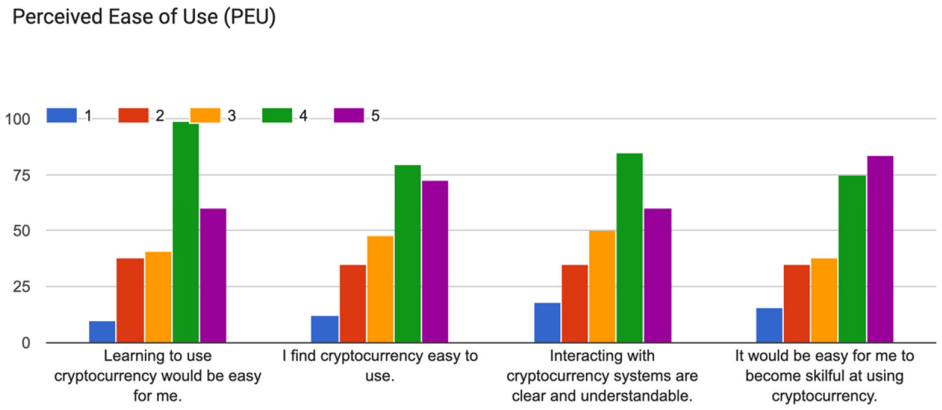

4. Education
310 responses
90.97%
6.13%
1.29%
Diploma/STPM/Foundation
Undergraduate (Bachelor's degree)
Postgraduate
Professional


5. Monthly Income
310 responses
81.94%
Below RM2,500
RM2,500-RM6,000
Above RM6,000
More than RM10,000

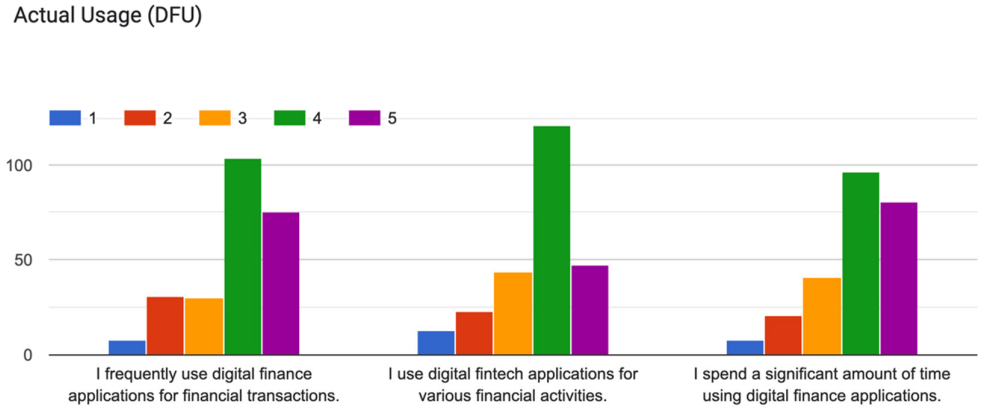


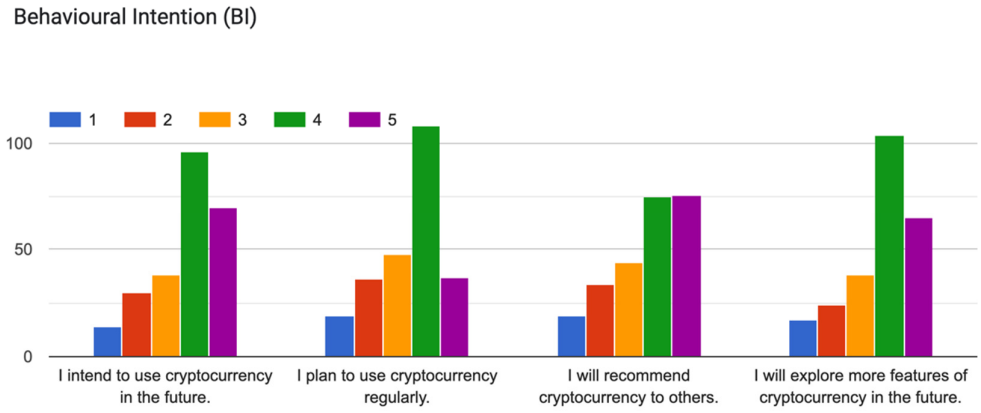
Section B: Independent Variables





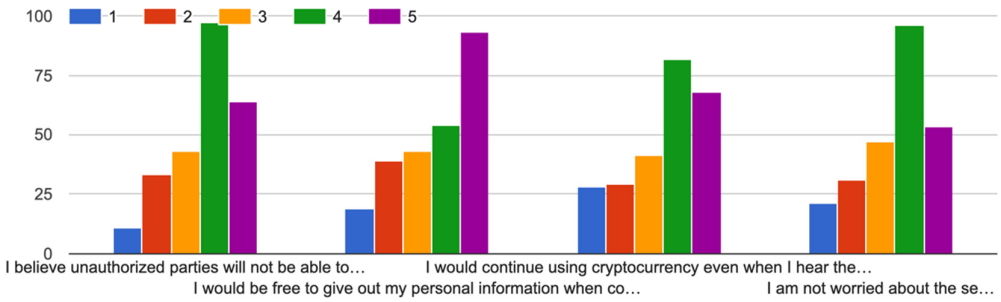
Section C: Dependent Variables



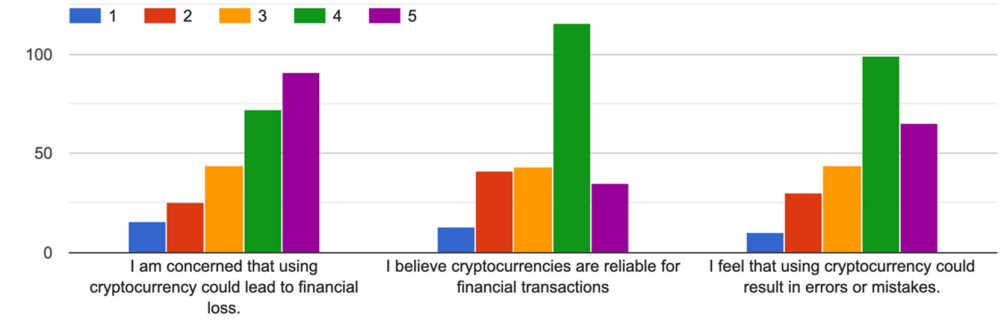


Section D: External Variables

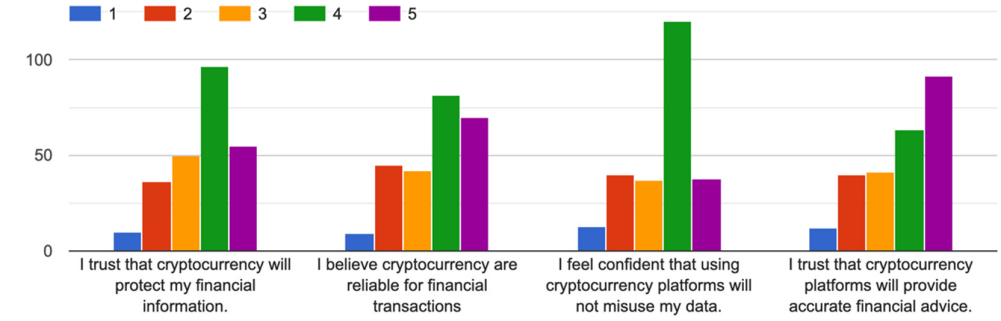
Perceived Security (PS)



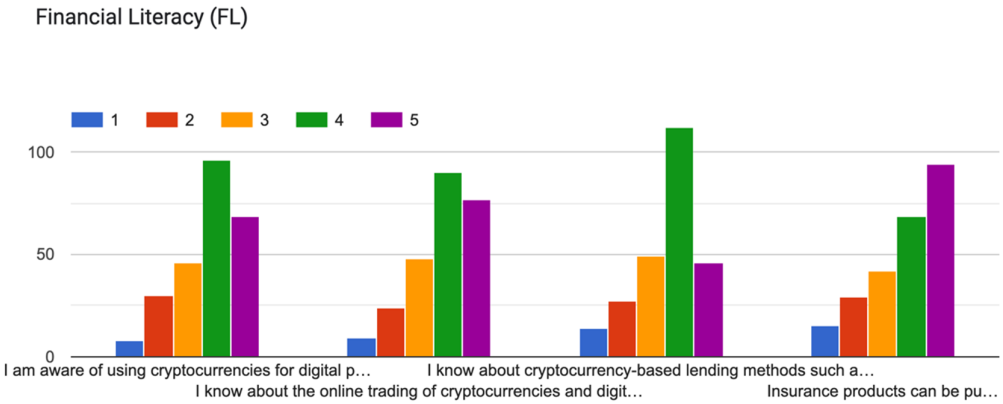
Perceived Risk (PR)



Perceived Trust (PT)

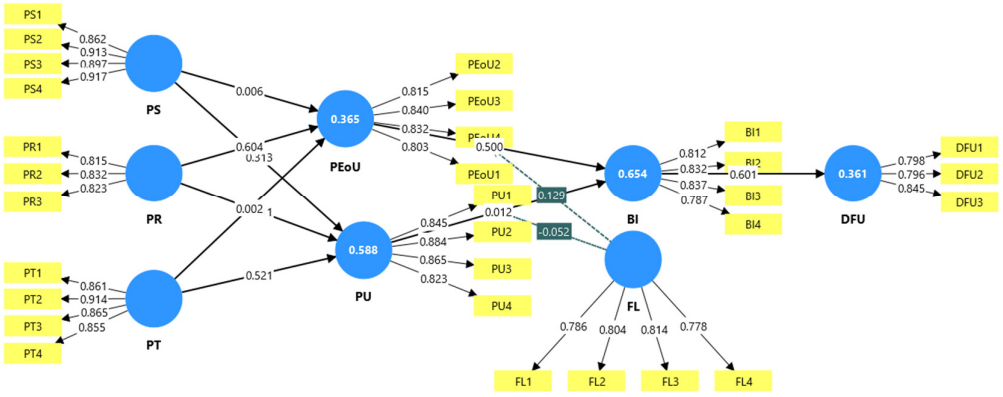


Section E: Moderating Variable



Appendix 3: Results from SmartPLS

Appendix 4.1: SEM-PLS Path Model



Appendix 5.2: Factor Loadings

	BI	DFU	FL	PEoU	PR	PS	PT	PU	FL x PU	FL x PEoU
BI1	0.812									
BI2	0.832									
BI3	0.837									

BI4	0.787									
DFU1		0.798								
DFU2		0.796								
DFU3		0.845								
FL1			0.786							
FL2			0.804							
FL3			0.814							
FL4			0.778							
PEoU2				0.815						
PEoU3				0.840						
PEoU4				0.832						
PR1					0.815					
PR2					0.832					
PR3					0.823					
PS1						0.862				
PS2						0.913				
PS3						0.897				
PS4						0.917				
PT1							0.861			
PT2							0.914			
PT3							0.865			
PT4							0.855			
PU1								0.845		
PU2								0.884		

PU3								0.865		
PU4								0.823		
PEoU1				0.803						
FL x PEoU										1.000
FL x PU									1.000	

Appendix 6.3: Construct reliability and validity

	Cronbach's alpha	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)**
BI	0.834	0.836	0.889	0.668
DFU	0.746	0.757	0.854	0.662
FL	0.807	0.811	0.873	0.633
PEoU	0.841	0.843	0.893	0.677
PR	0.763	0.769	0.863	0.678
PS	0.919	0.921	0.943	0.806
PT	0.897	0.898	0.928	0.764
PU	0.877	0.880	0.915	0.730

Appendix 7.4: Discriminant validity - HTMT

	BI	**DFU**	**FL**	**PEoU**	**PR**	**PS**	**PT**	**PU**	**FL x PU**	**FL x PEoU**
BI										
DFU	0.754									
FL	0.852	0.891								
PEoU	0.891	0.701	0.798							
PR	0.847	0.773	0.895	0.746						
PS	0.051	0.102	0.116	0.034	0.055					
PT	0.081	0.060	0.138	0.064	0.054	0.737				

PU	0.054	0.103	0.111	0.052	0.034	0.736	0.821			
FL x PU	0.070	0.040	0.080	0.023	0.030	0.231	0.106	0.239		
FL x PEoU	0.082	0.183	0.284	0.184	0.062	0.066	0.057	0.077	0.057	

Appendix 8.5: Discriminant validity – Fornell Larcker

	BI	**DFU**	**FL**	**PEoU**	**PR**	**PS**	**PT**	**PU**
BI	0.817							
DFU	0.601	0.813						
FL	0.705	0.697	0.795					
PEoU	0.750	0.560	0.663	0.823				
PR	0.681	0.585	0.702	0.604	0.823			
PS	0.014	-0.037	-0.069	0.014	0.011	0.898		
PT	-0.015	-0.031	-0.083	-0.004	-0.017	0.670	0.874	
PU	-0.025	-0.078	-0.065	-0.001	0.006	0.662	0.731	0.855

Appendix 9.6: Discriminant validity – Cross Loadings

	BI	**DFU**	**FL**	**PEoU**	**PR**	**PS**	**PT**	**PU**	**FL x PU**	**FL x PEoU**
BI1	0.812	0.490	0.572	0.586	0.581	0.080	0.053	0.003	-0.079	-0.100
BI2	0.832	0.467	0.577	0.599	0.580	-0.010	0.016	-0.026	-0.032	0.001
BI3	0.837	0.519	0.579	0.701	0.544	-0.025	-0.082	-0.057	0.041	-0.012
BI4	0.787	0.486	0.577	0.554	0.521	0.004	-0.029	0.001	-0.056	-0.133
DFU1	0.438	0.798	0.528	0.434	0.481	-0.101	-0.065	-0.118	0.040	-0.097
DFU2	0.459	0.796	0.525	0.410	0.433	-0.051	-0.011	-0.048	-0.033	-0.111

DFU 3	0.555	0.845	0.637	0.514	0.510	0.043	-0.006	-0.034	-0.011	-0.178
FL1	0.506	0.561	0.786	0.498	0.544	-0.096	-0.085	-0.055	0.076	-0.158
FL2	0.505	0.543	0.804	0.470	0.563	-0.105	-0.140	-0.139	0.020	-0.178
FL3	0.620	0.537	0.814	0.550	0.519	-0.073	-0.068	-0.064	0.080	-0.259
FL4	0.593	0.577	0.778	0.579	0.607	0.043	0.015	0.037	-0.052	-0.217
PEoU 2	0.602	0.443	0.525	0.815	0.426	-0.012	-0.026	-0.019	-0.021	-0.159
PEoU 3	0.652	0.478	0.598	0.840	0.533	0.017	0.042	0.048	-0.007	-0.132
PEoU 4	0.610	0.486	0.566	0.832	0.538	0.028	0.001	-0.000	0.013	-0.123
PR1	0.503	0.506	0.598	0.472	0.815	0.047	-0.003	0.021	-0.048	0.071
PR2	0.629	0.473	0.563	0.550	0.832	-0.033	-0.028	-0.013	-0.014	-0.019
PR3	0.538	0.467	0.575	0.461	0.823	0.021	-0.007	0.010	0.002	0.044
PS1	0.031	-0.039	-0.047	0.033	0.057	0.862	0.570	0.562	0.154	-0.064
PS2	0.009	-0.068	-0.084	-0.020	-0.010	0.913	0.596	0.580	0.193	-0.044
PS3	-0.020	-0.018	-0.072	0.016	-0.020	0.897	0.616	0.604	0.245	-0.059
PS4	0.031	-0.011	-0.044	0.022	0.014	0.917	0.621	0.628	0.202	-0.060
PT1	0.042	0.007	0.017	0.055	0.029	0.579	0.861	0.664	0.084	-0.005

PT2	0.015	-0.010	-0.028	0.010	0.014	0.591	0.914	0.648	0.100	0.057
PT3	-0.078	-0.028	-0.126	-0.040	-0.037	0.542	0.865	0.603	0.089	0.083
PT4	-0.037	-0.079	-0.161	-0.045	-0.068	0.626	0.855	0.636	0.079	0.044
PU1	-0.019	-0.089	-0.089	-0.020	-0.013	0.552	0.615	0.845	0.221	0.079
PU2	0.017	-0.063	-0.030	0.030	0.022	0.597	0.683	0.884	0.163	-0.025
PU3	-0.037	-0.036	-0.073	-0.033	0.015	0.575	0.630	0.865	0.205	0.050
PU4	-0.053	-0.083	-0.031	0.019	-0.006	0.537	0.562	0.823	0.177	-0.094
PEoU1	0.600	0.433	0.487	0.803	0.483	0.010	-0.037	-0.037	0.028	-0.140
FL x PEoU	-0.073	-0.162	-0.259	-0.168	0.036	-0.063	0.050	0.005	-0.057	1.000
FL x PU	-0.037	-0.003	0.038	0.004	-0.024	0.222	0.100	0.223	1.000	-0.057

Appendix 10.7: VIF

	VIF
BI1	1.774
BI2	1.960
BI3	1.922
BI4	1.662
DFU1	1.507
DFU2	1.461
DFU3	1.496
FL1	1.693
FL2	1.785
FL3	1.749
FL4	1.576
PEoU2	1.929
PEoU3	1.953

PEoU4	1.981
PR1	1.572
PR2	1.474
PR3	1.627
PS1	2.396
PS2	3.577
PS3	2.953
PS4	3.567
PT1	2.387
PT2	3.373
PT3	2.432
PT4	2.309
PU1	2.115
PU2	2.508
PU3	2.302
PU4	1.954
PEoU1	1.787
FL x PEoU	1.000
FL x PU	1.000

Appendix 11.8: Model Fit

	Saturated model	**Estimated model**
SRMR	0.060	0.083
d_ULS	1.696	3.178
d_G	0.799	0.918
Chi-square	1170.827	1241.894
NFI	0.772	0.758

Appendix 12.9: R-square

	R-square	**R-square adjusted**
BI	0.654	0.646
DFU	0.361	0.358
PEoU	0.365	0.357
PU	0.588	0.583

Appendix 13.10: F-square

	BI	**DFU**	**FL**	**PEoU**	**PR**	**PS**	**PT**	**PU**	**FL x PU**	**FL x PEoU**
BI		0.564								

DFU										
FL	0.252									
PEoU	0.402									
PR				0.574				0.000		
PS				0.000				0.131		
PT				0.000				0.363		
PU	0.000									
FL x PU	0.007									
FL x PEoU	0.034									

Appendix 14.11: Path Coefficients

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
BI -> DFU	0.601	0.603	0.046	13.028	0.000
FL -> BI	0.405	0.409	0.066	6.133	0.000
FL x PEoU -> BI	0.129	0.130	0.063	2.055	0.040
FL x PU -> BI	-0.052	-0.052	0.040	1.308	0.191
PEoU -> BI	0.500	0.497	0.071	7.012	0.000
PR -> PEoU	0.604	0.608	0.049	12.282	0.000
PR -> PU	0.011	0.013	0.044	0.250	0.803
PS -> PEoU	0.006	0.004	0.070	0.082	0.935
PS -> PU	0.313	0.313	0.066	4.775	0.000
PT -> PEoU	0.002	0.003	0.078	0.025	0.980
PT -> PU	0.521	0.521	0.066	7.934	0.000
PU -> BI	0.012	0.014	0.042	0.297	0.767