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**FACTORS AFFECTING CRYPTOCURRENCY  
ADOPTION IN DIGITAL MARKET OF  
MALAYSIA**

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**DOCTOR OF PHILOSOPHY  
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**FACTORS AFFECTING CRYPTOCURRENCY ADOPTION IN DIGITAL  
MARKET OF MALAYSIA**

**By**



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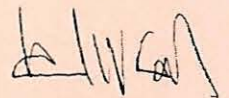
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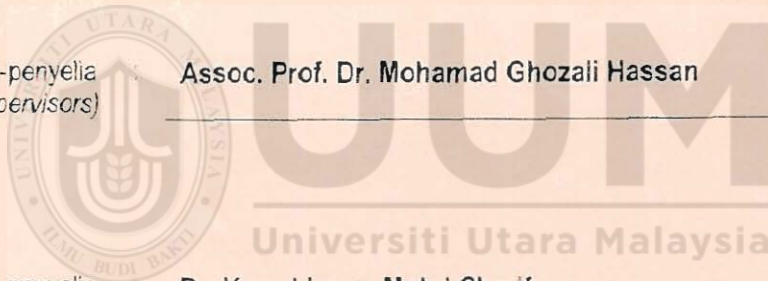
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## ABSTRACT

Cryptocurrency plays an important role in today's digital currency environment. Improving cryptocurrency adoption is important for consumers and practitioners, as it improves *understanding, enhances behavior, attitude, trust, and increases satisfaction*. Though the lack of cryptocurrency adoption is a significant issue that arises in the digital market, cryptocurrency adoption is crucial to the support of technology capability facilitated with appropriate behavioral intention too. Considering the fact, this study intended to investigate the impact of cryptocurrency adoption in the digital market in Malaysia. This empirical study examined the role of trust (TR), social influence (SI), cryptocurrency transaction transparency (CTT), technology awareness (TA), facilitating conditions (FC), performance expectancy (PE), attitude (AT), customer satisfaction on behavioral intention (BI) and cryptocurrency adoption (CA). The study also intended to examine the role of behavioral intention as a mediator in the context of cryptocurrency adoption. In line with the research objectives, systematic random sampling was used in this study. Cross-sectional data were collected using a questionnaire at the cryptocurrency consumer of Malaysia, which produced a total of 349 usable responses. The study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis. Findings of the study revealed that TR, SI, CTT, TA, and FC positively affect CA (dependent variable) through the mediation of behavioral intention (BI) in Malaysia's digital market. On the other hand, PE, AT, and CS negatively affect cryptocurrency adoption in Malaysia's digital market. Future researchers may replicate the study in different countries in a different industry context and integrate similar constructs to broaden the current body of knowledge.

**Keywords:** Cryptocurrency Malaysia, Factors of cryptocurrency, Behavioral intention, Cryptocurrency adoption, Digital market.

## ABSTRAK

Mata wang kripto memainkan peranan yang penting dalam persekitaran mata wang digital hari ini. Peningkatan penggunaan mata wang kripto penting kepada pengguna dan pengamalnya kerana ia memberikan pemahaman kepada pengguna, meningkatkan tingkah laku pengguna, sikap, kepercayaan dan meningkatkan kepuasan pengguna. Namun, masih belum banyak kajian mengenai mata wang kripto dilakukan. Selain itu, penggunaan mata wang kripto adalah penting untuk menyokong keupayaan teknologi yang dibantu dengan niat tingkah laku yang sesuai. Berdasarkan pertimbangan inilah, kajian ini berhasrat untuk menyiasat bagaimana penggunaan mata wang kripto dapat ditingkatkan. Kajian empirik ini meneliti peranan peramal kepercayaan (TR), pengaruh sosial (SI), ketelusan urus niaga mata wang kripto (CTT), kesedaran teknologi (TA), pemudah keadaan (FC), jangkaan prestasi (PE), sikap (AT), kepuasan pelanggan, terhadap niat tingkah laku (BI) dan penggunaan mata wang kripto (CA). Kajian ini juga bertujuan menyelidik peranan niat tingkah laku sebagai pengantara dalam konteks penggunaan mata wang kripto. Selaras dengan objektif kajian, persampelan rawak bersistematik digunakan dalam kajian ini. Data keratan rentas telah dikumpulkan menggunakan soal selidik ke atas pengguna mata wang kripto di Malaysia, yang memberikan sejumlah 349 maklum balas yang boleh digunakan. Kajian ini menggunakan Pemodelan Persamaan Berstruktur-Kuasa Dua Terkecil Separa (PLS-SEM) untuk menganalisis data. Dapatan kajian ini menunjukkan TR, SI, CTT, TA, dan FC memberi kesan secara positif kepada CA (pemboleh ubah bersandar) melalui penyederhanaan niat tingkah laku (BI) dalam pasaran runcit digital di Malaysia. Sebaliknya, PE, AT, dan CS memberi kesan yang negatif terhadap penggunaan mata wang kripto dalam pasaran runcit digital di Malaysia. Penyelidik masa akan datang boleh manjalankan kajian yang sama di negara-negara lain dalam konteks industri yang berbeza dan mengintegrasikan konstruk yang sama untuk meluaskan bidang pengetahuan semasa.

**Kata kunci:** Mata wang kripto Malaysia, Faktor mata wang kripto, terhadap niat tingkah laku, penggunaan mata wang kripto, pasaran digital



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## ABBREVIATIONS

TR	Trust
SI	Social Influence
CTT	Cryptocurrency Transaction Transparency
TA	Technology Awareness
CS	Customer Satisfaction
AT	Attitude
FC	Facilitating Condition
PE	Performance Expectancy
BI	Behavioral Intention
CA	Cryptocurrency Adoption
H	Hypothesis
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behavioral
DOI	Diffusion of Innovations
TAM	Technology Acceptance Model
UTAUT	The unified theory of acceptance and use of technology
UTAUT2	The unified theory of acceptance and use of technology 2
IoT	Internet of Things
RFID	Radio-Frequency Identification
IMF	International Monetary Fund

# CHAPTER ONE

## INTRODUCTION

### 1.1 Overview

This study explores the factors that affect cryptocurrency adoption in Malaysia. This section, followed by the background of the study, presents the discussion on the problem. In addition, it shows the underlying issues that unravel the origin of the research and the research gap. Besides, it explains the limitations and contexts of the study. Research questions are also provided in this section and construct the objectives. Moreover, this chapter provides the scopes as well as the significance of the research. Finally, it has been concluded with an overview of the remaining sections of this thesis.

### 1.2 Background

The unbelievable improvement of technology drives the customer to a digital transaction (De Keyser *et al.*, 2019; Singh, Jain, Munjal, & Rakesh, 2019). The consumer requires versatile, simple, cost-effective, and time-effective digital operations in the financial sectors. One of the most exciting digital development and evolution of digital currencies is known as cryptocurrency. Its payment transaction is well described to individuals clients (Gonzalez, 2019). Also, it is an alternative to the traditional fiat currency that allows clients to make digital payments for properties and services, where intermediaries are needless (Al-Jaroodi & Mohamed, 2019). In other



terms, it is an advanced form of online based digital currency platform. The transaction records remain recorded publicly for the monetary transaction. Hence, cryptocurrency trading is also governed by numerous informal exchanges for fiat currencies (Cowen, 2019).

However, electronic cash is a concept that goes back to the 1980s but did not control digital currencies until 2017 because of the widespread belief that the monetary system stances a high risk. In 2015, a survey was carried out by the Malaysian Multimedia Commission (MCMC) and found that 68 % of the adults in Malaysia reported using the internet, which was above the global average of 67 % (Alaeddin & Altounjy, 2018a). The Asia-Pacific average of 58 % was more dominant among mainly young internet users. The study also revealed that over one-third (41.7%) of the internet users used the internet for commercial purposes (increased 36.2% than the previous year) (Alaeddin & Altounjy, 2018b). It was also introduced in response to the market push towards adopting this technology, as it determines how to make fast wealth a fantastic way to regulate Bank Negara Malaysia's (BNM's) use of cryptocurrency. This aims to develop a new cryptocurrency, particularly among Generation Z, known as the 'hyper-related generation' (Alaeddin & Altounjy, 2018a).

### 1.3 Cryptocurrency Concept in Malaysia

Cryptocurrency is a new type of currency that uses blockchain technology as its foundation (Jiang, Li, & Wang, 2021). The concept is drawing attention from academics, industry and people who interested in new things. Besides that, it creates a new thought in the digital market of Malaysia (Choo, 2015). Apart from that, it mentioned that cryptocurrency is a distinguished currency that gives a unique essence in the Malaysian digital market. Although the cryptocurrency exchange rate has a high annualized volatility, the transaction process is perceived to be more secure (Zulhuda & Sayuti, 2017).

The cryptocurrency in Malaysia has created a new paradigm shift in today's financial transaction (Alaeddin & Altounjy, 2018a). Bakar, Rosbi, and Uzaki (2017) ascertained that digital currencies dominated by cryptocurrency account for total market capitalization. It was initiated that the first decentralizing cryptocurrency has gained widespread attention in the media, academia, and finance industry (Zulhuda & Sayuti, 2017). Based on the trend of financial technology, bitcoin, as a cryptocurrency pioneer, has shown no signs of slowing down.

Chan *et al.* (2018) noted that cryptocurrency is a new term for buying or selling virtual currency. It is more reliable and trusted for every individual consumer, and it is a reliable currency in the digital market of Malaysia (Ghalwesh, Ouf, & Sayed, 2020). Also, it provides a secure transaction among the consumer of the cryptocurrency in the market (Gazali, Ismail, & Amboala, 2018). There are many benefits of

cryptocurrencies in Malaysia (Ali *et al.*, 2019). It solves the traditional financial transactional process such as trade by brokers, agents, legal representatives, and the third party, resulting in minimized costs (Abdul Karim, 2019b). Paperwork, brokerage fees, charges, and a range of other special requirements are not also applicable here. One of the benefits of cryptocurrency transactions is that a company focuses on a peer-to-peer networking system in its practice (Yeong, 2019). The peer-to-peer networking system leads to a more accessible audit trail, less uncertainty about who is paying whom, and more accountability (Ku-Mahamud, Omar, Bakar, & Muraina, 2019). Both parties are involved in a transaction knowing each other and responsible for the mutual transaction.

The cryptocurrency ecosystem is also a unique transfer mode for digital currency (Fauzi, Paiman, & Othman, 2020). Similarly, cryptocurrency transactions can set times, dates, and locations to transfer the appropriate amount of demand (Nawang & Azmi, 2020). In addition, cryptocurrency has exclusive control over the individual's account as a cryptocurrency holder (Ooi, Ooi, Yeap, & Goh, 2020). Also, it reduces the time and cost needed for the transfers of money (Ajouz, Abdullah, & Kassim, 2020). Besides, the advantage of cryptocurrency is that each transaction makes a unique and negotiated exchange between the parties.

Over the past years, cryptocurrency showed a dramatic increase in its usages in the government and business sectors (Ariffin, Ariffin, & Abdullah, 2021). Besides, cryptocurrency becomes the mainstream of financial transactions (Abbasi *et al.*, 2021). It means that there are specific implications of cryptocurrencies in Malaysia.

This study would have been more interesting to gain deeper insights into the adoption and use of cryptocurrencies in Malaysia. Correspondingly, it aims to upsurge the factors of acceptance and the use of cryptocurrencies in Malaysia's digital market.

#### **1.4 Problem Statement**

This section provided a comprehensive review of problems that arise in the research area. The researcher also explores an in-depth study and analysis to explain the problems and provide solutions. The researcher found some variables that need to focus on further improvement of the cryptocurrency adoption in Malaysia's digital market (Fauzi *et al.*, 2020). Trust, awareness, transparency, attitude, and expectancy have become major issues in the Malaysian digital market (Alaeddin & Altounjy, 2018a; Alam, 2017; Albayati, Kim, & Rho, 2020a; Chan *et al.*, 2018; Derausseau, 2019). Lack of technology use and behavioral intention have been the major contributors to why Malaysia has the highest cryptocurrency issues among Asian countries (Albayati *et al.*, 2020a; Almarashdeh *et al.*, 2018; Bagozzi, 2007; Chuttur, 2009). The lack of cryptocurrency technology understanding is another issue in the cryptocurrency digital market (Chowdhury & Razak, 2019). The ministry of finance has drafted the economic master plan for Malaysia, ensuring that the country will be the preferred digital currency gateway for Asia (Gomez *et al.*, 2017). One of the Malaysian government's elements in achieving the objectives of the master plan concerns strengthening cryptocurrency (Johns, 2020). However, the limited capabilities of trust, missing of transparency, inadequate awareness & attitude, lack of satisfaction, shortage of performance, poor facilitating condition toward to use of

digital currency, and a low cryptocurrency adoption rate have been the issues that need to be solved in making sure that the objectives of the master plan are achievable (Albayati, Kim, & Rho, 2020b; Bai, 2020; Johnson & Krueger, 2021; Kaal & Calcaterra, 2018; Kabir, Chowdhury, Aktaruzzaman, & Rahman, 2018S). Besides, bureaucracy and corruption are ethically related issues that must be solved to ensure that cryptocurrency adoption can be achieved (Abdul Karim, 2019b; Ayedh, Echchabi, Battour, & Omar, 2020; Bakar & Rosbi, 2017; Bakar *et al.*, 2017; Chan *et al.*, 2018; Fauzi *et al.*, 2020; Nawang & Azmi, 2020; Saleh, Ibrahim, Noordin, & Mohadis, 2020). These issues pose an obstacle to cryptocurrency adoption in Malaysia's digital market (Bakar & Rosbi, 2017; Chan *et al.*, 2018; Fauzi *et al.*, 2020; Nawang & Azmi, 2020; Saleh *et al.*, 2020; Wong *et al.*, 2020).

Issues related to cryptocurrency adoption have attracted academics and practitioners' attention, and the results from a few existing studies have shown some inconsistencies. Albayati *et al.* (2020a) justify that technology use and cryptocurrency adoption are positively correlated. Also, cryptocurrency is a new phenomenon and needs more research to determine the factors to run in the financial market (Dorofeyev *et al.*, 2018). Nonetheless, very little work has been performed on the role of cryptocurrency in Malaysia's digital market (Bakar *et al.*, 2017). Cryptocurrency adoption is directly related to the customer's intentions' intimacy, and interest (Zubir *et al.*, 2020). It remains relevant as new ideas and understanding, making it imperative to explore further and investigate cryptocurrency adoption (Alzahrani & Daim, 2019). The current transaction policy is also vulnerable and seems to play a critical role in Malaysia's digital market (Zakaria, Kunhibawa, & Munir, 2018). Also, cryptocurrency

adoption is not well stated in Malaysia's digital market (Ayedh *et al.*, 2020). On top of that, the cryptocurrency-policies affect the intention to use the cryptocurrency (Ayedh *et al.*, 2020; Bakar *et al.*, 2017; Chan *et al.*, 2018; Chow, Sugathan, Kalid, & binti Arshad, 2019). Obviously, there is no further initiative to disclose its adoption in society and no action to adopt the cryptocurrency into the digital market (Alaeddin & Altounjy, 2018a; Chow *et al.*, 2019; Gazali, 2019; Hashim, Kamarudin, Muhamad Arifin, & Khamis, 2019; Ku-Mahamud *et al.*, 2019; Saleh *et al.*, 2020; Sas & Khairuddin, 2015). Cryptocurrency is facing problems because of digital market stability (Firpo, Salvini, Francioni, & Ranjith, 2011). Also, there is insufficient research on the impact of cryptocurrency factors in Malaysia (Abbasi *et al.*, 2021). This has motivated the study to explore the area mainly from the Malaysian perspective (Guo & Donev, 2020). The subsequent subsections discuss several shortcomings of cryptocurrency implementation which need further investigation.

#### **a) Factors affecting cryptocurrency in Malaysia is not clearly determined**

The cryptocurrency market needs to meet up in a rapidly changing and more technically demanding way (Khazaei, 2020). Also, it requires a fast-tracking digital monetary strategy for money trading (Fauzi *et al.*, 2020). In addition, there are underlying factors that influence cryptocurrency adoption in the digital market (Fauzi *et al.*, 2020; Jani, 2018; Lehner, Hunzeker, & Ziegler, 2017). Subsequently, trust is a valuable insight into the use of cryptocurrency in the digital (Ku-Mahamud *et al.*, 2019; Mendoza, Mora, Pujol, & Lytras, 2018; Nilashi *et al.*, 2016; Paul, Biswas, Nandi, & Chakraborty, 2018). It also creates assurance in brand service (Erciş, Ünal,

Candan, & Yıldırım, 2012; Sultan & Wong, 2019; Tajvidi, Wang, Hajli, & Love, 2017). Trust is the company's reliability where the consumer is getting the cryptocurrency (Alaeddin & Altounjy, 2018a; Ayedh *et al.*, 2020; Iryan, 2020). The lack of trust is a casual adverse effect the cryptocurrency uses is seen in Asia (Alzahrani & Daim, 2019; Chan *et al.*, 2018; Guych, Anastasia, Simon, & Jennet, 2018). Social impact issues recommend using cryptocurrency in the digital market (Albayati *et al.*, 2020a; Doblaz, 2019; Mendoza *et al.*, 2018; Mendoza, Mora, Pujol, & Lytras, 2019). It is directly related to the familiarity and friends influence of the customer's intentions (Hanson *et al.*, 2011; Herrero & San Martín, 2017; Hsu & Lu, 2004; Malhotra & Galletta, 1999; Tajvidi *et al.*, 2017; Zhang *et al.*, 2020). Hence, A friend's wrong perception can decline the use of cryptocurrency. On top of that, cryptocurrency transactions play a vital role in the digital market (Bakar *et al.*, 2017; Fauzi *et al.*, 2020; Jani, 2018). It complies with the trading process and transparent conditions for cryptocurrency trading among the stakeholders (Pandya, Mittapalli, Gulla, & Landau, 2019; Phillips & Gorse, 2018; Schaupp & Festa, 2018). Therefore the fraudulent transaction loses the consumer of cryptocurrency from the digital market (Bakar *et al.*, 2017; Fauzi *et al.*, 2020; Jani, 2018). Apart from that, customer satisfaction is a valuable point that needs to consider for every company. It expresses future recommendations and user stability. Hence, the cryptocurrency dissatisfaction causes major demotivation to use cryptocurrency in the digital market (Phillips & Gorse, 2018; Sas & Khairuddin, 2015; Schaupp & Festa, 2018; Xiong & Tang, 2020; Yeong, 2019; Zulhuda & binti Sayuti, 2017). Subsequently, attitude is the expected behavior of a person that indicates the consumer's intention to use the product (Ajzen & Fishbein, 2005; Bhattacharjee & Premkumar, 2004; Doblaz, 2019; Fishbein *et al.*,

1980; Schaupp & Festa, 2018; Zulhuda & binti Sayuti, 2017). It defines a negative attitude that produces an intention to use it (Albayati *et al.*, 2020a; Bosco *et al.*, 2015; Chan *et al.*, 2018), leading to a cryptocurrency misconception in Malaysia's digital market. Likewise, the facilitating condition is the foundation to use any digital product (Alalwan, Dwivedi, & Rana, 2017; Alalwan, Dwivedi, & Williams, 2016; Alalwan, Rana, *et al.*, 2015; Arias, Pelegrin, & Matias-Clavero, 2019; Ayedh *et al.*, 2020). The cryptocurrency is a technology-based product that needs a minimum tech facility to use it (Arias *et al.*, 2019; Ayedh *et al.*, 2020; Gunawan & Novendra, 2017; Gurrea & Remolina, 2020). The deficiency of a technology facility constrains the use of cryptocurrency in the digital market (Ayedh *et al.*, 2020; Chow *et al.*, 2019; Gunawan & Novendra, 2017). Similarly, performance expectation is a valuable factor that impacts cryptocurrency use (Guych *et al.*, 2018; Mendoza *et al.*, 2018; Mohamed *et al.*, 2018). It determines the usability of fast and quick cryptocurrency uses in the digital market (Burton, Sheather, & Roberts, 2003; Calderón, López, & Peña, 2017). Hence, cryptocurrency's slow performance loses crypto user demand (Arias *et al.*, 2019; Bosco *et al.*, 2015; Davis, 1989). It also decreases the user of cryptocurrency's behavioral intention in the digital market (Dinev & Hu, 2005; Herrero & San Martín, 2017; Karim, Salleh, & Khan, 2016; Maruping, Bala, Venkatesh, & Brown, 2017). Likewise, cryptocurrency adoption is not well elaborated in Malaysia's digital market (Ayedh *et al.*, 2020). It remains relevant as new ideas and understanding, making it imperative to explore further cryptocurrency adoption in the digital market (Alzahrani & Daim, 2019). Based on previous researchers' suggestions, this study will examine the deficiencies described above by observing the factors like trust (TR), social influence (SI), cryptocurrency transaction transparency (CTT), technology awareness



(TA), customer satisfaction (Henseler, Ringle, & Sinkovics), attitude (AT), facilitating condition (FC), performance expectancy (PE), behavioral intention (BI), and cryptocurrency adoption (CA) in the digital market Malaysia.

#### **b) Behaviour intention necessity on cryptocurrency adoption**

Behavioral intention (BI) is undefined as the impactful variable in modern technology utilization in the digital market of Malaysia (Taufiq, Hidayanto, & Prabowo, 2018; Venkatesh, Morris, Davis, & Davis, 2003; Venkatesh, Thong, *et al.*, 2011; Venkatesh, Thong, & Xu, 2012; Venkatesh & Zhang, 2010). This behavioral intention is not clearly stated in cryptocurrency adoption in the Malaysian digital market (Alaeddin & Altounjy, 2018a). Behavioral intention directly influences the use of cryptocurrency, but it is not seen in the Malaysian digital market yet (Saleh *et al.*, 2020). Hence, the absence of observation that BI predicts cryptocurrency adoption in Malaysia's digital market (Abdul Karim, 2019a). Apart from that, the lack of intention to use cryptocurrency is visible in the Malaysian digital market (Yusof *et al.*, 2018). In addition, the intention of individual behavior on the cryptocurrency is associated with his / her internal conditional facts are not specified in the digital market (Yusof *et al.*, 2018).

The behavioral intention that precedes behavioral expectations is not well furnished in Malaysia's digital market (Husin, Haron, & Aziz, 2019). According to previous studies, cryptocurrency behavioral intention is highly inefficient in the Malaysian digital market (Zulhuda & binti Sayuti, 2017). It reflects the focal behavioral

intention's strength on other behavioral intentions (competence) to enhance the Malaysian market's use. Hence, behavioral intention is the primary intermediary key factor for cryptocurrency adoption in Malaysia (Alaeddin & Altounjy, 2018a; Guych *et al.*, 2018; Ku-Mahamud *et al.*, 2019; Mendoza *et al.*, 2018). Based on the initiative made by previous researchers on behavioral intention, this study will investigate the shortcomings mentioned above by looking at the existing behavioral intention development on the cryptocurrency adoption.

### **c) Mediation Effect of Behavioral Intention on Cryptocurrency Adoption**

Behavioral intention is a valuable mediator proven by many studies (Burton *et al.*, 2003; Chakraborti *et al.*, 2019; Dinev & Hu, 2005; Henseler, 2017; Karim *et al.*, 2016; MacKinnon, Fritz, Williams, & Lockwood, 2007; Maruping *et al.*, 2017; Mathieson, 1991; Tajvidi *et al.*, 2017; Venkatesh *et al.*, 2003; Venkatesh, Thong, *et al.*, 2011; Venkatesh *et al.*, 2012; Yusof *et al.*, 2018). It shows the consumer's choice to act on cryptocurrency. Also, it elaborates on how cryptocurrency will be successful in the market (Alaeddin & Altounjy, 2018a; Albayati *et al.*, 2020a; Chan *et al.*, 2018; Zubir *et al.*, 2020). The behavioral intention as a mediator has not been studied well in Malaysia's context (Chan *et al.*, 2018; Zubir *et al.*, 2020). Most studies on cryptocurrency and behavioral intention are seen in European, Africa and American context (Arias *et al.*, 2019; Guych *et al.*, 2018; Irani, Dwivedi, & Williams, 2009; Jani, 2018; Mutambara, 2019; Pandya *et al.*, 2019; Phillips & Gorse, 2018; Schaupp & Festa, 2018; Xiong & Tang, 2020), and no such study was conducted on the actual consumer of cryptocurrency users in Malaysia (Yeong, 2019; Yussof & Al-Harthy,

2018). Very few studies were done among university students (Fauzi *et al.*, 2020; Ku-Mahamud *et al.*, 2019). Apart from that, some studies conceptualized and give a necessary amendment on the use of cryptocurrency (Yussof & Al-Harthy, 2018; Zubir *et al.*, 2020; Zuhuda & binti Sayuti, 2017). Behavioral intention influences trust, attitude, awareness, satisfaction, facility, expectancy, and social willingness (Chen, 2018; Erdogan & Dayan, 2019; Kaminski, 2011; Venkatesh, Thong, *et al.*, 2011; Venkatesh *et al.*, 2012). Hence, this has motivated this study to identify a mediator's (Behavioral Intention) needs to mediate between TR, SI, CTT, TA, CS, AT, FC, PE, and cryptocurrency adoption in the digital market Malaysia.

### 1.5 Research Question

This research aims to address the following research questions, referring to the previous section's problems.

- I. Do trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence behavioral intention in the digital market?
- II. Does behavioral intention influence the consumer to adopt cryptocurrency in the digital market?
- III. Does behavioral intention mediate the relationship between trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, and cryptocurrency adoption?

## **1.6 Research Objectives**

Based on the problem statements, this research has addressed the following research objectives:

### **Objectives:**

- I. To examine the relationship between trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence on behavioral intention.
- II. To examine the relationship between the behavioral intention toward cryptocurrency adoption.
- III. To examine the mediating effects of behavioral intention towards trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence towards cryptocurrency adoption.

## **1.7 Research Significance**

By achieving this research's objectives, vital factors revealed the effectiveness and efficiency of cryptocurrency adoption to the industrial practitioner in Malaysia's digital market. It also helps the researcher and Malaysia's economy by bringing new information about cryptocurrency use and reliability to the stakeholders. On top of that, in many ways, this study supports the body of knowledge. These are elaborated

more subsequently.

#### **a) Body of knowledge**

This study would contribute by adding the value of the consumer and cryptocurrency relationship to the existing knowledge. It is also expected to offer empirical evidence on the role of social influence, facilitation condition, performance expectancy, cryptocurrency transaction transparency, customer satisfaction, trust, technology awareness, attitude, and adoption of cryptocurrency by behavioral intention as a moderator. Also, it intends to validate the technology acceptance model UTAUT2 (Venkatesh *et al.*, 2012) by portraying the relationship between behavioral intention and cryptocurrency adoption. Lastly, this research will offer essential ideas and evidence on the diffusion theory's influences, which shows that consumer and digital markets have a transaction relation in new technology.

#### **b) Practical Contributions**

This research makes appropriate suggestions and solidifies the gains of cryptocurrency adoption in the digital market. It would also be a vital benefit to operators and policymaker, who intends to improve work fulfillment in the digital market. This study will act as a stepping ground for making useful contributions towards understanding the best possible way to plan for cryptocurrency in Malaysia's digital money market. Consequently, the established technique's result can be used to design and improve cryptocurrency implementation in Malaysia. In addition, the proposed framework

provides a proper guideline for determining the factors that affect cryptocurrency adoption in Malaysia's digital market. Thus, it increases the influence factors visibility and the necessary attributes that increase cryptocurrency adoption in Malaysia.

### **1.8 Scope of the Study**

The scope of this study contains the illustration of the technical construct and factors development process. The followings are further descriptions of the technology adoption and development of factors of cryptocurrency.

#### **a) Digital market**

In order to illustrate the digital market, this study will use the cryptocurrency consumers in Malaysia. Malaysia was selected because the consumer is very notable, and cryptocurrency is highly demanding in the digital market. By using the digital market, the proposed factor analysis demonstrated the real construct of cryptocurrency adoption. The key backbone of digital currency is an online transaction mode that keeps track of the digital market. The digital market is secure and easily accessible to every consumer. The digital market consists of digital currency, which is cost savings due to improved productivity and speed access to the consumer, and it reduces corruption in the digital market. Financial inclusion increases access to a variety of financial services. It is really the simplest and most effective way of getting currencies in the digital market. Therefore, this study covered the individual consumer of cryptocurrency in the digital market of Malaysia.

## **b) Cryptocurrency factors**

Cryptocurrency is a digital currency maintained and used cryptography for authenticating transactions. It also depends on consumer attitude and performance to use it in the digital market. In addition, it depends on how consumers expect and how they are structured. Cryptocurrency, like any other currency, is able to hold value effectively before it can work well as a medium of exchange. Likewise, facility and performance are the medium to enhance cryptocurrency in the digital market. Beside that, customer satisfaction plays a vital role in exploring further development. Awareness and transparent transaction is a valuable factor that is so applicable to the digital market in Malaysia.

On top of that, cryptocurrency derives the value of supply and demand, and it is a volatile asset. In terms of market capitalization, the base of users and acceptance is cryptocurrencies. Therefore, cryptocurrency factors become the key point to investigate more. The choice is made to determine most aspect that impacts cryptocurrency adoption. The chosen process's advantage is finding immediate solutions for cryptocurrency adoption in Malaysia's digital market. This has motivated the study to explore the area mainly from the Malaysian perspective.

## 1.9 Operational Definition

The key terms used in this study are defined below:

### a) Cryptocurrency

The definition of cryptocurrency in this study referred to bitcoin, Etherscan and HelloGold(Sulaiman & Rahim, 2019). It is a digital currency or digital money. Also, it can exchange for cash or gold (Albayati *et al.*, 2020a; Phillips & Gorse, 2017; Șcheau, Crăciunescu, Brici, & Achim, 2020).

### b) Social Influence

The social influence is the change of behavior induced by the changed individual consciously or unintentionally in relation to the influencer, others, and community (Lee & Song, 2013; Mendoza-Tello, Mora, Pujol-López, & Lytras, 2018).

### c) Facilitating condition

Each cryptocurrency and user have their own unique identity and individual transactions recorded in public procurement and digital transactions. The different variables and activities showcase are known as facilitating conditions (Hart & Henriques, 2006; Onaolapo & Oyewole, 2018; Vairetti *et al.*, 2019; Venkatesh, Brown, Maruping, & Bala, 2008).



#### **d) Performance Expectancy**

Performance expectancy can distinguish as the degree to which the user expects that use of the structure will help him or her to achieve advances in job performance (Onaolapo & Oyewole, 2018; Sair & Danish, 2018; Schwoerer, May, Hollensbe, & Mencl, 2005).

#### **e) Cryptocurrency Transaction Transparency**

Cryptocurrency transaction transparency is a transparent digital transaction process that provides an ultimate solution for Malaysia's digital market (Arias *et al.*, 2019; Chan *et al.*, 2018; Kabir *et al.*, 2018S; Pandya *et al.*, 2019; Schaupp & Festa, 2018; Xiong & Tang, 2020). The cryptocurrency transparency is characterized to even more likely the comprehension of cryptocurrency exchange arrangement.

#### **f) Trust**

Customers' normal desire to rely on their ability to fulfil their brand demanded the purpose of cryptocurrency transactions. Trust can be interpreted as creating and established through brand direct consumer experiences in Malaysia's digital market (Beck, Stenum Czepluch, Lollike, & Malone, 2016; Boon & Holmes, 1991; Chaouali, Yahia, & Souiden, 2016; Falcone & Castelfranchi, 2001; Hayes & Scharkow, 2013; Johnston, McCutcheon, Stuart, & Kerwood, 2004).

### **g) Customer Satisfaction**

Customer satisfaction implies customer satisfaction from doing business with the crypto company or digital financial market (Ahmed, Rizwan, Ahmad, & Haq, 2014; Alalwan *et al.*, 2016; Anderson, Fornell, & Mazvancheryl, 2004; Cengiz, 2010; Hashim *et al.*, 2019). In other words, how happy customers are with their purchase and overall experience (Muhammad, Shamsudin, & Hadi, 2016; Ratnasari *et al.*, 2020; Rita, Oliveira, & Farisa, 2019).

### **h) Technology Awareness**

Awareness of technology as a skill refers to the popular technology and readily accepted in the digital money market (Abubakar & Ahmad, 2014; Alaeddin & Altounjy, 2018a; Bagozzi, 2007; Furtado, Furtado, Filho, & Silva, 2020). It also includes the ability to understand and recognize the utility of any technology (Dinev & Hu, 2005; Doblaz, 2019; Ku-Mahamud *et al.*, 2019; Mutahar *et al.*, 2018; Rodríguez-Triana *et al.*, 2017).

### **i) Attitude**

Attitudes are the manner in which behavior improves as a consequence of specific behavior (Stedman, 2002). In addition, one can negatively affect a particular activity while still participating in such acts; an individual's action does not always reflect the individual's attitudes (Liska, 1984).

## **j) Behavioral intention**

Behavioral intention is defined as an individual's apparent probability or particular probability that he or she will involve in a given behavior (Ratnasari *et al.*, 2020; Yusof *et al.*, 2018).

## **k) Cryptocurrency Adoption**

Adopting Cryptocurrency means enabling the environment for cryptocurrency to flourish or adopt the technology in their practices globally (Jani, 2018; Schaupp & Festa, 2018; Şcheau *et al.*, 2020; Xiong & Tang, 2020; Zubir *et al.*, 2020).

## **L) Stakeholder**

In this study, the stakeholder refers to an individual or group with one or more of various stakes in the organization (Eggers, Rätty, Öhman, & Snäll, 2020; Freudenreich, Lüdeke-Freund, & Schaltegger, 2020).

### **1.10 Outline of the thesis**

This thesis entails five chapters, including this chapter. The outline of the rest of the theses is as follows:

### **a) Chapter Two: Literature Review**

This chapter presents the latest studies in the related area: cryptocurrency technology and the digital market. It also reviews the current cryptocurrency factors that influence adoption in the digital market of Malaysia. The focus is given on the theory that supports the relationship between the factors of independent variables and dependent variables. The review's outcome is essential for devising a proper mechanism for developing the research framework and producing the proposed cryptocurrency adoption model.

### **b) Chapter Three: Methodology**

This chapter demonstrates the research methodology used in this chapter to achieve the goals of this study. It also discusses the research process and research design for research accomplishment. Besides, it discusses the IV and DV measurement items, which have been used for questionnaires development. Similarly, it discusses the population, sample technique, and data collection.

### **c) Chapter Four: Result and Discussion**

This chapter discusses the proposed model in detail. The discussion is organized based on the result of cryptocurrency adoption in the digital market. The validation was performed through 5 Likert scales and finally used PLS to find the IV and DV relationship. Eventually, the researcher has developed the graph view of all the

variables in the proposed framework.

#### **d) Chapter Five: Conclusion**

As a whole, this chapter completes the research by recapping the study. Then, the contributions of this study are emphasized. Finally, the laminations of the research are addressed, followed by forthcoming guidelines in the related field.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Chapter two offers significant exposure to the literature review, including comprehensive literature on the dependent, independent, and mediating variables. In order to establish a strong theoretical basis for this research, a thorough review and analysis of currency and related papers, articles, and books were needed. The critical literature review will improve the issues and purpose of the study. On the other side, it will have a deeper understanding and a fruitful frontier for future research. The first part of this literature review will review the fundamental definition of cryptocurrency adoption in Malaysia's digital market. Next, the literature review will portray the overview of cryptocurrency with the potential variables and attributes. The third portion of the literature review will discuss the variables of trust (TR), social influence (SI), cryptocurrency transaction transparency (CTT), technology awareness (TA), customer satisfaction, attitude (AT), facilitating condition (FC), and performance expectancy (PE) respectively. The literature review will continue to cover the mediator of behavioral intention (BI) and discuss the relationship between the independent and dependent and the mediating effect of behavioral intention. Finally, this chapter will be concluded in summary as an overview of the chapter.

## **2.2 Digital Market**

Since all markets are partially digitalized, they can use values as their unit of price (Khan *et al.*, 2020). The digital markets are different from other markets, along with different characteristics (Nenonen & Storbacka, 2020). Likewise, Digital markets are markets that completely differ from their analogue market (Abdurakhmanova, Shayusupova, Imatova, & Rustamov, 2020). In addition, the digital market is a new phenomenon based on web portal (Allam, 2020). The digital market is distinguished with specific attributes and markets that have always been heterogeneous (Kopalle, Kumar, & Subramaniam, 2020).

Moreover, the digital market is a market that runs through an online platform (Van Loo, 2019), an electronic device, and a secure system (Lukiyanchuk *et al.*, 2020). The researcher described the digital market area as the basement to run the cryptocurrency. Also, it is a simulated digitalization's role in the market for the cryptocurrency ecosystem.

## **2.3 Cryptocurrency in Malaysia**

After the incidence of the global financial crisis in 2008 and Satoshi Nakamoto's subsequent internet launch of cryptocurrency, it has become the subject of financial attention (Christina, 2020; George *et al.*, 2019). Since then, investors and traders have become more and more established in cryptocurrency in Malaysia. However, the lack of official data and records on cryptocurrency adoption is seen in the digital market of

Malaysia. It is expected to have been traded in the country as of 2012, based on posts on BitcoinMalaysia.com.

In March 2014 in Malaysia (Nawang & Azmi, 2020), it was reported that about 2,000 Bitcoin users and 26 Malaysian traders, mostly in the valley of Klang, approved Bitcoin for payments for goods and services in 2017 (Colbert, 2017). In December 2017, BNM claimed that an average amount of RM 75 million was traded per month (Intan, 2017).

Given the above estimates, the acceptance of cryptocurrency is still low among this country's population at its infancy compared to the global receipt of these currencies (Abdul Karim, 2019b). Several potential risks may be correlated with the fact that Malaysian user slows down the use of cryptocurrencies, including "loss or theft, fraud or unauthorized use, transaction handling errors, wallet failure or trade-in and inadequate information" (Ayedh *et al.*, 2020). As a result, Malaysia's government has established a warm approach to regulating cryptocurrencies (Bakar *et al.*, 2017). The regulatory approach to cryptocurrency and other virtual currencies in the country is essential to be analyzed.

#### **2.4 Dependent Variable of this Research**

In an analysis of the cause-and-effect relationship, the variables are referred to as independent and dependent. The effect of the dependent variable is described below. The targeted variable, which depends on other independent variables, is called the



dependent variable. In this research, cryptocurrency adoption (CA) is a dependent variable elaborated in the sub-sections.

#### **2.4.1 Beginning of Cryptocurrency Adoption**

Cryptocurrency adoption has become a researcher's interest in the last decade (Bakar *et al.*, 2017; Brunton, 2019; Chan *et al.*, 2018). Many of them indicated the start of cryptocurrency in 2009. It creates the attention of industry and academicians (Arias-Oliva, Pelegrín-Borondo, & Matías-Clavero, 2019; Arias *et al.*, 2019; Aste, 2019). According to them, the founding of cryptocurrency adoption research was the social influence, technology awareness, facilitating condition, performance acceptancy behavioral intention, and the starting point of cryptocurrency adoption (Choi, 2020; Chow *et al.*, 2019). Cryptocurrency adoption has resembled the relation between digital currency and consumer adoption (Alaeddin & Altounjy, 2018a; Ku-Mahamud *et al.*, 2019; Lee *et al.*, 2018).

They established cryptocurrency adoption drawing in the concept from the technology adoption model and extended UTAUT 2. From this ground, the present research investigation revealed that the cryptocurrency adoption study started in 2017.

#### 2.4.2 Cryptocurrency Adoption-Dependent Variable

Many researchers established the concept of cryptocurrency adoption and defined it from different perspectives (Alzahrani & Daim, 2019; Arias *et al.*, 2019; Chow *et al.*, 2019). Reviewing the definition proposed by different authors, three streams were found in the definition of cryptocurrency adoption. The first stream included insight into cryptocurrency adoption in the digital market of Malaysia. Besides, the second stream included extended the nature and scope of cryptocurrency adoption. The third stream included inclusive technology adoption in the different digital markets.

Going with the same spirit, Abbasi *et al.* (2021) had a similar opinion. He defined cryptocurrency adoption as adaptability that has been taken by the user. The key components and differentiating factors of different adoption are determined based on cryptocurrency (Abdul Karim, 2019b). Also, adoption indicated cryptocurrency's willingness by pointing out the usability (Jonker, 2019). Researchers of cryptocurrency adoption resembled the relationship between the consumer and cryptocurrency (White, Marinakis, Islam, & Walsh, 2020). They established cryptocurrency adoption drawing the concept from attraction and awareness (Lansky, 2018).

Alzahrani and Daim (2019), in their definition (Table 2.1), used the term cryptocurrency adoption as indicate usability. They used usefulness for the modern digital financial ecosystem. They also defined subjective norms as essential factors for future cryptocurrency existence in the digital world.

Table 2.1

*Definition of cryptocurrency adoption*

<b>Authors and Years</b>	<b>Definitions</b>
Alzahrani and Daim (2019)	Cryptocurrency adoption users indicate the usability, usefulness, and subjective norms as essential factors for the future cryptocurrency. It is included insight into cryptocurrency adoption in the digital market.
Schaupp and Festa (2018)	Cryptocurrency adoption is a significant factor and initial pillar for the digital market of Malaysia. Also, it included extended facts of cryptocurrency adoption.
Almarashdeh <i>et al.</i> (2018)	Cryptocurrency adoption is the process of understanding of cryptocurrency structure and architecture in the use of cryptocurrency. It is the adoption process in the digital market.

Schaupp and Festa (2018) observed cryptocurrency adoption as a significant factor. It depends on various constructs to established it. It is an initial pillar for the digital market. Also, it included extended facts of cryptocurrency and adoption variables.

Almarashdeh *et al.* (2018) extended the cryptocurrency adoption definition. They describe cryptocurrency adoption as the process of understanding cryptocurrency structure and architecture in cryptocurrency. It is the adoption process in the digital market. This relationship indication became straightforward as starting cryptocurrency adoption as an enduring and impactful relation. Other definitions are having the

drawback of a short-sited view of cryptocurrency adoption in the market. This study, therefore, adopted the definition of Schaupp and Festa (2018).

### **2.4.3 Empirical Evidence of Consequences and Sources of Cryptocurrency**

#### **Adoption**

Users tend to be more curious when they feel attached to it, connected with it to use further (Agustina, 2019). From the adoption perspective, this can be interpreted as attention to utilize it (Alaeddin & Altounjy, 2018a; Albayati *et al.*, 2020a). Both practitioners and academician's significant attention to cryptocurrency adoption are the role of digital currency (Alzahrani & Daim, 2019). Previous studies provided evidence that strong cryptocurrency adoption enhanced long-term relationships in the use of currency (Celeste, Corbet, & Gurdgiev, 2020). Consequently, strong cryptocurrency adoption creates a sustainable initiative that increases companies' financial value (Chan *et al.*, 2018; Chow *et al.*, 2019; Chowdhury & Razak, 2019). The investigation on literature in this regard found out the vital outcome of cryptocurrency adoption and its consequences (Guych *et al.*, 2018; Jani, 2018; Ku-Mahamud *et al.*, 2019). Therefore, the source of the occurrence of strong cryptocurrency adoption is significant.

### **2.5 Independent Variable of this Research**

An Independent variable is an individual variable that is not modified by the other variables. It is the cause of the dependent variable. In this research trust (TR), social

influence (SI), cryptocurrency transaction transparency (CTT), technology awareness (TA), customer satisfaction (Henseler *et al.*), attitude (AT), facilitating condition (FC), and performance expectancy (PE) are the independent variables are elaborated in the sub-sections.

### **2.5.1 Trust- Independent Variable**

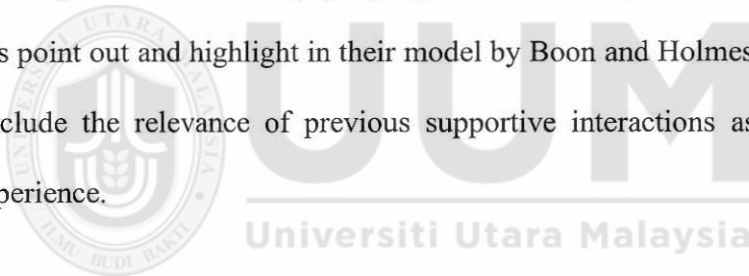
A trust is a relationship of trusteeship. One person, known as a trustee, grants the beneficiary a third party a right to own property or assets to favour a third party (Sas & Khairuddin, 2015). In finance, a trust may also be a closed-end fund formed as a limited public enterprise (Han, Nguyen, & Lee, 2015). Brand trust has become a significant competitive differentiator in such a tough competitive climate (Rahi, Ghani, & Ngah, 2020). The brand offers goods or services of quality (Wu & Lin, 2017). Also, it has strong reviews and feedback for its goods and services in charge of a fair price (Kim, Shin, & Koo, 2018). A trust is used to hold specific properties to the consumer (Rahi *et al.*, 2020). Such property shall be made available for a charge to a different operating company (Rahi *et al.*, 2020). The trust can provide a good insight into cryptocurrency's use on a digital market (Ku-Mahamud, Omar, Bakar, & Muraina, 2019; Lytras, 2018; Neu, 1991; Nilashi *et al.*, 2016; Paul, Biswas, Nandi, & Chakraborty; 2018; Sas, Khairuddin, 2015); Mayer, Davis, & Schoorman, 2015; Mell, 2017; Mell, 2016; Mendoza-Tello, Marra, Pujol-López, & Lytras. It also creates brand service insurance (Sultan & Wong, 2019; Tajvidi, Wang, Hajli, & Love, 2017). The trust of the company brand & service is the customer's faith in which the cryptocurrency is receiving (Alaeddin & Altounjy, 2018a; Ayedh *et al.*, 2020; Iryan,

2020). Confidence is a casual adverse influence on the digital sector in cryptocurrencies.

The degree to which trust relates to one's own experience and the aspects in which people view and measure technical problems (Leppänen, 2010). Suppose we are to regard the technical trust as consisting of three variables. In that case, we can break it down into these three factors: attributes, confidence in technology, and perception of users' abilities. A short trust expands on the idea of increased efficiency to add new hardware, or it may mean using a faster technical framework (Liu & Goodhue, 2012).

Some scholars have described social trust as a feeling of well-being that allows one to see people positively and believe in the validity of their motives and acts (Falcone & Castelfranchi, 2001). The four principles that could help develop trust are trust in others, propensity to trust, perceived trustworthiness, situational variables, common goals, solidarity, and cooperation, all of the effort. Common goals and involvement, as well as they go, were also mentioned by Leppan (2010). In other words, the propensity to trust, one can be described as able to rely on others, based on maintaining a positive view of society. One's trust in humanity is expressed by the degree of reliance one is willing to take on others (McKnight, Cummings, & Chervany, 1998). It has been claimed that goodwill is fostered by a propensity to trust formed by interacting with many people. It creates an impression of goodness on people. Each person's values and perceptions about trust will influence how trustworthy everyone is in using the product (Boon & Holmes, 1991). It is necessary to begin with first-hand or personal encounters in creating new contexts in order to develop the disposition to

trust. People's belief that another person can behave responsibly, such as keeping true to their word and not breaking their promises and/promises not being broken (Rousseau, Sitkin, Burt, & Camerer, 1998). The four distinct notions of morality are competence, virtue, trustworthiness, and truthfulness (McKnight *et al.*, 1998). The economic and market factors include the location, history, market saturation, population, size, customers, competition, and diversity of its geographic and market and demographic parameters (McKnight *et al.*, 1998). Purser (2001) stated that the value of the negotiation of trust, arguing that trust is established in significant circumstances. Sharing things that are like honesty with a trustworthy partner is vital for constructing a solid relationship (Hupcey, Penrod, Morse, & Mitcham, 2001). As the authors point out and highlight in their model by Boon and Holmes (1991), these aspects include the relevance of previous supportive interactions as the ongoing mutual experience.



The concept of institutional trust has to be understood as meaning that all parties in a transaction or relationship feel secure from an earlier date of entrusting power to each other. It can be defined by the relative strength of power and organizational structure. This affects whether or has not in the sense of interpersonal relationships: when an individual holds a position of decision-making authority in an organisation, then their trustworthiness has the potential to change other individuals' trust (Tyler & DeGoey, 1996). The reliance on the system of individuals having faith in one another down the line of command correlates with hierarchy within the company (Kramer, 1999). In McKnight's (1998) trust model, the organisation's organisational model and activities are overseen by an organizational trust management structure that includes a system

of rules and regulations. The topic of trust has also been conceptualized in efforts to be generalized principles such as decentralization. Trust systems allow several keys to be allocated to a single user, which uses public-key authentication and the usual means (Greben *et al.*, 2017). Although certificate expansion does provide the certificate holder with the ability to expand the trust chains, they may also specify their trust semantics. The current trust and authentication relationships are described and represent confidence principles and how they are used in trust relationships.

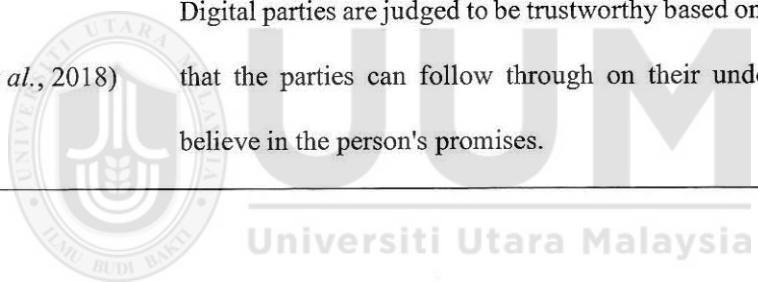
The ideas and principles outlined here may struggle to discuss trust in decentralized systems or communicate with these systems' consumers from a central-biased point of view. Not only is it decentralized, but it is a grassroots movement spearheaded by several parties with Bitcoin Power Tab aspirations. It enables us to explore trust from both perspectives — trustworthiness and risk of both business success and desirability. An in-depth understanding of these concerns around the fundamental principles of trust of Bitcoin technology could question some of our existing notions of trust.



Table 2.2

*Definition of trust*

Authors and Years	Definitions
(Chaudhuri & Holbrook, 2001)	Trust is described as an average consumer's willingness to rely on the brand's ability to perform its specified mission". Service loyalty's function is the effects chain of brand trust and brand results.
(Jones & Bonevac, 2013)	"A name, word, emblem or design that helps to define, and distinguish from those of its rivals, the products and services of one salesperson or group of sellers."
(Guych <i>et al.</i> , 2018)	Digital parties are judged to be trustworthy based on a prior belief that the parties can follow through on their undertakings and believe in the person's promises.



**2.5.2 Social Influence-Independent Variable**

Social influence is the behavioral change that one person causes, intentionally or involuntarily, due to how the changed person perceives himself with regard to the influencer, other persons, and society in general. Compliance, compliance, and obedience are three social control fields (Graf-Vlachy & Buhtz, 2017). Social influence occurs when a person's ideas, thoughts, and actions happen in the use of specific products (Pentina, Koh, & Le, 2012). Other individuals are also affected by it (Kulviwat, Bruner II, & Al-Shuridah, 2009). It is an integral part of both group and group interactions (Jennings, Arlikatti, & Andrew, 2015).

On top of that, social influence is described as a change in the thoughts, sensations, attitudes, or conduct of a person, which results from interacting with another person or community (Hekman, Steensma, Bigley, & Hereford, 2009). People adapt their convictions in accordance with psychological values, such as equilibrium with others to whom they feel like.

Social influence is the degree to which people think relatives and peers use a particular technology (Venkatesh *et al.*, 2012). It represents the emphasis that each participant puts on other people's information technology views versus their own opinions (Maruping *et al.*, 2017). Also, social influence is an accepted concept of a consumer that is influenced by his environment (Dholakia, Bagozzi, & Pearo, 2004). Social influence implementation is generally adopted by connection with other people (Lee *et al.*, 2011). Its precursors are peer-to-peer networking and social norms, since social impact has an indirect effect on both experience and understanding (Venkatesh & Zhang, 2010).

Unconscious and direct attempts to affect the views, actions, and conscious and unintended and direct attempts to alter one's behaviour are all types of social influence (Bargh, Chen, & Burrows, 1996). Coincidental social control is a feature of situations (Simpson, 2002). It includes the involvement of the target people who are not aware of reducing social influence (Cialdini & Goldstein, 2004). The impact in an individual's behaviour that the person creates on another is generally referred to as social effect, which involves both the deliberate or unintended influence they have on

the influencer and the change in their view of themselves and community (Mair & Noboa, 2003). Three distinct social influence sources are adherence, discipline, and obedience that influence social behaviour (Mason, Conrey, & Smith, 2007). Social influence is the interaction between two or more individuals that results in a shift in their identity (Abrams & Hogg, 1990). According to the above, it is fair to assume a favourable link between social influence and adoption (Castaldo, Perrini, Misani, & Tencati, 2009).

Table 2.3

*Definition of social influence*

Authors and Years	Definitions
Fishbein and Ajzen (1975).	The social influences are characterized as the perceived external pressure that individuals feel and decide to use in the process of being told about advancement and the extent to which they perceive the use of a new method by important others.
(Vannoy & Palvia, 2010)	Social influence is the mechanism where other people's presence or behaviour changes the behaviours, values or actions of a person. Enforcement, compliance and obedience and the influence of minorities are four fields of social influence.
(Eckhardt, Laumer, & Weitzel, 2009)	If participants "catch" other people's positive feelings, they are likely to be heard more by others and see themselves as becoming more cooperative and competent.

### 2.5.3 Cryptocurrency Transaction Transparency-Independent Variable

Cryptocurrency transaction transparency is regarded as a straightforward form of a cryptocurrency exchange in the ecosystem of cryptocurrency (Albayati *et al.*, 2020b). Besides, the cryptocurrency transaction is classified as a cryptocurrency transaction using a good network or sales centre (Stepanova, 2018). In addition, cryptocurrency transactions are regarded as a shared understanding of the cryptocurrency business in the digital sector (Vaddepalli & Antoney, 2018). A digital or virtual currency is a cryptographic currency that exchanges for monetary transactions (Li, Abla, Wang, & Wei, 2017). Cryptocurrency transactions are decentralized blockchain-based networks and distributed databases imposed by a diverse computer network (Mannaro, Pinna, & Marchesi, 2017). Each cryptocurrency transaction is stored publicly and indefinitely on the network, ensuring that everyone can access a bitcoin balance and transaction (Phillips & Gorse, 2017). The person making the transaction uses the software wallet software to pass the balance from one account to another (Hileman & Rauchs, 2017). Transactions are exchanged between peers using software called cryptocurrency wallets.

Transaction Transparency refers to openness, collaboration, willingness, and accountability (Welch & Wong, 2001). An unchangeable transaction is one that can be used on all of the transactions continuously (Zheng *et al.*, 2017). The shared information can be able to benefit from all of the transaction details if stakeholders want to provide open transactions (Barney, 2018). Another researcher defined transparent transaction is described as the ability to be confirmed in a public setting,

providing up-readily available and truthful facts that can be checked by users (Buchhorn, 2010).

Being more transaction transparency is advantageous to have an understanding of equity trading because it allows a company to carry out analyses more efficiently and reduces risk (Bloomfield & O'Hara, 1999). In the prospects of investor view of transaction transparency also is less likely to face adverse shocks, prediction, and less risk is involved (Bushman, 2016). Transaction transparency is the quality of being able to see the entire process of doing the transaction (Beck *et al.*, 2016). Therefore, transaction transparency is the quality that allows things to pass through transparent material (Bhaduri & Ha-Brookshire, 2011).

Another researcher used the transaction transparency term in finance (Bushman & Smith, 2003). They defined transaction transparency as a median where every stakeholder has equal understanding and rights to the entire monetary dealings (Schnackenberg & Tomlinson, 2016). Apart from that, another research clarifies that transaction transparency is a process of doing a mutual transaction in a safe and secure mood (Rawlins, 2008).

Cryptocurrency transaction transparency is a financial deal where every stakeholder has equal visibility and rights to monitor in the execution process (Wang, Han, & Beynon-Davies, 2019). This study defined cryptocurrency transaction transparency as the medium of a cryptocurrency exchange in Malaysia's digital market (Hairudin,

Sifat, Mohamad, & Yusof, 2020). Therefore, the researcher comes to the exact definition for the construct.

Table 2.4

*Definition of cryptocurrency transaction transparency*

<b>Authors and Years</b>	<b>Definitions</b>
(Biryukov & Tikhomirov, 2019)	A transparent way of doing cryptocurrency exchange is called cryptocurrency transaction transparency.
(Chepurnoy, Papamantou, & Zhang, 2018)	A procedure of doing cryptocurrency dealings through a suitable network or sales centre is defined as a cryptocurrency transaction transparency.
(Kaal & Calcaterra, 2018)	Mutual understanding of cryptocurrency business in the digital market is known as cryptocurrency transaction transparency.

**2.5.4 Technology Awareness-Independent Variable**

Technology awareness as a skill refers to the newly, readily accepted technology on the market or industry (Mishra, Akman, & Mishra, 2014). It requires the ability to identify and appreciate the utility of such technologies in order to achieve success (Mutahar *et al.*, 2018). The ability to know and interpret, experience, or be conscious of happenings is more complex (Alaeddin & Altounjy, 2018a). In the technical field, the focus is on understanding technology's purpose and utilization in the digital market (Rodríguez-Triana *et al.*, 2017). Students gain a deeper understanding of their

technical practice and decision-making by studying the materials used in technological products and the components and connections used in systems (Taherdoost, Zamani, & Namayandeh, 2009).

Technology awareness can be described as consumers' awareness of technological life and advantage (Mofleh, Wanous, & Strachan, 2008). Another researcher explained technology knowledge in the business and consumer trends as an essential component of technology awareness (Ahmed, Zin, & Majid, 2016). Another researcher elaborates that technology awareness is expertise, efficiency, and understanding of modern technology (Lee & Tsai, 2010). It also includes identifying and appreciating the usability for all other technologies' effectiveness (Holden & Rada, 2011). Moreover, another research described that technology awareness is the knowledge of the use of technology and its merit and demerits (Abubakar & Ahmad, 2014). As this technology awareness term means, knowledge skills refer to one's ability to perceive or recognize the conduct, values, motives, and other traits, such as strength and weaknesses towards the technology (Nyangosi, Arora, & Singh, 2009). A piece of knowledge about the use of technology considers technology awareness (Lingmont & Alexiou, 2020a; Maruping *et al.*, 2017; Nyangosi *et al.*, 2009). The education from the institution or any society towards technology and its users is technology awareness. Based on Nyangosi *et al.* (2009), the consumer cautions about the hightech and integration into the financial market is a kind of technology awareness. It also gives a guideline on how to use modern, sophisticated tools in our everyday life (Rodríguez-Triana *et al.*, 2017; Shahzad, Xiu, Wang, & Shahbaz, 2018; Taherdoost *et al.*, 2009). To get a clearer understanding of the construct, the researcher stated the proper description.

Table 2.5

*Definition of technology awareness*

<b>Authors and Years</b>	<b>Definitions</b>
(Archer & Roberts, 1979)	Awareness is the state of being conscious of something new. Technology awareness is the sense of technology merits and demerits.
(Doblas, 2019)	Technology awareness is science or knowledge put into practical use to solve problems or invent useful tools.
(Alaeddin & Altounjy, 2018a)	Technolgy awareness is defined as the knowledge of understanding cryptocurrency in the digital market.

**2.5.5 Customer Satisfaction-Independent Variable**

Customer satisfaction is described as measuring how satisfied customers are with the goods, services, and capabilities (Ratnasari *et al.*, 2020). Information on customer satisfaction decides how its goods and services can be enhanced or updated (Zhang *et al.*, 2020). It is also comparing the different rival firms as relative happiness. The customer's satisfaction is attributed to the product or service characteristics (Zhang *et al.*, 2020). However, the business and product specifications' consumer service is the major task (Zamry & Nayan, 2020). Good customer service with courtesy, gratitude, understanding and good information should be provided (Hamzah & Shamsudin, 2020). It is appropriate to deal quickly and accurately with customer complaints (Wijaya & InnocentiusBernarto, 2020). To guarantee guaranteed customer service satisfaction between clients ensures that all client interests or questions are answered



accordingly (Tuncer, Unusan, & Cobanoglu, 2020). Exceeding the standards requires outstanding customer service (Dinçer, Yüksel, & Pınarbaşı, 2020). It means to show the customer just how important it is for you and the company through fun and constructive contacts with him or her. Therefore, this research defined customer satisfaction as the satisfaction of cryptocurrency users satisfaction on its use in the digital market.

The cognitive or affective response to a single or extended series of service meetings results in customer satisfaction or dissatisfaction (Anderson *et al.*, 2004). Satisfaction is a post-consumer experience that compares perceived quality with expected quality, whereas service quality refers to a global measurement of a company's service delivery system (Rust & Oliver, 1993). Customer satisfaction can be perceived and linked to goods and services in several circumstances (Cengiz, 2010). It is a profoundly personal appraisal that is strongly informed by consumer requirements. Customer satisfaction is often dependent on the experience of the client with both the company and individual results (Hanan & Karp, 1989). Customer satisfaction may then not only be characterized as normal or product consistency (Lee, Lee, & Feick, 2001). Customer satisfaction refers to customer/product or service partnerships with a product or service provider (Gebauer, 2008).

Customers' satisfaction is a highly personal evaluation, which is informed by individual preferences (Jamal & Al-Marri, 2007). Some concepts are based on the observation that customer satisfaction or disappointment derives from affirmation or confirmation of particular service or product expectations (Bowen, 2002). Instead of

questioning if consumers are pleased, businesses are encouraged to decide if they are kept accountable to consumers (Cengiz, 2010).

Customer satisfaction is the degree to which the customer recognizes that in the sense in which the customer is conscious and utilizing the product or service or entity has provided a product or service that satisfies the customer's requirements (Cengiz, 2010; Cuong, 2020; Fornell *et al.*, 1996). Satisfaction is not innate in a person or a commodity but is a social reaction to the interaction between the consumer, the product, and the producer (Hamzah & Shamsudin, 2020; Hashim *et al.*, 2019). Though the customer satisfaction concept has been extensively discussed as organisations try to quantify it, customer satisfaction definitions can be described. Table 2.6 illustrates a distinct customer satisfaction definition strategy.

Table 2.6

*Definition of customer satisfaction*

<b>Authors and Years</b>	<b>Definitions</b>
(Wijaya & InnocentiusBernarto, 2020)	Customer satisfaction, described as a response to an assessment of perceived product or service performance, is the customer's importance.
(Zamry & Nayan, 2020)	Customer satisfaction is described as the product of the unconfirmed expectation of the emotion and the feelings about customer service.
(Ratnasari <i>et al.</i> , 2020)	Customer satisfaction compliance with individual consumers' expectations for pre-purchase has previously been described.

### 2.5.6 Attitude-Independent Variable

Attitude is behavioral that arises directly from certain behaviors (Choi, 2020). One is still interested in that behavioral; the other's behavioral does not always reflect one's attitudes (Alkhowaiter, 2020). Manner, mood, feeling, place, etc., concerning a person or thing is defined as attitude (Yoo, Bae, Park, & Yang, 2020). Place position of the body that is fitting or expressive to action, emotion, etc., known as attitude (Anser *et al.*, 2020). An attitude is an enduring collection of emotions or beliefs concerning a specific entity, individual, organization, problem, or event (Druskat & Wolff, 2001). Over time, it is created when we are exposed to stimuli and assess. Thoughts and feelings coalesce into attitudes; these influence individuals' actions and experience the world (Jünger & Mietzner, 2020). Our attitude profoundly affects the way it leads people. Each mindset eventually influences an individual's happiness and achievement (Chang *et al.*, 2020). The person with the best attitude will win all things being equal. The person with the best attitude typically wins other items that are not comparable (Alzahrani & Daim, 2020). It gives hope and helps to prevent doubts on individual product use (Jonker, 2019).

Attitudes consist of affective, emotional and conductive (Bozionelos & Kiamou, 2008). The causal chain viewpoint considers attitude as dependent and empirically separable from perceptions: several models, particularly the expectancy-value model (Eagly & Chaiken, 1993). An attitude is a sum of expectations about an object that is multiplied by the assessment of each object (Bargh, Chaiken, Govender, & Pratto, 1992).

The attitude refers to a collection of feelings, convictions, and actions related to a certain entity, individual, thing, or event (Davidson, 2012). Attitudes are also known as the product use action and education experience and may affect behavior (Eagly & Chaiken, 2007; Fazio & Zanna, 1981; Huei *et al.*, 2018; Perloff, 2020; Schaefer *et al.*, 2015). As long as behaviors last, they can also shift (Fazio & Zanna, 1981).

An attitude is a way to feel or behave towards a person, something or circumstance (Perloff, 2020). Also, attitude is the passion for a sport, disdain towards a particular act, and activity towards life in general (Eagly & Chaiken, 2007). This study is defined attitude as the user approach towards cryptocurrency use in the digital market.

Table 2.7

*Definition of attitude*

Authors and Years	Definitions
(Sloboda & O'neill, 2001)	The attitude is described as a way of thinking about an entity, individual, event, thing, an emotion, feelings and a style of thinking.
(Wang, 2004)	Attitudes are also the product of experience or education, which may affect behaviour.
(Eagly & Chaiken, 2007)	Attitude is the way a person, an object, or a situation feels or acts against. Everyone is an example of an attitude: a passion for a sport, disdain towards some actors and a negative attitude towards life in general.

### 2.5.7 Facilitating Condition-Independent Variable

Facilitating Conditions is the use of acquired systems that are perceived to be enablers or obstacles in the environment, influencing the person's perception of a task's ease or difficulty (Bervell & Arkorful, 2020). Facilitating condition is a facility to assess the users' understanding of the organization's help and the infrastructure required to use the new technology (Vairetti *et al.*, 2019). The degree to which a person is confident that an organizational and technical infrastructure supports the system is known as the facilitating condition (BenMessaoud, Kharrazi, & MacDorman, 2011).

The extent to which he or she feels that there is an organizational and technical infrastructure to enable the system to be used and the amount of know-how and resources they may use it (Wang & Shih, 2009). A person's degree assumes an organizational and technological infrastructure that can assist the system (Pflaum *et al.*, 1982). Users understand that a specific task is provided with resources and support (Yu, 2012). To what degree an e-learner considers e-learning programs' adequacy in facilities and the community (Venkatesh *et al.*, 2008).

Facilitating condition is the facilitation of the technology, the degree of a person's trust that organizational and technological infrastructure exists to sustain the system (Aggelidis & Chatzoglou, 2009). It influences people to feel encouraged; they would be more apt to use the system (Pailhès & Kuhn, 2020). Venkatesh *et al.* (2003) found that the actual action and purpose were closely correlated, particularly when facilitators significantly impacted actual use.

The degree to which a person believes that an adequate organizational and technological infrastructure exists to facilitate system use is characterized as organizational facilitating conditions (Venkatesh *et al.*, 2008). Another researcher described facilitating conditions as the available gadgets or components to complete the task (Adams, ter Hofstede, Edmond, & Van der Aalst, 2005). Apart from that another researcher stated that facilitating condition integrates technology and knowledge to utilize the modern facility or online system (Deci, Eghrari, Patrick, & Leone, 1994).

A person perceives an individual's availability, and the overall and technical and infrastructure support for the system's use is known as facilitating condition (Hung, Chang, & Yu, 2006). Therefore, the research defined the facilitating condition as the facilities and construction of the existing cryptocurrency in Malaysia's digital market.

Table 2.8

*Definition of facilitating condition*

<b>Authors and Years</b>	<b>Definitions</b>
Venkatesh et al. (2003)	Facilitating conditions apply to the extent to which the person assumes that the system's use is enabled by organizational and technological infrastructure.
(Ghalandari, 2012)	The facilitating conditions as a building in UTAUT also refer to the degree to which an individual understands that

organizational and technological infrastructures are necessary to use the intended system.

(Hart & Henriques, 2006) The facilitating conditions are defined as the extent to which one believes an organizational and technical infrastructure is available to use the Declaration.

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### **2.5.8 Performance Expectancy-Independent Variable**

Performance expectancy refers to the resulting integrated approach to corporate performance management (Oechslein, Fleischmann, & Hess, 2014). Also, it provides constant value and sustainable management to consumers and stakeholders (Chandler, Chiarella, & Auria, 1987). Enhance the organization's overall performance and ability (Shaikh, Glavee-Geo, & Karjaluto, 2018). Performance expectancy is an interdisciplinary approach to the company's actions and abilities (Baker & Delpechitre, 2013). The performance expectancy approach tackles significant and lasting problems and combines ideas, principles, and strategies from different disciplines and corporate thinking practices (Loureiro, Cavallero, & Miranda, 2018).

The performance expectancy is characterized as how an employee carries out his duties and performs the necessary tasks (Diep, Cocquyt, Zhu, & Vanwing, 2016). It refers to their success, reliability, quality, and efficiency (Olasina & Mutula, 2015). The performance also helps us measure the company's importance to an employee (Onaolapo & Oyewole, 2018). Therefore, this study defined performance expectancy

as a valuable demand that reaches the cryptocurrency consumer needs in Malaysia's digital market.

The degree to which a person believes that using a device will assist him or her in improving job performance is referred to as performance expectancy (Venkatesh et al., 2003). A solid trust and desire in a specific technology are known as performance expectancy (Oh, Lehto, & Park, 2009). The level to which they feel that using a particular scheme can boost their results and bring value to their contributions (Ghalandari, 2012). Another researcher stated that the degree to which a device's application supports the individual in conducting a specific task is performance expectancy (Schwoerer *et al.*, 2005). Apart from that, Baker and Delpechitre (2013) describe that individual's assumption that the technology, process, and successes are referred to as performance expectancy (Sair & Danish, 2018). The opportunities for the person's use of the latest technologies and how well the technologies meet their customers' needs are seen in performance expectancy (Loureiro *et al.*, 2018). The extent to which a person feels that using the method can help them accomplish their goals is performance expectancy (Diep *et al.*, 2016).



Table 2.9

*Definition of performance expectancy*

<b>Authors and Years</b>	<b>Definitions</b>
(Oh <i>et al.</i> , 2009)	Performance expectancy is the desire to consume the demanded or expected product.
(Schwoerer <i>et al.</i> , 2005)	Performance expectancy stands for consumer expectation from the product they have used.
(Tanaka, Takehara, & Yamauchi, 2006)	Performance expectancy is demonstrated in the product efficiency that satisfied customer desire.



**2.6 Mediator of This Research**

A variable that connects independent and dependent variables and describes how the other two variables are associated is a mediating variable, often known as the mediator variable or intervention variable is a mediating variable. In this research, behavioral intention is a mediator, as described below.

**2.6.1 Behavioral Intention-Mediator**

Behavioral intention refers to the motivating factors influencing specific conduct, where the greater the intention to act, the more likely it is to be (Wu & Tsang, 2008). It applies to the assumption that other people support or disapproved behavior (Ratnasari *et al.*, 2020). The subjective likelihood of conduct created an inevitable

result or experience is a behavioral belief (Ariyanti & Joseph, 2020). The dominant attitude to the actions would be presumed to be decided by certain open principles, along with the subjective values of anticipated effects or experiences (Ramkissoon & Uysal, 2011). Behavioral intention refers to facts showing whether the consumer has the right to direct or control (Abdullah, Samdin, Teng, & Heng, 2019). It is a user when the company has the right to direct and control product use (Kwak *et al.*, 2019). The regulation's behavioral factors fall into the following categories of guidance given (Hayashi, Chen, Ryan, & Wu, 2020).

Behavioral intention is a high correlation between behavioral and later behavioral subjective norms (Hsu & Chiu, 2004). It described self-efficacy as the belief that the actions needed to use the specific product (Gull, Khan, & Sheikh, 2020). Behavioral intention is a clear desire (expressed by planning to perform) to do something that is more likely to be carried out if followed by clear and observable (Alford & Biswas, 2002). Warshaw and Davis (1985) stated that behavioral intention could be taken as a principle of belief if most people accept or disagree on the theory whether people believe in it or not.

Person intent to use technology has a strong effect on actual usage (Sledgianowski & Kulviwat, 2009). The likelihood of someone being consistent or recidivist with their decisions is behavioral intention (Lee, Petrick, & Crompton, 2007). One needs to be psychologically affirmative about their thought before bringing the action into place is called behavioral intention (Beck & Ajzen, 1991). A generalized term from the

principle of organized activity in order to allow for reliable evidence on the idea a consumer is going to conduct a specific action is behavioral intention (Chao, 2019).

A consumer's ability to participate in a specific action is known as behavioral intention (Ajzen, 1991). Also, it is the desire to use a system by a person that acts as a mediator between natural system use and intention (Lowenthal, 2010). It is a common aspect of all technological adoption hypotheses use (Suki, Ramayah, & Ly, 2012). It aims to describe how people behave when they use a specific technology (Muslim, Harun, Ismael, & Othman, 2020), which indicates a person's willingness to take a particular action and is usually considered an immediate antecedent of action (Nikou & Economides, 2017). The degree to which people are able to use technology and learning motivation (Koo, Byon, & Baker III, 2014) and the likelihood that a person would engage in a particular action is behavioral intention (Li & Cai, 2012). The extent to which an individual has made deliberate decisions to engage in or refrain from engaging in a certain potential action (Tan, Ooi, Leong, & Lin, 2014) is defined as deciding the intensity of a consumer's purpose to carry out a purchasing and consumption plan which is a behavioral intention (Rho, young Choi, & Lee, 2014). Therefore, this research defined behavioral intention as the desire to use the cryptocurrency, and it is intended to use.

Table 2.10

*Definition of behavioral intention*

<b>Authors and Years</b>	<b>Definitions</b>
(Warshaw & Davis, 1985)	Behavioral intention as the extent to which a person has deliberately formulated plans to carry out a certain future activity or not carry out certain acts.
(Martin & Ertzberger, 2013)	Behavioral intention is a person willing to specific product use.  A person's usual activity influences the nature of personal use.
(Ratnasari <i>et al.</i> , 2020)	Behavioral intention is instincts that caret an emotion to use the product.



**2.7 Empirical Studies**

This section focuses on excessive research carried out in the field of cryptocurrencies by other scholars. The studies analyzed and developed a better grasp of cryptocurrencies and bitcoins. In the sense of adoption, it is transformed as an acknowledgement of the care to be given. Practitioners and scholars have paid a lot of attention to the role of digital currencies in the field of finance. Earlier studies proved that more cryptocurrency usage expanded a user's capacity to maintain long-term relationships. To expand this, widespread use of cryptocurrencies raises the appeal for all strong crypto firms and long-term financial gains for the strong ones. A study conducted on literature proved that much research on cryptocurrencies had shown the critical outcomes, adoption and effects go hand in hand with each other. There are

signs that cryptocurrencies' roots lie in people's adoption to make their money work currency faster than it did in the past. The reviews will be listed as global and Malaysia.

### 2.7.1 Global Perspective

The thesis aimed to understand the concept of cryptocurrencies and their economic significance and factors associated with them (Bakar *et al.*, 2017). The other aim was to decide whether influencing action was urgently needed concerning cryptocurrency's functioning (Fauzi *et al.*, 2020). The work was theoretical, exploratory, and comparative (Guych *et al.*, 2018). Complex cryptocurrency principles have been studied and researched through (Mothokoa, 2017) using the tool for comparing Australia, the United States, and the EU's legal and regulatory system to South Africa's legal status as cryptocurrencies.

The analysis showed that decentralized reversible virtual currencies based on cryptographic algorithms are cryptocurrencies (Mothokoa, 2017). A central authority supervises cryptocurrency. It also found that the use of cryptocurrencies presents widespread. Certain factors such as trust, money transactions, financial stability, and consumer protection impact the digital market (Bryans, 2014). The legal framework for mitigating the above factor has been developed in Canada, the United States, and the EU (Ponsford, 2015). However, there is no legal framework to govern South Africa's cryptocurrency situations (Walton & Johnston, 2018). Therefore, it was concluded that regulatory action in South Africa is necessary (Mutambara, 2019). On this basis, the author proposed that cryptocurrencies be introduced into applicable

consumer protection. Therefore need more intention, facility, and regulation to become a success.

Consequently, Pandya *et al.* (2019) explored the difficulties of using cryptocurrencies in Bangladesh, Bolivia, Ecuador, Kyrgyzstan, and Nigeria. The latest cryptocurrency situations in countries such as China, Nigeria, etc., have also been considered for comparison and research purposes (Wang, Su, & Li, 2020). Since March 2018, five countries have been granted legislation that makes ownership or execution illegal with cryptographic currency (Trautman, 2018). Bitcoin and other virtual monetary (Kittichaisaree, 2017) can be shown as example for Bangladesh. According to Bangladeshi law, bitcoin or other virtual financial transactions are unlawful, and the offenders are liable for 12 years in prison (Frebowitz, 2018). Besides, in 2014, the Kyrgyz government prohibited its natives from using virtual currency (Ismailbekova, 2014). Kyrgyzstan also followed a similar path. As stated in the past, "emission, progress or flow of virtual monetary forms" in Ecuador is unlawful (Pandya *et al.*, 2019).

Likewise, according to the Central Bank of Bolivia's index objectives, any amounts of money that the government has not released do not include virtual monetary (Artemov, Arzumanova, Sitnik, & Zenin, 2017). In addition, the Bolivian government has announced its support quickly, grabbing its citizens for speculation on bitcoins and altcoins (Pandya *et al.*, 2019). On top of that, Nigeria provides an official stance on digital money later in a territory (Campbell, 2013). From mid-2017 on, Nigeria's Central Bank limited the virtual monetary standards, exchanges largely untraceable

and mysterious, and vulnerable, especially for illegal tax evasion and financing of psychological warfare (Pandya *et al.*, 2019).

### **2.7.2 Indian Perspective**

Jani (2018) discovers many aspects of cryptocurrency platforms, trying to answer this study's initial queries, which are "Will cryptocurrency be the next currency platform? Are virtual currency stands safe sufficient to be used?" It explores diverse cryptocurrency stages to provide deep insight into implementing, controlling, issuance, outlaying, and trading mechanisms. Cryptocurrencies offer a valuable and an ordered classification in the Indian market. Studies also present cryptocurrency concerns, problems, issues, and challenges in India's digital market. It examines the relationship between the real world laws and outlines the strong influences of cryptocurrency ideas on some of the actual-world aspects such as entire monetary systems and the business industry. The results draw all parties' attention who partake in the cryptocurrency platforms. It also emphasizes the importance of controlling cryptocurrency use in India. Moreover, it explores the global cryptocurrency market & the role of India in it. Again, this study identified the necessary factors that affect the adoption of cryptocurrency in India. This study does not explain proper facility condition, usability, social influence, brand service trust, behavior, and awareness. In the next section, this study describes the cryptocurrency concept in Singapore.

### 2.7.3 Singapore Perspective

Since the EPU (Economic Policy Uncertainty) has also influenced bitcoin, the EPU has predictive power over bitcoin values (Park & Chai, 2020). It can finally be assumed that EPU is sufficient to calculate the sentiment of investors. Based on the collected data, this research seeks to identify asymmetry in the cryptocurrency market by exploring whether each country's EPU influences on crypto-currency prices differed over the period defined. Bitcoin's price was most influenced by the U.S & EPU (Park & Chai, 2020). Meanwhile, the EPU in Singapore played the least role in bitcoin (Iryan, 2020). They considered that bitcoin's current trade value in the United States, followed by Japan, was the highest (Iryan, 2020). The findings suggested that the relationship between each country's economic policy uncertainty and bitcoin price showed a similar trend to trading. This finding could be deduced from the fact that the impact of Singapore on the cryptocurrency industry. Singapore also introduces ICOs (Initial Coin Offerings) for cryptocurrency transactions. Therefore, Singapore has attracted the launch of ICOs or STOs (Security Token Offerings) as the best place and has increased its influence on the overall crypto market. In other words, Korean economic policy on the world cryptocurrency market was found to be very small. The difference between the effects on a single token price per 1 month of each country showed a gap of about 5% (Park & Chai, 2020). Since the EPU eventually influenced each token or coin's price volatility in each region, it could be inferred that individual investors' feelings have influenced trade behavioral.



#### 2.7.4 Malaysian Perspective

The research is carried out in Malaysia from cryptocurrency uses and adoption (Yussof & Al-Harthy, 2018). Yussof and Al-Harthy (2016) noted that cryptocurrency is one of the most discussed technologies to allow direct electronic payment. Cryptocurrency is a cost-saving transfer without third party involvement. Hence, Malaysia's central banks tackle the imminent danger of redundancy by shadowing the "fiat currency" in an infinite fintech world.

Yussof and Al-Harthy (2016) have focused heavily on bitcoin. They observed that this digital currency is generated in unregulated amounts but through a virtual mining mechanism designed to monitor and increase the money supply's value. Yussof and Al-Harthy (2016) said that the rising pace of financial innovation forces regulators to adjust how they identify money and which money it can be. Yussof and Al-Harthy (2016) noted that cash is historically used as an exchange instrument, value norm, accounting unit, and a way of saving or storing buying power. Bitcoin does not perform all currency functions, but its scarcity, anonymity, openness, and government independence.

Kohler and Pizzol (2019) noted that digital currency is not generated by minting money digitally to regulate and boost the money supply. Yussof and Al-Harthy (2016) also said that financial innovation's growth had forced regulators to adjust how they perceive money and what money it could be. Therefore, create a suitable system to regulate cryptocurrency based on other jurisdictions' approach (Zulhuda & binti

Sayuti, 2017). Hence, The Islamic Development Bank is developing Shariah-compliant contracts by blockchain technology (Bakar *et al.*, 2017). On top of that, China is leading the way to create its national crypto monetary system to complement fiat currency (Fauzi *et al.*, 2020). Apart from that, a Shariah-compliant crypto-monetary system has already come into the digital financial market (Bakar *et al.*, 2017). These reforms should be tailored to Malaysian financial and regulatory approaches to remain relevant in the cryptocurrency market (Yeong, 2019).

Ku-Mahamud *et al.* (2019) mentioned that cryptocurrency is a distributed ledger. The cryptocurrency is stored on a hard disc to execute the crypto transaction. The ledger's immutable architecture increases confidence by applying a transaction to a block and applying it to the cryptocurrency. Meanwhile, an operational analysis considered cryptocurrency as an interconnected peer-to-peer technology. It promotes cryptocurrency transactions and is capable of self transactions without intermediary's assistance. As a form of cryptocurrency, Bitcoin is the most commonly used cryptocurrency. It is the most significant commercial and business potential for products and services. Studies have claimed that bitcoin's anonymity improvements help track the money and receiver source (Ku-Mahamud *et al.*, 2019). Studies have highlighted that cryptocurrency technology's main advantage is that it provides a highly protected and integrity platform. Hence, cryptocurrency awareness is growing geometrically in recent times, also in various directions depending on the user's perspective. Therefore, trust, awareness, and acceptance of FinTech are vital to the transaction or investment usage of cryptocurrency in the future.

## 2.8 Underpinning Theory

This sub-section explores further the fundamental theories of contemporary research. Malaysia's digital sector's reality still lacks concrete theoretical support linked to cryptocurrencies (Clohessy, Treiblmaier, Acton, & Rogers, 2020). Therefore, studies have suggested that researchers analyze Malaysia's digital market to apply cryptocurrency theories (Gomber, Koch, & Siering, 2017). In addition, very few researchers claim that researchers can use more than one theoretical rationale for critically evaluating innovations in cryptocurrency since there is no specifically cryptocurrency-related unifying agreement theory (Schot & Geels, 2008). Many researchers recognize that it is impossible to apply a single theory to cover every technology adoption element (Patton, 2010).

### 2.8.1 Theory of Reasoned Action

Fishbein and Ajzen (1975) created this model to organize and incorporate work in an attitude field in a formal theoretical direction. Fishbein *et al.* (1980) said that its primary purpose was to predict, clarify, and influence human behavioral.

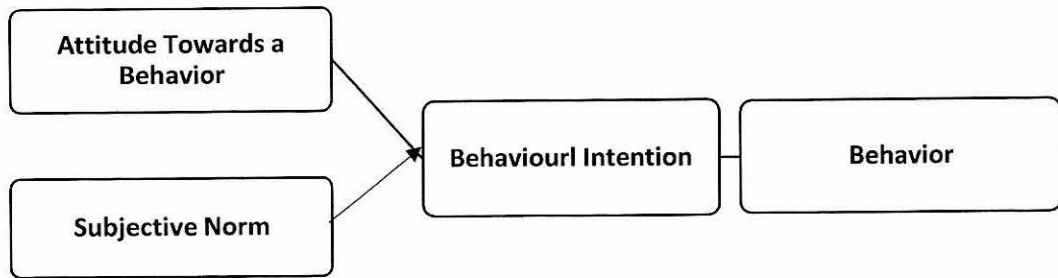


Figure 2.1

*The Theory of Reasoned Action (Fishbein et al., 1980)*

According to the TRA, the primary determinant of behavioral is not the person's actions but the individual's purpose to conduct himself. Venkatesh and Davis (2000) explain the relationship between expectations, norms, attitudes, and intentions in making decisions and predicting actions that may result in this intention. Ajzen and Fishbein (1975) described behavioral attitudes as "individual positive or negative feelings about activities. This attitude dictates the individual's confidence in the effects of their actions and how others view their behaviour.

An empirical study carried out by (Alam *et al.*, 2012) used the ICT model and TRA in Malaysia's SMEs. The study also elaborated that 95% of them were persuaded that ICT attitude and subjective expectations impacted the intention to follow them. (Yusuf & Derus, 2013) stated that TRA has much ambiguity in evaluating behavioral intentions. Alshehri, Alshehri, and Erwin (2012) also show that theory comes from believing that action is under the voluntary influence. It implies deliberately considered in the subject to approach. This theory can not justify unreasonable or habitual behavioral or something which has not been preempted.

The theory of rational action (TRA) is a set of social-psychological ideas and models that have been connected to explain better and forecast human behavioral (Hussain, Rahman, Zaheer, & Saleem, 2016). Expectation has not evolved from the times of classical economics, and the methodology has the same potential to have the same issues as we're seeing with it today (Doane, Kelley, & Pearson, 2016). This relationship has a long history of social science, with TRA doing studies on it for several years. Some authors have put forward an expanded version of this theory towards attitude and behaviour (LaCaille, 2020). Another researcher reintroduced the technique in several senior positions into technology adoption (Untaru *et al.*, 2016). He revealed the general idea that facts be considered before making decisions. It also takes findings and analyses the data provided to it. It is almost certain that they will do the behavioral action soon (LaCaille, 2020). If the expectation is that individuals will behave according to their plan on what they plan to do in the future before unexpected circumstances occur, it eventually changes to meet the performance, attitudes, behavioral and usability (Hussain *et al.*, 2016; Jemmott & Jemmott, 1991; LaCaille, 2020; Otieno, Liyala, Odongo, & Abeka, 2016; Untaru *et al.*, 2016). The second model to be discussed next is the Unified Theory of Acceptance and Use of Technology 2.

### **2.8.2 Unified Theory of Acceptance and Use of Technology 2**

A unified theory of acceptance and use of technology 2 (UTAUT2) is a paradigm developed by Venkatesh et al. 2012 to predict technology's adoption within an organizational setting. UTAUT 2 advances by incorporating the dominant systems of

eight previous predominant models ranging from human nature to computer science. The suit models are Theory of Reasoned Action (Fishbein & Ajzen, 1975), Technology Acceptance Model (Davis, Bagozzi, & Warshaw, 1989), Motivational Model (Davis et al. 1992), Theory of Planned Behavioral (Ajzen, 1991), Combined TAM and TPB (Taylor & Todd, 1995), Model of PC Utilization (MPCU) (Thompson et al., 1991), Innovation Diffusion Theory (Moore & Benbasat, 2001), and Social Cognitive Theory (Compeau et al., 1999). Several academics have supported UTAUT as the digital technology adoption model. Francisco and Swanson (2018) found that the entire architecture of UTAUT2 is a valuable starting point to research success.

The unified theory of technology acceptance and use is the paradigm established by Venkatesh et al. (2012). UTAUT2 to predict the adoption of technology in organizational environments. The researcher derived a model from understanding the role of cryptocurrency adoption in the digital market based on the Unified Theory of Acceptance and Use of Technology literature. Understanding cryptocurrency adoption means that we know the organization's professional behavioural, and also how the entire cryptocurrency transaction network relationships work among the stakeholders. Given the advancement of cryptocurrency technologies, most of the constructs derived mainly from the existing literature on the theories of UTAUT 2.

According to Venkatesh et al. (2003), UTAUT 2 proposed four key factors that affect IT's intent and usage. It is how strongly a person feels that using the program can allow them to achieve work performance gains. Secondly, the presumption of commitment is the degree of ease of using technology. Thirdly, the degree to which a person

assumes that an organizational and technological infrastructure uses the program. This is to the degree that a person sees others think they need to use the new method and technology. The extension in UTAUT2 created a substantial improvement in performance, expectancy, satisfaction, trust and facilitating condition. Such reports will address theoretical and organizational consequences.

A study is found to be present in the best correlation with behavioral intent (Venkatesh *et al.*, 2003). From the viewpoint of trust, consumer considers time and effort to build perceptions of technologies' favorability within organizations (Venkatesh, Sykes, & Zhang, 2011). Intentionality and the base scientific idea of deliberate action underlie UTAUT2 and similar models (Venkatesh *et al.*, 2012). In recent usage research, it was seen that patterns rather than usage counterexamples have acted as the critical element in evaluating the use of modern technologies (Venkatesh & Zhang, 2010).

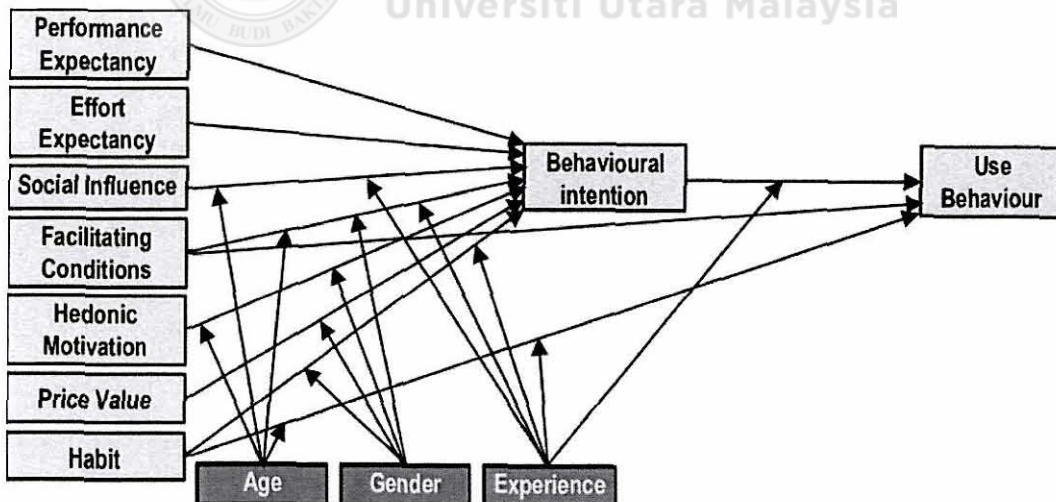


Figure 2.2

*Unified Theory of Acceptance and Use of Technology 2*

It has been fascinating to replicate, incorporate, and expand our experience of emerging technologies with these various implementations and with the current hypotheses (Oechslein *et al.*, 2014). Furthermore, it was done using only structures that included a subset of them, most notably tasks that do have the mediator (Kang *et al.*, 2015). Therefore, UTAUT 2 also in-depth analysis and speculation on salient variables that could extend to the use of new modern technology in the digital market.

## **2.9 Summary**

Chapter two discussed a hypothesis of the existence of cryptocurrencies in Malaysia for this thesis. The literature review for this study is also given in this section. First of all, various authors, academics, and researchers describe the concepts. This study provides an extensive discussion on the understanding and the meaning of cryptocurrencies in the United States, Europe, India, Latin America, South Africa, Zimbabwe, and Malaysia. The analysis tried to understand the cryptocurrencies used by the consumer in Malaysia. Likewise, to gain insight into the effects and factors of cryptocurrencies in Malaysia.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Chapter three will discuss the research methodology that will be used in the research framework. The research frameworks will include the independent variables of trust (TR), social influence (SI), cryptocurrency transaction and transparency (CTT), technology awareness (TA), customer satisfaction (CS), attitude (AT), facilitating condition (FC), and performance expectancy (PE). This research's theoretical framework will show the mediating effect of behavioral intention towards the relationship of the independent variable and dependent variable (cryptocurrency adoption). Factors affecting cryptocurrency adoption include that perspective of effectiveness, which is discussed in this chapter. A quantitative approach will be considered a measurement tool for analyzing behavioral intention's mediating effect into TR, SI, CTT, TA, CS, AT, FC, PE, and cryptocurrency adoption (CA) in Malaysia. Discussion on the population and sampling to apply the measurement tool will also be presented in this chapter. Research design, population, sampling, unit of analysis and pilot study will also be presented in this study. In brief, this study's objectives are to analyze the mediating effect of behavioral intention towards the relationship of TR, SI, CTT, TA, CS, AT, FC, PE, and CA. Therefore, this chapter will develop this study's framework and propose the hypothesis tested parallel with the variables' relationship.

### 3.2 Research Framework

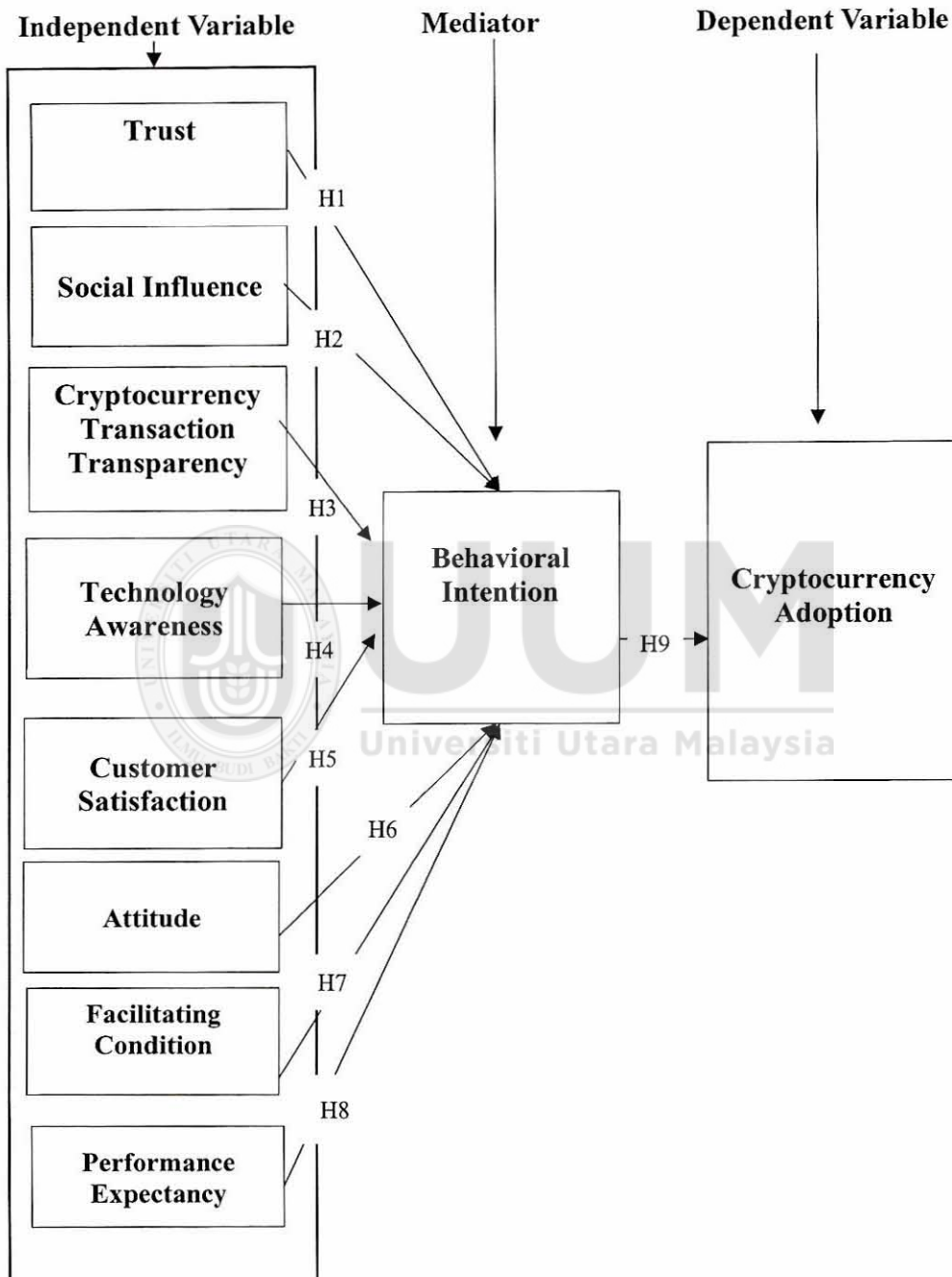


Figure 3.1

Research Framework

The independent variables are trust (TR), social influence (SI), cryptocurrency transaction transparency (CTT), technology awareness (TA), customer satisfaction (CS), attitude (AT), facilitating condition (FC), and performance expectancy (PE). On the other hand, cryptocurrency adoption represents the dependent variable. The mediator of this study is behavioral intention.

### **3.3 Research Hypotheses**

The research objectives are presented earlier in chapter one and base on the research framework the researcher developed in this chapter. Finally, the following hypotheses are formed in the following sub-sections.

#### **3.3.1 Trust and Behavioral Intention**

Trust can be distinct from one's desire to another based on the expectation (Mayer, Davis, & Schoorman, 1995). This research also refers to trust (TR) as a desire from cryptocurrency brands exposed to each other and support each other's expectations (Fauzi *et al.*, 2020; Roos, 2016; Roussou & Stiakakis, 2016). Trust is a fundamental aspect of all business models and the digital market as well. Further, a distinctive impact on the acceptance of the technology design model is significant to understand the implications of trust in many contexts (Wu *et al.*, 2011). Hence, it is recommended to use an excellent service trust approach to accommodate the organization's requirements in a deep understanding of the dynamic's relationship among the digital market stakeholders (Neu, 1991; Tichy, Tushman, & Fombrun, 1979). Likewise, Trust

relationships and complexity are key variables for most organizations, which implies supporting this interaction (Sultan & Wong, 2019). In the context of trust, behavioral intention relationships are essential for its operations. For instance, an information-sharing connection is required for the conduct of operations. Unfortunately, there is usually no accountability in the trusted network between participants, which is a significant challenge for organizations (Francisco & Swanson, 2018). A practical solution to this is to create cryptocurrency transparency across all supply chain technologies and maintain the control of the supply chain in Malaysia's digital market (Imeri, Agoulmine, Feltus, & Khadraoui, 2019). In addition, cryptocurrency improves the level of trust among members of the supply chain, as recent studies suggest in the digital market (Cole, Stevenson, & Aitken, 2019; Kshetri, 2018; Reyna *et al.*, 2018). Therefore, the researcher suggests the following hypotheses:

***H1. Trust affects behavioral intention to adopt cryptocurrency.***

### **3.3.2 Social Influence and Behavioral Intention**

Social influence (SI) is defined as the degree to which an individual recognizes that other important people believe that they should use the new system (Venkatesh *et al.*, 2003). "The degree to which one person perceives that significant others find the new method to be used" (Venkatesh *et al.*, 2003). SI is believed to positively impact cryptocurrency adoption's behavioral intention (Pandya *et al.*, 2019; Schaupp & Festa, 2018). For this study, social influence (SI) will indicate to what extent the employee understands how important it is to believe that he/she should use cryptocurrency in the

digital market. Previous studies have pointed out that, at the individual level of social influence, influenced by colleagues, friends, and family's opinions and actions (Iranian, Duvide, Williams, 2009; Venkatesh & Brown, 2001). Recent studies have shown how SI is essential in the adoption of cryptocurrency in the digital market, despite that, SI plays a vital role in adopting the digital market (Martins, Oliveira, and Popovic, 2014; Zhang et al., 2018) and the cryptocurrency market (Ahmad & Khalid, 2017). Consequently, SI relationships create a significant impact on the adoption of cryptocurrency in Malaysia's digital market. Therefore, the researcher suggests the following hypothesis:

*H2: Social influence positively affects the behavioral intention to adopt cryptocurrency.*

### **3.3.3 Cryptocurrency Transaction Transparency and Behavioral Intention**

Cryptocurrency transaction transparency refers to the models through which the consumer communicates with each other towards cryptocurrency (Lehner *et al.*, 2017). Its relationships through its chain network support operations' visibility at all digital market levels (Khazaei, 2020). From the view of the supply chain in the digital market, cryptocurrency can improve transaction transparency and traceability (Biswas & Gupta, 2019). Also, this research argues that cryptocurrency transaction transparency is an essential indicator of cryptocurrency's behavioral intentions in Malaysia's digital market (Roussou & Stiakakis, 2016). In addition, cryptocurrency transparency can enhance customer cooperation, leading to a significant shift in the

industry and the digital market (Aste, 2019). Likewise, cryptocurrency transaction transparency makes consumers attached to behavioral intention (Yoo *et al.*, 2020). Cryptocurrency is more reliable by the transaction transparency attachment with behavioral intention (Saleh *et al.*, 2020). Different transaction transparency stimuli establish a bond between behavioral intention (Novendra & Gunawan, 2017).

Moreover, their parties' internal relationship is proportional to their previous transaction history (Beckett, 2019; Chakraborti *et al.*, 2019). Similarly, cryptocurrency transaction transparency shows higher commitment for further transaction (Francisco & Swanson, 2018; Mell, 2018). Cryptocurrency transaction transparency ensures a pleasant experience for using the product (Nilashi *et al.*, 2016; Oulasvirta *et al.*, 2014). Transaction transparency is the most influential component of behavioral intention (Li *et al.*, 2017). Therefore, the researcher put the following hypothesis:

***H3: Cryptocurrency transaction transparency positively affects the behavioral intention to adopt cryptocurrency.***

### **3.3.4 Technology Awareness and Behavioural Intention**

Technology awareness is a degree that the user can understand and be aware of the facility to use the organization tech to use in their task (Lingmont & Alexiou, 2020b). Many researchers emphasize that technology awareness implies cryptocurrency usages' behavioral intention (Shahzad *et al.*, 2018). Based on Queiroz and Wamba (2019) findings, technology awareness influences behavioral intention to adopt

cryptocurrency. This is because developed countries already have adequate understanding to support emerging technologies. In comparison, Gunawan and Novendra (2017) have shown that technology awareness affects crypto-monetary use in Indonesia. Citizens have been happy with existing crypto-monetary awareness and infrastructures (Ayedh *et al.*, 2020). Empirical evidence from literature supported that positive technology awareness strongly affected behavioral intention (Alacddin & Altounjy, 2018a). Another researcher proved that technology awareness directly impacted behavioral intention (Ku-Mahamud *et al.*, 2019).

Moreover, similar findings were observed in the study based on Queiroz and Wamba (2019) research as they found that affective technology awareness positively influenced behavioral intention. Technology awareness guides consumers to establish their relationships or strengthen their relationship with behavioral intention (Lingmont & Alexiou, 2020b). Empirical studies also provide positive results (Mutahar *et al.*, 2018). Ayedh *et al.* (2020) that found a significant direct effect of behavioral intention. Gunawan and Novendra (2017) also found a positive relationship between self technology awareness and behavioral intention. Therefore, the more the consumers found their self-relevance with the technology awareness, the more they emotionally become involved with the behavioral intention. Therefore, the researcher suggests the following hypothesis:

***H4: Technology awareness positively affects the behavioral intention to adopt cryptocurrency.***

### 3.3.5 Customer Satisfaction and Behaviour Intention

Customer satisfaction is the degree that the user shows his satisfaction with the product used earlier (Zhang *et al.*, 2020). Customer satisfaction is a measurement of consumer happiness that recommends the consumer's behavioral intention (BI). Many research mentioned that it is vital for product boosting and product review (Xu & Du, 2019). It means more incredible benefits would improve the perceived value of a service and boost perceived behavioral intention. Xu and Du (2018) have reported that user commitment and quality expectations directly affect user satisfaction and consistency in technology use. Hsu, Chang, and Chen (2012) found that users are more prospective to accept and renew the service if they are pleased with their characteristics. Recommending a technology is a post-use activity that indicates a users' willingness to support the use of technology by others and their perceived satisfaction (Husin *et al.*, 2019). Individuals now exchange views on a business by word of mouth, and other social networking sites, influencing behavioral intention (Miltgen, Popovič, & Oliveira, 2013). The behavioral intention has been an essential forum for connecting and exchanging new technology reviews through customer satisfaction (Tajvidi *et al.*, 2017). Rita *et al.* (2019) have shown that user intent and satisfaction significantly impact other recommendations.

There are, however, few studies of factors that influence user satisfaction and recommendation for new technology. Researchers have not thoroughly addressed the purpose of suggesting technology and its determinants (Furtado *et al.*, 2020). However, no such study has been done for CS for BI to cryptocurrency adoption (Tun,



2020). Researchers analyzed several factors that affect Malaysia's user satisfaction but did not extensively examine them, leading to recommendations to use technology (Sarker, Hughe, Dwivedi, & Rana, 2020). The current study reveals this emptiness and the connection between user intent, customer satisfaction, and influence behavioral intention in Malaysia's digital market (Sarker *et al.*, 2020). Therefore, the researcher suggests a hypothesis:

***H5: Customer satisfaction positively affects the behavioral intention to adopt cryptocurrency.***

### **3.3.6 Attitude and Behaviour Intention**

According to the Theory of Reasoned Action, the behavioral's primary determinant is not the behavioral's nature but its ability to conduct itself. Davis et al. (1989) point out that it connects interpretation, norms, and attitudes to a person's intention to make a decision and predicts that behavioral may result in that intention. Ajzen and Fishbein (1975) describe behavioral attitude as positive or negative feelings of individual actions. Behavioral attitude is measured by the individual's confidence in the consequences of his actions and how others view his behavioral. Behavioral attitude is the trigger that boosts the behavioral intention of the use of new technology. However, this attitude is valuable for much modern technology usage (Bhattacharjee & Premkumar, 2004). But there is no such study appropriately done in the Malaysian cryptocurrency digital market, which assumes that repeated behavioral success can contribute to defining attitudes and intentions triggered by artefacts or signs of

perspectives in the environment (Ajzen and Fishbein 2000). It will be sufficient to cause automatic action on future occasions without explicit cognitive mediation in awareness or intent. Therefore, the researcher suggests the following hypothesis:

***H6: Attitude positively affects the behavioral intention to adopt cryptocurrency.***

### **3.3.7 Facilitating Condition and Behavioral intention**

The definition of facilitating condition (FC) is the grade to which an individual believes that there is a regulatory and technical infrastructure that exists to support the system's use. Furthermore, facilitation is a defined person who believes in an organizational and technological framework to support the use of new technology (Venkatesh *et al.*, 2003). The growth of a facilitating condition encourages and enables establishing a deeper understanding and personal connection with their behavioral intentions (Ghalandari, 2012). An empirical study demonstrates a positive effect, as well (Onaolapo & Oyewole, 2018). As opposed to that, another researcher observed a large and noticeable effect of intention (Vairetti *et al.*, 2019). Besides, the researcher discovered a substantial impact on facilitating condition towards behavioral intention (Venkatesh *et al.*, 2008). The study will point to the employee's understanding of the resources available in institutions to support cryptocurrency. According to previous literature, facilitating condition affects the adoption and use of technology (Huang *et al.*, 2012; Oliveira *et al.*, 2014; Sabi, Uzoka, Langmia & Njeh, 2016; Venkatesh *et al.*, 2003, 2012). Customers could also be more likely to use cryptocurrency if they have a certain level of support services. Hence, facilitating condition influences

cryptocurrency's behavioral intention (Alalwan, Dwivedi et al., 2015). It represents a significant dependency without a barrier in terms of the digital market's infrastructure costs. Therefore, the researcher suggests the following hypotheses:

***H7. Facilitating conditions positively affect the behavioral intention to adopt cryptocurrency.***

### **3.3.8 Performance Expectancy and Behavioral Intention**

Performance expectancy (PE) is known as the degree to which an individual believes that system use will help achieve performance gains at work (Venkatesh et al., 2003). This research's background refers to the expected performance of the degree to which the employee believes will improve the cryptocurrency digital market's productivity and performance. It is linked to individual motivation (employees) to accept and use new technologies in the digital market (Alalwan, Dwivedi, et al., 2015; Venkatesh et al., 2003). Thus, cryptocurrency applications generated high expectations regarding improvements, product efficiency, quality, and other digital markets (Kshetri, 2018). According to the previous literature (UTAUT / 2), individuals' intention to use and adopt technology is strongly dependent on the predicted performance (Alalwan et al., 2016; Venkatesh et al., 2003; Venkatesh et al., 2012).

Customers seem more likely to use and accept new technology if they believe that these innovations are more beneficial and helpful in their daily lives (Alalwan et al., 2016; Venkatesh et al., 2003). Cryptocurrency has also been widely recognized as a

more efficient medium for providing universal consumer access to a wide variety of services (Alsheikh & Bojei, 2014; Yu, 2012). Therefore, the researcher suggests the following hypothesis:

***H8: Performance expectancy positively affects the behavioral intention to adopt cryptocurrency.***

### **3.3.9 Behavioral Intention and Cryptocurrency Adoption**

Behavioral intention is the degree to which a person consciously plans to perform or not be part of the specified future behavioral. Most of the cryptocurrency improved their operations to attract consumers' intention to use it in a further digital transaction. Therefore, the intention to use cryptocurrency creates a sensation to adopt this new currency. Financial investments also seek to improve operations to enhance behavioral intention and also to use this cryptocurrency for changing their financial sector to a new door. As a result, the users need to adopt the cryptocurrency facility and usability. Hence, cryptocurrency providers are eager to track and track traceable client records to reduce fiance and insurance fraud and improve data exchange in the digital market.

Consequently, the researcher found that the intention to use cryptocurrency influences its adoption in Malaysia's digital market. Cryptocurrency creates benefits and impacts the economy, which influences the adoption of cryptocurrency. The digital market is also advised to continually monitor cryptocurrency to assess its impact and consider the strategy to gear up the intention. Finally, the intention will create awareness for

adopting the new cryptocurrency, improving their understanding and usability. Therefore, the researcher suggests the following hypotheses:

*H9: The behavioral intention will positively influence the adoption of cryptocurrency in the digital market.*

### **3.3.10 Behavioral Intentio as Mediator**

In terms of mediation, the important relationship is to be formed between the predictor variable to criterion variable, predictor variable to mediating variable, and mediating variable to criterion variable according to the Baron and Kenny (1986) criteria. They believed that there was no error in the calculation and that the criterion variable did not induce a mediator. Preacher and Hayes (2014, 2008) questioned Baron and Kenny's mediation requirements, who consistently breached these assumptions. They argued that no substantial overall impact of the predictor variable on the criterion variable was required for the mediation occurrence. The concepts stayed by others (Collins, Graham, & Flaherty, 1998; Judd & Kenny, 1981). Preacher and Hayes (2008) indicated that researchers could investigate meditation in situations where a causal relationship could be formed between the predictor, mediator, and criterion variable theoretically and procedurally. The researcher has followed Preacher and Hayes (2008) for mediation and proposed behavioral intention as a mediator.

Mediation is a series of triggers where a second variable influences a third variable. A strong mediator proven by several studies is behavioral intention (Burton et al., 2003;

Chakraborti, etc. 2019; Dinev & Hu, 2005; Henseler, 2017; Karim et al . , 2016; Maruping et al . , 2017; Mathieson , 1991; Tajvidi et al , 2017; Venkatesh et al . , 2003; Venkatesh et al . , 2011; Venkatesh et al., 2012, 2012, Yusof et al . , 2018). Behavioral intention is a valuable mediating construct. Trust creates trust in behavioral intention, which influences the adoption of cryptocurrency. After initial use, if consumers get better trust and become satisfied, they continue the relationship with the brand (Park and Lee, 2005). The behavioral intention acts on trust. Behavioral intention as a mediator is well established in technology adoption. Forming a relationship with trust offers different opportunities for cryptocurrency adoption. Behavioral intention creates influences consumer intention to use cryptocurrency.

Behavioral intention mediates the relationship between social (SI) influence and cryptocurrency adoption. It also influences the impact of the social influence and cryptocurrency on the digital market (Alaeddin & Altounjy, 2018a; Albayati et al., 2020; Chan et al . , 2018; Zubir et al., 2020). From an empirical perspective, behavioral intention as a mediator is well established in transaction literature. Behavioral intention as a mediator was found significant in cryptocurrency transaction transparency facility and adoption of technology.

Research by Ku-Mahamud *et al.* (2019) found that around half of the respondents have a mediate understanding of FinTech, while the other half are aware of its presence. Also, it revealed the blockchain and cryptocurrency is the same awareness. Consumer satisfaction affects consumers' attitude after using the cryptocurrency (Oliver &

Bearden, 1983); for this reason, Keller *et al.* (2000) suggested that perceived customer satisfaction positively influenced trust and behavioral intention.

Behavioral intentions have an effect on the behavioral attitude (Chen,2018; Erdogan & Dayan, 2019; Kaminski, 2011; Venkatesh etcoll., 2012). Also, behavioral intention creates an influence on attitude, which insists on adopting cryptocurrency. A similar positive role of behavioral intention as mediator was found between facilitating condition and intention to adoption. Likewise, the behavioral intention has mediated the relationship between performance expectancy and cryptocurrency adoption. Therefore, the researcher assumed the following hypotheses.

*H10<sub>A</sub>: The behavioral intention mediates the relationship between trust and cryptocurrency adoption relationship.*

*H10<sub>B</sub>: The behavioral intention mediates the relationship between social influence and cryptocurrency adoption relationship.*

*H10<sub>C</sub>: The behavioral intention mediates the relationship between cryptocurrency transaction transparency and cryptocurrency adoption relationship.*

*H10<sub>D</sub>: The behavioral intention mediates the relationship between technology awareness and cryptocurrency adoption relationship.*

*H10<sub>E</sub>: The behavioral intention mediates the relationship between customer satisfaction and cryptocurrency adoption relationship.*

*H10<sub>F</sub>: The behavioral intention mediates the relationship between attitude and cryptocurrency adoption relationship.*

*H10<sub>G</sub>: The behavioral intention mediates the relationship between facilitating condition and cryptocurrency adoption relationship.*

*H10<sub>H</sub>: The behavioral intention mediates the relationship between performance expectancy and cryptocurrency adoption relationship.*

All the hypothesis has been summarized and has been tested in this study. Hypothesis testing involves a verdict on the results by evaluating the value with a population to verify if there is a relationship between the values studied. According to the hypothesis, the researcher constructed the researcher hypothesis in line with a problem statement, research questions and research objectives in table 3.1.



Table 3.1

*Summary of Research Flow*

<b>PROBLEM STATEMENT</b>	<b>RESEARCH QUESTIONS</b>	<b>RESEARCH OBJECTIVES</b>	<b>RESEARCH HYPOTHESIS</b>
Factors affecting cryptocurrency in Malaysia is not clearly determined.	Do trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence on behavioral intention in the digital market?	To examine the relationship between service trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence on behavioral intention.	H1, H2, H3, H4, H5, H6, H7 H8.  TR, SI, CT, TA, CS, AT, FC, PE (IV) has a significant positive effect on behavioral intention.
Behavioral intention necessity on cryptocurrency adoption.	Does behavioral intention influence the consumer to adopt cryptocurrency in the digital market?	To examine the relationship between the behavioral intention toward cryptocurrency adoption.	H9: The behavioral intention will positively influence the adoption of cryptocurrency in the digital market.
Mediation Effect on Cryptocurrency Adoption.	Does behavioral intention mediate the relationship between trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, and cryptocurrency adoption?	To examine the mediating effects of behavioral intention towards brand & service trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence towards cryptocurrency adoption.	H10A, H10B, H10C, H10D, H10E, H10F, H10G, H10H.  Behavioral Intention (BI) has a significant Mediation effect on IV (TR, SI, CT, TA, CS, AT, FC and PE) and DV CA (Cryptocurrency Adoption)

### 3.4 Research Design

The research design is a fundamental reason for rational decision-making alternatives (Sekaran & Bougie, 2010). It is a research process that is used in this study. It is the process for decision-making through data collection methods and analysis to produce the results (Creswell John, 2007). Current research is correlated in nature since researchers collect data on variables and analyses relationships in the theoretical framework (Cooper & Schindler, 2006). The researcher follows deductive reasoning, which is in line with the positivist approach. Also, this research used quantitative research that followed the research study. The researcher intent to developed hypotheses based on past relevant theory and literature. The cross-sectional data have been collected for this study (Sekaran & Bougie, 2010). Also, this study organizes the individual consumer's opinion from the various cryptocurrency ecosystem of Malaysia considering the concept of linking the social influence, facilitation condition, performance expectancy, cryptocurrency transaction transparency, customer satisfaction, trust, technology awareness, attitude, and cryptocurrency adoption in the digital market, the mediating effect of behavioral intention.

*In this study, the researcher used the quantitative research method (Abowitz & Toole, 2010; Baron & Kenny, 1986; BinSubaih, Maddock, & Romano, 2008). Moreover, the survey was conducted using a structured questionnaire (Cooper & Schindler, 2006). The structured questionnaire was used to study variables such as experience, preferences, and the survey for cryptocurrency implementation in Malaysia's digital market (Davies & Hughes, 2014). Finally, statistical analysis was performed to obtain*

empirical support for the probability relation between the variables (Kurilovas & Kubilinskiene, 2020). Cresswell (2009) reports that the inquiry method can be regarded as a form of inquiry that has a hypothesis on deductively testing theory, the creation of bias defence, and the ability to generalize and replicate results (Creswell, 2009).

Variables were defined and established as a theoretical construct from the problems that occur. To this end, a good research design must be established to collect and elaborate data appropriate for achieving the research objectives. The following figure shows the research design of the study.

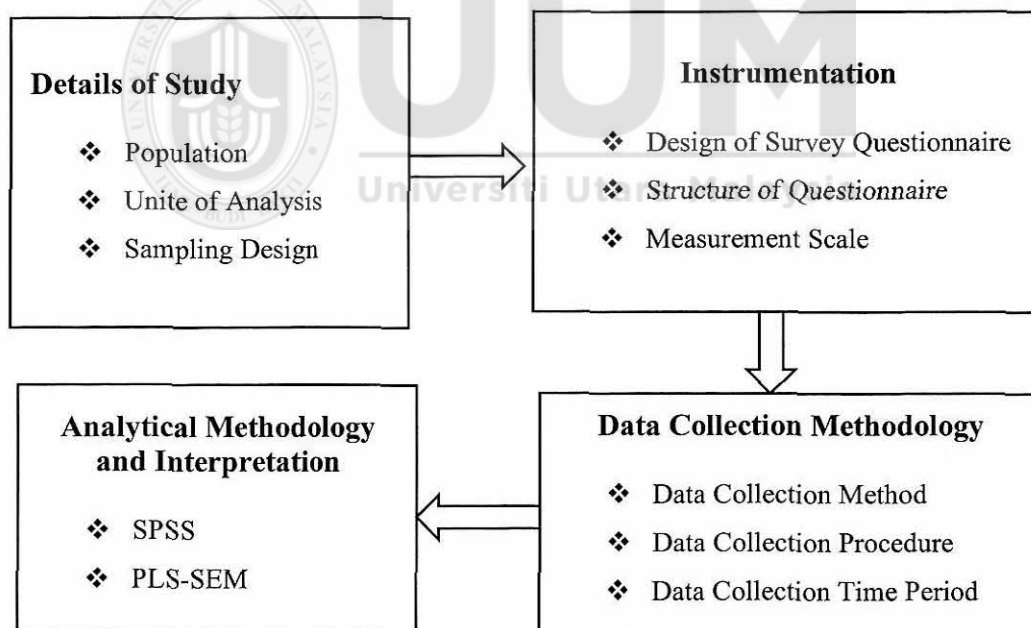


Figure 3.2

*Flow chart for Quantitative Research Design*

Source: Adopted from Cresswell, 2009; Sekarang & Bougie, 2010

### **3.4.1 Purpose of Research**

This empirical study's research objectives are to analyze where behavioral intention mediates trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, and cryptocurrency adoption. Indeed, the relation of trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, and cryptocurrency adoption are also examined.

In a quantitative analysis, inadequate information on technology adoption in cryptocurrency is found in Malaysia. Factors associated with trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy include behavioral intention to influence cryptocurrency adoption. This research can be considered a descriptive, exploratory, and correlational study as it involves multiple variables.

### **3.4.2 Research Strategy**

Research strategy includes planning for the execution of research that would be conducted to address research questions. The research strategy can be categorized into ten categories: action research, case method, collaborative research, cooperative inquiry, ethnography, experiment methods, grounded theory, narrative methods,

quasi-experiment research, and survey method (Ates & Bititci, 2008; Greene, 2007; Jupp, 2006).

According to Saunders et al. (2009), the research strategy's selection would be affected by research goals, research constraints, limitations, and the time dimension for research to comply with the system. The survey method was therefore chosen in this survey, based on the available literature. This research is observable, well-suited, and deductive, ensuring that the results' generalization represents the population. In addition, a survey is commonly used by students of social science where it can help to examine the relationship of cause and effect that helped to achieve the research objectives (Klopper, 2008; Saunders, Lewis, & Thornhill, 2003, 2009).

### 3.4.3 Research Method

A quantitative analysis has been used for this study where quantitative research focuses on numerical findings and has reduced the human factor's impact (Saunders *et al.*, 2003). On the other hand, the quantitative analysis would produce impartial results that the researcher typically affects (Saunders *et al.*, 2009). In other words, a quantitative analysis refers to the collection of primary data from some samples of respondents that have been generalized to allow a presumption over a broad population (Scheurich, 1997).

Survey methods are a quantitative part of the analysis used in this study. This research is also an empirical analysis with independent adoption of variables and crypto-

currency (Sekaran & Bougie, 2016; Taherdoost, 2016). The mediating effect of behavioral intention towards trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, and cryptocurrency adoption have also been examined. Hence, in adopting the quantitative analysis as a methodology in acquiring the data, it also produces sufficient information on trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy cryptocurrency adoption. The data were analyzed, and the results justified the proposed correlation between the structures participating in this study.

The most commonly used scientific research method is also widely used in adoption analysis (Saunders *et al.*, 2003, 2009). Typically, postal or mail survey is mainly performed and is widely used as the price can be reduced, so respondents' reaction can easily be handled by many respondents from a survey (Scheurich, 1997; Sekaran, 2003; Sekaran & Bougie, 2016). A survey typically involves autologous, postal, or email survey activities (Urbach & Ahlemann, 2010; Zikmund, Babin, Carr, & Griffin, 1991). Contrary to the current survey, researchers also use a Web-based or online approach to obtain sample size responses, as it speeds up response time.

#### **3.4.4 Time Dimension**

The time dimension is another aspect that the researcher took into account. The time dimension is of two types. These are cross-sectional and longitudinal studies

(Bhattacharjee & Premkumar, 2004; De Lange *et al.*, 2003; Venkatesh & Brown, 2001). Understanding this dimension of time is very important to develop the analysis since various research requires a separate time dimension in different ways (Hawker & Boulton, 2000).

Also, the cross-sectional study involves identifying the sample, population, or circumstances that exist at a time and are parallel to other research. It often allows researchers to distinguish between various variables involved in different groups from different populations at a time by disclosing time, budget and resources distribution, and cross-sectional research (Bobak *et al.*, 2000; Garrosa, Moreno-Jiménez, Rodríguez-Muñoz, & Rodríguez-Carvajal, 2011).

Rather a study that repeats the collection of the data for various times because of the aim to monitor improvements over a period of time and longitudinal analysis typically relies on more time than the researchers have available, a research approach that applied the practicality of the research (Bobak *et al.*, 2000; Garrosa *et al.*, 2011; Harzing *et al.*, 2009; Hawker & Boulton, 2000; Hippisley-Cox *et al.*, 2003).

The cross-sectional time dimension for this research is chosen because of budget and scheduling limitations as the research relates to academic and descriptive study in which the questions of elements must be clarified in depth at this time (Garrosa *et al.*, 2011; Hahn *et al.*, 2010; Harzing *et al.*, 2009; Hawker & Boulton, 2000; Hippisley-Cox *et al.*, 2003).

### **3.4.5 Unit of Analysis**

The unit of analysis is the substance that has been contemplated and dissected by the researcher (Kumar, 2018). Each exploration procedure conveys an explicit homogenous unit of analysis (Neuman, 2014). It is fundamental to decide the unit of analysis as the factors are estimated dependent on that (Sekaran & Bougie, 2010). Researchers should be cleared whether their research dimension gathered information from associations, division, items, people, or workgroups. Sekaran and Bougie (2010) distinguished three gatherings as a unit of analysis: (i) individuals, dyads, and groups. For this study, the unit of analysis is the consumer of cryptocurrency in Malaysia.

### **3.5 Population and Sample**

This section states the population, sampling frame, sample size, and sampling technique for this study.

#### **3.5.1 The Population of the Study**

The researcher manages the absolute number of components for this study. A study population consists of all elements of the researcher's interest (Marczyk & DeMatteo, 2005; Sekaran & Bougie, 2010). In any case, it is not workable for a researcher to explore the whole population. Also, it is not doable because of time, cost, and asset constraints (Sekaran & Bougie, 2010). Consequently, a delegate test is taken for the



investigation. It is fundamental to precisely decide the objective populace and analysis (Marczyk & DeMatteo, 2005; Zikmund-Fisher *et al.*, 2010).

The population includes people, events, or things, and the researcher concludes from these data (Marczyk & DeMatteo, 2005). The target population for this study is cryptocurrency users in Malaysia. The sample has been taken from the user of cryptocurrency. That is why the researcher chooses individual consumers of cryptocurrency in Malaysia. Besides, the researcher includes English as the medium language for this study. The researcher selected the final population for the study as cryptocurrency users from Malaysia. The researcher figured out that 10,000 consumers of cryptocurrency in Malaysia as the population of this study (Sulaiman & Rahim, 2019).

### 3.5.2 Sample Size

Sampling is an alternative way of collecting data from the population (Zikmund-Fisher *et al.*, 2010), and the researcher draws conclusions and generalizes the population's results (Zikmund-Fisher *et al.*, 2010). The population's similarities and differences are reflected in a good sample pattern that facilitates the concluding population (Hair *et al.*, 2017). Therefore, selecting the population's appropriate sample is essential because it has the population's characteristics (Sari *et al.*, 2017). (Roscoe, 1975) found that samples of more than 30 and less than 500 were suitable for research. (Hair Jr, Matthews, Matthews, & Sarstedt, 2017) stated that the minimum sample size should be ten times from the maximum number for construction in the structural model. As

indicated by Table Hair et al. (2017) of the least sample size measurement, the sample for this investigation ought to be 113 if the scientist needed to get the least  $R^2$  esteem (0.10) at a 5 percent significant level. Besides, Krejcie and Morgan (1970) recommended taking a test size of 370 if the population size is 10,000. Moreover, (Westland, 2010) and (Mulder, de Bruin, & Schaepman, 2013) proposed to utilize G\*Power (3.1.9.4) programming to decide the base example estimate. Using the parameter at 5 percent significant level and medium impact measure (0.15). The G-power find at least 160 examples were essential for this examination.

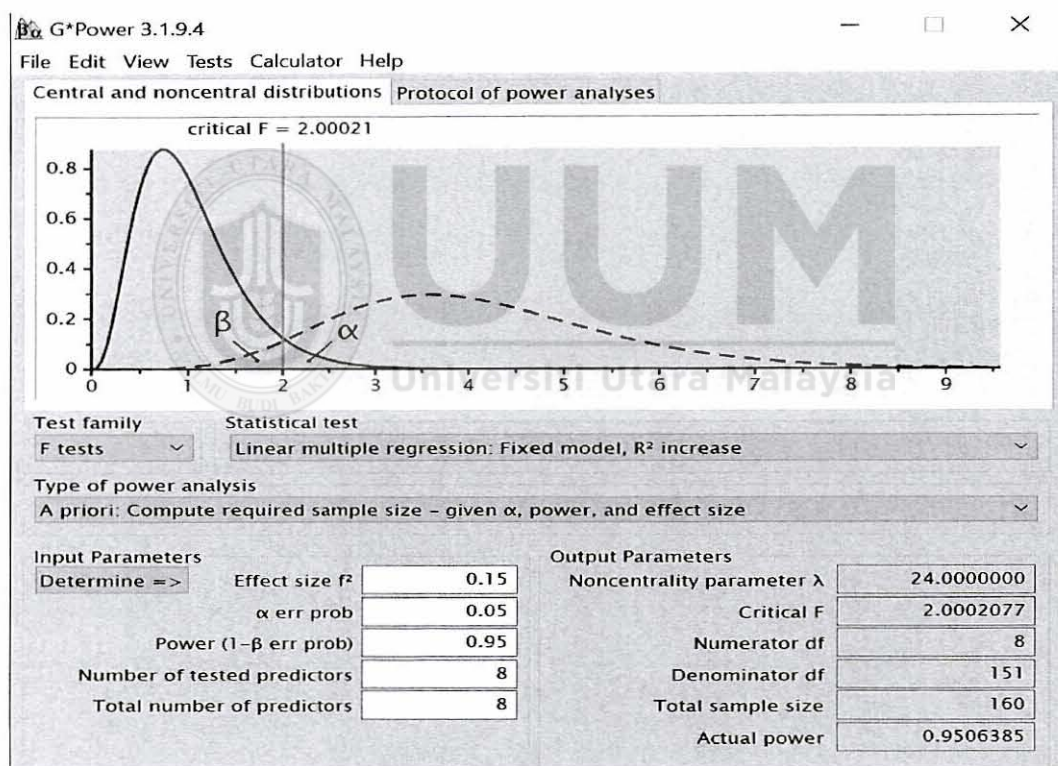


Figure 3.3

*Sample size determination using G\*power software*

Considering all these, the researcher decided 349 as the estimated respondents for this research.

### 3.5.3 Sampling Technique

Researchers are unable to gather knowledge from all cases to address study questions. Therefore, a sample was selected for accomplishing the research because researchers do not have sufficient time and money to examine the whole population. Therefore, the sampling method has been used to decrease the number of events.

A clear definition of the target population is the first step in the sampling process. For this purpose, the number of cryptocurrency consumer usage is associated with the population. A sample frame is a lean of the cases from which the sample is taken. The survey structure must be population representative. It is important to remember what a sample means and why researchers are likely to select a sample before analyzing the different sample process types. The sampling is a subset of the chosen sampling frame or the whole population.

Sampling can be used to classify or generalize a population in relation to existing hypotheses. This depends in part on the choice of the method of sampling. The technique of probability sampling is highly recommended for research sampling (Madow & Madow, 1944). In this analysis, systematic sampling is a known probability sample (Gundersen & Jensen, 1987).

Systematic sampling is a strategy for deliberately selecting specific settings, people, or events to provide essential and relevant information (Gundersen, Jensen, Kiêu, & Nielsen, 1999). Systematic sampling is a probability sampling process, in which

sample participants from a larger population are randomly selected but with a fixed interval (Overgaard, Søballe, & Gundersen, 2000). This interval is determined by separating population size by the ideal sample size, called the sampling interval (Aubry & Debouzie, 2000). Such approaches include maximum sampling variance, homogeneous sampling, case sampling, extreme (deviant) cases, the population's total sample, and expert sampling (Aubry & Debouzie, 2000; Madow & Madow, 1944; Overgaard *et al.*, 2000).

Our sample is a cryptocurrency consumer. The cryptocurrency consumer is unique, and they do not like to disclose their detail to others. In Malaysia, it was tough to reach them personally and for the COVID pandemic. So the researcher went to a few companies involved with cryptocurrency consumers. These companies (Appendix B) linked the researcher to the group of cryptocurrency Malaysia. The electronic group is called "Telegram." Telegram is an end to end encrypted communication system. It is only the group where all the cryptocurrency users are the member of a group. After getting into the group, the researcher did systematic sampling. The researcher has chosen a number blindly and select an interval for 370 samples. The interval was 27 ( $10000 \div 370$ ) (Sekaran & Bougie, 2016). In addition, a self-administered questionnaire (SAQ) was constructed for this research. Hence the researcher built an online questionnaire using google docs. Finally, the researcher sends the google docs links to the interval number accordingly.

Scales of study model constructs from the previous research model (Chomeya, 2010). A panel of five Likert scales ensures the validity and appropriateness of the content

formulation (Joshi, Kale, Chandel, & Pal, 2015). The researcher used Likert scales of 5, moving from the "Strongly Agree" to "strongly disagree," to evaluate elements of the building (Appendix 1). This study had ten constructs: social influence, facilitating condition, performance expectancy, cryptocurrency transaction transparency, customer satisfaction, trust, technology awareness, attitude, behavioral intention, and cryptocurrency adoption scale were adapted from Venkatesh *et al.* (2012).

### **3.6 Data Collection Method**

Data from two sources, primary and secondary sources, can be derived from the study of researchers' primary data. The information collected by the person represents the organizations, and this information collected by questionnaires. Contribution to knowledge considered when primary data collection is generated, it is necessary to contribute to new knowledge. On the other hand, secondary data is characterized as data obtained from available sources of previous scientists. The processing of secondary data is less expensive than primary.

The data collection methods used in implementing and consolidating data as the study design partnership include interviews, survey questionnaires, or observations. The key method of collection of data would, therefore, be online surveys. The questionnaires developed by docs.google.com provide the respondent with the right and user-friendly layout. In the present case, the most powerful and cost-effective data collection method and the answer rates are considered to be email or web-based questionnaires.

Table 3.2

*Mode of Data Collection*

<b>Mode of Data Collection</b>	<b>Advantage</b>	<b>Disadvantages</b>
Self-administrated questionnaire	Ability to rapport and motivate the respondent. Doubts can be clarified. High response rate ensured. Respondent anonymity is high. Respondent anonymity is high. Wide geographic can be reached.	Organizations may be reluctant to give company time for the survey with a group of employees assembled for the purpose. Expensive. The response rate is almost low. A 30 percent rate is quite acceptable.
Mail Questionnaire	Respondents can take more time to respondent can take time to respond at convenience.	Note able to clarify a question.
Web-based or online survey	Can be administered electronically, if desired. Short response time. Low variable costs. Convenience for respondents and researchers. Willingness to answer open-ended extend.	Follow-up procedure for non-responses are necessary Low response rate. Coverage error. Computer literacy s a must. The respondent must have access to the internet facility.

Source: Adoped from Grant et al., (2014); Sekaran, (2003)

Based on the comparison in table 3.2 that compares the advantages and disadvantages of data collection, applying the survey questionnaire for this study was an appropriate and suitable method for achieving the research objectives (Grant-Muller *et al.*, 2014).

This research has adopted a web-based survey as a data collection method to it as it is a method that is efficiently administered and widely used in today's research. Previous

researchers recommended such as assurance to respondents on the issue of anonymity and confidentiality of information given, ongoing communication with respondents to ensure clarity of survey being done, and gentle reminders and follow up for respondents to submit their responses on the specific time (Brewerton & Millward, 2001; Ghauri, Grønhaug, & Strange, 2020). Therefore, this research has been done on a web-based survey.

### **3.7 Development of Survey Instrument**

The development of a survey instrument is crucial to research to take the measures of the research constructs. The required instrument results in a higher accuracy of the results and represents the questionnaire's consistency (Sekaran, 2003). Survey questionnaires were used as the instrument of this study. The instrument's construct has derived from the conceptual framework that includes trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, behavioral intention, and cryptocurrency adoption. Besides, the questionnaire for this study is closed-ended questions.

#### **3.7.1 Questionnaire Development**

The survey questionnaire development is significant and is typically based on the previous literature and the last chapter's hypothesis (Kaplan and Saccuzzo (2009). The questionnaire design, assessment scale, and wording in the questionnaire require

comprehensive planning to determine the survey's reliability and validity. Consequently, ambiguous terminology, informal error issues usually relate to more than a problem, and hard-to-understand technical vocabulary was blocked.

Closer questions in this research are used to ensure interviewees appreciate the need to address the question. This is very important in research, as sample size answers are important for an excellent statistical study to be carried out in the result (Nicholas, McGuire, & Asghari, 2015; Schaefer *et al.*, 2015; Yildirim & Correia, 2015). English is used as the only language in the survey to ensure the survey terms and questionnaires. Indeed the respondents to this survey are management at the management level, with English in everyday conversations as the primary language.

The survey was divided into 11 main parts. In order to provide the necessary input from respondents contributing to the achievement of research goals, the data on the questions are disclosed in table 3.3.



Table 3.3

*Sections of the Questionnaire*

<b>Section</b>	<b>Title</b>	<b>Objectives</b>
1	Respondent Profile	To obtain detailed information regarding the respondent profile
2	Social Influence	To examine the social influence effect towards the cryptocurrency adoption
3	Facilitating Condition	Does facilitating condition is essential to adopt cryptocurrency
4	Performance Expectancy	Performance expectancy towards the cryptocurrency use
5	Cryptocurrency Transaction Transparency	To examine the transparency of cryptocurrency to adopt in the digital market
6	Customer Satisfaction	To examine customer satisfaction influence the adoption of cryptocurrency
7	Trust	To investigate the value of trust necessity for consumer cryptocurrency adoption
8	Technology Awareness	To examine technology awareness towards cryptocurrency adoption
9	Attitude	To investigate the influence of attitude in order to adopt cryptocurrency
10	Behavioral Intention	To evaluate the behavioral effect in the cryptocurrency adoption
11	Cryptocurrency Adoption	To examine the factors that needed to adapt cryptocurrency

### **3.8 Operationalization and Measurement of Variables**

The researcher is interested in discovering the influence of strategic factors of cryptocurrency adoption in Malaysia's digital market through behavioral intention mediation. The study conceptualized the variable from the previous studies. The variables were measured by adapt items from the past studies that fit the best of their scope guided the research objectives. Each construct's items were chosen based on the (i) validity, and reliability has resulted in previous studies. The items were tested in various contexts from different digital backgrounds. This study also confirms the validity and rightness of the questionnaires. Therefore, the questionnaires were distributed to consumers. The following sections describe the operational definition and the measurement scales of each variable.

#### **3.8.1 Trust and Dimensions**

Trust is elaborated in the study on the adoption by industrial engineers of Fintech in Taiwan (Chen, 2018). It was found that if the cryptocurrency company is providing a safe and secure transaction system, the company's trust develops, boosting the cheerful customer's attitude toward using the cryptocurrency service. These outcomes were reliable with other studies, which show that the availability of trust in new technology directly impacts the consumer's buying attitude. The brand & service trust enhances consumer behavioral intention, product security, and cryptocurrency adoption in the digital market (Alaeddin1 & Altounjy,2018).

Table 3.4

*Construct of trust*

<b>Construct</b>	<b>No of Items</b>	<b>Items</b>	<b>Author</b>
Trust	4	I have trust in the cryptocurrency Service provider  I believe the transaction process of cryptocurrency is correct  I choose cryptocurrency from a registered company  I prefer most secure median for cryptocurrency transaction	(Alaeddin & Altounjy, 2018a)

**3.8.2 Technology Awareness**

Technological awareness has been found as an essential attribute for sophisticated technology. Every technology has a positive and negative impact, and it can be imposed on colossal danger (Davis, 1985). Also, its impact has a significant effect on reality. Davis (1985) has adopted the rational action model principle and predicts human attitudes against the use of information technology.

Based on the technical nature of cryptocurrencies, an increase in technological knowledge is considered significant and optimistic. In the case of old generations that have shown less education in modern technology, the need for technical proficiency is further compelling (Lingmont & Alexiou, 2020b). Awareness of technology as an

expert refers to being aware of popular technology and readily accepted in the digital market (Doblas, 2019). This also requires the ability to identify and appreciate all other technology's value for its commercial success. Therefore, this study constructs these measurement items.

Table 3.5

*Construct of technology awareness*

Construct	No of Items	Items	Author
Technology Awareness	4	I follow the news about the cryptocurrency I follow the developments of the cryptocurrency in the crypto digital market I discuss with friends and people around me about issues of cryptocurrency usage I read about the problems of cryptocurrency for general usages	(Alaeddin & Altounjy, 2018a)

### 3.8.3 Attitude

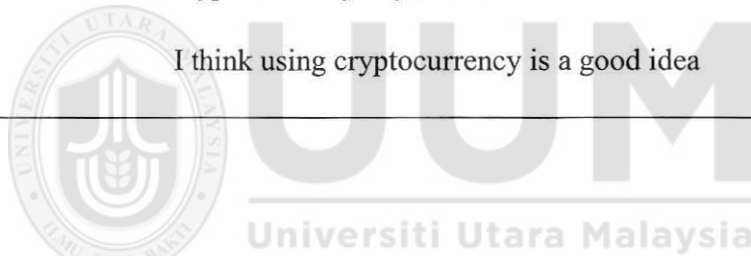
According to the Theory of Reasoned Action, the primary behavioral determinant is not the person's attitude but his intention to do that (Ajzen & Fishbein, 1975). Davis et al. (1989) describe the relationship between perception, norms, attitudes, and a person's intentions. It predicts what actions may result from that intention. Ajzen and Fishbein (1975) defined behavioral as positive or negative individual feelings about

conduct. The individual's belief in the consequences of their behavioral and how others perceive their attitude determines this position.

Table 3.6

*Construct of attitude for the cryptocurrency market Malaysia*

<b>Construct</b>	<b>No of Items</b>	<b>Items</b>	<b>Author</b>
Attitude	3	<p>I think it is very convenient to use cryptocurrency anytime</p> <p>I think it is very convenient to use cryptocurrency anywhere</p> <p>I think using cryptocurrency is a good idea</p>	(Alaeddin & Altounjy, 2018a)



### 3.8.4 Customer Satisfaction

The satisfaction of customers in technology is an established concept. More than three decades ago, it was considered a popular topic in marketing literature. Customer satisfaction was expected to be based on the difference between customers' previous perceptions and their cryptocurrency experience (Oliver, 1980, 1993). In the judgment that a product or service feature or the product or service itself offers (or provides) a pleasurable consumption-related fulfilment is the satisfaction. In the meantime, (Woodruff, 1997) defined customer satisfaction as a generally positive or negative

impression of a provider's net value of services. This is known as a product or service assessment (Hunt, 1977).

Furthermore, Yi (1990) explained customer satisfaction as a response to the consumer's evaluation between *specific product comparison* and *perceived product performance*. The different definitions provided by the various scholars define client satisfaction as the feeling of satisfaction or disappointment that a customer has experienced through an assessment and perceived performance. Therefore, customer satisfaction is essential for cryptocurrency in Malaysia. Hence, the researcher constructed the measurement items for customer satisfaction.

Table 3.7

*Construct of customer satisfaction*

Construct	No of Items	Items	Author
Customer satisfaction	3	I am satisfied with the usages of cryptocurrency  I am delighted with using cryptocurrency  My interaction with cryptocurrency is very satisfying	(Alaeddin & Altounjy, 2018a)

### 3.8.5 Cryptocurrency Transaction Transparency

Cryptocurrency transaction transparency is defined as the communicating process of cryptocurrency information to the individual stakeholder. As a result, our study claims that the transparency of cryptocurrency is a significant predictor of the intention to use a cryptocurrency. In addition, the transaction transparency of cryptocurrency can improve the collaboration of the members of the crypto ecosystem (Aste, Tasca, & Di Matteo, 2017).

Table 3.8

*Construct of cryptocurrency transaction transparency*

<b>Construct</b>	<b>No of Items</b>	<b>Items</b>	<b>Author</b>
Cryptocurrency Transaction Transparency	4	<p>Cryptocurrency supply chain processes are transparent to me</p> <p>Cryptocurrency provides me in-depth access to crypto transaction</p> <p>Applications of cryptocurrency are well described to me</p> <p>Cryptocurrency usability is clear to me</p>	(Nilashi <i>et al.</i> , 2016)

### 3.8.6 Facilitating Condition

Facilitating condition (FC) is defined as the person who thinks that there is an organizational and technical infrastructure to support the use of digital cryptocurrency (Venkatesh et al., 2003). In our study, employees refer to understanding the resources that support the use of cryptocurrency. According to the previous literature, FC influences the intention to use the cryptocurrency and service of technology (Novendra & Gunawan, 2017; Sabi, Uzoka, Langmia, & Njeh, 2016; Venkatesh *et al.*, 2003; Venkatesh *et al.*, 2012). In digital currency, transactions are supported by blockchain technologies (Novendra & Gunawan, 2017). Therefore, this study constructs the measurement items according to the varying needs from the previous research.

Table 3.9

*Construct of facilitating condition*

Construct	No. of Items	Items	Author
Facilitating Condition	4	I have the necessary resources to use cryptocurrency	(Novendra & Gunawan, 2017; Venkatesh <i>et al.</i> , 2012)
		I know necessary to use cryptocurrency	
		Cryptocurrency is compatible with other digital currency I use	
		Crypto digital market is available to assist consumer for cryptocurrency-related difficulties	



### 3.8.7 Performance Expectancy

The Performance Expectancy (PE) is defined as the individual who believes that using the system improves workability (Venkatesh et al., 2003, p.447). Our study context shows how much value employees consider using cryptocurrency technology to enhance digital transactions in the digital market. Cryptocurrency, therefore, has high expectations for improving the crypto market. Moreover, it improves productivity and product quality evolving key processes (Kshetri, 2018). Cryptocurrency can also use its decentralized state (central transactions confirmation intermediary) to minimize the complexity and uncertainty (Kim & Laskowski, 2018). Hence, the researcher constructs the measurement item for performance expectancy.

Table 3.10

*Construct of performance expectance*

Construct	No of Items	Items	Author
Performance expectance	4	<p>I would find cryptocurrency is useful in digital transaction</p> <p>Cryptocurrency enables me to do the easy transaction</p> <p>Using cryptocurrency increases my productivity</p> <p>If I use cryptocurrency, I will increase my chances of getting a raise</p>	(Venkatesh et al., 2003)

### 3.8.8 Social Influence

Social Influence (SI) is defined as "the extent to which the individual perceives that other important people believe using the new system" (Venkatesh et al., 2003). For this study's purposes, social influence refers to the extent to which an employee understands the importance of thinking to others about using cryptocurrency. Previous studies have shown that SI is influenced at the individual level by colleagues, friends, and family members' opinions and actions (Irani *et al.*, 2009; Venkatesh & Brown, 2001). Recent studies have shown how important SI is to utilize cryptocurrency. For example, SI plays a key role in adopting cryptocurrency in the digital market (Martins, Oliveira, & Popovič, 2014; Zhang, Wang, Li, & Shen, 2018). SI and cryptocurrency relationships significantly impact accepting cryptocurrency over the network (Ahmad & Khalid, 2017). (Table 3.3).

Table 3.11

*Construct of social influence*

<b>Construct</b>	<b>No. of Items</b>	<b>Items</b>	<b>Author</b>
<b>Social Influence</b>	4	People who influence my behavioral think that I should use cryptocurrency  People who are important to me think that I should use cryptocurrency  The crypto digital market is helpful in the use of cryptocurrency	(Venkatesh <i>et al.</i> , 2003)

In general, the crypto communities have supported to use of cryptocurrency

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### 3.8.9 Behavioral Intention

Behavioral Intention (BI) is defined as a person formulating prearranged plans to perform specific future behavioral or not (Warshaw and Davis, 1985). In this study, the intention of behavioral refers to the employee's ability to behave against the use of cryptocurrency. BI directly impacts technologies' use (Venkatesh *et al.*, 2012; Weerakkody *et al.*, 2013). Therefore, our study claims that BI predicts a future assessment of the probability of the employee's behaviour using cryptocurrency. According to the earlier UTAUT studies, behavioral intentions' development influences the construction of behavioral expectations (Maruping *et al.*, 2017; Venkatesh & Bala, 2008). In this regard, Venkatesh et al. (2008) claim that "motivation comes from an internal evaluation of the individual's behaviour." Therefore, individual behavioral intentions are linked to internal evaluation. Finally, the researcher developed the measurement item for behavioral intention.

Table 3.12

*Construct of behavioral intention*

<b>Construct</b>	<b>No. of Items</b>	<b>Items</b>	<b>Author</b>
Behavioral Intention	3	I intend to use cryptocurrency periodically  I want to use the services where can pay by cryptocurrency  I want to use cryptocurrency to pay for my purchases	(Queiroz & Wamba, 2018)

**3.8.10 Cryptocurrency Adoption**

Adopting technology is a term relating to social acceptance, adoption, and use of the new technology (Venkatesh *et al.*, 2012). Cryptocurrency is a new technology that needs adaptation (Alzahrani & Daim, 2019). It has been mostly and repeatedly reported that cryptocurrency adoption (CA) plays an essential role in configuring real use and introducing new systems (Agustina, 2019). Consequently, the present study assumes the actual acceptance of cryptocurrency in the digital market on the basis of consumers' willingness to introduce such a system (Chow *et al.*). The researcher also adapted the scale to measure cryptocurrency adoption in Malaysia's digital market (Alalwan *et al.*, 2017; Morkunas, Paschen, & Boon, 2019).

Table 3.13

*Construct of cryptocurrency adoption*

<b>Construct</b>	<b>No of Items</b>	<b>Items</b>	<b>Author</b>
Cryptocurrency Adoption	4	<p>I believe I can adapt the cryptocurrency</p> <p>I can accept cryptocurrency for the efficient monetary transaction</p> <p>I can adopt a cryptocurrency to survive in the crypto digital world</p> <p>I believe I can accept cryptocurrency to getting better price from digital market</p>	(Alalwan <i>et al.</i> , 2017; Morkunas <i>et al.</i> , 2019)

**3.9 Questionnaire Design**

A survey is one technique for gathering essential quantitative information from respondents in descriptive research (Davies & Hughes, 2014; Martins *et al.*, 2014). Hence, the survey is an organized strategy for information accumulation that comprises a progression of inquiries. The study ensures information, recording, and preparation of respondents' opinions (Davies & Hughes, 2014; Martins *et al.*, 2014). The accompanying contemplation guided the structuring of the questionnaire:

- i. The constructs were dependent on the literature; in this manner, extensive literature was reviewed.

- ii. The remarks and recommendations were combined into the survey, which the researcher got from the pre-test and pilot test.

The questionnaire was to measure the construct of the theoretical framework. Questions related to respondents' demographic profiles were placed in the first section. Then, question-related to the dependent variable and independent variables were incorporated in the subsequent, respectively. A substantial number of earlier studies used a Likert scale for measuring a variable since the scale produced high validity. Further, the Likert scale was considered as a suitable measure in regression or structural equation modelling. In addition, the 5-point Likert scale produced better reliability of a measure of the online-based survey (Wyatt & Meyers, 1987). Though, the 5-point Likert scale more user-friendly to use a cellphone, tablet, and electronic gadget. Therefore, the present research used a 5-point Likert scale (Cummins & Gullone, 2000). Respondents evaluated all the items, e.g., from 1 strongly agree to 5 strongly disagree (Cummins & Gullone, 2000).

### **3.9.1 Rating Scale**

Questionnaires are used to show how much they agree and disagree with the questionnaire's definition by the Likert-type scale in which the scale is used (Finstad, 2010). Usually, the Likert scale ranges from 4 to 7 scales, and the respondents' response was clear and easy (Maeda, 2015). The Likert scale between 5 and 7 points is more decent and reasonable than the smaller or longer Likert scale (Cummins & Gullone, 2000).

This study's 5-point Likert scale is used to obtain and measure the questionnaire's answers (Lubke & Muthén, 2004). Moreover, the Likert 5-point scale improved this analysis in order to assess input strength as the size ranges from 1 strongly agree to 5 strongly disagree (Dawes, 2008). For more data analysis studies, the Likert scale may apply the findings through various statistical methods (Bangor, Kortum, & Miller, 2009). The Likert 5-point scale is used as an odd number, in which the respondents can choose a neutral view of the dimensions examined (Harpe, 2015). The strange number scale avoided any unfair interpretation pressure on respondents as well (Adelson & McCoach, 2010).

An acceptable rating scale is adequate to improve the (Harzing *et al.*, 2009) assessment's validity and eradicate the respondents' bias (Linacre, 2002). However, only a few scientists have argued that a suitable scale is based on the researchers' preference, and there is no reason for the fact that it is ideal for one research issue and not great for another.

### **3.10 Pre-test**

The researcher must conduct a pre-test to avoid complications and misinterpretation of respondents concerning the questionnaire (Cummins & Gullone, 2000). The pre-test conduct is essential because the pre-test is completed to inspect all aspects of a survey, such as the question's content, wording, formatting, sequence, and instruction of questions (Lavo, Hartanto, & Larrabee, 2002; Wyatt & Meyers, 1987).

Subsequently, the researcher has done a pre-test through academicians, and professionals reviewed this study's questionnaire (Rubio *et al.*, 2003). For academicians, the researcher made an appointment to meet Prof Madya Dr. Mohd Khairudin (School of Computing), Senior lecturer Muhammad Ridhuan (College of Business), and Associate prof Dr. Mazni Omar (School of Computing). The meeting was based on the appropriateness, question structure, grammar, scope oriented, and easiness of the questionnaire. The questionnaire was re-checked by the industry expert Effendy Zulkifly, CEO, Blockchain/ IoT Academy Asia at MAGIC Malaysia, known as silicon valley Malaysia. Therefore, the researcher acknowledges all the expert comments and constructs a reasonable and understandable question for the consumer (Rubio *et al.*, 2003).

### 3.11 Pilot Study



A pilot study would make it possible for researchers to assess the validity and reliability of questionnaire designs and identify an acceptable item to ensure that the questions generate an accurate result. On the other hand, Creswell (2003) states that to ensure that the pilot research instruments' reliability goes forward, it means that questionnaires can be enhanced before the final questionnaires are distributed. Therefore a pilot study was carried out on the questionnaire in order to determine the reliability and validity of the test.

The pilot test is essential to improve the questionnaire (Neuman, 2014). This is undertaken to detect the flaws of the questionnaire (Bullinger *et al.*, 2002). For a pilot



test (Azizan & Suki, 2014), a sample size of 50 is enough (Browne, 1995). In contrast, Lackey and Wingate (1998) adequate sample size for the pilot study would be 10 percent of the final survey's total sample. Some scholars suggest a pilot research sample of not more than 100 or 10-30 respondents (Iacobucci & Duhachek, 2003) or need to reach 20 (Julious, 2005). The researcher, therefore, conducted a pilot test on 50 respondents in January 2020.

Cronbach's Alpha (CH) has been used in this study is measuring the validity of each construct. CH are referring to the measurement of internal consistency of reliability that does not assume equal indicator for each loading. For each indicator's validity, CH value that above 0.6 is required, and when  $CH > 0.6$ , the convergent validity is considered adequate.

### 3.11.1 Validity and Reliability

The instrument's validity is essential since it measures the questionnaire to be used in the study where the calculation is parallel to the goal that the researcher aims to follow (Sekaran & Bougie, 2010). According to Zikmund *et al.* (1991), the questionnaire's validity includes assessing the questionnaire's quality. Another study also defends that all the things included in the survey should be given feedback from the expert's perspective (Silverman, 1992). In this research, the questionnaire adapted from the previous analysis; the content validity test is, therefore, mandatory to ensure the instrument's accuracy and the calculation that used (Hopko, Mahadevan, Bare, & Hunt, 2003).

Many academics and industrial persons have checked the validity of the instrument used for this study to determine and improve the instruments' validity, credibility, and conciseness (Abowitz & Toole, 2010). Since this study has been extensively adapted to the related questions from previous research, content validity is essential in ensuring that the questionnaire is sufficient for the research objective (Mohajan, 2017). In addition, the validity of the content for each construction can only be carried out by experts in the respective field since no statistical analysis can be used (Mohamad, Sulaiman, Sern, & Salleh, 2015).

Cronbach's Alpha (CH) has been used in this study in measuring the validity of each construct. Cronbach's Alpha (CH) ensures the internal consistency of scales or reliability of coefficient (Iacobucci & Duhachek, 2003). For each indicator's validity, CH value above 0.6 is required. When  $CH > 0.6$ , the convergent validity is considered adequate. Zikmund (2010) also suggested that Alpha value (i) equal to or greater than 0.8 is highly reliable, greater than or equal to 0.7 is reasonable, and (Koo *et al.*) greater than or equal to 0.6 shows low reliability. Table 3.11 incorporated the results of the reliability of the constructs.

### **3.11.2 Results of Pilot Study**

The pilot study result is shown in table 3.14, where the value of Cronbach's Alpha (CH) ranges from 0.859 to 0.913, where it achieved the threshold value  $CH > 0.6$  and indicates high reliability in each dimension.

Table 3.14

*Reliability of the Variables*

No	Variables/ Constructs	Cronbach's Alpha	No of Item
1	Social Influence	0.854	4
2	Facilitating Condition	0.833	4
3	Performance Expectancy	0.850	4
4	Cryptocurrency Transaction Transparency	0.895	4
5	Customer Satisfaction	0.873	3
6	Trust	0.822	4
7	Technology Awareness	0.887	4
8	Attitude	0.873	3
9	Behavioral Intention	0.869	3
10	Cryptocurrency Adoption	0.883	4

**3.12 Data Analysis Method**

The analysis of data is essential in the study. Structural equations simulation is a valuable advanced statistical method to analyze data (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014b). The SEM is a study that needs to estimate the unnoticed latent variables diffusely (Akter, Fosso Wamba, & Dewan, 2017; Becker, Klein, & Wetzels, 2012; Goodhue, Lewis, & Thompson, 2012). In any analysis, it is necessary to choose an appropriate SEM analytical tool (Hair, Ringle, & Sarstedt, 2011). In the research measurement model, SEM needs to be calculated, and the reliability and validity of the model have been demonstrated in the study by reflective model and build that is provided as a collection of indicators in individual latencies (Hair Jr *et al.*, 2017).

PLS-SEM has been used expediently as a research tool since the PLS-SEM consists of two main components: the measurement and structural models. It is a least-square of linear squares regression (Hair Jr *et al.*, 2014b). This was one of the key reasons why researchers selected PLS-SEM as their analytical tool (Hulland, 1999). Also, PLS-SEM can define a complicated model without considering the sample size, and it always converges (Jin & Wang, 2019). Standard distribution in PLS-SEM won't be a concern because the predictor is often called non-parametric. In addition, reflective and formative measures can also be analyzed in the PLS-SEM (Hair Jr *et al.*, 2017).

PLS-SEM is an appropriate tool for the small sample size and non-normally distributed data (Sarstedt *et al.*, 2019). The aims of this research are rather than testing or verifying a hypothesis to predict the target construction. This analysis takes a two-stage approach (Sarstedt *et al.*, 2020). The analysis of the measurement model and the structural model involves independent testing of the measurement models at the outset of the analysis process (Tehseen, Sajilan, Gadar, & Ramayah, 2017). The estimate would then give the model validity (Xie, Sun, & Cheung, 2015). This method is usually suitable for evaluating the model that has not been well defined and where it contains higher-order structures (Fornell & Larcker, 1981b; Marsh *et al.*, 2009).

### **3.12.1 Model Evaluation**

The researcher used PLS-SEM for inferential analysis. According to Akter *et al.* (2017), the thumb rule was that PLS-SEM was suitable for this research model as PLS-SEM was used to establish theory in the experimental science (Afthanorhan, Awang,

& Mamat, 2016). In order to understand the process to clarify the PLS findings mentioned in Chapter Four of this research, PLS statistics are described here.

#### **3.12.1.1 Loadings-Reflective Indicants**

Loading in the relationship refers to elements or manifests representing the structure, and loading of loads of 0.5 or higher is sufficient (Chin, 2010b). According to Fornell and Larcker (1981a)), the loading square is equal to or common to the build variance, and the error variance calculation is less than fifty percent.

Moreover, some researchers say that the loading value is 0.70 is an acceptable threshold value (Johnston *et al.*, 2004; Prokosch, Yeo, & Miller, 2005). Furthermore, Barclay and Smith Jr (1995) clarify the appropriateness of loads between 0.50 and 0.60 for research considered a groundbreaking study. Therefore the 0.50 threshold value indicated by this analysis is based on the discussion above Falk and Miller (1992).

#### **3.12.1.2 Internal Consistency-Composite or Maximized Reliability**

Internal consistency, which generally is calculated by Cronbach Alpha, should support reflective constructions (Bonett & Wright, 2015; Brown, 2002; Cronbach, 1951). The Cronbach Alpha threshold is 0.70, which can be interpreted by measurements above as adopted intervention (Ercan *et al.*, 2007). The higher the reliability shows, the lower the error variance (Heo, Kim, & Faith, 2015). A composite reliability calculation was

also employed for this analysis (Ercan *et al.*, 2007; Merino-Soto, 2016). In addition, some researchers have shown that composite reliability is equivalent to construct validity (Cronbach, 1951; Fornell & Larcker, 1981b).

#### **3.12.1.3 Discriminant Validity**

Discriminant validity is shown by proof that constructions that logically should not be positively connected are not, in fact, strongly correlated (McCann, Scheele, Ward, & Roy-Byrne, 2000; McDonagh *et al.*, 2020; Soto & John, 2009). Discriminant validity refers to the degree to which the carriage predictor varies from other variables where the similarity between the individual structures must be below the reliability estimates (Ab Hamid, Sami, & Sidek, 2017; Howard & Van Zandt, 2020).

#### **3.12.1.4 Cross-loading in PLS Analysis**

In PLS, the importance of cross-loading for discriminating validity is tested. The low associations between unconnected buildings and cross-loading in PLS analyses would be the same as the SPSS analysis done for the cross charging factor analysis. Discrimination validity display in the thesis analysis. The study of the planned construction must also be higher than other buildings involved. If there has been a variable with many essential loads (depending on the sample size), it is called cross-loading. It makes labelling all the different factors that share the same variable challenging to differentiate between individual factors.

### **3.12.1.5 Average Variance Extracted Statistic**

Average variance extracted (AVE) statistics presented to determine that convergent validity where the threshold value must be more than 0.5 to consider a suitable value (Dung & Anh, 2020). The average variance extracted (AVE) represents the amount of variance captured by one building compared variance number attributable to error calculation in statistics (Amoroso & Mukahi, 2013).

### **3.12.1.6 Assessing Parameter and Loading Significance**

Bootstrapping, also defined as a jackknife, is used to calculate the parameter where other methods are re-sampling techniques derived from t-statistics. On the other side, bootstrapping in the resampling technique is a more prevalent and known instrument. Therefore in this analysis, bootstrapping was used to determine the value of the parameters involved.

The bootstrapping samples scale has many researchers' opinions and justifications, where bootstrap samples are acceptable size. However, the bootstrapping sample is 5000 to be applied as proposed by Hair et al. (2014). This approach has been used in this analysis. Therefore, the assessing of t-value or z-value for a two-tail test are  $\pm 1.65(\alpha=0.10)$ ,  $\pm 1.96(\alpha=0.05)$ , or  $\pm 2.58(\alpha=0.01)$ , and this value is used as guidance for this study.

### 3.12.2 Partial Least Square Technique (PLS)

The researchers have chosen PLS-SEM-based variance instead of AMOS-based covariance because PLS-SEM is a second-generation structural equation modeling technique (Afthanorhan *et al.*, 2016) and a flexible prevision and construction tool (Akter *et al.*, 2017). PLS-SEM is intended to reduce the residual variance of the criterion variable and use the exogenous construct to predict the endogenous variable (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014a). SmartPLS version 3.2.7 software was used for PLS-SEM route analysis in this study. For this analysis, PLS was chosen to analyze data for a few other purposes. Firstly, PLS provides a better outcome than a regression analysis to assess mediation (Hayes, 2009; MacKinnon, Fairchild, & Fritz, 2007; Muller, Judd, & Yzerbyt, 2005). Second, PLS-SEM considers measuring errors and produces more accurate measurement and mediation effect results (Sarstedt *et al.*, 2020). Third, data normality for social sciences research is a major issue (Awang, Afthanorhan, & Asri, 2015) because PLS can not handle non-normal data (Kock, 2016). Fourthly, PLS effects are comparatively more robust than other approaches (Jin & Wang, 2019). Fifthly, the PLS can deal with complex models that deal with several structural relations (Imai, Keele, & Tingley, 2010). Lastly, its capabilities in complex and multivariate models have had a direct, indirect, and interactive effect. While PLS can analyze a small sample (Goodhue *et al.*, 2012), the prediction is improved based on a large sample and more accurate results (Xie *et al.*, 2015).



### 3.12.2.1 Coefficient of Determination ( $R^2$ )

Coefficient of determination or  $R^2$  is used to assess the structural model. The predictive accuracy coefficient is calculated as the squared correlation between specific endogenous constructs with actual and predictive values (Menard, 2000; Piepho, 2018; Sari *et al.*, 2017). The  $R^2$  value range from zero to one, where the higher value indicates the higher the level of predictive accuracy. Initially, it has started that the  $R^2$  value of 0.25 as large, 0.09 as a medium, and 0.01 as small (Piepho, 2018; Piepho, 2019; Sari *et al.*, 2017; Tang & Mayersohn, 2007). Then it was defined as 0.70 as strong, 0.30 as moderate, and 0.25 as weak. Besides that, Hair *et al.* (2004) are used in this study based on the PLS methods.

### 3.12.2.2 Effect Size ( $F^2$ )

The  $f^2$  value is used to predict the  $R^2$  value changes when a particular structure is removed or introduced into the model (Selya *et al.*, 2012). The value is specified as 0.35 as larger, 0.15 as a medium, and 0.02 as small (Burton & Lean, 1995). The size of the effect would indicate the influence of the removed construct having a finite impact on the endogenous structure (Jodoïn & Gierl, 2001).

### 3.12.2.3 Predictive Relevance ( $Q^2$ )

The predictive relevance, or referred to as  $Q^2$ , is cast-off to estimate the analytical capacity after omitting observations where the model's predictive quality can be

assessed (Hair, Ringle, & Sarstedt, 2013). The value of  $Q^2$  of more than 0 is suitable to admit that the model has adequate predictive relevance for the endogenous construct (Muhammad *et al.*, 2016). However, the value of  $Q^2$  that is less than 0 shows that the model lacks predictive relevance. On the other hand,  $Q^2$  value ranges between 0.40 and 0.60 considered satisfactory, while the value ranges from 0.70 to 0.80 is excellent (Subiyakto, Ahlan, Kartiwi, & Putra, 2016).

### **3.13 Summary**

As discussed in every chapter, the reason for why the particular method has been chosen for the study. The methodology involves the research strategy, population selection, and sampling, how data collection methods have been selected, how the tool is created, and what statistical approach is used for data analysis. This study was prepared to collect data on the Malaysian digital market, where the sample was taken from the Malaysian cryptocurrency users. This research analysis unit is a coordinating body; a pre-test and a pilot study have been performed to ensure that the final questionnaire is correctly completed and that time and resources are not lost on unsuitable matters. The survey was conducted in-depth on a Web-based system, and the time limit for collecting the necessary answers was set at three months. Data collected by interviewees is analyzed by SPSS for the demographic and interviewer profiles, while SmartPLS version 3.0 analyses each item's structure.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 Introduction**

In Chapter four, the data analysis viewpoints has been established, and different headings defined for this research ensure the findings' consistency. In order to compile the fathered information, the statistical analysis was tested using data collected by the respondent. Detailed analysis of where response rates were developed and elaborated starts with data analyses collected. This study focused on the demographic profile and data analyses. It provided data screening for further study, including non-response, missing values, common method variance, outliers, and basic statistical assumptions such as normality test homoscedasticity. Further investigation was made to the measuring model, including coherence or reliability, the structure's validity, convergent validity, and discriminant validity. Other factors that are also examined are the impact of meaning, predictive perception, fitness, mediating outcome, and analytical capacity to ensure all aspects of the system are investigated. A description of each hypothesis and findings listed at the end of the chapter summarises and explainend in the study results clearly.

#### **4.2 Response Rate**

In order to obtain the desired response, a total of 597 (Table 4.1) cryptocurrency consumers were contacted. A total of 236 respondents did not participate in the survey and did not respond as they were not interested in participating. The 361

questionnaires were received, excluded 12 questionnaires because of the outlier. Therefore, the total effective response rate was 58.5%. This number was quite enough, as Sekaran (2003) argued that a 30% response rate was acceptable for surveys.

Similarly, Hair Jr *et al.* (2014a) suggested that the minimum sample size for structural equation modeling would be ten times the maximum number of arrows to a construct. As this research used PLS software for sample size data analysis, more than 100 was enough to get a result (Chin, 2001). Moreover, according to G\*Power, a sample size of 160 is sufficient for this study's research model. From the above consideration, 349 sample's valid answer was significant for review (Appendix C).

Table 4.1

*Response Rate of the Consumers of cryptocurrency*

No	Constructs	Frequency	Percentage
1	Total number of respondent contacted, and a questionnaire distributed	597	100%
2	Do not return the questionnaire and not interested in participating	236	39.5%
3	Exclude due to outlier	12	2%
5	Total retain for analysis	349	58.5%

### 4.3 Respondents Demographic Profile

This study's demographic profile includes sex, age, education, and marital status, where the survey was conducted. Table 4.2 presents the demographic profile summary.

Table 4.2

*Demographic Characteristics of the respondents (n=349)*

		Frequency	Percent
Gender	Male	216	61.5
	Female	133	38.5
Age	18-25	89	25.5
	26-35	98	28.0
	36-45	98	28.0
	46 & Above	64	18.6
Academic Degree	SPM	37	10.8
	STPM	23	6.9
	Diploma	52	15.0
	Bachelor	92	26.0
	Masters	79	22.4
	PhD	37	10.8
	Others study	29	8.0
Married	Married	191	54.6
	Unmarried	158	45.4
Digital finance	FinTech	194	55.4
	Non-FinTech	155	44.6

Of the 349 respondents, females (38.5%) were lower than male participants (61.5%). Most of these participants (56.0 percent) were aged 26-35 and 36-45 years. Other age categories like 18-25 and 45 & above were 25.5 percent and 18.6 percent, respectively. The respondents' marital status, most were found married (54.6 percent) and unmarried 45.4 percent. Respondents' educational level indicates that participants with SPM, STPM, diploma, bachelor's degree, master's degree, PhD degree, and other

degrees were 10.8, 6.9, 15, 26, 0.7, 22.4, 10.8, and 8 percent, respectively. Lastly, this study identified the knowledge about digital finance of the respondents. The result shows the respondents are 194 FinTech user and 155 Non-FinTech users with 55.4 percent and 44.6 percent (Appendix D).

#### **4.4 Data Screening and Preliminary Analysis**

The missing values, the normality test, the outliers assessment, and the multicollinearity test have been evaluated with data screening. The test is conducted to guarantee reliability. Usability and reliability of the data obtained from the delivered questionnaire. Data screening is carried out in SPSS through the different types of analyses where the calculation and structure model are evaluated in PLS. In order to prevent problems of reliability, the data obtained from the survey should be considered, such as linearity, normality, and assumptions of homoscedasticity. The test that the data has gone through consists of the non-response bias test missing data imputation, outliers detection, and the common bias test. Respondents who were unable to comprehend the questionnaire were given the respondents' reluctance to answer the questionnaire and responds facing hardship in responding to the questionnaire due to unavoidable situation.

##### **4.4.1 Missing Value**

The missing value is an essential element, and it is the interpretation of the data as this can impact the generalization of the study findings (Acock, 2005; Beale & Little, 1975;

Donders, Van Der Heijden, Stijnen, & Moons, 2006; Enders, 2011). The missing values are checked in two measures (Honaker & King, 2010). First, the missing value should be measured. Second, missing values' potential trends should be identified when missing or when the object is linked (Kaiser, 2014).

The missing value of less than 1% is usual and appropriate, while less than 5% is manageable, more than 15% is uncommon and needs to be solved (Donders *et al.*, 2006; Enders, 2011; Honaker & King, 2010; Ilin & Raiko, 2010; Kaiser, 2014). On the other hand, the researchers' judgment is vital in treating the missing data problem, where missing data of 10% can usually be overlooked for individual cases or findings, except missing data, which is not random (Kaiser, 2014; Kwak & Kim, 2017; Little, 1988; Royston, 2005). All individual systems are still preserved and not removed at this point (Saar-Tsechansky & Provost, 2007). The data missing did not affect the interpretation of the results and should be included for further statistical analysis (Tomasi & Bro, 2005).

A complete case approach namely described deletion, are the list-wised deletion, pairwise deletion, and imputation methods (Royston, 2005; Saar-Tsechansky & Provost, 2007; Tomasi & Bro, 2005). List-wise deletion refers to eliminating each case with missing values in all the analyses. The pair-wise deletion method only excludes the issue with missing values in the specific analysis (Kaiser, 2014; Kwak & Kim, 2017; Saar-Tsechansky & Provost, 2007; Tomasi & Bro, 2005). Next, the imputation techniques the most common technique for a study with limited case substitution, hot and cold deck imputation, mean substitution, expectation-maximization, and multiple

imputations (Honaker & King, 2010; Ilin & Raiko, 2010; Kaiser, 2014; Kwak & Kim, 2017; Saar-Tsechansky & Provost, 2007; Tomasi & Bro, 2005).

Table 4.3 shows a description of the missing value of the individual construct. It demonstrates that the questionnaire has no missing value as it has been designed to answer all of the questions by respondents in order to move to the following segment (Appendix E).

Table 4.3

*Missing Value on Individual Constructs*

<b>Individual Constructs</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Missing Value Frequency</b>	<b>Missing Value Percent</b>
SI1	349	3.6991	1.11083	0	.0
SI2	349	3.7278	1.04653	0	.0
SI3	349	3.7908	1.02516	0	.0
SI4	349	3.8223	.99277	0	.0
FC1	349	3.8223	.93922	0	.0
FC2	349	3.8281	.79453	0	.0
FC3	349	3.7564	.94123	0	.0
FC4	349	4.0458	1.08446	0	.0
PE1	349	3.6762	.93835	0	.0
PE2	349	3.7822	1.14652	0	.0
PE3	349	3.7393	1.04946	0	.0
PE4	349	3.6963	1.05836	0	.0
CT1	349	3.9083	1.03261	0	.0
CT2	349	3.6533	.97534	0	.0
CT3	349	3.7536	.99540	0	.0
CT4	349	3.7736	1.00733	0	.0
CS1	349	3.8825	.97701	0	.0
CS2	349	3.8052	.86229	0	.0
CS3	349	3.8797	.95735	0	.0
BST1	349	3.9570	.94740	0	.0



BST2	349	3.8481	.80400	0	.0
BST3	349	3.8567	.80379	0	.0
BST4	349	3.8166	.95029	0	.0
TA1	349	3.8223	.93616	0	.0
TA2	349	3.8653	.97183	0	.0
TA3	349	3.7278	.91152	0	.0
TA4	349	3.8453	1.01376	0	.0
BA1	349	3.7851	1.19010	0	.0
BA2	349	3.7593	1.14694	0	.0
BA3	349	3.7479	1.17909	0	.0
BI1	349	4.1433	.85909	0	.0
BI2	349	4.0716	.79004	0	.0
BI3	349	3.9742	.85226	0	.0
CA1	349	4.0888	.94115	0	.0
CA2	349	3.9828	.89040	0	.0
CA3	349	3.9656	.95831	0	.0
CA4	349	3.9943	.90970	0	.0

#### 4.4.2 Outliers



Outliers apply to inconsistent findings with the rest of the dataset, where estimates and incorrect results in the regressive analysis could be misinterpreted. When the case outside the value entered in the SPSS dataset was found, all of the study variables are tabulated with maximum and minimum statistics in a frequency table. No value outside the Likert scale range is seen to detect univariable outliers using a standardized value of  $\pm 3.29$  ( $p < 0.001$ ) (Tabachnick, Fidell, & Ullman, 2007; Tsutani *et al.*, 2011). Finding the isolation of the observation from the data center typically utilizes Mahalanobis's distance to identify the outskirts (Hamill *et al.*, 2016). The modification of the information creation for Akaike and the full size and position estimators are other tools for evaluating outliers (Taki *et al.*, 2013).

It is considered necessary to construct a caser numbering is deemed. Since the chi-square statistical table has been used to detect the optimal empirical values, the caser number is used as the dependent variable, all other items excluded demographic items as the independent variables of the linear regression (Bryant & Satorra, 2012; McHugh, 2013; Sharpe, 2015). The study used the distance from the Mahalanobis values that are below 0.001 are identified as outliers (De Maesschalck, Jouan-Rimbaud, & Massart, 2000). In this analysis, 12 values were listed as outliers, which have been excluded (Appendix F). Finally, for further review, 349 cases have been finalized.

#### **4.4.3 Common Method Bias Test**

The common method bias test is related to the common method variance (CMV) where CMV is defined as the “Variance attributable not to the structures but the process of measurements.” CMV can also refer to systematic measurement errors where Harman’s single factor is used to test the CMV (Podsakoff, 2003). In the early stages of the study, EFA was used to define the loading of all products loaded into a single factor to collect data on interrelated variables (Reio Jr, 2010). The single and error variability is used for a theoretical solution while the empirical description of the data set is collected using Personal Component Analysis (PCA). PCA technology has, therefore, been used, and the result is shown in table 4.4.

Table 4.4 shows that the result of common method variance with the cumulative variance of 29.407 % is below the fifty percent threshold value. Podaskoff et al. (2003)

have stated that if a single factor's variance is less than 50 %, it shows that the common method variance does not affect the data (Appendix G).

Table 4.4

*Common Method Variance*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.821	29.407	29.407	13.821	29.407	29.407
2	4.972	10.578	39.985			
3	4.092	8.707	48.692			
4	3.070	6.533	55.225			
5	2.946	6.269	61.493			
6	2.231	4.747	66.240			
7	2.060	4.383	70.623			
8	1.426	3.034	73.657			
9	1.370	2.915	76.573			
10	1.199	2.551	79.124			
11	.775	1.649	80.772			
12	.630	1.340	82.113			
13	.596	1.267	83.380			
14	.582	1.237	84.617			
15	.544	1.157	85.774			
16	.502	1.068	86.843			
17	.474	1.009	87.852			
18	.442	.941	88.793			
19	.423	.900	89.694			
20	.396	.843	90.537			
21	.388	.825	91.362			
22	.373	.793	92.155			
23	.354	.754	92.909			
24	.340	.723	93.632			

25	.319	.679	94.311
26	.311	.661	94.973
27	.268	.570	95.542
28	.251	.535	96.077
29	.247	.525	96.602
30	.231	.492	97.094
31	.224	.476	97.570
32	.220	.468	98.038
33	.206	.439	98.477
34	.188	.400	98.877
35	.183	.389	99.265
36	.181	.385	99.650
37	.164	.350	100.000

#### 4.4.4 Multicollinearity

Multicollinearity refers to the link between two or more indicators, according to Hair et al. (2014). The analyses that include the predictive potential of the regression model may have been affected. On the other hand, Tabachnick *et al.* (2007) say that there is multicollinearity, whether two or more independent variables in a model are associated and connected to the dependent variable (Alin, 2010). In an analysis, the strong correlation between variables can lead to problems with the relevance of regression of coefficient estimates (Yoo *et al.*, 2014). The coefficient estimates of standard error in a model have also increased multicollinearity (Paul, 2006).

The statistical approach for multicollinearity involves the use of VIF and tolerance levels (Grewal, Cote, & Baumgartner, 2004). It is determined by regression of the SPSS for all independent variables. The proposed value of 5.0 and higher is 0.20 or

lower with a tolerance level and shows multicollinearity (Appendix H). Table 4.5 below sums up the product of the multicollinearity.

Table 4.5

*Collinearity Statistics*

Dependent Variable	Independent Variable	Tolerance	VIF
	SI	.811	1.233
	FC	.517	1.932
	PE	.808	1.238
	CTT	.667	1.499
CA	CS	.610	1.639
	TR	.425	2.353
	TA	.596	1.678
	AT	.849	1.178
	BI	.630	1.588

Table 4.5 above clearly shows that the VIF was less than five, and the tolerance is more than 0.20 among the independent variables in this sample. No multi-linearity problems occurred in this analysis, as Hair et al. (2013) recommended.

#### 4.4.5 Normality

Normality refers to the distribution and most important expectation of data in a latent variable. Screening can be considered necessary in multivariate analysis to infer. It is supported that there is an important need for normality testing prior to further analysis because the highly skewed dataset is more likely to magnify the bootstrapped standard error estimates that result in it undermining. Also, it undermines the statistical significance in the inner model estimation.

Use the graphic methods tools where the graphical method shows the graphical distribution of the measures. The exact value of skewness and kurtosis statistics can demonstrate the normality of the records collected. In this study, Figure 4.1 to 4.10 shows the histogram plots to demonstrate assumptions of normality.

Since the histogram does not violate the norm, further analysis can be done. The normal distribution facilitates statistical tools for analyzing the collected data. Statistical tools are better as nearly all the statistical tests require normal distribution data to be performed (Appendix I).

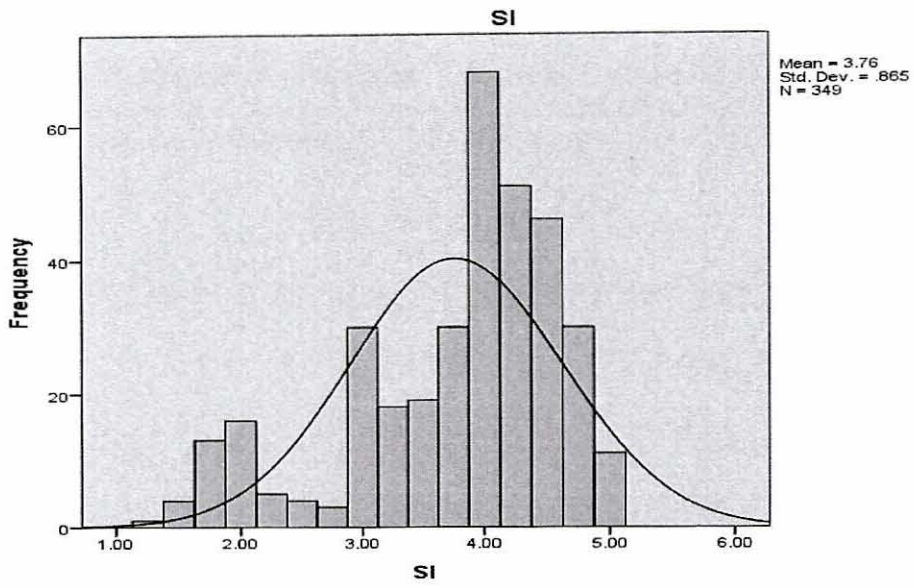


Figure 4.1

*Histogram and probability plots of Social Influence*

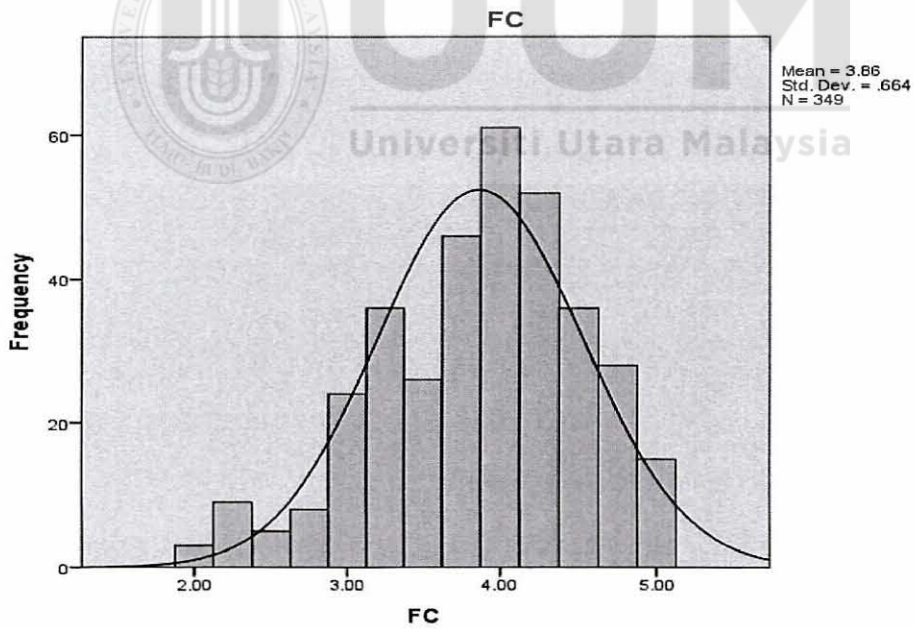


Figure 4.2

*Histogram and probability plots of Facilitating Condition*

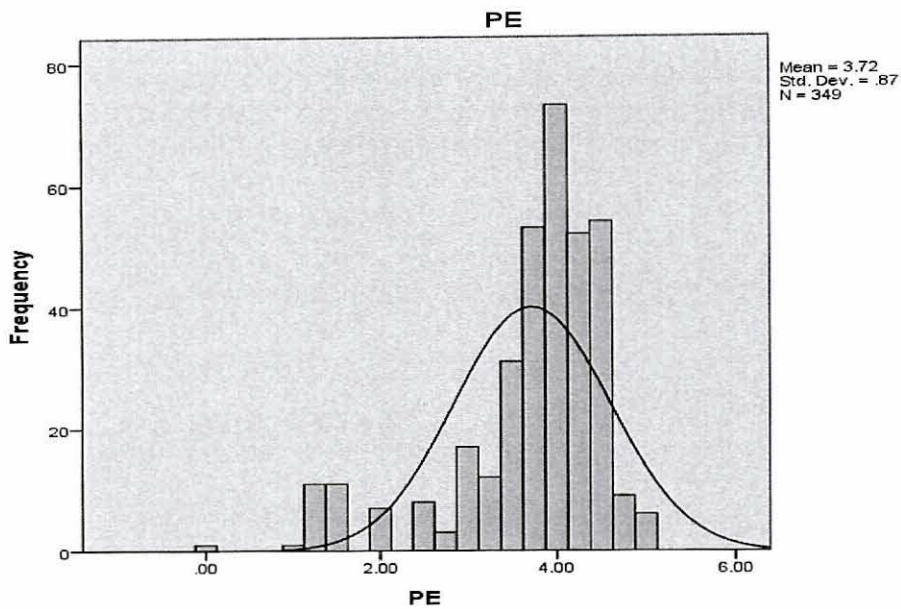


Figure 4.3

*Histogram and probability plots of Performance Expectancy*

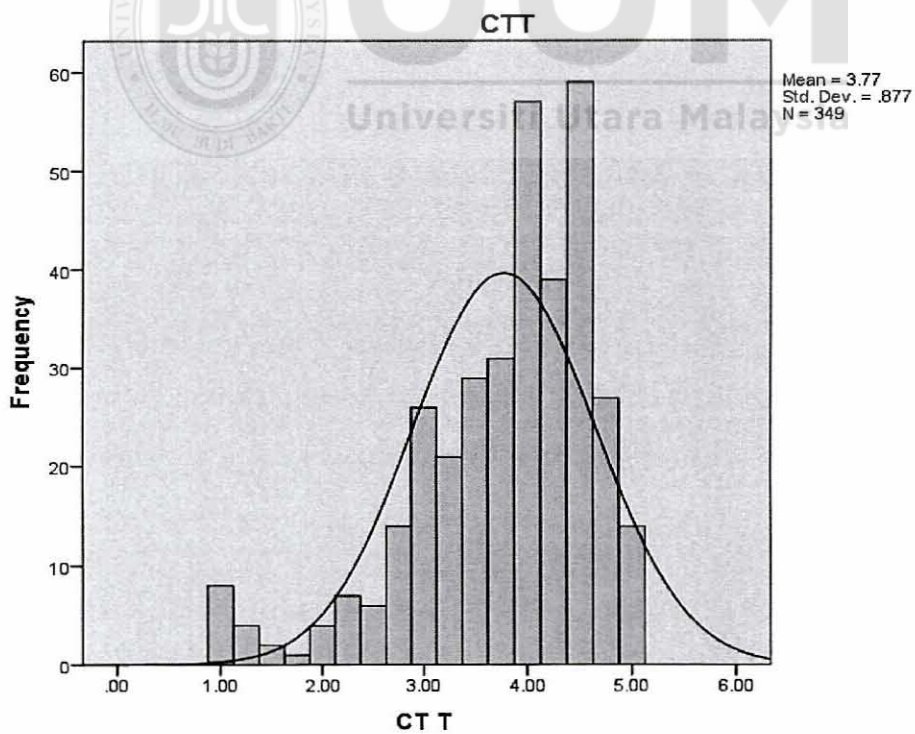


Figure 4.4

*Histogram and probability plots of cryptocurrency transaction transparency*



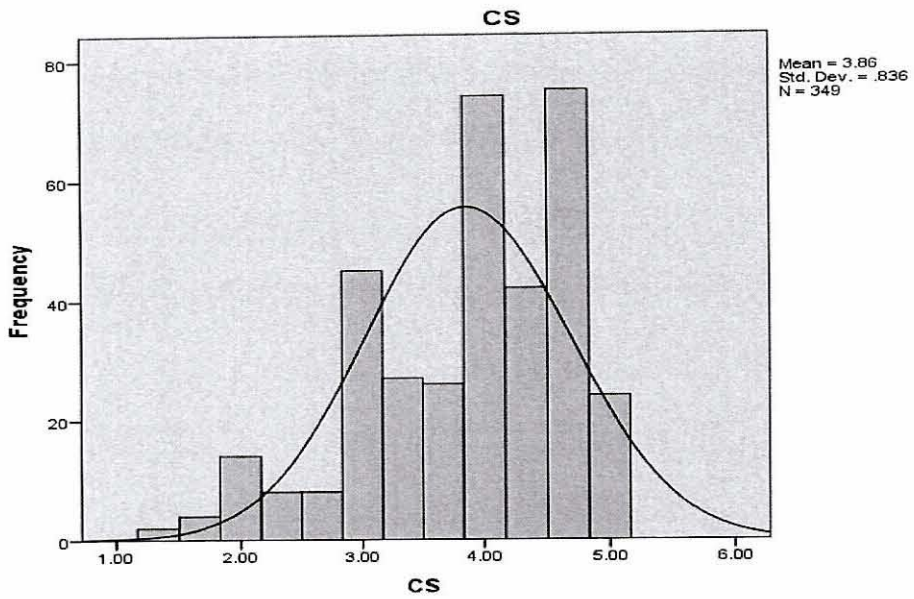


Figure 4.5

*Histogram and probability plots of Customer Satisfaction*

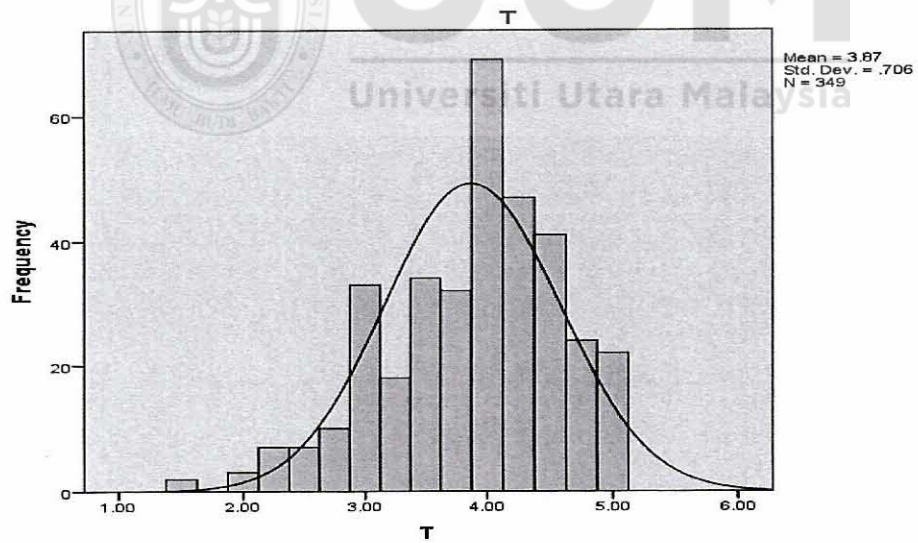


Figure 4.6

*Histogram and probability plots of Trust*

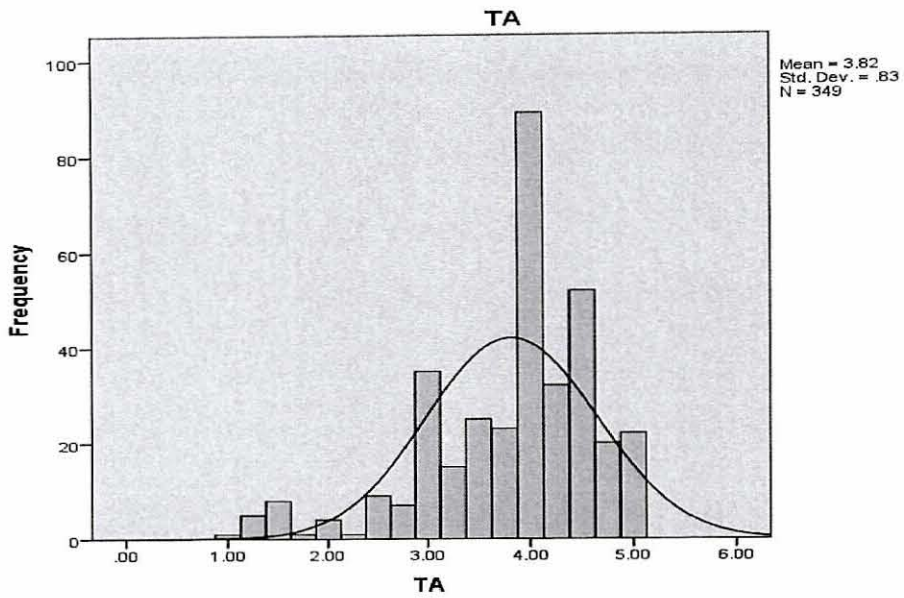


Figure 4.7

*Histogram and probability plots of Technology Awareness*

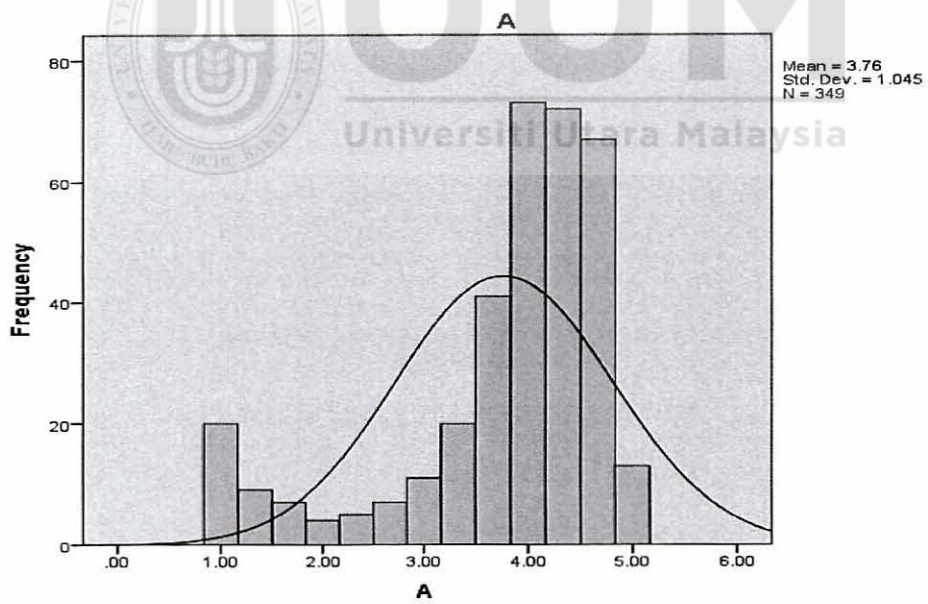


Figure 4.8

*Histogram and probability plots of Attitude*

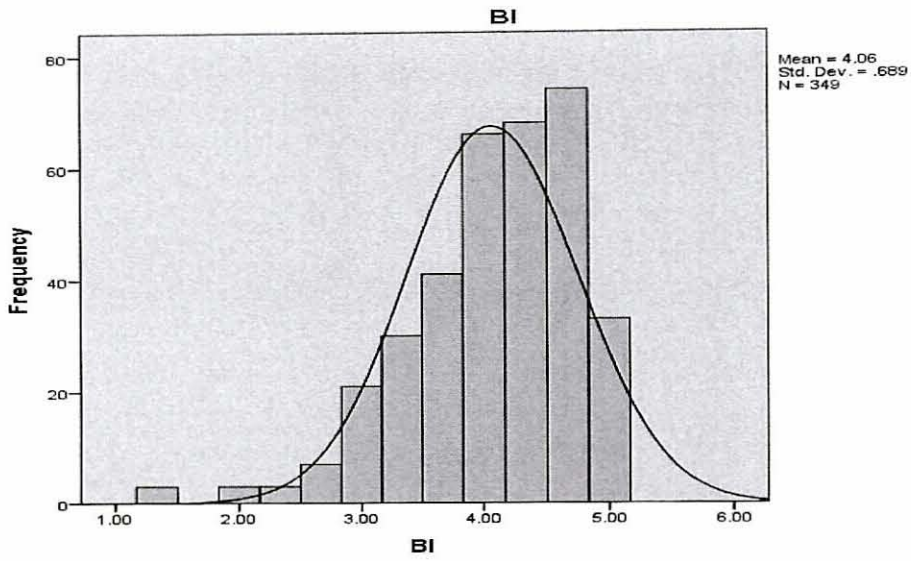


Figure 4.9

*Histogram and probability plots of Behavioral Intention*

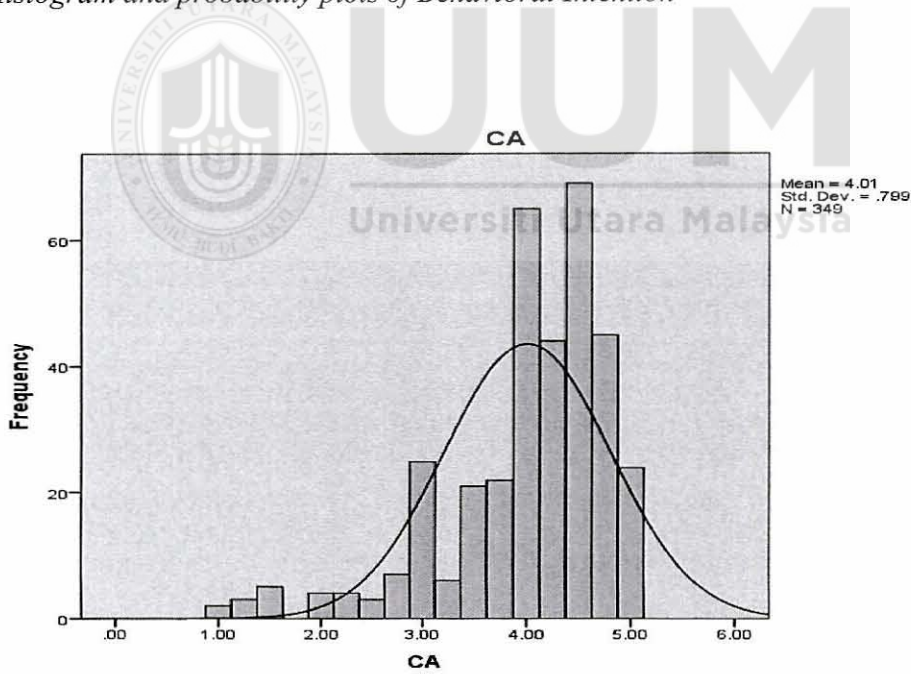


Figure 4.10

*Histogram and probability plots of Cryptocurrency Adoption*

#### 4.5 Assessment of PLS Path Modeling Findings

In order to assess the model structure, Chin (1998) proposed a catalogue of criteria for the PLS path model and global fitness criteria (Henseler *et al.*, 2009). The implementation of these criteria involves a two-step process, e.g. (i) an external model assessment and an internal model assessment (Becker *et al.*, 2012). The outer model is known as the measurement model, and the inner model is known as the structural model (Wong, 2013). Model assessment begins with the measurement model (Sarstedt *et al.*, 2019), which is broadly two types (i) reflective and formative (Tehseen, Sajilan, *et al.*, 2017). The indicators were reflective of this research.

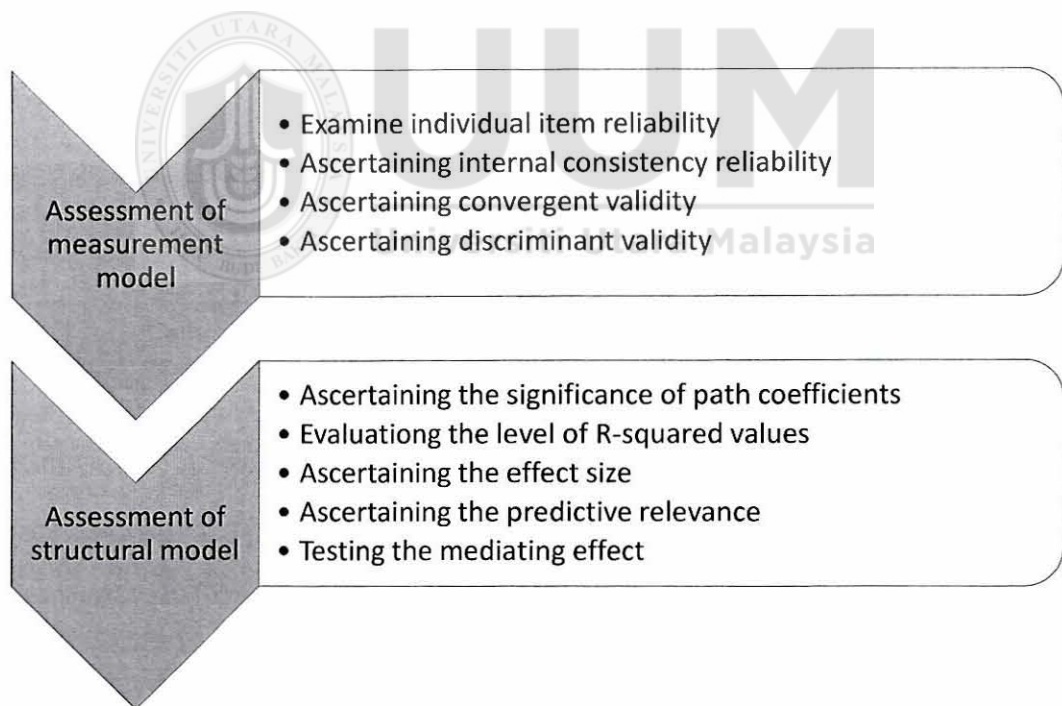


Figure 4.11

*The two-Step process of PLS Path Model Assessment*

Source: (Hair Jr *et al.*, 2017)

According to Hair et al. (2017), the measurement and structural model's assessment criteria are shown in Figure 4.11, which is discussed below.

#### **4.5.1 Assessment of Measurement Model**

The assessment of the measurement model is based on a variety of parameters. Those parameters test the reflective measurement model's reliability and validity (Cheah *et al.*, 2018). Those parameters include: (i) the reliability of the individual indicator/item, (ii) the reliability of the internal consistency, (iii) the convergent validity, and (iv) the validity of the discriminatory element (Cousineau & Chartier, 2010; Hair Jr *et al.*, 2017; Hair Jr *et al.*, 2014a; Hulland, 1999). The measurement model was shown in Figure 4.12, and Table 4.6 provided descriptions of the measurement model results (Appendix J).

#### **4.5.2 Individual Item Reliability**

Each predictor's reliability should be assessed because it varies by researchers (Hulland, 1999). The indicator's reliability is often called outer loading, indicating the latent design explains the indicator's variation. The total load varies between 0 and 1. The general thumb rule is that researcher should delete an object with loading below 0.4, with a more than 0.7 (Hair *et al.*, 2011; Hair Jr *et al.*, 2014a; Wong, 2013).

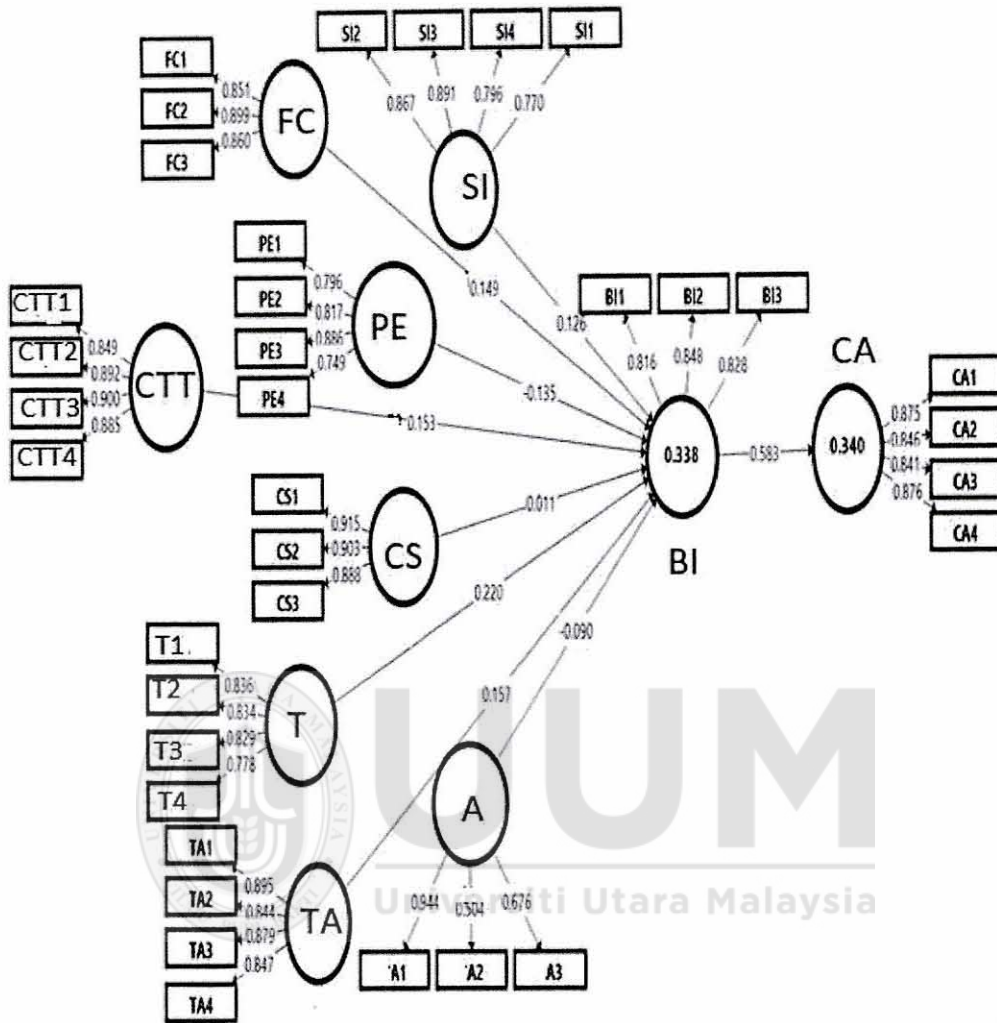


Figure 4.12

*Measurement Model*

Item less than 0.5 and more than 0.8 can be eliminated or retained based on the internal consistency reliability (Hair *et al.*, 2011; Hair Jr *et al.*, 2014a; Wong, 2013). In this study, 1 item (FC4) was deleted as their values were below the threshold (Appendix J), and the rest 36 items were retained (Table 4.12).

### 4.5.3 Internal Consistency Reliability

Researchers are proposing two internal quality tests, such as Cronbach's alpha and composite reliability. The standard parameters for the internal coherence test are Cronbach's alpha (Henseler *et al.*, 2009). This measure is conservative (Hair *et al.*, 2011; Hair Jr *et al.*, 2014a; Wong, 2013) and produces relatively low reliable PLS path values (Hair Jr *et al.*, 2017; Hulland, 1999; Jin & Wang, 2019). Composite reliability is also more appropriate to be used in determining internal accuracy (Hair *et al.*, 2011; Hair Jr *et al.*, 2014a; Henseler *et al.*, 2009; Hulland, 1999). It is reasonable to have composite reliability between 0.6 and 0.7, though it is satisfactory (Hair Jr *et al.*, 2017). All composite reliability values were acceptable in this study (Appendix L); in other words, they were above the 0.7 thresholds (Table 4.6).

### 4.5.4 Convergent Validity

The level of positive associations between the other variables within the same model converges validity (Hair Jr *et al.*, 2017; Hulland, 1999; Jin & Wang, 2019). Hair *et al.* (2017) and Fornell and Larcker (1981b) proposed that convergent validity be measured concerning a reflection measuring model. At a minimum of 0.50, AVE's value is adequate in terms of convergence validity (Hair Jr *et al.*, 2017; Henseler, 2017; Henseler *et al.*, 2009; Hulland, 1999; Jin & Wang, 2019). The researcher used the AVE value to determine the convergent validity of the study's latent variable. In this analysis, the AVE values of latent variables (Table 4.6) were above the cutoff value, which indicates that the latent variables were rendered convergent (Appendix K).

Table 4.6

*Psychometric properties of the constructs*

Constructs	Items	Loadings	CH	CR	AVE
Social Influence	SI1	0.770	0.856	0.900	0.693
	SI2	0.867			
	SI3	0.891			
	SI4	0.796			
Facilitating Condition	FC1	0.851	0.840	0.904	0.758
	FC2	0.899			
	FC3	0.860			
Performance Expectancy	PE1	0.796	0.856	0.886	0.662
	PE2	0.817			
	PE3	0.886			
	PE4	0.794			
Cryptocurrency Transaction Transparency	CTT1	0.849	0.905	0.933	0.777
	CTT2	0.892			
	CTT3	0.900			
	CTT4	0.885			
Customer Satisfaction	CS1	0.915	0.886	0.929	0.814
	CS2	0.903			
	CS3	0.888			
Trust	TR1	0.863	0.838	0.891	0.672
	TR2	0.834			
	TR3	0.829			
	TR4	0.778			
Technology Awareness	TA1	0.895	0.890	0.923	0.751
	TA2	0.844			
	TA3	0.879			
	TA4	0.847			
Attitude	AT1	0.944	0.876	0.764	0.534
	AT2	0.504			
	AT3	0.676			
Behavioral Intention	BI1	0.816	0.776	0.870	0.690
	BI2	0.848			
	BI3	0.828			
Cryptocurrency Adoption	CA1	0.875	0.882	0.919	0.739
	CA2	0.846			
	CA3	0.841			
	CA4	0.876			



#### 4.5.5 Discriminant Validity

A validity of discrimination means that there are sufficient differences in two different concepts (Hair Jr *et al.*, 2017; Henseler, 2017; Henseler *et al.*, 2009; Hulland, 1999; Jin & Wang, 2019) and also stated that the individual construct needs to be different from each other. The Fornell-Larcker Criterion and Cross Loading (Hair Jr *et al.*, 2017; Henseler, 2017; Henseler *et al.*, 2009; Hulland, 1999; Jin & Wang, 2019) are two commonly used measures with discriminating validity. Fornell Larcker states that the criterion that a latent variable explains more variance than other latent variables (Fornell & Larcker, 1981b). The variation between its indicators is more significant. All AVE's squared root should be above diagonally in the same columns and ranks in the statistics (Ramayah *et al.*, 2018). The cross-loadings are another criterion for discriminative validity. This means that every indicator loading must be above all its cross-loadings (Chin, 1998; Kimmerl, 2020). It has been shown in this analysis that all AVE values in the diagonal (Table 4.7) on the same columns and lines are higher than their respective inter-construction values. In addition, loadings of the indicators were also more significant than at their respective cross-loads.

In detecting discriminative validity, the Fornell-Larcker criterion fails to function when the loadings are different (Hair Jr *et al.*, 2017). Henseler *et al.* (2009) suggested an assessment of correlation heterotrait-monotrait ratio (HTMT) is a remedy. The intermediate and intermediate quota of HTMT is the trait (Chin, 2001; Goodhue *et al.*, 2012; Hair Jr *et al.*, 2017; Henseler *et al.*, 2009). The value of HTMT greater than 0.90 results in the absence of discrimination. In Table 4.8, the latent construction ratios of

HTMT were within the threshold, meaning that this study's latent structure was separate (Appendix M, Appendix O).

Table 4.7

*Fornell-Larker criterion of discriminant validity*

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
<b>AT</b>	0.731									
<b>BI</b>	-0.062	0.831								
<b>TR</b>	0.033	0.466	0.820							
<b>CA</b>	-0.012	0.583	0.431	0.860						
<b>CS</b>	0.008	0.338	0.605	0.345	0.902					
<b>CTT</b>	0.018	0.385	0.425	0.300	0.389	0.882				
<b>FC</b>	0.029	0.443	0.503	0.370	0.432	0.455	0.870			
<b>PE</b>	0.066	-0.041	0.026	0.051	0.060	0.062	0.119	0.813		
<b>SI</b>	0.058	0.339	0.302	0.272	0.277	0.312	0.447	0.077	0.832	
<b>TA</b>	0.102	0.333	0.424	0.303	0.272	0.234	0.451	0.360	0.278	0.866

Table 4.8

*HTMT ratio of discriminant validity*

	A	BI	TR	CA	CS	CTT	FC	PE	SI	TA
<b>AT</b>										
<b>BI</b>	0.068									
<b>TR</b>	0.113	0.568								
<b>CA</b>	0.090	0.702	0.497							
<b>CS</b>	0.103	0.401	0.690	0.387						
<b>CTT</b>	0.085	0.452	0.489	0.333	0.432					
<b>FC</b>	0.070	0.547	0.593	0.429	0.492	0.520				
<b>PE</b>	0.057	0.079	0.067	0.089	0.081	0.066	0.133			
<b>SI</b>	0.046	0.389	0.328	0.291	0.295	0.337	0.506	0.095		
<b>TA</b>	0.099	0.398	0.489	0.343	0.306	0.256	0.520	0.405	0.299	

#### 4.5.6 Assessment of Structural Model

Following the measurement model's evaluation, researchers concentrate on the structural model evaluation for PLS-SEM analysis (Hair *et al.*, 2011; Hair Jr *et al.*, 2017). The internal model/structure model shows the relationship between the latent buildings (Hair, Sarstedt, Pieper, & Ringle, 2012). The structural model checks the hypotheses, reveals their path coefficients, the amount of variance, their size, and predictive importance, as explained by the exogenous latent structures (Hair *et al.*, 2011; Hair *et al.*, 2012; Hair Jr *et al.*, 2017; Hair Jr *et al.*, 2014a; Ramayah *et al.*, 2018). Researchers took a few steps, as shown in Figure 4.13, in order to evaluate the

structural model. The researcher runs the bootstrapping option with 500 samples, Complete Bootstrapping, Bias-Corrected, and Accelerated Bootstrap at 0.05 level of significance (Appendix P).

#### 4.5.6.1 Assessment of Structural Model Collinearity

The first phase of the structural model evaluation is to determine the multicollinearity of exogenous latent buildings. The multicollinearity can be examined through a variance inflated factor (VIF) as the VIF above five is indicated by Hair and others (2017) to induce multicollinearity. The Smart PLS software system produces both internal and outer VIF. For the internal model, Table 4.8 displays the VIF meaning. As shown in Table 4.9, for the exogenous component, the structural model VIF values are less than the cut-off values (5). Consequently, multicollinearity among predictor variables did not exist (Appendix Q) according to Hair et al. (2017) recommendation.

Table 4.9

*Factor (VIF)*

	Behavioral Intention	Cryptocurrency Adoption
Social Influence	1.293	
Facilitating Condition	1.793	
Performance Transaction Expectancy	1.181	
Cryptocurrency Transparency	1.392	
Customer Satisfaction	1.674	
Trust	1.984	
Technology Awareness	1.577	
Attitude	1.014	
Behavioral Intention		1.000
Cryptocurrency Adoption		

#### 4.5.6.2 Assessment of the Significance of Structural Model Relationships

In this stage, PLS-SEM calculates the structural model's relationship that indicates the presumed relationship of the latent buildings (Hair *et al.*, 2011; Hair *et al.*, 2012; Hair Jr *et al.*, 2017; Hair Jr *et al.*, 2014a; Ramayah *et al.*, 2018). The usage of t and p values defines a particular association, whether it is essential or not. PLS-SEM uses an observational t and p-value boot-strapping technique (Hair *et al.*, 2011; Hair *et al.*, 2012; Hair Jr *et al.*, 2017; Hair Jr *et al.*, 2014a). Though t-values greater than 1.645 are significant, the p-value 0.05 and below is accepted or supported (Ramayah *et al.*, 2018). This analysis uses regular bootstrapping with a range of 500 bootstraps and 349 cases to approximate direction coefficients' value. This analysis's conceptual model, including the latent exogenous mechanisms, a mediator (behavioral intention), and the latent endogenous component (cryptocurrency adoption), is calculated in Figures 4.13 and Table 4.10.

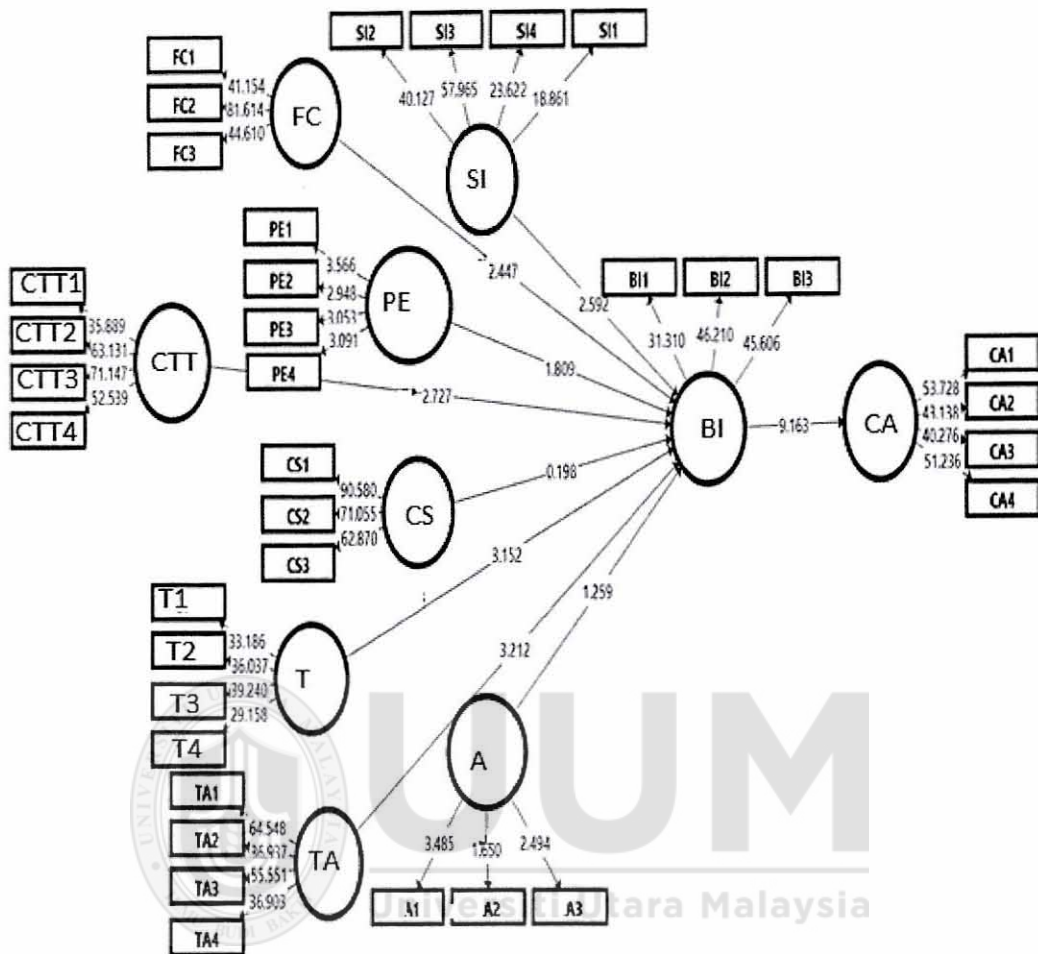


Figure 4.13

*Structural Model*

The structural model shows causal connections between buildings that determine the route and  $R^2$  values (Ee, Halim & Ramayah, 2013). The structural model showing the suspected interactions is seen in Table 4.10. In the systemic model, the relationships between were analyzed. According to Figure 4.13 and Table 4.10, the relationship between trust and behavioral intention was insignificant. Since the hypothesis, H1

showed that the trust directly predict behavioral intention since their relationship was significant ( $\beta= 0.220$ ,  $t= 3.152$ , and  $p=0.002$ ).

Similarly, the relationship between social influence and behavioral intention was significant ( $\beta= 0.126$ ,  $t= 2.592$ , and  $p<0.10$ ), and hypothesis H2 was supported. Likewise hypothesis H3 demonstrated the relationship of cryptocurrency transparency was significant ( $\beta= 0.153$ ,  $t= 2.727$ , and  $p=0.007$ ). Correspondingly, H4 however, the reverse situation was seen for technology awareness (TA) in predicting behavioral intention (BI). Table 4.10 shows that TA and BI's relationship was significant ( $\beta=0.157$ ,  $t= 3.212$ , and  $p=0.001$ ) and accepted in this study. Opposite relations are seen in hypothesis H5 where customer satisfaction behavioral intention (BI) has an insignificant ( $\beta= 0.011$ ,  $t= 0.198$ , and  $p=0.834$ ) impact. In the hypothesis, H5 shows that the CS and BI are not supported in this study. Likewise, the H6 behavioral attitude negatively affects ( $\beta=-0.090$ ,  $t= 1.259$ , and  $p<0.209$ ) and was not supported. It means that behavioral attitude does not influence the behavioral intention for cryptocurrency adoption. However, a different result is seen in hypothesis H7. It is seen that the and facilitating condition directly predict behavioral intention ( $\beta= 0.149$ ,  $t= 2.447$ , and  $p=0.015$ ). However, hypothesis H8 negatively affected performance expectancy and behavioral intention and was not supported ( $\beta= -0.135$ ,  $t= 1.809$ , and  $p=0.071$ ).

Table 4.10

*Assessment of path model*

Hypothesis	Relationships	Beta Values	SD	T Values	P Values	Findings
H1	tr -> bi	0.220	0.070	3.152	0.002	Supported
H2	si -> bi	0.126	0.049	2.592	0.010	Supported
H3	ctt -> bi	0.153	0.056	2.727	0.007	Supported
H4	ta -> bi	0.157	0.049	3.212	0.001	Supported
H5	cs -> bi	0.011	0.058	0.198	0.843	Not Supported
H6	at -> bi	-0.090	0.072	1.259	0.209	Not Supported
H7	fc -> bi	0.149	0.061	2.447	0.015	Supported
H8	pe -> bi	-0.135	0.075	1.809	0.071	Not Supported
H9	bi -> ca	0.583	0.064	9.163	0.000	Supported

It demonstrates that performance expectancy is not significant. On the other hand, the cryptocurrency was positively influenced by behavioral intention as hypothesis H9 was significant ( $\beta = 0.583$ ,  $t = 9.163$ , and  $p < 0.00$ ) (Appendix P).

#### 4.5.7 Assessment of Structural Model with Mediation

Mediation effects can occur when the connections between the exogenous and the endogenous variable are influenced by the so-called intervening variable (Hair et al., 2012). Three mediation forms were proposed, such as complimentary mediation, opposing mediation, and indirect mediation by Hair et al. (2012). Baron and Kenny



(1986) Sobel Check (Sobel, 1982), and Bootstrapping (Preacher & Hayes, 2004) have become three widely-used technology acceptance models. Although Baron & Kenney is popular, recent scientists consider that it was challenging to consider its model and methodology (Hayes & Scharkow, 2013). Likewise, the Sobel Mediation Method was often used to endorse large amounts in previous studies. However, researchers have dismissed its importance in mediation study due to its usual distribution interpretation, which is incompatible with the PLS-SEM method (Hair et al., 2017). The Sobel test also had a weak statistical power defect, which involved a route coefficient unstandardized (Hair Jr et al., 2017).

On the other hand, bootstrapping is a non-parametric method utilizing re-sampling (Hair Jr et al., 2014b). It produces better statical analysis than that of the Sobel test (Hair et al., 2011; Hair Jr et al., 2017; Hair Jr et al., 2014b). Bootstrapping (Hayes, 2009; Hayes & Preacher, 2010; Zhao, Lynch Jr, & Chen, 2010) is a comprehensive and effective mediation analysis method suitable for PLS-SEM research (Hair et al., 2014). In work adopting the (Preacher & Hayes, 2004, 2008; Preacher & Kelley, 2011) mediation method (Hair et al., 2012; Hair Jr et al., 2017; Hair Jr et al., 2014a), they suggested utilizing the bootstrapping technique for mediation studies. In this report, the researchers adopted a mediation method and a mediation interpretation framework (Preacher & Hayes, 2004, 2008). Beside that, no manual estimation was required for mediation research in the current edition of Smart PLS (3.2.7). For multivariate SEM analysis, unique mediation impact effects were integrated. Also, it provided various measures for mediation research (Hair et al., 2011; Hair et al., 2012; Hair Jr et al., 2017; Preacher & Hayes, 2004, 2008), as shown in Figure 4.14.

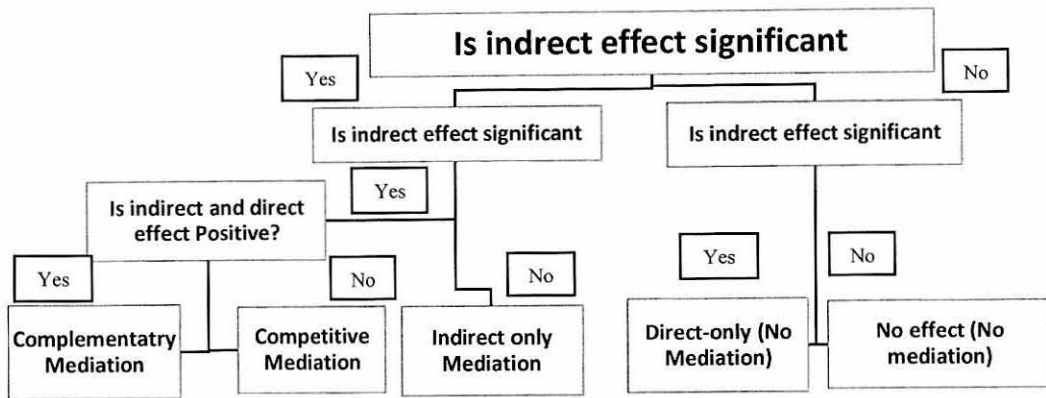


Figure 4.14

*Steps of Mediation Analysis*

Source: Hair et al. (2017)

In this study, behavioral intention was used as a mediator between trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and cryptocurrency adoption. Table 4.11 represents the mediation results of this study.

Nonetheless, acceptable mediation was found between brand & service trust (TR) and cryptocurrency adoption (CA). The present study predicted that behavioral intention (BI) would mediate the relationship between T and CA. The study also found a significant result ( $\beta= 0.129$ ,  $t= 2.951$ , and  $p<0.003$ ) for this relationship, which supported the hypothesis H10<sub>A</sub>. Subsequently, hypothesis H10<sub>B</sub> the mediator as behavioral intention (BI), mediates the relationship between social influence (SI) and cryptocurrency adoption (CA) ( $\beta= 0.074$ ,  $t= 2.560$  and  $p<0.011$ ). On the other hand, a significant result in hypothesis H10<sub>C</sub> ( $\beta= 0.089$ ,  $t= 2.684$ , and  $p<0.008$ ) on

cryptocurrency transaction mediate through behavioral intention. Correspondingly hypothesis H10<sub>D</sub> has a remarkable mediation effect. In H10<sub>D</sub> Behaviour intention (BI) mediates the relationship between technology awareness (TA) & cryptocurrency adoption (CA) ( $\beta = 0.091$ ,  $t = 3.022$  and  $p < 0.003$ ) (Appendix P).

Table 4.11

*Mediation Hypothesis Results*

Hypothesis	Path	Beta Values	SD	T Values	P Values	Findings
H10 <sub>A</sub>	tr -> bi -> ca	0.129	0.044	2.951	0.003	Supported
H10 <sub>B</sub>	si -> bi -> ca	0.074	0.029	2.560	0.011	Supported
H10 <sub>C</sub>	ctt -> bi -> ca	0.089	0.033	2.684	0.008	Supported
H10 <sub>D</sub>	ta -> bi -> ca	0.091	0.030	3.022	0.003	Supported
H10 <sub>E</sub>	cs -> bi -> ca	0.007	0.034	0.194	0.846	Not Supported
H10 <sub>F</sub>	at -> bi -> ca	-0.053	0.042	1.254	0.210	Not Supported
H10 <sub>G</sub>	fc -> bi -> ca	0.087	0.040	2.197	0.028	Supported
H10 <sub>H</sub>	pe -> bi -> ca	-0.079	0.044	1.805	0.072	Not Supported

However, indirect mediation resulted in customer satisfaction and cryptocurrency adoption (CA) through behavioral intention (BI) in hypothesis H10<sub>E</sub>. The result shows that behavioral intention is not supported ( $\beta = 0.007$ ,  $t = 0.194$ , and  $p < 0.846$ ) and insignificant in the relationship between CS and CA. The study hypothesized that attitude (BA) and cryptocurrency adoption (CA) would mediate through behavioral intention (BI). According to the result of Table 4.11, hypothesis H10<sub>F</sub> was not supported as the specific indirect negative effect of BA to CA through BI was

insignificant ( $\beta = -0.053$ ,  $t = 1.254$ , and  $p < 0.210$ ). However, an acceptable result ( $\beta = 0.087$ ,  $t = 2.197$ , and  $p < 0.028$ ) on facilitating conditions mediate through behavioral intention to cryptocurrency adoption, which strongly supports hypothesis H10G. This research hypothesized that the relationship between performance expectancy (PE) and cryptocurrency adoption (CA) was negatively mediated by behavioral intention (BI). Table 4.11 shows that the hypothesis H10F had no indirect impact on PE by CA ( $\beta = -0.079$  and  $t = 1.805$ ). The hypothesis is also not supported ( $p < 0.072$ ), and the essence of mediation impactful since PE had no indirect influence on CA.

#### **4.5.8 Assessment of Variance Explained ( $R^2$ or Coefficient of Determination)**

One of the right reasons for using PLS-SEM is that it estimates the  $R^2$  value (Ringle, Sarstedt, & Straub, 2012), which maximizes the amount of explained variance in the endogenous variable by the exogenous variable (Hair *et al.*, 2011; Hair *et al.*, 2012; Hair Jr *et al.*, 2017). The coefficient measures the model's predictive power, and it is the aggregate effect of all exogenous constructs on the endogenous construct (Hair *et al.*, 2017). The lowest value of  $R^2$  is zero, and the highest value is one. Hair *et al.* (2017) stated that it was difficult to suggest an acceptable rule of thumb for  $R^2$  values since it would rely on research discipline and the model complexity. However, Urbach and Ahlemann (2010) proposed achieving an absolute  $R^2$  value to have a minimum level of the model's explanatory power. In this regard, Falk and Miller (1992) indicated that  $R^2$  amounts greater than or equal to 0.10 were adequate to explain certain endogenous variables. In contrast, Schmidt and Bohannon (1988) suggested 0.26,

0.13, 0.02, and Chin (1998) suggested 0.67, 0.33, 0.19 as the substantial, moderate, and weak level of predictive accuracy, respectively (Appendix R).

Table 4.12

*Coefficient of determination (R<sup>2</sup> values)*

<b>Variables</b>	<b>R Square</b>
CA	0.340
BI	0.338

Table 4.12 shows the R<sup>2</sup> values of two endogenous constructs (CA and BI) of this research. According to the result, it is seen that 34.0 percent of the total variance in cryptocurrency adoption and 33.8 percent variance of behavioral intention was explained in this study. It means eight exogenous variables, namely TR, SI, CTT, TA, CS, AT, FC, PE, and CA, and a mediator variable (BI) jointly predicted a 34.0 percent variance of the exogenous variable cryptocurrency adoption. At the same time, the three exogenous variables explained 33.8 percent of the variance of behavioral intention. Therefore, it can be said that the model of this study produced an acceptable level of R<sup>2</sup> values since it is considered as substantial according to the threshold level proposed by the researcher (Falk & Miller, 1992).

#### 4.5.9 Assessing the Level of Effect Size ( $F^2$ )

Another measure of assessing the structural model in PLS-SEM analysis is the effect size ( $f^2$ ). In addition, the effect size ( $f^2$ ) is measured by using Cohen's  $f^2$  (Bosco *et al.*, 2015). The effect size ( $f^2$ ) is the predictor variable's relative impact on the exogenous variable (Sampson & Cohen, 1988). It assesses an exogenous construct's contribution to the endogenous variable in terms of  $f^2$  values (Ramayah *et al.*, 2018).

The Smart PLS-3 software directly calculates the effect size. Sampson (1988) also determined the level of effect size. He proposed the values of  $f^2$  0.35, 0.15, and 0.02 that should be taken as large, medium, and small effects, respectively. The  $f^2$  values of the exogenous variable of this study are given in Table 4.13.

According to the result presented in Table 4.13, a small effect was found between the seven-exogenous constructs, such as TR, SI, CTT, TA, AT, FC, PE, BI on the cryptocurrency adoption relationship as their values were 0.012, 0.024, 0.37, 0.026, 0.019, and 0.023, and 0.019 respectively. Likewise, the other mediation variable, behavioral intention, had an enormous effect (0.0515) on the cryptocurrency relationship. However, the other exogenous construct CS did no effect behavioral intention (Appendix S).

Table 4.13

*Effect Size of predictive variables*

Relationship	$F^2$ values	Magnitude
at -> bi	0.012	Small
ta -> bi	0.024	Small
tr -> bi	0.037	Small

cs -> bi	0.000	None
ctt -> bi	0.026	Small
fc -> bi	0.019	Small
pe -> bi	0.023	Small
si -> bi	0.019	Small
bi -> ca	0.515	Large

#### 4.5.10 Ascertaining the Predictive Relevance ( $Q^2$ )

In addition to the  $R^2$  values, Hair et al. (2017) suggested observing Stone-Geisser's  $Q^2$  (Schips & Abrahamsen, 1991) values, which measured the out-of-sample predictive power of the model, using the blindfolding procedure. It is a resampling procedure that systematically deletes every data point of the indicators and predicts the data point simultaneously (Ramayah *et al.*, 2017). If the expected value is close to the actual value, it is considered that the path model has a high level of predictive relevance (Ramayah *et al.*, 2018; Ramayah *et al.*, 2017; Tehseen, Ramayah, & Sajilan, 2017). The accepted level of  $Q^2$  values that are greater than zero (0) (Hair *et al.*, 2011; Hair *et al.*, 2012; Hair Jr *et al.*, 2017; Hair Jr *et al.*, 2014a; Ramayah *et al.*, 2018) indicates that predictors have predictive relevance for the dependent variable under investigation (Fornell *et al.*, 1996).

The blindfolding procedure is available in Smart PLS software (Chin, 2010a). Hair et al. (2014) suggested applying a cross-validated redundancy measure ( $Q^2$ ). The results of the  $Q^2$  values of this study were presented in Table 4.14.

Table 4.14

*Construct cross-validated redundancy*

<b>Endogenous Variable</b>	<b>SSO</b>	<b>SSE</b>	<b>Q<sup>2</sup> (=1-SSE/SSO)</b>
CA	1396.000	1053.234	0.246
BI	1047.000	827.460	0.210

The results show that the cross-validated redundancy measure (Q<sup>2</sup>) values of the two-endogenous variable were greater than zero. Therefore, it is confirmed that the model of this study has predictive relevance (Appendix T).

#### 4.6 Summary

Chapter four identified the surveys' findings from the interviewees and was subjected to several analytical steps. Therefore, the loading and cross-loading justified the convergent validity required and verified this research's discriminant validity. On the other hand, a normality test was also performed, and non-normal data distribution resulted in this, and further analysis is possible. Evaluation of the PLS-SEM measurement model and structural model indicates that six hypotheses have already been supporting and three other hypotheses have not been endorsed. The mediating effect hypothesis has five (TR, SI, CTT, TA, FC) are supported, and three (CS, AT, PE) are not supported, which has justified the behavioral intention improve the connection between TR, SI, CTT, TA, FC, CS, AT, PE (independent variable), and CA (dependent variable). The analyzed results are outlined and followed by Chapter Five discussion.



## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The present study was quantitative research in nature, and the discussions were conducted based on the findings of Chapter Four, which were based on the research findings. The results of the study were consistent with the theoretical context described in the literature review section. The first section in this chapter is a recap of this study's results and then the direct relations between the dependent and the independent variables. Next, the researcher addressed the direct ties between the mediating variable and the dependent variable. The subsequent discussion focused on the links between independent and mediating variables. The mediating effects of this study were then addressed during the discussion. The conclusion of the chapter focuses on the impacts and limitations.

#### **5.2 Recapitulation of the Research Objectives**

The objectives were to analyze the effect of trust (TR), social influence (SI), cryptocurrency transaction transparency (CTT), technology awareness (TA), facilitating condition (FC), customer satisfaction, attitude (AT), performance expectancy (PE) (independent variable) towards cryptocurrency adoption (CA). On the other hand, it examines the mediating effect of behavioral intention towards the relationship between the independent variable and dependent variable. Literature regarding the relationship between the independent variable and dependent variable

has shown many inconsistencies and the effect of behavioral intention towards cryptocurrency adoption (Albayati *et al.*, 2020a; Ayedh *et al.*, 2020; Teh, Yap, & Wong, 2020). The research framework that has been developed in chapter three portrays the relationship between TR, SI, CTT, TA, FC, CS, AT, PE, and CA. This relationship is also embedded with behavioral intention as the mediating variable. The TRA theory and UTAUT2 theory support the framework. Further, questionnaire items were introduced and modified to ensure that the study goals are linked through the conduct of material validities, adopted and adapted through a detailed analysis of the literature. The pre-test and pilot study was then conducted to test the survey method in which the participant who participated in the pilot study was the cryptocurrency consumer of the Malaysian digital market. The pilot study questionnaire was based on the 5-point scale of Likert, which ranged from 1=strongly disagree to 5=strongly agree. Invalidation of the scale, reliability coefficients, and validities were used. The PLS-SEM data also included the material's validity, the value of factor loading, and convergent and discriminating validity as part of the measuring model's estimate. For the verification of the theories, the SmartPLS 3.0 program for analysis and the structural model was evaluated.

The research performed in this study contributed to an understanding of the primary determinants of the acceptance of cryptocurrency by addressing the following question:

- I. Do trust, social influence, cryptocurrency transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance

expectancy influence behavioral intention in the digital market?

- II. Does behavioral intention influence the consumer to adopt cryptocurrency in the digital market?
- III. Does behavioral intention mediate the relationship between trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, performance expectancy, and cryptocurrency adoption?

In regard to the topics addressed in the problem statement, research goals as set out in chapter one, and the literature on the variables presented in chapter two to ensure the following aims are achieved that have been derived.

- I. To examine the relationship between trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence on behavioral intention.
- II. To examine the relationship between the behavioral intention toward cryptocurrency adoption.
- III. To examine the mediating effects of behavioral intention towards trust, social influence, cryptocurrency transaction transparency, technology awareness, customer satisfaction, attitude, facilitating condition, and performance expectancy influence towards cryptocurrency adoption.

### 5.3 Discussion of the Findings

This study's findings have been discussed in line with the research questions, research objectives, and hypothesis. In this study, it is referred to as the mediating effects of behavioral intention towards trust (TR), social influence (SI), cryptocurrency transaction transparency (CTT), technology awareness (TA), customer satisfaction (CS), attitude (AT), facilitating condition (FC), performance expectancy (PE), and cryptocurrency adoption (CA). Next, the discussion followed on the relationship of behavioral intention on cryptocurrency adoption. The research framework developed in chapter two portrays the relationship between the factors (TR, SI, CTT, TA, CS, AT, FC, PE, and BI) and CA. The relationship is also embedded with behavioral intention (BI) as the mediator variable. In addition, the questionnaire items were adapted to ensure that the study was included in relation to the research objective by carrying out content validities after an extensive review of the literature. The next pilot study questionnaire was done to test the survey instrument, where 50 respondents participated in the pilot study, and the participant is from the cryptocurrency user from Malaysia. Moreover, all the respondents are collected from Malaysia that also includes the entire consumer of cryptocurrency in Malaysia. The pilot study questionnaire was based on a five-point Likert scale ranging from 1= strongly disagree to 5= strongly disagree. The validation of scale was based on reliability coefficients. In addition, PLS-SEM was used to estimate the measuring model that includes content validity, the significance of factor loadings, convergent validities. The structural model is also called the internal model, was evaluated for hypothesis testing. Discussions resume with the direct and indirect effect of the predictor variables on the criterion variable.

### **5.3.1 The Effect of Demographic Profile**

The research considers demographic variables, including age, education, sex, marital status, and fintech knowledge. From the data in table 4.2, we can see the demographic profile. Female respondents constitute just 38.5% of the group. The gap is more significant between the female respondents and male participants (61.5 percent ). The finding of this research on gender is that males are more interested and use cryptocurrency in Malaysia's digital market.

Age is a significant variable that differs the interest level to use modern technology. It considers the activity efficiency to the adoption of new technology. This research has seen that young are more fascinated with cryptocurrency. The majority of the participants (56.0 percent) were between the ages of 26 and 45 years old. From 18 and 25.5 to 45 and beyond, the percentage of ages increased to 25.6, and from 45 and up to 18, the percentages increased to 25.6 overall.

More than half of the respondents were found to be married, while about half of them were single. It means that marital status is not the impactful criterion in cryptocurrency in the digital market.

The educational level is one of the essential scales to identify the importance of awareness of cryptocurrency. SPM, STPM and Diploma users are not aware of the use of cryptocurrency. The level of education is found to be significant as people having bachelor and master degrees are found to be more aware of cryptocurrency and use

more cryptocurrency in Malaysia's digital market, though PhD graduated people are not found to be interested in the use of cryptocurrency in Malaysia's digital market.

Additionally, this analysis was able to classify the exposure and perception of digital finance in respondents' communities. As it turned out, the findings indicate that there are about 200 fintech and 161 non-fintech customers. The results mean that the fintech user is more interested in the use of cryptocurrency in Malaysia's digital market.

### **5.3.2 The Direct Effect of Predictor Variables on the Mediator Variable**

This section explains the direct effect of an independent variable through the mediator. The subsection is presented broadly.

#### **5.3.2.1 The Effect of Trust on Behaviour Intention**

A significant relationship was found between trust and behavioral intention (BI). The result also indicates that trust (TR) is a significant contributor to the consumers' behavioral intention of cryptocurrency users in Malaysia (Erciş *et al.*, 2012). This outcome is similar to the findings of the previous studies. Trust is a predictor of cryptocurrency user BI in Malaysia's digital market (Alaeddin & Altounjy, 2018a). Trust is considered as a source of confidence (Sultan & Wong, 2019). Trust enhances the confidence to use cryptocurrency to consumers, and better understanding increases BI (Ku-Mahamud *et al.*, 2019). The trust stimulates consumers' beliefs and enhances

the intention of the use of cryptocurrency. This confidence improves the behavioral intention of the digital market in Malaysia.

In the case of cryptocurrency investment actions among Muslim communities, these dimensions are incredibly significant. Trust is invoked explicitly in this analysis since the cryptocurrencies are not controlled by a separate, well-known and account management issue. Therefore, it has generally been assumed that societies are more likely than cryptographic currencies to trust a monetary entity provided by a recognized body (Bakar & Rosbi, 2017). Furthermore, all transactions and acquisitions occur on online platforms in the digital market security (Nurhisam, 2017). Therefore, cryptocurrency management is seen as highly protected compared to other electronically controlled financial systems (Meera, 2018). On the other hand, profitability is one of the most relevant requirements for choosing investments in crypto transactions (Sarwar, Nisar, & Khan, 2019).

Trust is the fundamental need of cryptocurrency in Malaysia. The cryptocurrency market of Malaysia is meeting the trust aspect of the consumers. The brand and service trust also meet users' faith in trust, confidence, and behavioral elements (Tajvidi *et al.*, 2017). These trusts create a sensation for consumers' behavioral intention on cryptocurrency.

### 5.3.2.2 The Effect of Social Influence on Behavioral Intention

Social influence (SI) is considered an antecedent of behavioral intention (BI), and relationship development starts with social influence. From Table 4.10, the result ensured that the relationship between social influence and behavioral intention was positive and significant, which confirms the support of hypothesis H1. This finding was supported by the previous studies' similar results (Albayati *et al.*, 2020a). This means that social influence (SI) is a good predictor of behavioral intention and plays a significant role in behavioral intention (Yeong, 2019). Likewise, social influence (SI) impacts and creates more sensation on behavioral intention (Arias *et al.*, 2019). This is consistent with the previous studies (Chow *et al.*). Those studies were conducted in Zimbabwe, India, China, Turkey, and the USA, respectively, in Malaysia's digital cryptocurrency market.

Social aspects have a profound impact on modern technology consumer actions. Many studies and methods indicate social factors to be significant in explaining the purpose of the customer's behavioral as this study reaches the same results (Chaouali *et al.*, 2016). Another research has found that the social dimension positively influences technology's utility (Malhotra & Galletta, 1999). Hence, social influences have also strengthened co-operation in order to build support (Bhattacharjee & Premkumar, 2004). Varadarajan and Yadav stated The IT market is a network of technologies that can provide ample free space for both buyers and sellers to conduct information transactions and other performances on different times and dates (Varadarajan & Yadav, 2002). Hence, the social influence of people's expectations predicts their



worth. Customer trust in the use of a system can impact the workforce and improve their work life (Venkatesh & Davis, 2000; Venkatesh *et al.*, 2012; Venkatesh & Zhang, 2010).

Moreover, many environmental categories that help people engage in the cryptocurrency ecosystem are social influences (Yeong, 2019). These organizational processes can be an excellent instrument to simplify the use of cryptocurrency. In addition, Mathieson clarified the need for additional resources to help understand the connection between social impact and behavioral intention of technology (Mathieson, 1991). It is highly anticipated that most workers contribute towards technology use by others in the workplace (Venkatesh *et al.*, 2012). Though, social factors conveyed to esteemed officials by families, friends, colleagues, and employees.

Social influences are interpreted in Chin & Hsi when people connect and communicate through an IT system and exchange knowledge. Generally, a group is rendered through this interpersonal interaction (Hsu & Lu, 2004). Family or friends who consent to use new products or services to improve confidence and their real use are responsible for the degree of certainty (Chaouali *et al.*, 2016).

Social influence predicts consumer behavioral since consumers provide a memorable and unique experience (Zikmund-Fisher *et al.*, 2010). Consumers nowadays do not buy the products or services that only offer functional benefits; instead, they also look for experiential aspects of the products (Schaupp & Festa, 2018). Consequently, beside academicians, marketing practitioners acknowledge the importance of social influence

services and consider it an intention strategy (Zulhuda & binti Sayuti, 2017). Notably, social influence plays a key role in differentiating behavioral intentions (Xiong & Tang, 2020). Social influence motivates consumers to maintain a relationship with the intent to use it (Yeong, 2019).

### **5.3.2.3 The Effect of Cryptocurrency Transaction Transparency on Behaviour Intention**

The regression analysis model showed that cryptocurrency transaction transparency (Herrero & San Martín) positively and significantly affects behavioral intention (BI). This result suggests that more cryptocurrency transparency (Mell, 2018) boosts behavioral intention to adopt the crypto-system in Malaysia. It also shows that when a company takes care of its transaction's transparency by increasing, it enhances its behavioral intention (Chakraborti *et al.*, 2019). A possible explanation for the result could be that the transparency has developed sustainability processes (Chakraborti *et al.*, 2019), for example, for peer transaction, which reduces doubt, and increases the use of cryptocurrency among the stakeholders.

Transparency is a process of transparent dealings among society's stakeholders (Oulasvirta *et al.*, 2014). A transparent process shows the loyalty and reliability of peer transactions (Nilashi *et al.*, 2016). Much research has worked on transparency issues (Oulasvirta *et al.*, 2014). On the contrary, significantly less work has been done on cryptocurrency. In addition, some research found a positive relationship between the cryptocurrency transaction and behavioral intention. Besides, a cryptocurrency

company that can successfully manage transparent deals achieve a modest benefit, subsequent in the above-average user intention.

#### **5.3.2.4 The Effect of Technology Awareness on Behaviour Intention**

The study confirmed the significant effect of technology awareness (TA) on behavioral intention (BI) as it was hypothesized earlier. It means that the role of technology awareness has predictive capacity on Malaysia's cryptocurrency market's behavioral intention. This outcome is constant with studying the previous result (Alaeddin & Altounjy, 2018a; Bagozzi, 2007). Also, similar findings have been originated in this study.

Integrity can inspire users to behave, whether they have a positive mindset or have social group expectations (Dinev & Hu, 2005). Other research in the literature supports this statement, which has the direct effects of enhanced perception on the intention to support actions (Dinev & Hu, 2005). Sensitivity technology awareness has been defined as an essential consumer feature judgment on new technology adoption (Yan *et al.*, 2019). In modern system usage, knowledge of the costs, expertise, and related issues may be considered a customer understanding and the associated benefits and disadvantages of technology usage (Komendantova & Yazdanpanah, 2017). Knowledge is an essential component in demonstrating the consumer's intention to follow the use of technology (Yasmin & Grundmann, 2019).

A positive understanding and purpose among users' awareness of technology are highly recommended (Moula, Nyári, & Bartel, 2017). It is highly recommended that consumers be aware of their efforts and attempt to transform their efforts using modern green technologies (Al-Marri, Al-Habaibeh, & Watkins, 2018). It is essential to extend technologies and positive ecological impacts and market knowledge of technical problems (Luthra et al., 2015). However, people might not always be well educated because of low levels of education. This lack of awareness impacts customer's knowledge of most recent technology (Wang, Wang, *et al.*, 2020).

Awareness creates meaningful cautiousness of the individual (Edsand & Broich, 2020). Besides, technology considers the most sophisticated phenomena (Furtado *et al.*, 2020). Hence, technology awareness creates cautions in using technology (Lingmont & Alexiou, 2020a). Therefore, technology awareness is the most significant predictor for the behavioral intention of cryptocurrency uses in Malaysia.

#### **5.3.2.5 The Effect of Customer Satisfaction on Behaviour Intention**

From the result of Table 4.10, it is evident that the hypothesis is not supported. It means that customer satisfaction failed to explain the variance of behavioral intention (BI) directly (Alaeddin & Altounjy, 2018a). The role of customer satisfaction on behavioral intention is not meaningful for the cryptocurrency of Malaysia. This outcome is steady, with the result of Alaeddin and Altounjy (2018a). However, the previous study showed that customer satisfaction, and the behavioral intention relationship was significant.

Subsequently, another study predicts that the relationship between customer satisfaction by behavioral intention is insignificant (Walsh, Dinnie, & Wiedmann, 2006). A similar study identified the reasons for the failure of customer satisfaction in building behavioral intention (Burton *et al.*, 2003). They mentioned that the reason for customer satisfaction failure is that marketers considered customers as a “customer” instead of people (Walsh *et al.*, 2006). Marketers form customer satisfaction strategies based on the information are available in the behavioral intention, but they fail to incorporate that give meaning to them (Walsh *et al.*, 2006). Likewise, in particular, the digital market user doesn't focus on satisfaction because of its attraction. Despite that, the cryptocurrency user is fascinated by new digital currency and wants to explore the latest technology. As a result, most of the customer satisfaction aspect was found non-significant as a predictor of behavioral intention of cryptocurrency user in Malaysia.

Most of the customer satisfaction strategy was based on consumer demand and desire. Malaysia's cryptocurrency market is very new, and the user is not satisfied because of its proper use and understanding to use in behavioral intention (Burton *et al.*, 2003). Also, consumers do not find any differentiation among the offers of a different cryptocurrency, and they do not see any attraction to these offers. Due to inappropriateness, they are not taking part in using this cryptocurrency for further trading. Therefore, customer satisfaction programs fail to bear any significant result for the behavioral intention in Malaysia.

Large customer size means heterogeneity in the market segments with diverse needs and expectations. It becomes difficult for them to satisfy the customers of cryptocurrency user according to their expectations. Maintaining a relationship with customers was not significant for the cryptocurrency users in Malaysia's digital market.

### **5.3.2.6 The Effect of Attitude on Behavioral Intention**

Compared to the relationship between attitude (AT) and behavioral intention (BI), an inverse association was found regarding attitude and BI's relationship. Many authors predicted a significant relationship between attitude and behavioral intention (Albayati *et al.*, 2020a; Davis, 1985, 1989; Schaupp & Festa, 2018). However, the result of this study showed a non-significant relationship between attitude and behavioral intention. This result is constant with the survey of Tasnidis (Tsanidis *et al.*, 2015). This indicates that attitude cannot play a significant role in forming a relationship with the behavioral intention of Malaysia's digital market. Therefore, this finding of the present research can generalize the same result of attitude from a developing country perspective.

However, perceived attitude is determined by the effect of the use of efficiency, the intrinsic motivation relates to the force and regardless of the external effects, these actions lead to behavioral intention (Deci, Cascio, & Krusell, 1975). The role of behavioral attitude is still an open question. However, some theoreticians maintain that beliefs affect the behavioral only through their indirect influence over attitudes (Fishbein & Ajzen, 1975). In addition, some others consider attitudes as co-

determinants of behavioral intentions (Triandis, 1977). The comparison of the perceived study found that behavioral attitude does not entirely mediate the impact of perceived ease of use on behavioral intention (Ajzen & Fishbein, 1975; Davis, 1985, 1989).

This non-significant result is similar to previous studies and can be attributed to a few reasons (Alzahrani & Daim, 2019). Malaysia is a developing country, and the income level is not very high (Zulhuda & binti Sayuti, 2017). Conversely, the cryptocurrency companies are offering only a high price. Also, the concept of A is appropriate for high-income people for cryptocurrency. Only rich people can use it, which is why A is not positively related to cryptocurrency's behavioral intention. These cause consumers to form negative perceptions of the behavioral intention.

#### **5.3.2.7 The Effect of Facilitating Condition on Behaviour Intention**

The hypothesized relationship between facilitating condition (FC) and behavioral intention (BI) was supported (Table 4.10) in this study. The facilitating condition had a predictive capacity for behavioral intention. It expresses that the more the level of facilitating condition is, the higher the level of behavioral intention for Malaysia's cryptocurrency market. This study's finding is consistent with previous research (Arias *et al.*, 2019).

Facilitating conditions enhance behavioral intention on the use of cryptocurrency in Malaysia's digital market (Ayedh *et al.*, 2020). Facilitating conditions helps to amass

behavioral intention and modified the offer that best suits consumer needs (Arias *et al.*, 2019; Ayedh *et al.*, 2020). Apart from that, Facilitating conditions boost the perceived quality, which is a determinant of behavioral intention. The cryptocurrency of Malaysia ensures its facilitating condition by behavioral intention (Xiong & Tang, 2020).

The digital market of Malaysia tries to know the consumers' expectations and intentions. They have facilitated their services according to the expectations of the consumers (Yeong, 2019). Consumers of cryptocurrency of Malaysia can choose their currency, brand, and value it appropriately. Facilitating conditions enable consumers to lessen and understand cryptocurrency (Arias *et al.*, 2019). Consumers find these facilities are in good values and comfortable use of cryptocurrency in their use. Like electronic gadgets and facilities benefits, a constructed facility makes the consumers intend to use the cryptocurrency use in Malaysia.

#### **5.3.2.6 The Effect of Performance Expectancy on Behaviour Intention**

The interaction term's findings between performance expectancy (PE) and behavioral intention (BI) indicate negatively. Some studies show that it is a positive relationship (Arias *et al.*, 2019), whereas the result of the present study shows a negative relation in this respect (Calderón *et al.*, 2017). The opposite outcome might be due to the concern of the digital currency user's performance on behavioral intention (Lee & Song, 2013). These performance expectancy directors may not be motivated to make effective and efficient behavioral intentions (Lee & Song, 2013).



Consequently, performance expectancy is co-related to behavioral intention to use (Hanson *et al.*, 2011). The outcome is very different from previous studies and can be attributed to a few causes. Malaysia is a developing nation, and the people are mostly educated. Hence, the consumer of Malaysia needs more performance in order to use cryptocurrency in the digital market. The results also show that performance expectancy and behavioral intention were found to be negative and statistically insignificant (Hanson *et al.*, 2011). The previous study found the same relationship (Calderón *et al.*, 2017). Thus, when a consumer is involved in more performance expectancy, then the behavioral intention went less to use the cryptocurrency.

### **5.3.2 The Direct Relationship between the Mediator (Behaviour Intention) and the Dependent Variable (Cryptocurrency Adoption)**

From Table 4.10, the result has confirmed the support for hypothesis H9. The hypothesis has a significant positive relationship between behavioral intention (BI) and cryptocurrency adoption (CA). In other words, behavioral intention is a significant predictor of cryptocurrency adoption in Malaysia (Ku-Mahamud *et al.*, 2019). It indicates that behavioral intention has played a meaningful role in predicting cryptocurrency adoption in Malaysia. This outcome is steady with the previous research on technology adoption in Malaysia. This study was also conducted on the consumer's intention to adopt the technology (Alalwan, Dwivedi, *et al.*, 2015). It implies that behavioral intention is essential for strengthening cryptocurrency adoption for both developed and developing countries (Pandya *et al.*, 2019). The most

recent study conducted on behavioral intention also supported this finding (Alalwan *et al.*, 2017).

A summary of results from the hierarchical moderated multiple regression model shows a positive and significant relationship between the behavioral intention and cryptocurrency adoption (LIM, 2018). The result indicates that behavioral intention positively mediates the relationship between cryptocurrency adoption in Malaysia's digital market (Ku-Mahamud *et al.*, 2019). Thus, behavioral intention can make strategic changes in cryptocurrency adoption (Saleh *et al.*, 2020), which also enhance the stakeholders' adaptability to cryptocurrency.

Another research showed that behavioral intention strengthens cryptocurrency adoption (Alalwan *et al.*, 2017). Behavioral intention is the sum of both positive and negative feelings or emotions (Alalwan, Dwivedi, *et al.*, 2015). An intention can make consumers adapt to something very new (Alalwan *et al.*, 2016). The intention also creates a new sensation to use something unique and implement it for everyday use (Alalwan, Rana, *et al.*, 2015). However, the consumers' dissatisfaction demotivated the consumer to adopt the product use (Alam *et al.*, 2012). Therefore the behavioral intention is a significant predictor and mediator for cryptocurrency adoption in the digital market Malaysia.

### **5.3.3 The Mediating Relationship Between the Predictor Variable and the Dependent Variable**

This study proposed behavioral intention as a mediator (Table 4.11). It works as a mediator between the relationship of SI and BI, FC and BI, PE and BI, CTT and BI, CS and BI, TR and BI, TA and BI, and AT and BI. These mediating relationships are discussed below.

#### **5.3.3.1 Behavioral Intention Works as a Mediator between Trust and Cryptocurrency Adoption**

The hypothesis 10A of this study predicted the role of behavioral intention as a mediator between trust and cryptocurrency adoption. The study found the significance of behavioral intention as a mediator between the trust and cryptocurrency adoption in Malaysia's digital market (Albayati *et al.*, 2020a; Ayedh *et al.*, 2020; Guych *et al.*, 2018; Mahomed, 2018). The indirect effect of behaviour intention towards the cryptocurrency adoption is also vital as suggested by (Ayedh *et al.*, 2020; Roussou & Stiakakis, 2016). The indirect effect of trust and cryptocurrency adoption (Hypothesis 10A) was also significant. According to Hair *et al.*, (2017), this is called complementary mediation. This means that trust influenced cryptocurrency adoption relationship in Malaysia's digital market through behavioral intention (Alaeddin & Altounjy, 2018a; Ku-Mahamud *et al.*, 2019; Miraz, 2020a, 2020b).

### **5.3.3.2 Behavioral Intention Works as a Mediator between Social Influence and Cryptocurrency Adoption**

Hypothesis 10<sub>B</sub> of this study has provided support for behavioral intention as a mediator. This finding is consistent with the study (Chow *et al.*, 2019) where behavioral intention was found as a mediator from social influence context. This result is also consistent with the UTAUT2 theory perspective. Behavioral intention was seen as a mediator in the other study based on cryptocurrency adoption (Putra & Darma, 2019). The outcome also shows that social influence and cryptocurrency adoption mediate through behavioral intention.

### **5.3.3.3 Behavioral Intention Works as a Mediator between Cryptocurrency Transaction Transparency and Cryptocurrency Adoption**

Hypothesis 10<sub>c</sub> demonstrates the behavioral intention mediation between cryptocurrency transaction transparency and cryptocurrency adoption. Malaysia's digital market consumers have been undergoing different cryptocurrency transaction transparency through sensory, affective, intellectual, and behavioral aspects (Almarashdeh *et al.*, 2018). The digital market in Malaysia ensures easy use and accessibility to consumers. The transaction facilitates consumers' attachment and connects them with users. The transaction offers consumers different integration and benefit, which consumers can interact to fit their needs best. All these features ensure

behavioral intention, which in turns enhance digital transaction with cryptocurrency adoption.

#### **5.3.3.4 Behavioral Intention Works as a Mediator between Technology**

##### **Awareness and Cryptocurrency Adoption**

The mediating effect of behavioral intention on technology awareness and cryptocurrency adoption was found to be significant in this study (Alaeddin & Altounjy, 2018a). This indicates that behavioral intention acts as an important mediating variable between technology awareness and cryptocurrency adoption (Bagozzi, 2007; Davis, 1985; Furtado *et al.*, 2020). According to Hair *et al.* (2017), the mediating effect's nature was indirect only mediation since the indirect relationship between technology awareness and cryptocurrency adoption was found significant. In the technology awareness study, behavioral intention worked as a mediator in the Malaysian context study.

#### **5.3.3.5 Behavioral Intention Works as a Mediator between Customer**

##### **Satisfaction and Cryptocurrency Adoption**

This study's finding signifies the importance of behavioral intention in building customer satisfaction with cryptocurrency adoption in Malaysia's digital market. The result of this study suggests that Malaysian consumers of cryptocurrency do not rely on the satisfaction to use this new technology (Albayati *et al.*, 2020a; Ayedh *et al.*, 2020; Furtado *et al.*, 2020). It is because of its fascination and its demand (Guych *et*

*al.*, 2018). A particular group of people wants to explore it because of its reputation and prestige (Roussou & Stiakakis, 2016). The result shows a negative relation of customer satisfaction toward cryptocurrency adoption through behavioral intention (Guych *et al.*, 2018; Shahzad *et al.*, 2018). The cryptocurrency uses do not depend on satisfied consumers but the reputation.

#### **5.3.3.6 Behavioral Intention Works as a Mediator between Attitude and Cryptocurrency Adoption**

The hypothesis 10<sub>F</sub> stated that behavioral intention does not mediate the relationship between attitude (Ryu, 2018) and cryptocurrency adoption. The study found that behavioral intention as a mediator between the attitude and cryptocurrency adoption in Malaysia's digital market is not significant. Previously, the direct relationship between attitude and cryptocurrency adoption was found to be non-significant. According to Hair *et al.*, (2017), this is called the indirect only mediation. This means that cryptocurrency adoption strategies cannot influence attitude through the mediation of behavioral intention in Malaysia's digital market.

#### **5.3.3.7 Behavioral Intention Works as a Mediator between Facilitating Condition and Cryptocurrency Adoption**

From the finding of this study, it is observed that the effect of facilitating condition on behavioral intention was found significant. Simultaneously, the impact of behavioral intention on cryptocurrency adoption was also found to be significant (Arias *et al.*,

2019). The specific indirect effect of facilitating conditions on cryptocurrency adoption was also being found to be significant (Ayedh *et al.*, 2020; Chow *et al.*, 2019). This means that the facilitating condition adopted by the digital market of Malaysia ensured their behavioral intention. In return, well-facilitated customers become interested in the uses of cryptocurrency (Chow *et al.*, 2019). Therefore, facilitating conditions provides a higher level of cryptocurrency adoption with their behavioral through Malaysia's digital market.

### **5.3.3.8 Behavioral Intention Works as a Mediator between Performance**

#### **Expectancy and Cryptocurrency Adoption**

Many studies found that performance expectancy is a valuable construct (Arias *et al.*, 2019; Chow *et al.*, 2019). However, hypothesis 10<sub>H</sub> shows a difference from this research outcome. From the finding of this study, it is observed that the effect of performance acceptance on behavioral intention was found insignificant (Zamzami). Because of cryptocurrency technology, it is unique and volatile (Fauzi *et al.*, 2020; Feinstein & Werbach, 2020; Guych *et al.*, 2018). The use of cryptocurrency is focused on the benefit, not its performance. At the same time, the impact of behavioral intention on cryptocurrency adoption was also found to be irrelevant. The specific indirect effect of performance expectancy on cryptocurrency adoption was also being found not to be significant. Performance expectancy becomes not interested in the uses of cryptocurrency. Therefore, performance expectancy provides a lower adoption level through behavioral intention in Malaysia's digital market.

## **5.4 Implications of the Study**

This research includes direct relations in its theoretical context, which explores its effects on cryptocurrency adoption (CA). A direct relationship means that it is important to strengthen CA related to the cryptocurrency market in Malaysia. The direct connection between CA and behavioral intention (BI) indicates BI as a mediator in this study for Malaysia's digital market. In that regard, Hallinger stated that the conceptual framework conveys implications in theoretical, practical, and methodological aspects (Hallinger, 2010). Also, there is seven research gap. These are Evidence Gap (Contradictory Evidence Gap), Knowledge Gap (Knowledge Void Gap), Practical-Knowledge Gap (Action-Knowledge Conflict Gap), Methodological Gap (Method and Research Design Gap), Empirical Gap (Theory Application Void Gap), Theoretical Gap (Theory Application Void Gap) (Miles, 2017; Müller-Bloch & Kranz, 2015) and Population Gap (Robinson, Saldanha, & Mckoy, 2011). This research constructed five implications that are discussed below.

### **5.4.1 Theoretical Implication**

This empirical research has a significant impact in a few ways from a theoretical viewpoint. Firstly, Venkatesh et al. (2012) have developed a 'Unified Technology Acceptance and Use of Technology 2 (UTAUT 2) (Venkatesh *et al.*, 2012) as a founding theory. The research is planned to make a significant impact on UTAUT 2 from a theoretical standpoint. This theory was used in relationship analysis, as Venkatesh et al. (2012) took the service adoption model channel.



The use of this principle is fitted from the cryptocurrency adoption point of view. This theory was initially used to find Malaysia's technology acceptance, but they did not correctly use predictor and mediator variables. This research is also one of the few attempts to propagate the idea of cryptocurrency adoption by UTAUT2.

Secondly, the phenomenon described in this study has been better explained and generalized. An approach based on UTAUT2 better understands the technology and uses linked to an individual intention and adoption. Therefore, this study used SI, FC, PE, CTT, CS, TR, TA, and AT to construct the relationship between behavioral intention (BI) and cryptocurrency adoption (CA).

Thirdly, the study established the influence of TR, SI, CTT, TA, CS, AT, FC, and PE in behavioral intention (BI). Among the eight predictors, five (SI, FC, CTT, TR, and TA) played a significant leading role in BI. PE, CS, and AT is the lowest vital construct in influencing the BI.

Fourthly, the relationship between the construction was calculated by a correlation study (Preacher & Hayes, 2008). An intervening variable explains the reasons for this relationship (Hair Jr *et al.*, 2017). Behavioral intention is a well-established construct in technology usage literature. In this study, behavioral intention was used as a mediating variable to understand its predictive capacity between SI, FC, PE, CTT, CS, TR, TA, AT, and CA as an intervening variable. The study supported five of them, which are SI, FC, CTT, TR, and TA had an indirect relationship with CA through BI. Three are the least important (PE, CS and AT).

#### 5.4.2 Methodological Implication

Beside functional and theoretical contributions, several methodological contributions have been established.

For the first time, a complex cryptocurrency adoption model was created, as Hair et al. (2017) proposed that more than four variables were seen as a complex model. The investigator simultaneously evaluated eight independent variables, one mediator, and one dependent latent cryptocurrency adoption construct. Thus, this work provided the effect of eight independent variables and one mediator simultaneously on the independent construct in the cryptocurrency adoption field of study.

Secondly, this research has conceptualized cryptocurrency adoption from the perspective of integrating different dimensions. Still, they have not placed this idea into the real scope and no clear research idea or findings. However, few empirical researchers tried to study cryptocurrency adoption among ordinary civilians and university students.

Thirdly, this study used eight constructs (SI, FC, PE, CTT, CS, TR, TA, and AT) as higher-order constructs. It is also rare in cryptocurrency adoption studies that used eight higher-order constructs in a single study.

Fourthly, this study's component measures have been adapted from specific research carried out in various environments. The validity and reliability of the measurements have been checked with multiple statistical criteria for this analysis. Therefore, from

the development point of view, particularly in Malaysia, this study validated the variables (SI, FC, PE, CTT, CS, TR, TA, AT, BI, and CA).

Fifthly, previous cryptocurrency adoption studies were observational using AMOS and SPSS. However, this study used PLS-SEM as a reference in this analysis. PLS-SEM has the highest predictability for a configuration (Hair *et al.*, 2017; Hair Jr *et al.*, 2017).

#### **5.4.3 Practical Implication**

The findings of this analysis offer valuable insights into reality. This study is significant, in addition to academic contributions, for cryptocurrency companies, their distributors and suppliers, the Malaysian government, and other developing countries. Apart from practical implications, multiple aspects apply to this analysis. Also, cryptocurrency adoption is beneficial for Malaysia's digital market. Hence, it obtains a significant understanding of this study regarding relationships between cryptocurrency and liquidity crunch.

Secondly, the cryptocurrency adoption studies were mainly carried out from the perspective of developed countries. This study was conducted in a developing country, particularly Malaysia, with crucial practical importance. This study offers the Malaysian cryptocurrency market's key insights and findings.

Thirdly, for Malaysian cryptocurrency ensuring behavioral intention is critical. To improve cryptocurrency adoption or customer relationships, this would not have achieved the desired results unless the results could guarantee customer happiness. The cryptocurrency market in Malaysia boosts behavioral intention in indirect ways. For Malaysian administrators, this is a significant insight. Cryptocurrency companies should consider consumer's desires and preferences before introducing digital currency, such as SI, FC, PE, CTT, CS, TR, TA, and AT. If consumers meet their expectations and satisfy them, they will show their intentions and adopt the new cryptocurrency.

#### 5.4.4 Evidence-Based Implication

This research discloses the most related variable that impacts cryptocurrency in the digital market in Malaysia. These variables are social influence (SI), facilitating condition (FC), performance expectancy (PE), cryptocurrency transaction transparency (CTT), customer satisfaction (Henseler *et al.*), trust (TR), technology awareness (TA), attitude (AT), behavioral intention (BI), and cryptocurrency adoption (CA). The research established that five (SI, FC, CTT, TR, and TA) played a major role. PE, CS, and AT are the negative factors to cryptocurrency adoption in Malaysia. A negative result contributes and shows a Contradictory Evidence Gap (Miles, 2017; Müller-Bloch & Kranz, 2015).

Most of the research shows that performance expectancy is a significant variable impacting the cryptocurrency digital market. It has a beneficial impact on the user.

However, this research shows a different result, and it is because of the nature of cryptocurrency in Malaysia's digital market. Therefore, it is a distinguished contribution.

*Customer satisfaction is the key to every product finding. Only customer satisfaction enhances production and company reputation. Besides that, customer satisfaction is the final goal of the product. Also, product buys & sales depend on customer satisfaction. However, this research identified that customer satisfaction is not a valuable variable for cryptocurrency adoption in Malaysia's digital market. Hence, it demonstrates the contradictory contribution to this research.*

Attitude expresses the intention of the use of the product or technology. Attitude is also the nature of the utilization of the recent product. It demonstrates the attitude towards product use. However, this research shows a contradictory result, which is a contribution.

#### **5.4.5 Population-Based Implication**

This is one of the unique research where the cryptocurrency user of Malaysia is a population. It includes the cryptocurrency user in the digital market of Malaysia. Besides, this research went to the digital market and the cryptocurrency organization. This includes the cryptocurrency consumer who is involved in the digital market of Malaysia.

## 5.5 Limitations of the Study and Suggestion for Future Research

The research contributes to cryptocurrency consumers, national banks, digital currency companies, world banks, theoretical, practical, and methodological considerations. However, this work may have more results to resolve these limitations, providing room for future study.

Furthermore, the analysis consisted of ten buildings ( e.g., SI, FC, PE, CTT, CS, TR, TA, AT, BI, and CA). Other variables, such as price volatility, acceptance, trades, pandemic effect, etc., have not been included. Consequently, potential studies have the scope in the cryptocurrency adoption study to include another building of the relationship.

Thirdly, the study examined the relationship of cryptocurrency adoption in the digital market in Malaysia in general. However, cryptocurrency also impacts on liquidity crunch in the Malaysian banks.

Lastly, this study used only cross-sectional data. Therefore, future studies should be conducted based on longitudinal data. It helps to understand how the relationship changes during this period.

## 5.6 Conclusion

This research aimed to examine the variables that affect the relationship between consumer behavioral intention and cryptocurrency adoption for digital market Malaysia. Malaysian digital marketers need to improve their customer behavioral intention relationship because cryptocurrency is very new to Malaysia's digital market.

The following conclusion can be drawn from the results of this study:

1. SI, FC, CTT, TR, and TA have played a significant role in consumers' relationships with Malaysian cryptocurrency adoption. PE, CS, and AT in Malaysia can not directly affect consumer ties with cryptocurrency adoption digital market Malaysia (consistent with the research objective 1).
2. The study also revealed that behavioral intention directly influenced the cryptocurrency adoption relationship in Malaysia's digital market (consistent with the research objective 2). It means that the higher the level of behavioral intention is, the higher the cryptocurrency adoption is too.
3. The study also discovered that behavioral intention indirectly influenced the cryptocurrency adoption of Malaysia's digital market. This study also demonstrates the interrelation of the predictor, mediator, and dependent variable (consistent with the research objective 3). The study also found that the predictor variable (SI, FC, CTT, TR, and TA) and cryptocurrency adoption mediation effect through behavioral intention.

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**UUM**  
Universiti Utara Malaysia

## Appendix A Questionnaire



School of Technology Management and Logistics,  
Universiti Utara Malaysia

Dear Respondents,

I am a PhD student of Universiti Utara Malaysia (UUM). I am conducting a study on “Factors Affecting Cryptocurrency Adoption in Digital Market of Malaysia”.

This questionnaire constructs to study the factors affecting cryptocurrency adoption in Malaysia.

I will appreciate it very much if you answer the questions carefully as the information will influence the accuracy and the success of this research. It will take no longer than 5 minutes to complete the questionnaire. All answers will be treated with strict assurance and will use for the study only.

If you have any questions regarding this research, may contact at the following address. [mahadimiraz1@gmail.com](mailto:mahadimiraz1@gmail.com). and by phone at +60147958289 or my supervisors, Assoc. Prof. Dr. Mohamad Ghozali Hassan ([ghozali@uum.edu.my](mailto:ghozali@uum.edu.my)) or Dr. Kamal Imran Mohd Sharif ([kamalimran@uum.edu.my](mailto:kamalimran@uum.edu.my)).

Thank you for your cooperation and the time taken to answer this questionnaire.

Yours Sincerely,

Mahadi Hasan Miraz

Universiti Utara Malaysia

Sintok, Kedah.



**Section 1-** (Demographic Profile): Please use tick mark ( ✓ ) for each statement below.

1. Gender:

Male  Female

2. Age:

18-25  26-35  36-45  46 & Above

3. Academic Degree:

SPM  STPM  Diploma  Bachelor  Masters  PhD  Other

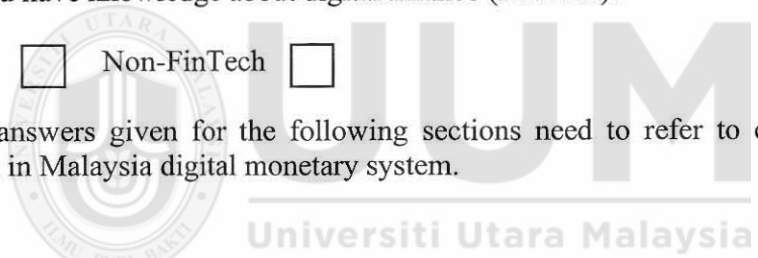
4. Marital Status:

Single  Married

5. Do you have knowledge about digital finance (FinTech)?

FinTech  Non-FinTech

All the answers given for the following sections need to refer to cryptocurrency adoption in Malaysia digital monetary system.



**Section 2: Social Influence**

Please tick (✓) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	People who influence my behaviour think that I should use cryptocurrency					
2	People who are important to me think that I should use cryptocurrency					
3	The crypto digital market is helpful in the use of cryptocurrency					
4	In general, the crypto communities have supported to use of cryptocurrency					

### Section 3: Facilitating Condition

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I have the necessary resources to use cryptocurrency					
2	I know necessary to use cryptocurrency					
3	Cryptocurrency is compatible with other digital currency I use					
4	Crypto digital market is available to assist consumer for cryptocurrency-related difficulties					

### Section 4: Performance Expectancy

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I would find cryptocurrency is useful in digital transaction					
2	Cryptocurrency enables me to do the easy transaction					
3	Using cryptocurrency increases my productivity					
4	If I use cryptocurrency, I will increase my chances of getting a raise					

### Section 5: Cryptocurrency Transaction Transparency

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

Description	1	2	3	4	5
1 Cryptocurrency supply chain processes are transparent to me					
2 Cryptocurrency provides me in-depth access to crypto transaction					
3 Applications of cryptocurrency are well described to me					
4 Cryptocurrency usability is clear to me					

### Section 6: Customer Satisfaction

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

Description	1	2	3	4	5
1 I am satisfied with the usages of cryptocurrency					
2 I am delighted with using cryptocurrency					
3 My interaction with cryptocurrency is very satisfying					



### Section 7: Trust (TR)

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I have trust in the cryptocurrency Service provider					
2	I believe the transaction process of cryptocurrency is correct					
3	I choose cryptocurrency from a registered company					
4	I prefer most secure median for cryptocurrency transaction					

### Section 8: Technology Awareness (TA)

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I follow the news about the cryptocurrency					
2	I follow the developments of the cryptocurrency in the crypto digital market					
3	I discuss with friends and people around me about issues of cryptocurrency usage					
4	I read about the problems of cryptocurrency for general usages					

**Section 9: Attitude (AT)**

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I think it is very convenient to use cryptocurrency anytime					
2	I think it is very convenient to use cryptocurrency anywhere					
3	I think using cryptocurrency is a good idea					

**Section 10: Behavioral Intention (BI)**

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I intend to use cryptocurrency periodically					
2	I want to use the services where can pay by cryptocurrency					
3	I want to use cryptocurrency to pay for my purchases					

**Section 11: Cryptocurrency Adoption (CA)**

Please tick (√) for each statement below

1. Strongly agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly disagree

	Description	1	2	3	4	5
1	I believe I can adapt the cryptocurrency					
2	I can accept cryptocurrency for the efficient monetary transaction					
3	I can adopt a cryptocurrency to survive in the crypto digital world					
4	I believe I can accept cryptocurrency to getting better price form digital market					

**Appendix B Official Letter From Company**





To whom it May concern,

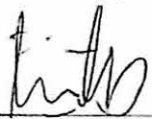
Mahadi Hasan Miraz (Metric No-903306) a PhD student of Universiti Utara Malaysia (UUM), conducting a study on “Factors Affecting Blockchain/Cryptocurrency Adoption in Digital Market of Malaysia”.

This questionnaire constructs to study the factors affecting blockchain and cryptocurrency adoption in Malaysia.

In this manner, we helped him to collect the necessary data for this study. Also helped him to collect various information to accomplish his research.

We appreciate success in his life.

Yours Sincerely,

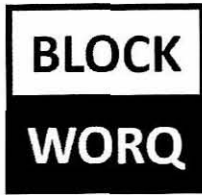


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**(Effendy Zulkifly)**

**Director, Blockchain & IoT Academy Asia (BIOTA)**

HP: +6014 3030 320



**Blockworq Sdn Bhd (1287554-V)**

3730, Persiaran Apec, Cyberjaya, 63000 Cyberjaya, Selangor

Email: [hello@blockworq.com](mailto:hello@blockworq.com) Tel: +603 5480 0529

Website: <http://www.blockworq.com>

To whom it May concern,

Mahadi Hasan Miraz (Metric No-903306) a PhD student of Universiti Utara Malaysia (UUM), conducting a study on "Factors Affecting Blockchain/Cryptocurrency Adoption in Digital Market of Malaysia".

This questionnaire constructs to study the factors affecting blockchain and cryptocurrency adoption in Malaysia.

In this manner, we helped him to collect the necessary data for this study. Also helped him to collect various information to accomplish his research.

We appreciate success in his life.

Yours Sincerely,



**UUM**  
Universiti Utara Malaysia

A handwritten signature in black ink, appearing to read "Effendy Bin Zulkifly", written over a horizontal line.

(Effendy Bin Zulkifly)

CEO, Blockworq Sdn Bhd

Email: [fendyblockchain@gmail.com](mailto:fendyblockchain@gmail.com)

HP: +6014 3030 320

## Appendix C Pilot Test

### Reliability

#### Scale: Social influence

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.854	4

```
RELIABILITY  
/VARIABLES=FC1 FC2 FC3 FC4  
/SCALE('Facilitating') ALL  
/MODEL=ALPHA.
```

### Reliability

#### Scale: Facilitating Condition

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.833	4

```
RELIABILITY
/VARIABLES=PE1 PE2 PE3 PE4
/SCALE('Performance expect') ALL
/MODEL=ALPHA.
```

## Reliability

### Scale: Performance expectancy

**Case Processing Summary**

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.850	4

```
RELIABILITY
/VARIABLES=CT1 CT2 CT3 CT4
/SCALE('Cryptocurrency transpe') ALL
/MODEL=ALPHA.
```

## Reliability

### Scale: Cryptocurrency transaction transparency

**Case Processing Summary**

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	N of Items
.895	4

```
RELIABILITY  
/VARIABLES=CS1 CS2 CS3  
/SCALE('customer satisfaction') ALL  
/MODEL=ALPHA.
```

### Reliability Scale: customer satisfaction

#### Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	N of Items
.873	3

```
RELIABILITY  
/VARIABLES=BS1 BS2 BS3 BS4  
/SCALE('brand service trust') ALL  
/MODEL=ALPHA.
```

### Reliability

### Scale: brand service trust

#### Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.



### Reliability Statistics

Cronbach's Alpha	N of Items
.822	4

RELIABILITY

```
/VARIABLES=TA1 TA2 TA3 TA4  
/SCALE('technology awareness') ALL  
/MODEL=ALPHA.
```

## Reliability

### Scale: technology awareness

#### Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	N of Items
.887	4

RELIABILITY

```
/VARIABLES=BA1 BA2 BA3  
/SCALE('behavior attitude') ALL  
/MODEL=ALPHA.
```

## Reliability

### Scale: behavior attitude

#### Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.873	3

```
RELIABILITY
/VARIABLES=BI1 BI2 BI3
/SCALE('behavior intention') ALL
/MODEL=ALPHA.
```

**Reliability**

**Scale: behavior intention**

**Case Processing Summary**

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.869	3

```
RELIABILITY
/VARIABLES=CA1 CA2 CA3 CA4
/SCALE('cryptocurrency adoption') ALL
/MODEL=ALPHA
```

**Reliability**

**Scale: cryptocurrency adoption**

**Case Processing Summary**

		N	%
Cases	Valid	50	100.0
	Excluded <sup>a</sup>	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.883	4

```
DATASET ACTIVATE DataSet1.
```

```
SAVE OUTFILE='C:\Users\Mahadi Hasan Miraz\Dropbox\FINAL THESIS  
data\Cmplete pilot test\Final '+  
'pilot test and result\new pilot test 50.sav'  
/COMPRESSED.
```



## Appendix D Demographics profile

### Gender:

	Frequency	Percent
Valid Male	216	61.5
Female	133	38.5
Total	349	100.0

### Age:

	Frequency	Percent
Valid 18-25	89	25.4
26-35	98	28.0
36-45	98	28.0
46 & Above	64	18.6
Total	349	100.0

### Academic Degree:

	Frequency	Percent
Valid SPM	37	10.8
STPM	23	6.9
Diploma	52	15.0
Bachelor	92	26.0
Masters	79	22.5
PhD	37	10.8
Others study	29	8.0
Total	349	100.0

**Married:**

	Frequency	Percent
Valid Married	191	54.6
Unmarried	158	45.4
Total	349	100.0

**Fin:**

	Frequency	Percent
Valid FinTech	194	55.4
Non-FinTech	155	44.6
Total	349	100.0

1/25/2020 20:02:13	1.0	18-25	STPM	Unmarreid	1
1/25/2020 20:05:41	2.0	36-45	Bachelor	Married	1
1/25/2020 20:11:52	2.0	36-45	Masters	Unmarried	2
1/25/2020 20:26:13	1.0	26-35	Diploma	Unmarried	1
1/25/2020 20:42:19	2.0	46 & Above	PhD	Married	1
1/27/2020 14:14:59	1.0	18-25	SPM	Unmarried	2
1/27/2020 14:19:00	2.0	36-45	Masters	Married	2
1/27/2020 14:22:23	1.0	26-35	Diploma	Unmarried	1
1/27/2020 14:26:25	2.0	36-45	Masters	Married	1
1/27/2020 14:48:28	2.0	18-25	SPM	Unmarried	3
1/27/2020 14:53:00	1.0	46 & Above	PhD	Married	2
1/27/2020 14:55:57	2.0	26-35	STPM	Unmarried	1
1/27/2020 14:59:43	2.0	18-25	SPM	Unmarried	2
1/27/2020 15:03:31	1.0	46 & Above	PhD	Married	1
1/27/2020 15:05:47	2.0	26-35	STPM	Unmarried	1
1/27/2020 15:07:58	1.0	36-45	Masters	Married	2
1/27/2020 15:10:32	2.0	26-35	Diploma	Unmarried	1
1/27/2020 15:12:37	1.0	36-45	Bachelor	Married	2
1/27/2020 15:15:08	2.0	18-25	Diploma	Unmarried	1
1/27/2020 15:17:19	2.0	46 & Above	PhD	Married	2
1/27/2020 15:19:53	1.0	18-25	SPM	Unmarried	1
1/27/2020 15:22:44	2.0	36-45	Masters	Married	2
1/30/2020 15:43:08	1.0	26-35	STPM	Unmarried	1
1/30/2020 20:45:09	2.0	26-35	Bachelor	Married	2
1/30/2020 20:47:54	1.0	18-25	Diploma	Unmarried	1
1/30/2020 20:51:16	1.0	46 & Above	PhD	Married	2
1/30/2020 20:54:24	2.0	18-25	SPM	Unmarried	1
1/30/2020 20:57:03	2.0	26-35	STPM	Unmarried	1
1/30/2020 20:59:32	1.0	36-45	Bachelor	Married	2

1/30/2020 21:02:08	2.0	18-25	SPM	Unmarried	1	
1/30/2020 21:04:54	1.0	46 & Above	PhD	Married		2
1/30/2020 21:07:04	2.0	26-35	STPM	Unmarried	1	
1/30/2020 21:09:30	1.0	36-45	Masters	Married		2
1/30/2020 21:12:03	2.0	46 & Above	PhD	Married		2
1/30/2020 21:14:54	1.0	18-25	SPM	Unmarried	1	
1/30/2020 21:17:43	2.0	36-45	Bachelor	Married		2
1/31/2020 20:43:01	1.0	26-35	STPM	Unmarried	1	
1/31/2020 20:46:47	2.0	46 & Above	Masters	Married		2
1/31/2020 20:50:09	1.0	18-25	Diploma	Unmarried	1	
2/1/2020 23:13:59	1.0	46 & Above	PhD	Married		2
2/1/2020 23:16:22	2.0	18-25	SPM	Unmarried	1	
2/1/2020 23:19:14	1.0	36-45	Masters	Married		2
2/1/2020 23:21:14	1.0	46 & Above	Bachelor	Married		2
2/1/2020 23:23:37	2.0	18-25	SPM	Married	1	
2/1/2020 23:25:28	1.0	26-35	Diploma	Married		2
2/1/2020 23:28:02	2.0	36-45	Bachelor	Unmarried	1	
2/1/2020 23:32:50	2.0	18-25	SPM	Unmarried	1	
2/1/2020 23:37:22	1.0	36-45	Masters	Married		2
2/1/2020 23:40:32	2.0	26-35	STPM	Unmarried	1	
2/1/2020 23:42:14	1.0	46 & Above	PhD	Married		2
2/1/2020 23:44:03	2.0	36-45	Diploma	Unmarried	1	
2/1/2020 23:45:51	1.0	18-25	SPM	Unmarried	1	
2/1/2020 23:48:33	2.0	36-45	Masters	Married		2
2/1/2020 23:51:33	1.0	26-35	STPM	Unmarried	1	
2/3/2020 10:54:16	2.0	26-35	Bachelor	Unmarried	1	
2/3/2020 10:55:44	2.0	26-35	STPM	Unmarried	1	
2/3/2020 10:58:10	2.0	18-25	STPM	Unmarried	1	
2/3/2020 10:59:37	2.0	18-25	Diploma	Unmarried	1	
2/3/2020 11:00:54	2.0	18-25	Diploma	Unmarried	1	
2/3/2020 11:05:07	1.0	18-25	Diploma	Unmarried	1	
2/3/2020 11:06:42	1.0	18-25	Diploma	Unmarried	1	
2/3/2020 11:38:58	2.0	18-25	Diploma	Unmarried	1	
2/3/2020 11:40:27	1.0	18-25	Diploma	Unmarried	2	
2/3/2020 11:41:48	1.0	26-35	Bachelor	Unmarried	2	
2/3/2020 11:43:45	1.0	36-45	Masters	Married	1	
2/3/2020 11:46:56	2.0	46 & Above	Bachelor	Married		1
2/3/2020 11:48:19	1.0	46 & Above	Diploma	Married		2
2/3/2020 11:52:06	1.0	36-45	Bachelor	Married	1	
2/3/2020 11:59:51	2.0	36-45	Masters	Married	1	
2/3/2020 12:00:58	2.0	18-25	SPM	Unmarried	1	
2/3/2020 12:01:25	1.0	26-35	Bachelor	Married		2
2/3/2020 12:02:37	1.0	26-35	Bachelor	Married		2
2/3/2020 12:02:39	2.0	18-25	SPM	Unmarried	1	
2/3/2020 12:04:52	1.0	18-25	SPM	Unmarried	1	
2/3/2020 12:05:27	1.0	26-35	Bachelor	Married		2
2/3/2020 12:06:22	2.0	36-45	Diploma	Married	1	

2/3/2020 12:06:53	2.0	18-25	SPM	Unmarried	1	
2/3/2020 12:08:25	1.0	18-25	Diploma	Unmarried	2	
2/3/2020 12:08:26	1.0	26-35	Bachelor	Married	1	
2/3/2020 12:09:52	2.0	46 & Above	PhD	Married	2	
2/3/2020 12:10:09	2.0	26-35	Diploma	Unmarried	1	
2/3/2020 12:11:06	1.0	46 & Above	Masters	Married	2	
2/3/2020 12:12:37	2.0	36-45	Masters	Married	2	
2/3/2020 12:13:15	1.0	46 & Above	Masters	Married	1	
2/3/2020 12:15:23	2.0	18-25	STPM	Unmarried	1	
2/3/2020 12:15:35	1.0	26-35	Bachelor	Unmarried	2	
2/3/2020 12:17:41	1.0	46 & Above	PhD	Married	2	
2/3/2020 12:19:25	2.0	46 & Above	PhD	Married	2	
2/3/2020 12:20:16	1.0	26-35	Diploma	Unmarried	1	
2/3/2020 12:21:03	2.0	26-35	Diploma	Unmarried	1	
2/3/2020 12:22:04	1.0	18-25	SPM	Unmarried	1	
2/3/2020 12:22:46	1.0	46 & Above	Others study	Married	2	
2/3/2020 12:25:03	2.0	36-45	Masters	Married	2	
2/3/2020 12:27:18	2.0	26-35	Bachelor	Unmarried	1	
2/3/2020 12:31:51	2.0	46 & Above	PhD	Married	2	
2/3/2020 12:33:24	1.0	46 & Above	Masters	Married	1	
2/3/2020 12:34:15	2.0	18-25	SPM	Unmarried	1	
2/3/2020 12:34:56	1.0	26-35	Bachelor	Married	2	
2/3/2020 12:36:25	2.0	36-45	Bachelor	Married	2	
2/3/2020 12:36:59	2.0	26-35	Diploma	Unmarried	1	
2/3/2020 12:38:06	2.0	46 & Above	Bachelor	Married	2	
2/3/2020 12:39:10	2.0	18-25	STPM	Unmarried	1	
2/3/2020 12:39:31	1.0	36-45	Bachelor	Married	2	
2/3/2020 12:42:45	2.0	36-45	Masters	Unmarried	2	
2/3/2020 12:43:02	1.0	18-25	SPM	Unmarried	1	
2/3/2020 12:44:47	1.0	46 & Above	PhD	Married	2	
2/3/2020 12:46:11	2.0	46 & Above	PhD	Married	2	
2/3/2020 12:47:36	1.0	26-35	Diploma	Married	2	
2/3/2020 12:47:38	2.0	18-25	STPM	Unmarried	1	
2/3/2020 12:48:55	1.0	46 & Above	Others study	Married	2	
2/3/2020 12:51:05	2.0	36-45	Bachelor	Married	2	
2/3/2020 12:52:41	1.0	18-25	SPM	Unmarried	1	
2/3/2020 12:54:15	1.0	46 & Above	Others study	Married	1	
2/3/2020 12:55:06	1.0	46 & Above	PhD	Married	2	
2/3/2020 12:55:22	2.0	36-45	Masters	Unmarried	2	
2/3/2020 12:56:56	1.0	18-25	SPM	Unmarried	1	
2/3/2020 12:57:16	1.0	36-45	PhD	Married	2	
2/3/2020 12:57:58	1.0	36-45	Others study	Married	1	
2/3/2020 12:59:24	2.0	26-35	Others study	Unmarried	1	
2/3/2020 12:59:26	1.0	26-35	Bachelor	Married	2	
2/3/2020 13:00:42	2.0	36-45	Bachelor	Married	2	
2/3/2020 13:01:36	1.0	18-25	SPM	Unmarried	1	
2/3/2020 13:02:38	1.0	18-25	STPM	Unmarried	1	

2/3/2020 13:03:43	2.0	26-35	STPM	Unmarried	1	
2/3/2020 13:04:10	1.0	26-35	Bachelor	Married	2	
2/3/2020 13:04:45	2.0	46 & Above	PhD	Married	2	
2/3/2020 13:06:19	1.0	26-35	Diploma	Unmarried	1	
2/3/2020 13:08:25	1.0	36-45	Others study	Married	1	
2/3/2020 13:14:48	2.0	36-45	Others study	Married	1	
2/4/2020 2:12:39	1.0	46 & Above	Others study	Married	1	1
2/5/2020 23:36:15	1.0	36-45	Masters	Married	2	
2/5/2020 23:34:39	2.0	26-35	Masters	Unmarried	1	
2/5/2020 23:38:47	1.0	46 & Above	Others study	Unmarried	1	1
2/5/2020 23:40:38	2.0	18-25	SPM	Unmarried	1	
2/5/2020 23:42:10	2.0	46 & Above	PhD	Unmarried	1	
2/5/2020 23:44:08	2.0	18-25	Others study	Unmarried	1	
2/5/2020 23:49:54	1.0	18-25	Bachelor	Unmarried	1	
2/5/2020 23:51:39	1.0	26-35	Diploma	Married	2	
2/5/2020 23:53:56	1.0	46 & Above	Bachelor	Married	2	2
2/6/2020 0:01:58	2.0	18-25	STPM	Unmarried	2	
2/6/2020 0:08:12	2.0	18-25	STPM	Unmarried	2	
2/6/2020 0:11:41	1.0	36-45	Masters	Unmarried	2	
2/6/2020 0:13:38	1.0	26-35	Bachelor	Unmarried	2	
2/7/2020 11:46:06	1.0	36-45	Masters	Married	2	
2/7/2020 12:18:47	2.0	26-35	Diploma	Married	2	
2/7/2020 12:21:11	2.0	18-25	Bachelor	Unmarried	1	
2/7/2020 12:23:08	2.0	36-45	Masters	Married	2	
2/7/2020 12:24:17	1.0	18-25	SPM	Unmarried	1	
2/7/2020 12:25:16	2.0	36-45	Bachelor	Unmarried	2	
2/7/2020 12:27:03	1.0	46 & Above	PhD	Married	2	
2/7/2020 12:29:38	1.0	18-25	Diploma	Unmarried	2	
2/8/2020 20:39:48	1.0	46 & Above	Masters	Married	2	2
2/8/2020 20:42:34	2.0	26-35	Bachelor	Married	2	
2/8/2020 20:44:36	1.0	46 & Above	Diploma	Married	2	2
2/8/2020 20:46:10	1.0	26-35	Diploma	Married	2	
2/8/2020 20:48:21	1.0	36-45	Bachelor	Married	2	
2/8/2020 20:50:08	2.0	36-45	Bachelor	Married	2	
2/8/2020 20:51:50	1.0	46 & Above	Masters	Married	2	2
2/8/2020 20:53:41	2.0	18-25	Others study	Unmarried	1	
2/8/2020 20:55:11	2.0	46 & Above	PhD	Married	2	
2/8/2020 20:57:10	1.0	18-25	SPM	Unmarried	1	
2/8/2020 23:50:35	1.0	36-45	Masters	Married	2	
2/8/2020 23:52:30	2.0	26-35	Diploma	Unmarried	1	
2/8/2020 23:54:31	2.0	46 & Above	PhD	Married	2	
2/8/2020 23:56:33	1.0	46 & Above	Others study	Unmarried	1	1
2/8/2020 23:58:05	1.0	36-45	SPM	Married	2	
2/8/2020 23:59:50	1.0	18-25	SPM	Unmarried	1	
2/9/2020 0:01:26	1.0	46 & Above	Others study	Married	1	1
2/9/2020 0:03:07	1.0	26-35	Bachelor	Unmarried	1	
2/9/2020 0:04:49	1.0	46 & Above	PhD	Married	2	



2/9/2020 10:23:32	1.0	36-45 Others study	Unmarried	1	
2/9/2020 10:24:46	2.0	46 & Above Others study	Married		1
2/9/2020 10:25:54	2.0	18-25 STPM	Unmarried	2	
2/9/2020 10:26:56	2.0	18-25 SPM	Married	1	
2/9/2020 10:28:14	1.0	18-25 Diploma	Married	2	
2/9/2020 10:29:21	1.0	46 & Above Others study	Unmarried		2
2/9/2020 10:30:26	1.0	26-35 Bachelor	Married	1	
2/9/2020 10:31:51	1.0	36-45 Masters	Married	2	
2/9/2020 10:33:17	2.0	18-25 Diploma	Married	2	
2/9/2020 10:34:56	2.0	36-45 Masters	Married	2	
2/9/2020 19:36:17	1.0	46 & Above Masters	Married		1
2/9/2020 19:57:18	1.0	36-45 Bachelor	Married	2	
2/9/2020 19:59:10	1.0	26-35 Diploma	Unmarried	2	
2/9/2020 20:01:18	1.0	36-45 Bachelor	Married	2	
2/9/2020 20:03:34	1.0	36-45 Masters	Married	2	
2/9/2020 20:05:49	1.0	26-35 Bachelor	Married	2	
2/9/2020 20:07:35	2.0	36-45 Others study	Married	1	
2/9/2020 20:09:13	2.0	18-25 Others study	Unmarried	1	
2/9/2020 20:10:47	2.0	36-45 Bachelor	Married	2	
2/9/2020 20:12:43	2.0	46 & Above PhD	Unmarried	2	
2/9/2020 20:14:36	1.0	26-35 Diploma	Married	1	
2/9/2020 20:17:18	1.0	18-25 SPM	Unmarried	2	
2/9/2020 21:04:21	2.0	46 & Above PhD	Married	2	
2/9/2020 21:05:44	2.0	26-35 STPM	Unmarried	1	
2/9/2020 21:16:59	1.0	18-25 STPM	Married	1	
2/10/2020 19:18:40	1.0	46 & Above PhD	Unmarried	2	
2/10/2020 19:31:07	1.0	36-45 Masters	Married	1	
2/10/2020 19:52:46	2.0	26-35 STPM	Unmarried	1	
2/10/2020 19:55:21	2.0	36-45 Masters	Unmarried	1	
2/10/2020 19:57:43	1.0	26-35 STPM	Married	1	
2/10/2020 20:28:13	1.0	46 & Above PhD	Married	2	
2/10/2020 20:36:42	2.0	46 & Above Bachelor	Unmarried		2
2/10/2020 20:39:23	2.0	18-25 SPM	Married	1	
2/10/2020 20:42:34	2.0	36-45 Masters	Unmarried	2	
2/10/2020 20:46:50	2.0	26-35 Diploma	Unmarried	1	
2/10/2020 20:50:01	1.0	18-25 SPM	Unmarried	1	
2/14/2020 11:43:26	1.0	26-35 Others study	Married	1	
2/14/2020 11:44:33	1.0	46 & Above PhD	Married	2	
2/14/2020 20:26:22	2.0	26-35 Diploma	Unmarried	1	
2/14/2020 20:27:47	2.0	36-45 Masters	Married	2	
2/14/2020 20:29:07	2.0	18-25 Others study	Unmarried	1	
2/14/2020 20:30:04	1.0	46 & Above PhD	Married	2	
2/14/2020 20:31:22	2.0	18-25 SPM	Unmarried	1	
2/14/2020 20:32:25	1.0	18-25 SPM	Unmarried	1	
2/14/2020 20:44:56	1.0	36-45 Bachelor	Married	2	
2/14/2020 20:46:06	2.0	26-35 Bachelor	Married	2	
2/14/2020 21:15:32	2.0	26-35 Masters	Married	2	

2/16/2020 20:38:51	1.0	36-45	Bachelor	Married	2	
2/16/2020 20:40:07	1.0	46 & Above	Bachelor	Married	2	2
2/16/2020 20:41:17	2.0	18-25	Bachelor	Married	2	
2/17/2020 11:26:49	2.0	36-45	Masters	Married	2	
2/17/2020 11:27:54	1.0	36-45	Masters	Married	1	
2/17/2020 11:29:10	1.0	18-25	Bachelor	Married	2	
2/17/2020 11:30:08	2.0	18-25	SPM	Unmarried	1	
2/17/2020 11:31:12	1.0	36-45	Masters	Married	2	
2/17/2020 14:28:07	1.0	36-45	Bachelor	Married	2	
2/17/2020 14:29:03	2.0	26-35	Bachelor	Married	2	
2/17/2020 14:30:09	1.0	36-45	Bachelor	Married	2	
2/17/2020 14:30:58	1.0	36-45	Bachelor	Married	2	
2/17/2020 14:33:08	1.0	36-45	Others study	Married	1	
2/17/2020 14:34:28	1.0	26-35	Bachelor	Unmarried	2	
2/17/2020 14:36:19	1.0	46 & Above	Masters	Married	2	2
2/17/2020 14:37:18	1.0	26-35	Diploma	Married	2	
2/17/2020 14:39:05	2.0	26-35	Masters	Married	1	
2/17/2020 20:20:26	1.0	36-45	Masters	Married	2	
2/17/2020 20:21:32	2.0	46 & Above	PhD	Married	2	
2/17/2020 20:22:44	2.0	26-35	Bachelor	Married	1	
2/17/2020 20:23:49	2.0	26-35	Bachelor	Unmarried	1	
2/17/2020 20:24:54	2.0	26-35	Bachelor	Unmarried	1	
2/17/2020 20:26:28	1.0	26-35	Masters	Unmarried	1	
2/18/2020 20:12:16	2.0	26-35	Diploma	Unmarried	1	
2/18/2020 20:13:19	1.0	26-35	Bachelor	Unmarried	2	
2/18/2020 20:14:28	1.0	18-25	Diploma	Unmarried	1	
2/18/2020 20:15:16	1.0	18-25	Bachelor	Unmarried	1	
2/18/2020 20:16:24	1.0	18-25	Bachelor	Unmarried	2	
2/18/2020 20:35:55	2.0	26-35	Masters	Unmarried	2	
2/18/2020 20:37:59	1.0	36-45	Masters	Unmarried	2	
2/18/2020 20:40:40	1.0	36-45	Masters	Married	2	
2/18/2020 20:42:50	1.0	26-35	Bachelor	Married	2	
2/19/2020 6:55:45	1.0	46 & Above	Bachelor	Married	2	2
2/19/2020 6:57:03	2.0	26-35	Masters	Married	2	
2/19/2020 7:00:52	1.0	26-35	Bachelor	Unmarried	1	
2/19/2020 7:03:29	2.0	18-25	SPM	Unmarried	1	
2/19/2020 7:04:41	1.0	46 & Above	PhD	Married	2	
2/19/2020 7:06:03	1.0	26-35	Others study	Unmarried	1	
2/20/2020 20:32:16	2.0	36-45	Masters	Married	2	
2/20/2020 20:34:27	1.0	26-35	Bachelor	Married	2	
2/20/2020 20:35:42	2.0	36-45	Masters	Married	1	
2/20/2020 20:36:31	1.0	26-35	Bachelor	Married	2	
2/20/2020 20:37:39	1.0	26-35	Bachelor	Unmarried	2	
2/20/2020 20:38:40	1.0	26-35	Masters	Married	2	
2/20/2020 20:40:08	2.0	36-45	Others study	Married	1	
2/20/2020 20:41:42	1.0	36-45	Masters	Married	2	
2/20/2020 20:42:45	1.0	36-45	Diploma	Unmarried	1	

2/20/2020 20:43:55	1.0	46 & Above	Masters	Married	2
2/20/2020 20:44:53	1.0	36-45	Masters	Married	2
2/20/2020 20:46:06	1.0	26-35	Bachelor	Unmarried	2
2/20/2020 20:47:05	2.0	36-45	Masters	Married	1
2/20/2020 20:47:57	1.0	46 & Above	Others study	Married	2
2/20/2020 20:49:02	1.0	36-45	Masters	Married	2
2/22/2020 20:11:14	1.0	36-45	Masters	Married	1
2/22/2020 20:12:31	2.0	18-25	Diploma	Unmarried	1
2/22/2020 20:27:59	1.0	36-45	Bachelor	Married	2
2/22/2020 20:29:03	1.0	46 & Above	PhD	Married	2
2/22/2020 20:30:19	1.0	26-35	Bachelor	Married	1
2/22/2020 20:31:14	1.0	36-45	Bachelor	Married	2
2/22/2020 20:32:15	2.0	26-35	Bachelor	Married	1
2/22/2020 20:33:01	1.0	36-45	Masters	Married	2
2/23/2020 13:32:53	1.0	26-35	Bachelor	Married	2
2/23/2020 13:35:10	1.0	18-25	Diploma	Unmarried	1
2/23/2020 13:41:48	1.0	26-35	Diploma	Unmarried	1
2/23/2020 13:43:48	1.0	18-25	Diploma	Unmarried	1
2/23/2020 13:48:51	2.0	36-45	Masters	Married	1
2/23/2020 13:50:34	1.0	18-25	Diploma	Unmarried	2
2/23/2020 13:52:07	1.0	36-45	Masters	Married	2
2/23/2020 13:53:43	1.0	46 & Above	PhD	Married	2
2/23/2020 13:55:59	1.0	18-25	SPM	Unmarried	1
2/23/2020 13:57:55	1.0	26-35	STPM	Unmarried	1
2/23/2020 13:59:49	2.0	36-45	Bachelor	Unmarried	2
2/23/2020 14:09:04	1.0	18-25	Others study	Unmarried	1
2/23/2020 14:10:01	1.0	26-35	Bachelor	Married	2
2/23/2020 14:10:58	1.0	36-45	Masters	Unmarried	1
2/23/2020 14:11:57	1.0	46 & Above	PhD	Unmarried	2
2/23/2020 14:13:00	1.0	26-35	STPM	Married	1
2/23/2020 14:14:30	2.0	36-45	Masters	Married	2
2/23/2020 14:15:25	1.0	46 & Above	Others study	Married	1
2/23/2020 14:17:17	1.0	46 & Above	Bachelor	Married	2
2/23/2020 14:59:13	1.0	26-35	Bachelor	Unmarried	2
2/23/2020 15:00:54	1.0	26-35	Masters	Unmarried	2
2/23/2020 15:02:43	1.0	26-35	Masters	Married	1
2/23/2020 15:05:42	1.0	36-45	Diploma	Unmarried	1
2/23/2020 15:07:23	1.0	26-35	Masters	Married	2
2/23/2020 15:08:59	2.0	36-45	Masters	Unmarried	1
2/23/2020 15:10:29	2.0	36-45	Masters	Married	2
2/23/2020 15:12:09	1.0	36-45	Masters	Married	2
2/23/2020 15:13:40	1.0	18-25	SPM	Unmarried	1
2/23/2020 15:15:23	1.0	26-35	Bachelor	Married	1
2/23/2020 15:17:06	1.0	18-25	SPM	Unmarried	1
2/23/2020 15:18:38	1.0	46 & Above	PhD	Married	2
2/23/2020 16:30:52	2.0	18-25	Others study	Unmarried	1
2/23/2020 16:35:02	1.0	26-35	Diploma	Married	2

2/23/2020 16:38:19	1.0	36-45	Masters	Unmarried	1
2/23/2020 16:40:54	1.0	26-35	Bachelor	Married	2
2/23/2020 16:43:15	1.0	18-25	Others study	Unmarried	1
2/23/2020 16:51:27	1.0	46 & Above	PhD	Married	2
2/23/2020 20:30:39	2.0	18-25	SPM	Unmarried	1
2/23/2020 20:39:10	1.0	36-45	Bachelor	Unmarried	2
2/23/2020 20:40:02	1.0	18-25	Diploma	Married	1
2/23/2020 20:42:26	1.0	36-45	Masters	Unmarried	1
2/23/2020 20:52:22	1.0	18-25	SPM	Married	1
2/24/2020 20:31:05	2.0	18-25	Others study	Married	1
2/24/2020 20:32:18	1.0	18-25	Diploma	Unmarried	2
2/24/2020 20:33:06	1.0	36-45	Masters	Married	2
2/24/2020 20:33:59	1.0	26-35	Bachelor	Married	2
2/24/2020 20:34:47	1.0	26-35	Bachelor	Unmarried	2
2/24/2020 20:35:38	1.0	36-45	PhD	Married	2
2/24/2020 20:36:37	1.0	26-35	Bachelor	Married	1
2/25/2020 6:16:30	1.0	36-45	Bachelor	Married	2
2/25/2020 8:50:04	1.0	18-25	Bachelor	Unmarried	2
2/25/2020 8:56:07	2.0	36-45	Masters	Married	2
2/25/2020 12:28:18	1.0	36-45	Masters	Married	2
2/25/2020 12:29:51	1.0	26-35	Bachelor	Married	2
2/25/2020 12:30:55	1.0	18-25	Diploma	Unmarried	1
2/25/2020 12:32:00	2.0	26-35	Bachelor	Unmarried	1
2/25/2020 20:35:43	1.0	26-35	PhD	Unmarried	2
2/25/2020 20:36:38	1.0	26-35	Masters	Unmarried	2
2/25/2020 20:37:42	1.0	36-45	Masters	Unmarried	2
2/25/2020 20:38:43	2.0	18-25	Bachelor	Unmarried	2
2/25/2020 20:39:51	1.0	26-35	Bachelor	Unmarried	2
2/25/2020 20:40:35	2.0	26-35	Bachelor	Unmarried	2
2/25/2020 20:41:57	2.0	18-25	Diploma	Unmarried	2
2/25/2020 20:44:04	1.0	26-35	Bachelor	Unmarried	1
2/27/2020 6:35:01	1.0	18-25	Diploma	Unmarried	1
2/27/2020 6:35:55	1.0	36-45	Masters	Married	2
2/27/2020 20:10:12	2.0	36-45	Bachelor	Married	2
2/27/2020 20:11:46	1.0	26-35	Bachelor	Unmarried	2
2/27/2020 20:15:27	1.0	46 & Above	PhD	Married	2
2/27/2020 20:16:23	1.0	36-45	Masters	Married	2
2/27/2020 20:17:21	1.0	18-25	Diploma	Unmarried	1

## Appendix E Missing Value

Univariate Statistics							
	N	Mean	Std. Deviation	Missing		No. of Extremes <sup>a</sup>	
				Count	Percent	Low	High
SI1	349	3.6991	1.11083	0	.0	22	0
SI2	349	3.7278	1.04653	0	.0	15	0
SI3	349	3.7908	1.02516	0	.0	0	0
SI4	349	3.8223	.99277	0	.0	0	0
FC1	349	3.8223	.93922	0	.0	0	0
FC2	349	3.8281	.79453	0	.0	3	0
FC3	349	3.7564	.94123	0	.0	4	0
FC4	349	4.0458	1.08446	0	.0	37	0
PE1	349	3.6762	.93835	0	.0	14	0
PE2	349	3.7822	1.14652	0	.0	1	0
PE3	349	3.7393	1.04946	0	.0	1	0
PE4	349	3.6963	1.05836	0	.0	18	0
CT1	349	3.9083	1.03261	0	.0	0	0
CT2	349	3.6533	.97534	0	.0	15	0
CT3	349	3.7536	.99540	0	.0	11	0
CT4	349	3.7736	1.00733	0	.0	14	0
CS1	349	3.8825	.97701	0	.0	0	0
CS2	349	3.8052	.86229	0	.0	2	0
CS3	349	3.8797	.95735	0	.0	0	0
TR1	349	3.9570	.94740	0	.0	0	0
TR2	349	3.8481	.80400	0	.0	2	0
TR3	349	3.8567	.80379	0	.0	0	0
TR4	349	3.8166	.95029	0	.0	10	0
TA1	349	3.8223	.93616	0	.0	10	0
TA2	349	3.8653	.97183	0	.0	0	0
TA3	349	3.7278	.91152	0	.0	7	0
TA4	349	3.8453	1.01376	0	.0	0	0
AT1	349	3.7851	1.19010	0	.0	0	0
AT2	349	3.7593	1.14694	0	.0	0	0
AT3	349	3.7479	1.17909	0	.0	0	0
BI1	349	4.1433	.85909	0	.0	10	0
BI2	349	4.0716	.79004	0	.0	9	0
BI3	349	3.9742	.85226	0	.0	0	0
CA1	349	4.0888	.94115	0	.0	20	0
CA2	349	3.9828	.89040	0	.0	0	0
CA3	349	3.9656	.95831	0	.0	0	0

CA4	349	3.9943	.90970	0	.0	19	0
SI	349	3.7600	.86534	0	.0	18	0
FC	349	3.8632	.66394	0	.0	12	0
PE	349	3.7235	.87027	0	.0	31	0
CTT	349	3.7722	.87738	0	.0	12	0
CS	349	3.8558	.83576	0	.0	2	0
TR	349	3.8696	.70648	0	.0	12	0
TA	349	3.8152	.82973	0	.0	19	0
AT	349	3.7641	1.04530	0	.0	52	0
BI	349	4.0630	.68870	0	.0	6	0
CA	349	4.0079	.79900	0	.0	21	0

a. Number of cases outside the range ( $Q1 - 1.5 \cdot IQR$ ,  $Q3 + 1.5 \cdot IQR$ ).



## Appendix F Outliers

According to The Chi-Square Distribution table, above 27.878 based one 0.001 significant level is considered outliers.

43.40986								
42.27073	18.87198							
40.27229	18.49576							
	18.37371							
38.29208	18.35508	11.84416	8.02337	5.82917	4.41854	3.27275	2.38216	
37.03712	17.72412	11.81133	8.01678	5.81673	4.37772	3.26174	2.36995	
36.18116	17.38892	11.80339	7.99719	5.78212	4.34469	3.23328	2.36663	
33.59356	18.35508	11.79480	7.87363	5.72469	4.32176	3.21924	2.35410	
31.16888	17.72412	11.75526	7.72461	5.70717	4.25096	3.20971	2.34603	
29.68581	17.38892	11.68317	7.70316	5.67709	4.19164	3.20225	2.32353	
29.68156	17.25780	11.63895	7.59583	5.64692	4.17498	3.18191	2.24757	
29.16937	17.24684	11.53508	7.55372	5.62072	4.15404	3.16962	2.22308	
28.79206	17.24300	11.26643	7.54369	5.61872	4.15149	3.16026	2.17135	
	17.19626	11.22133	7.49211	5.59224	4.08121	3.12974	2.15135	
27.38331	17.18672	10.59913	7.48461	5.48178	4.07408	3.12095	2.14824	
27.25938	17.18375	10.20716	7.36590	5.40277	4.06473	3.11153	2.07351	
26.00607	16.86520	10.08681	7.28875	5.32340	4.03570	3.10561	2.06249	
25.86496	16.71191	10.08649	7.21852	5.30037	4.02462	3.06058	2.01344	
25.83901	16.67361	10.04738	7.13514	5.28960	4.02035	3.05996	1.95844	
25.81296	16.66621	9.86454	7.12423	5.21645	3.99970	2.97377	1.86888	
25.56011	16.37754	9.83563	7.01052	5.10777	3.98104	2.96195	1.86366	
25.33928	16.12627	9.74991	7.00845	5.03241	3.94958	2.94806	1.85082	.89988
25.07348	16.11561	9.66212	6.92705	5.03208	3.93491	2.93886	1.84970	.86937
24.23327	16.04105	9.65653	6.92356	5.00385	3.91497	2.91748	1.82473	.76806
24.14783	15.90602	9.56066	6.86575	4.98808	3.87199	2.88758	1.79901	.40364
24.11384	15.74030	9.51882	6.72595	4.98608	3.87185	2.84521	1.79703	.37133
24.01426	15.17011	9.32861	6.68995	4.98104	3.84001	2.82169	1.78449	.37133
23.43574	15.00731	9.26022	6.60440	4.93477	3.82935	2.77773	1.73709	.37133
23.14504	14.91965	9.23692	6.52262	4.92950	3.79119	2.76647	1.71121	.37133
22.97928	14.44910	9.17232	6.48493	4.92036	3.77720	2.74824	1.68131	
22.36392	14.25225	9.12621	6.48480	4.82586	3.72862	2.73945	1.66051	
21.89735	14.11506	9.12533	6.47077	4.82060	3.68972	2.72750	1.47656	
21.36081	14.02904	9.09011	6.43728	4.80063	3.63494	2.70198	1.45600	
21.32770	13.94848	8.97854	6.42088	4.78041	3.61910	2.69858	1.40712	
21.27961	13.55339	8.75759	6.40303	4.77030	3.59078	2.62809	1.38789	
21.18972	13.40676	8.73908	6.32970	4.75967	3.53107	2.62451	1.38601	
21.03757	12.91402	8.65935	6.21568	4.75289	3.50636	2.61717	1.37526	
20.89637	12.88167	8.60295	6.15717	4.70425	3.48831	2.61373	1.35102	
20.72852	12.72841	8.56883	6.15527	4.69343	3.47092	2.60487	1.30724	
20.50510	12.70522	8.54191	6.08387	4.68930	3.41885	2.58334	1.25558	
20.48730	12.47734	8.54191	6.05723	4.63224	3.40723	2.57660	1.16777	
20.29711	12.47223	8.49168	6.05266	4.59277	3.38138	2.56990	1.14936	
20.22633	12.44876	8.41613	6.02664	4.57623	3.37372	2.53613	1.12460	
20.02675	12.42256	8.33201	6.01034	4.54559	3.36390	2.49867	1.06977	
19.86158	12.40373	8.32380	5.98210	4.51128	3.34376	2.47666	1.03936	
19.74045	12.31132	8.24153	5.89156	4.47530	3.33089	2.46816	.93442	
19.69676	11.94628	8.10280	5.87941	4.46742	3.29096	2.40036	.90410	
19.52253	11.93946							
19.49158	11.93635							
19.46406	11.85807							
19.00922								

## Appendix G Common Method Bias

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.821	29.407	29.407	13.821	29.407	29.407
2	4.972	10.578	39.985			
3	4.092	8.707	48.692			
4	3.070	6.533	55.225			
5	2.946	6.269	61.493			
6	2.231	4.747	66.240			
7	2.060	4.383	70.623			
8	1.426	3.034	73.657			
9	1.370	2.915	76.573			
10	1.199	2.551	79.124			
11	.775	1.649	80.772			
12	.630	1.340	82.113			
13	.596	1.267	83.380			
14	.582	1.237	84.617			
15	.544	1.157	85.774			
16	.502	1.068	86.843			
17	.474	1.009	87.852			
18	.442	.941	88.793			
19	.423	.900	89.694			
20	.396	.843	90.537			
21	.388	.825	91.362			
22	.373	.793	92.155			
23	.354	.754	92.909			
24	.340	.723	93.632			
25	.319	.679	94.311			
26	.311	.661	94.973			
27	.268	.570	95.542			
28	.251	.535	96.077			
29	.247	.525	96.602			
30	.231	.492	97.094			
31	.224	.476	97.570			
32	.220	.468	98.038			
33	.206	.439	98.477			
34	.188	.400	98.877			
35	.183	.389	99.265			



36	.181	.385	99.650		
37	.164	.350	100.000		
38	4.737E-15	1.008E-14	100.000		
39	2.226E-15	4.737E-15	100.000		
40	1.664E-15	3.540E-15	100.000		
41	-3.291E-16	-7.003E-16	100.000		
42	-1.582E-15	-3.366E-15	100.000		
43	-2.465E-15	-5.245E-15	100.000		
44	-3.095E-15	-6.585E-15	100.000		
45	-4.382E-15	-9.323E-15	100.000		
46	-5.670E-15	-1.206E-14	100.000		
47	-8.049E-15	-1.713E-14	100.000		

Extraction Method: Principal Component Analysis.

## Appendix H Collinearity

### Regression

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	BI, PE, AT, SI, CTT, CS, TA, FC, TR		Enter

a. Dependent Variable: CA

b. All requested variables entered.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622 <sup>a</sup>	.387	.371	.63368

a. Predictors: (Constant), BI, PE, A, SI, CTT, CS, TA, FC, T

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
	(Constant)	.732	.304					2.411
SI	.013	.044	.014	.014	.306	.760	.811	1.233
FC	.041	.071	.071	.034	.577	.564	.517	1.932
PE	-.066	.043	.043	-.072	-1.525	.128	.808	1.238
CTT	.011	.047	.047	.012	.230	.818	.667	1.499
CS	.080	.052	.052	.084	1.541	.124	.610	1.639
TR	.128	.074	.074	.113	1.729	.085	.425	2.353
TA	.053	.053	.053	.055	.995	.320	.596	1.678
AT	.041	.035	.035	.053	1.151	.251	.849	1.178
BI	.521	.062	.062	.449	8.376	.000	.630	1.588

a. Dependent Variable: CA

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86.039	9	9.560	23.807	.000 <sup>b</sup>
	Residual	136.127	339	.402		
	Total	222.166	348			

a. Dependent Variable: CA

b. Predictors: (Constant), BI, PE, AT, SI, CTT, CS, TA, FC, TR

## Appendix I Normality

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='C:\Users\Mahadi Hasan Miraz\Dropbox\FINAL THESIS data\Normality\Normality LATENT '  
' /COMPRESSED.

FREQUENCIES VARIABLES=SI FC PE CT CS BST TA BA BI CA  
/HISTOGRAM NORMAL  
/ORDER=ANALYSIS.

### Frequency Table

		SI			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.25	1	.3	.3	.3
	1.50	4	1.1	1.1	1.4
	1.75	13	3.7	3.7	5.2

disagree	16	4.6	4.6	9.7
2.25	5	1.4	1.4	11.2
2.50	4	1.1	1.1	12.3
2.75	3	.9	.9	13.2
neither agree or disagree	30	8.6	8.6	21.8
3.25	18	5.2	5.2	26.9
3.50	19	5.4	5.4	32.4
3.75	30	8.6	8.6	41.0
agree	68	19.5	19.5	60.5
4.25	51	14.6	14.6	75.1
4.50	46	13.2	13.2	88.3
4.75	30	8.6	8.6	96.8
strongly agree	11	3.2	3.2	100.0
Total	349	100.0	100.0	



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FC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	disagree	3	.9	.9	.9
	2.25	9	2.6	2.6	3.4
	2.50	5	1.4	1.4	4.9
	2.75	8	2.3	2.3	7.2
	neither agree or disagree	24	6.9	6.9	14.0
	3.25	36	10.3	10.3	24.4
	3.50	26	7.4	7.4	31.8
	3.75	46	13.2	13.2	45.0
	agree	61	17.5	17.5	62.5
	4.25	52	14.9	14.9	77.4
	4.50	36	10.3	10.3	87.7

4.75	28	8.0	8.0	95.7
strongly agree	15	4.3	4.3	100.0
Total	349	100.0	100.0	

PE

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	1	.3	.3	.3
strongly disagree	1	.3	.3	.6
1.25	11	3.2	3.2	3.7
1.50	11	3.2	3.2	6.9
disagree	7	2.0	2.0	8.9
2.50	8	2.3	2.3	11.2
2.75	3	.9	.9	12.0
neither agree or disagree	17	4.9	4.9	16.9
3.25	12	3.4	3.4	20.3
3.50	31	8.9	8.9	29.2
3.75	53	15.2	15.2	44.4
agree	73	20.9	20.9	65.3
4.25	52	14.9	14.9	80.2
4.50	54	15.5	15.5	95.7
4.75	9	2.6	2.6	98.3
strongly agree	6	1.7	1.7	100.0
Total	349	100.0	100.0	

CTT

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	8	2.3	2.3	2.3
1.25	4	1.1	1.1	3.4
1.50	2	.6	.6	4.0
1.75	1	.3	.3	4.3
disagree	4	1.1	1.1	5.4
2.25	7	2.0	2.0	7.4
2.50	6	1.7	1.7	9.2

2.75	14	4.0	4.0	13.2
neither agree or disagree	26	7.4	7.4	20.6
3.25	21	6.0	6.0	26.6
3.50	29	8.3	8.3	35.0
3.75	31	8.9	8.9	43.8
agree	57	16.3	16.3	60.2
4.25	39	11.2	11.2	71.3
4.50	59	16.9	16.9	88.3
4.75	27	7.7	7.7	96.0
strongly agree	14	4.0	4.0	100.0
Total	349	100.0	100.0	

**CS**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.33	2	.6	.6	.6
	1.67	4	1.1	1.1	1.7
	disagree	14	4.0	4.0	5.7
	2.33	8	2.3	2.3	8.0
	2.67	8	2.3	2.3	10.3
	neither agree or disagree	45	12.9	12.9	23.2
	3.33	27	7.7	7.7	30.9
	3.67	26	7.4	7.4	38.4
	agree	74	21.2	21.2	59.6
	4.33	42	12.0	12.0	71.6
	4.67	75	21.5	21.5	93.1
	strongly agree	24	6.9	6.9	100.0
	Total	349	100.0	100.0	

**T**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.50	2	.6	.6	.6
	disagree	3	.9	.9	1.4

2.25	7	2.0	2.0	3.4
2.50	7	2.0	2.0	5.4
2.75	10	2.9	2.9	8.3
neither agree or disagree	33	9.5	9.5	17.8
3.25	18	5.2	5.2	22.9
3.50	34	9.7	9.7	32.7
3.75	32	9.2	9.2	41.8
agree	69	19.8	19.8	61.6
4.25	47	13.5	13.5	75.1
4.50	41	11.7	11.7	86.8
4.75	24	6.9	6.9	93.7
strongly agree	22	6.3	6.3	100.0
Total	349	100.0	100.0	



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		TA			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	1	.3	.3	.3
	1.25	5	1.4	1.4	1.7
	1.50	8	2.3	2.3	4.0
	1.75	1	.3	.3	4.3
	disagree	4	1.1	1.1	5.4
	2.25	1	.3	.3	5.7
	2.50	9	2.6	2.6	8.3
	2.75	7	2.0	2.0	10.3
	neither agree or disagree	35	10.0	10.0	20.3
	3.25	15	4.3	4.3	24.6
	3.50	25	7.2	7.2	31.8
	3.75	23	6.6	6.6	38.4
	agree	89	25.5	25.5	63.9
	4.25	32	9.2	9.2	73.1

4.50	52	14.9	14.9	88.0
4.75	20	5.7	5.7	93.7
strongly agree	22	6.3	6.3	100.0
Total	349	100.0	100.0	

**A**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	20	5.7	5.7	5.7
1.33	9	2.6	2.6	8.3
1.67	7	2.0	2.0	10.3
disagree	4	1.1	1.1	11.5
2.33	5	1.4	1.4	12.9
2.67	7	2.0	2.0	14.9
neither agree or disagree	11	3.2	3.2	18.1
3.33	20	5.7	5.7	23.8
3.67	41	11.7	11.7	35.5
agree	73	20.9	20.9	56.4
4.33	72	20.6	20.6	77.1
4.67	67	19.2	19.2	96.3
strongly agree	13	3.7	3.7	100.0
Total	349	100.0	100.0	

**BI**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.33	3	.9	.9	.9
disagree	3	.9	.9	1.7
2.33	3	.9	.9	2.6
2.67	7	2.0	2.0	4.6
neither agree or disagree	21	6.0	6.0	10.6
3.33	30	8.6	8.6	19.2
3.67	41	11.7	11.7	30.9
agree	66	18.9	18.9	49.9

4.33	68	19.5	19.5	69.3
4.67	74	21.2	21.2	90.5
strongly agree	33	9.5	9.5	100.0
Total	349	100.0	100.0	

CA

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	2	.6	.6	.6
1.25	3	.9	.9	1.4
1.50	5	1.4	1.4	2.9
disagree	4	1.1	1.1	4.0
2.25	4	1.1	1.1	5.2
2.50	3	.9	.9	6.0
2.75	7	2.0	2.0	8.0
neither agree or disagree	25	7.2	7.2	15.2
3.25	6	1.7	1.7	16.9
3.50	21	6.0	6.0	22.9
3.75	22	6.3	6.3	29.2
agree	65	18.6	18.6	47.9
4.25	44	12.6	12.6	60.5
4.50	69	19.8	19.8	80.2
4.75	45	12.9	12.9	93.1
strongly agree	24	6.9	6.9	100.0
Total	349	100.0	100.0	



## Appendix J Measurement Model

### Path Coefficients

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT		-0.090								
BI				0.583						
TR		0.220								
CA										
CS		0.011								
CTT		0.153								
FC		0.149								
PE		-0.135								
SI		0.126								
TA		0.157								

### Indirect Effects Total Indirect Effects

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT				-0.053						
BI										
T				0.129						
CA										
CS				0.007						
CTT				0.089						
FC				0.087						
PE				-0.079						
SI				0.074						
TA				0.091						

	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness	Number of Observations Used
AT	0.000	0.150	-2.440	1.755	1.000	-0.382	-0.562	349.000
BI	0.000	0.000	-3.861	1.367	1.000	1.701	-1.088	349.000
TR	0.000	0.199	-3.509	1.557	1.000	0.699	-0.806	349.000
CA	0.000	0.274	-3.854	1.260	1.000	2.296	-1.428	349.000
CS	0.000	0.195	-3.315	1.365	1.000	0.132	-0.820	349.000
CTT	0.000	0.299	-3.002	1.399	1.000	1.171	-1.143	349.000
FC	0.000	0.275	-3.191	1.548	1.000	0.756	-0.799	349.000
PE	0.000	0.204	-4.164	1.410	1.000	2.281	-1.591	349.000
SI	0.000	0.297	-3.128	1.438	1.000	0.090	-0.879	349.000
TA	0.000	0.213	-3.463	1.438	1.000	1.416	-1.134	349.000

Special Indirect Effect

	Specific Indirect Effects
AT-> BI-> CA	-0.053
TR-> BI-> CA	0.129
CS-> BI-> CA	0.007
CTT-> BI-> CA	0.089
FC-> BI-> CA	0.087
PE-> BI-> CA	-0.079
SI-> BI-> CA	0.074
TA-> BI-> CA	0.091

Total Effects

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT		-		-						
BI		0.090		0.053						
TR		0.220		0.129						
CA										
CS		0.011		0.007						
CTT		0.153		0.089						
FC		0.149		0.087						
PE		-		-						
SI		0.135		0.079						
TA		0.126		0.074						
		0.157		0.091						

## Outer Loadings

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT1	0.944									
AT2	0.504									
AT3	0.676									
BI1		0.816								
BI2		0.848								
BI3		0.828								
TR1			0.836							
TR2			0.834							
TR3			0.829							
TR4			0.778							
CA1				0.875						
CA2				0.846						
CA3				0.841						
CA4				0.876						
CS1					0.915					
CS2					0.903					
CS3					0.888					
CT1						0.849				
CTT2						0.892				
CTT3						0.900				
CTT4						0.885				
FC1							0.851			
FC2							0.899			
FC3							0.860			
PE1								0.796		
PE2								0.817		
PE3								0.886		
PE4								0.749		
SI2									0.867	
SI3									0.891	
SI4									0.796	
TA1										0.895
TA2										0.844
TA3										0.879
TA4										0.847
SI1									0.770	

### Outer Weights

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT1	1.170									
AT2	-0.520									
AT3	0.233									
BI1		0.373								
BI2		0.406								
BI3		0.425								
TA1			0.352							
TA2			0.330							
TA3			0.279							
TA4			0.256							
CA1				0.284						
CA2				0.300						
CA3				0.286						
CA4				0.294						
CS1					0.411					
CS2					0.384					
CS3					0.313					
CTT1						0.232				
CTT2						0.320				
CTT3						0.316				
CTT4						0.264				
FC1							0.343			
FC2							0.409			
FC3							0.396			
PE1								0.223		
PE2								0.406		
PE3								0.527		
PE4								0.033		
SI2									0.304	
SI3									0.331	
SI4									0.385	
TA1										0.316
TA2										0.251
TA3										0.321
TA4										0.263
SI1									0.176	

Latent Variable

Latent  
Variable

Case ID	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
1	0.669	-0.063	0.199	-0.326	-0.218	0.044	0.275	0.204	0.297	0.213
2	- 0.100	-0.063	0.199	-0.326	-0.243	-0.010	0.275	0.677	0.297	0.213
3	- 1.995	-0.490	-0.168	0.323	0.195	0.517	0.275	0.150	0.613	0.213
4	- 0.100	-0.490	-0.168	0.323	0.195	0.517	0.275	0.524	0.613	0.213
5	1.310	-0.063	0.199	-0.019	0.195	0.299	0.275	0.677	0.297	0.213
6	- 1.995	1.367	-0.432	1.260	1.045	0.762	0.684	0.181	1.124	-1.013
7	1.310	-0.063	0.199	-0.019	0.195	0.299	0.275	-2.782	0.297	0.213
8	- 1.995	-1.065	-0.565	-0.360	-0.975	-0.329	-0.589	-0.117	-1.986	0.213
9	0.669	1.367	1.557	1.260	1.365	1.399	1.548	0.173	0.454	1.438
10	- 0.100	-1.492	-1.160	-1.297	-0.975	-0.583	-0.998	-0.232	0.454	-1.013
11	- 0.295	-0.063	0.199	-0.019	0.195	-0.329	0.275	-1.667	0.073	0.213
12	1.114	-0.063	0.199	-0.019	0.195	0.299	0.275	0.088	0.454	0.213
13	0.864	-0.063	0.595	-0.019	0.607	0.826	0.275	0.792	0.995	0.213
14	1.114	-0.063	0.595	-0.019	0.607	0.826	0.275	-2.316	-1.986	0.213
15	- 0.295	1.367	1.557	1.260	1.365	1.181	1.548	0.028	0.454	1.438
16	- 1.995	0.877	0.199	0.284	-0.218	-0.274	1.194	0.646	-1.986	0.213
17	- 0.295	-0.063	0.199	-0.019	0.195	0.299	0.275	0.555	0.454	0.213
18	1.559	-0.063	0.199	-0.019	0.632	0.199	0.275	0.028	-2.144	0.820
19	- 1.995	-0.063	0.199	-0.019	0.195	0.299	0.275	0.852	0.297	0.213
20	1.559	1.367	0.793	1.260	0.195	0.517	1.139	-2.553	1.281	1.438
21	0.919	-0.553	-1.160	-0.667	-0.975	-0.483	-0.589	1.143	0.138	-0.667
22	0.345	1.367	1.160	0.289	0.927	0.862	0.275	-0.056	-2.144	0.476
23	0.150	1.367	0.793	-0.019	1.365	1.081	0.684	-0.025	0.583	0.822
24	- 1.260	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	-1.667	-0.687	-1.013
25	- 0.619	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	-1.667	-2.144	-1.013
26	- 1.995	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	-1.399	-0.845	-1.013
27	1.114	-1.492	-1.160	-1.599	-0.975	-1.593	-1.407	0.181	-2.144	-0.405
28	1.559	-1.065	0.199	-1.927	-0.563	0.044	-0.235	1.029	-0.244	0.213
29	- 0.619	1.367	1.557	1.260	0.195	1.081	1.548	0.616	1.281	1.438
30	1.114	-2.922	-2.186	-2.575	-2.238	-1.912	-2.680	0.822	-1.986	-1.013
31	0.345	1.367	1.557	1.260	0.195	1.081	1.548	-2.698	1.281	1.438
32	1.114	-2.922	-2.186	-2.575	-2.238	-1.912	-2.680	0.150	-1.986	-1.013
33	- 1.010	-0.490	-0.896	-0.004	-0.975	-0.802	-0.079	-0.056	-0.845	-0.488

34	1.559	0.449	0.926	0.611	0.607	0.299	0.275	-0.903	0.139	0.476
35	0.919	-1.002	0.199	-0.965	-0.538	-0.020	-0.134	0.089	0.073	0.213
36	- 1.995	0.877	0.199	-0.019	0.195	0.517	0.684	0.150	0.613	0.213
37	0.919	-1.065	-1.160	-0.955	-0.975	-0.802	-0.488	0.409	-2.144	-0.658
38	0.790	0.877	0.793	-0.019	0.195	0.299	-0.079	-0.056	0.454	0.822
39	- 0.815	-0.553	-0.565	-1.297	-0.975	-0.583	-0.589	-0.552	0.139	0.213
40	1.310	-0.126	1.557	-1.297	1.365	1.399	-0.589	-0.086	1.124	0.558
41	0.864	-1.492	-0.396	-1.297	-0.975	-1.211	-0.998	-0.674	0.297	0.213
42	1.310	1.367	0.793	1.260	0.195	0.517	1.548	0.028	1.281	1.438
43	- 2.244	-1.002	0.199	-0.019	0.195	0.299	-0.079	0.059	0.139	0.213
44	- 2.440	-1.492	-1.160	-1.297	-0.975	-0.802	-0.134	0.150	-0.845	-1.013
45	1.559	-1.492	-0.828	-1.297	-0.975	-0.583	-0.998	0.678	-0.687	-0.749
46	0.790	-0.042	1.557	0.020	1.365	1.145	1.548	0.204	0.900	0.822
47	0.595	1.367	1.557	1.260	1.365	1.399	1.548	-2.202	1.124	1.438
48	0.919	1.367	1.557	1.260	1.365	1.399	1.548	-2.813	1.281	1.438
49	- 0.100	-0.553	-0.565	-1.297	-0.975	-0.583	0.275	-0.056	0.297	0.213
50	1.114	-0.981	-0.065	-0.321	0.195	0.080	-0.079	0.524	-0.558	-0.142
51	0.669	-0.063	-0.065	-0.667	-0.563	0.299	-0.589	0.441	-0.177	-0.133
52	0.669	-0.574	0.199	-0.326	-0.656	-0.238	-0.644	0.379	-0.558	-0.749
53	1.310	-0.490	-0.828	-0.990	0.195	-0.583	-1.054	0.181	0.392	-0.749
54	1.310	-1.002	-0.065	-0.663	-0.656	-0.020	-0.134	-0.201	-0.020	-0.667
55	- 1.995	-0.574	-0.763	-0.321	0.195	0.080	0.275	0.379	0.011	-0.397
56	- 0.815	1.367	1.190	0.933	0.195	0.299	0.275	0.295	0.454	1.083
57	0.815	-1.002	0.199	-0.628	0.195	-0.010	0.275	-0.820	0.297	0.213
58	0.864	1.367	0.066	1.260	-0.218	-0.365	1.548	-0.820	0.836	0.204
59	- 0.619	-0.981	-1.423	-1.599	-1.295	-0.547	-1.352	-0.820	-2.589	-1.013
60	- 2.440	-1.065	0.199	-0.019	0.514	0.772	0.684	0.441	0.771	0.474
61	0.669	-1.065	0.199	-0.019	0.514	0.772	0.684	0.792	0.771	0.474
62	- 0.295	-1.065	0.199	-0.019	0.514	0.772	0.684	-0.789	0.771	0.474
63	0.919	-2.411	-2.319	-1.945	-1.826	-0.274	-1.918	-0.820	0.011	-1.013
64	0.474	-0.063	0.199	-0.019	0.195	0.299	0.275	-0.201	0.454	0.213
65	- 0.815	0.365	-0.065	-0.019	0.195	0.608	0.684	0.295	-1.605	-0.403
66	0.595	-1.492	-0.396	-1.599	-0.125	-0.338	-0.488	0.089	-0.845	-0.749
67	- 0.046	-1.492	-0.396	-1.599	-0.125	-0.338	-0.488	0.059	-0.845	-0.749
68	0.595	-0.553	0.199	-0.624	0.195	0.299	0.275	0.792	0.297	0.213
69	- 0.295	-0.063	-0.565	-0.019	-0.538	-0.020	0.275	-0.552	0.297	0.213
70	- 0.046	0.365	0.199	-0.019	-0.218	0.299	0.275	0.524	0.297	0.213

71	- 0.815	-0.063	0.199	-0.019	0.195	0.299	0.275	0.326	0.139	0.213
72	1.114	0.877	0.462	1.260	0.195	0.517	1.548	0.410	0.648	1.438
73	- 0.815	0.428	0.199	1.260	1.045	1.081	0.785	0.028	1.281	0.213
74	- 0.370	1.367	0.962	1.260	1.365	1.399	1.548	0.265	1.281	0.213
75	- 1.799	-0.553	-0.396	-1.297	0.195	0.299	-0.589	0.150	-0.018	0.913
76	0.669	0.449	1.225	0.625	0.195	0.826	0.684	0.822	1.124	1.083
77	0.595	0.365	1.190	0.591	-0.243	0.144	0.629	-0.056	1.057	1.438
78	0.595	-0.146	-1.322	-0.033	-0.538	-0.912	0.330	0.792	-0.401	-0.924
79	0.864	1.367	0.565	0.650	0.169	-0.110	0.684	0.616	0.836	0.215
80	1.755	-0.063	-0.198	-0.033	-0.538	0.044	-0.589	0.524	0.297	0.215
81	1.559	-0.063	0.698	-0.648	0.952	0.299	-0.079	-0.232	0.297	-0.049
82	0.399	0.877	0.823	0.611	-0.218	0.244	-0.079	0.326	0.650	1.438
83	1.559	1.367	1.293	0.313	0.952	0.836	0.684	0.441	1.281	1.092
84	- 1.280	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	-0.469	-0.845	-1.013
85	0.919	1.367	1.225	1.260	1.365	1.399	1.548	0.677	1.281	0.558
86	0.399	-0.553	-1.263	-0.994	-1.388	-1.146	-1.407	0.150	0.297	-0.760
87	- 0.815	-0.553	-1.263	-0.994	-1.388	-1.146	-1.407	1.143	0.139	-0.760
88	0.919	-0.553	-1.263	-0.994	-1.388	-1.146	-1.407	0.524	0.297	-0.760
89	0.474	1.367	1.557	-0.326	1.365	1.399	1.548	0.036	1.438	1.438
90	1.559	-0.553	0.199	-0.326	-0.218	-0.583	0.275	0.059	0.011	0.213
91	- 0.815	0.877	0.199	-0.019	-0.218	-0.583	0.275	0.883	-0.085	0.213
92	1.310	-1.065	-0.198	-0.326	-0.218	-0.329	-0.079	1.380	0.297	0.213
93	1.559	0.877	1.557	0.016	1.365	0.762	1.548	1.143	1.281	1.438
94	1.559	-1.983	-1.923	-1.599	-2.145	-1.593	-1.054	0.028	0.168	-1.367
95	- 0.619	-2.411	-1.556	-1.599	-1.826	-1.211	-1.761	-0.025	-0.845	-1.367
96	0.919	-1.492	-0.565	-1.297	-0.975	-0.802	-0.134	0.326	-0.845	-1.013
97	0.790	-1.983	-1.160	-1.945	-0.975	-0.802	-0.998	0.119	-1.002	-1.013
98	1.114	-2.494	-0.828	-1.297	-0.975	-0.802	-1.352	0.410	-0.845	-1.358
99	- 0.835	0.365	0.199	1.260	0.927	0.862	0.629	0.150	0.740	1.092
100	0.864	-0.063	-0.133	-0.321	0.195	-0.010	0.275	0.677	0.202	-0.488
101	0.150	-0.063	-1.227	-0.019	-0.975	-0.802	-0.235	0.524	-2.144	0.211
102	- 1.995	-0.063	-1.227	-0.019	-0.975	-0.583	-0.235	-0.232	-1.986	0.211
103	- 0.100	0.365	0.595	0.918	0.927	1.399	1.548	0.792	0.964	0.820
104	- 0.100	-1.002	0.199	-0.663	-0.656	-0.902	-1.407	0.792	-0.845	0.213
105	- 0.295	1.367	1.557	1.260	1.365	1.399	1.548	0.028	1.281	1.438
106	- 0.100	-0.063	-0.198	-0.019	-0.975	-0.274	0.275	0.028	0.297	0.213
107	- 0.295	0.449	0.199	0.957	1.365	0.517	0.275	0.555	1.438	1.092

108	1.310	1.367	0.962	0.309	0.607	1.181	0.275	0.822	0.900	0.476
109	0.790	-2.067	-1.526	-2.575	-1.708	-1.683	-1.761	0.822	-0.845	-1.713
110	-1.995	-2.067	-1.526	-2.575	-1.708	-1.683	-1.761	0.677	-0.845	-1.713
111	0.595	0.877	0.199	-0.019	-0.656	0.299	1.548	0.678	0.583	1.438
112	0.454	-1.983	-1.526	-2.273	-0.975	-1.020	-0.998	0.150	-0.845	-1.013
113	-0.511	-0.063	-0.168	-0.326	-0.125	-0.274	-0.488	0.441	0.297	0.213
114	0.295	-0.490	0.565	-0.321	0.169	0.517	-0.134	0.441	-0.085	0.213
115	0.595	-1.492	-0.660	-0.633	-0.656	-0.483	0.275	0.441	-1.986	-0.488
116	-1.799	-0.553	-0.065	-0.667	-0.656	0.299	-0.589	-2.813	-0.687	0.213
117	0.100	-0.574	-0.763	-0.360	-0.656	-0.547	-0.488	0.677	-0.085	-0.133
118	0.100	-0.981	-1.491	-1.297	-0.975	-0.802	-1.407	0.440	-1.383	-1.013
119	0.100	-0.981	-1.491	-1.297	-0.975	-0.802	-1.407	0.379	-1.986	-1.013
120	1.310	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	0.150	-0.687	-1.013
121	0.595	-0.063	0.264	0.270	0.220	0.299	-0.433	0.150	-0.845	0.122
122	1.260	-0.063	0.199	-0.019	-0.656	0.299	0.275	0.677	0.297	0.213
123	0.295	-0.553	-0.565	-0.667	-0.656	-0.583	-0.589	-0.170	-0.401	-1.013
124	0.790	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	0.616	-0.530	-1.013
125	1.114	-1.002	-0.500	-0.663	-0.538	-0.329	-0.998	0.379	0.168	0.213
126	1.310	-0.553	-0.565	-1.297	-0.975	-0.902	0.275	0.150	-0.085	0.213
127	0.100	-0.063	-0.565	-0.019	-0.563	-0.010	0.684	0.181	-0.463	0.213
128	1.114	-0.553	-0.565	-0.648	-1.388	-0.583	0.275	0.150	-0.401	-0.403
129	0.295	-0.490	0.199	-0.019	0.195	0.299	-0.134	-2.553	-0.018	0.213
130	0.835	-0.490	-0.565	-0.019	-0.975	-0.020	-0.134	0.822	0.454	-0.142
131	1.310	-0.063	0.199	-0.019	0.195	0.299	0.275	1.173	0.297	0.213
132	0.595	-1.492	-2.254	-1.297	-2.145	-1.056	-0.998	0.028	-0.687	-1.013
133	0.595	-1.492	-2.254	-1.297	-2.145	-1.056	-0.998	0.265	-0.687	-1.013
134	0.150	-1.002	-0.133	-0.663	-0.218	-0.647	-0.998	0.677	-0.401	0.213
135	0.790	-1.492	-1.754	-2.268	-0.975	-1.120	-0.998	0.761	-0.911	-1.620
136	1.310	-1.002	-1.160	0.289	-0.975	-0.365	-0.998	-0.820	0.426	-1.013
137	0.619	0.856	0.962	0.957	1.365	0.772	1.139	-1.934	0.836	0.831
138	0.864	0.428	0.793	1.260	0.195	0.299	0.275	-0.086	0.454	1.438
139	0.669	0.940	0.829	1.260	-0.656	0.618	1.139	0.181	-0.085	1.438
140	0.595	0.449	0.829	0.630	0.607	0.618	0.684	-3.019	0.836	0.476
141	1.310	-1.472	-1.858	-1.604	-1.413	-1.375	-1.054	0.998	-0.530	-1.097
142	0.864	0.386	-0.065	-1.297	1.365	0.299	1.548	0.678	0.297	0.213
143	0.345	0.365	0.858	0.591	0.927	0.826	0.785	0.181	0.141	0.738
144	-1.995	-0.063	0.199	-0.019	0.195	0.299	0.275	1.112	0.454	0.213
145	1.114	0.365	0.793	0.323	0.195	0.862	1.139	0.212	0.454	0.476



146	1.310	1.367	1.557	1.260	1.365	1.399	1.548	0.501	1.124	1.438
147	-0.565	-0.063	0.199	-0.019	0.195	0.299	0.275	0.212	-0.175	0.213
148	-2.440	-0.063	0.199	-0.019	0.195	0.299	0.275	0.181	0.139	0.213
149	-1.010	1.367	0.858	0.957	-0.975	0.582	1.548	-1.934	0.613	1.083
150	-0.046	-1.492	-1.160	-1.297	-0.975	-0.802	-0.998	0.647	-0.687	-1.013
151	-0.295	-1.492	-1.790	-1.297	-0.656	-0.856	-1.054	-4.164	-0.592	-1.358
152	0.399	-0.981	-0.461	-0.004	-0.538	-0.228	-0.235	0.792	-0.020	-0.312
153	-0.046	-1.983	-1.923	-2.268	-2.145	-1.365	-0.488	0.792	-0.845	-1.013
154	-0.370	-0.574	-0.168	-0.380	0.102	0.235	-0.235	0.028	-0.845	0.130
155	0.919	-0.553	-0.065	-0.653	-0.975	0.299	-0.079	0.028	-0.845	-0.395
156	1.310	0.365	-0.065	-0.019	0.195	0.608	0.684	0.555	0.900	-0.403
157	-0.295	0.365	-0.065	-0.019	0.195	0.608	0.684	0.822	0.900	-0.403
158	0.150	-1.983	-2.518	-2.234	-2.145	-1.593	-2.271	0.822	-1.986	-1.892
159	-0.565	-0.574	-0.557	0.313	0.927	0.453	0.330	0.677	0.454	0.738
160	1.114	-0.126	0.432	-0.687	0.927	0.389	0.330	0.678	0.995	0.651
161	0.345	-0.981	0.492	0.918	0.927	0.463	1.038	0.150	-0.845	0.120
162	0.399	-0.981	0.432	0.591	1.045	0.463	0.220	0.441	0.202	0.306
163	-0.295	0.000	-1.290	0.313	0.287	-2.694	0.220	0.441	-1.986	0.306
164	-1.280	-0.126	0.234	-0.033	0.169	0.389	0.330	0.441	0.837	-0.221
165	-0.619	0.000	0.432	-0.014	0.927	0.453	-0.488	-2.813	0.327	-3.117
166	0.790	-0.083	0.432	0.591	0.607	0.644	0.220	0.677	0.583	0.738
167	-0.295	-0.126	-0.130	0.274	0.927	-2.375	0.174	0.440	0.362	0.392
168	-0.046	0.000	-0.101	0.313	0.632	1.181	-0.488	0.379	0.995	-0.135
169	0.345	-0.042	0.432	-0.057	0.927	1.091	0.220	0.150	-2.367	0.120
170	0.345	-0.490	0.163	-0.014	-1.413	0.926	0.220	0.150	0.964	0.120
171	-0.295	0.856	0.432	0.591	-0.243	0.872	-0.235	0.677	0.518	0.738
172	-0.100	-0.042	0.432	-0.014	0.287	0.826	-0.488	-0.170	0.073	0.122
173	1.114	-0.126	0.163	-0.687	0.287	1.081	0.220	0.616	-1.540	-0.053
174	-1.475	-0.126	-0.500	-0.004	-0.243	0.926	0.174	0.379	0.297	-0.135
175	0.150	-0.574	-0.557	-0.057	0.927	-1.902	0.785	0.150	-0.690	0.120
176	-0.815	-0.981	0.234	0.274	0.927	-3.002	-3.034	-3.049	-3.128	0.120
177	-1.995	1.367	0.565	0.611	0.607	1.081	1.548	-2.553	0.900	-3.109
178	-0.100	1.367	1.293	0.274	0.195	0.862	1.139	0.822	0.836	0.831
179	1.114	0.449	0.462	0.625	0.514	0.926	0.785	1.173	0.613	1.092
180	0.345	-1.002	-0.065	-3.854	1.045	-3.002	-0.134	-1.934	0.518	-0.397

181	- 0.100	-0.490	-0.396	-0.653	0.514	0.772	-3.135	0.265	-2.460	-0.051
182	0.345	0.365	0.962	0.611	0.195	0.517	1.194	0.677	0.454	0.738
183	1.114	0.877	0.565	0.591	0.607	-3.002	1.194	-1.934	-0.020	0.304
184	- 0.046	0.428	1.190	0.309	1.365	0.836	0.118	-1.056	1.122	-1.013
185	0.669	-0.490	-0.133	0.323	1.045	-2.694	-0.488	-1.934	-1.286	-2.238
186	- 1.799	0.877	-0.396	-0.326	0.514	0.872	-0.134	-0.086	0.454	-0.312
187	1.114	-0.574	-1.233	0.250	0.927	0.826	0.220	0.181	-0.244	0.383
188	- 0.100	-0.126	0.234	-0.014	0.632	0.826	0.330	-3.019	0.900	-3.200
189	- 0.100	-0.574	0.498	0.591	0.632	0.826	0.220	0.998	0.583	0.649
190	- 0.295	0.449	0.234	-0.033	0.927	-3.002	0.220	0.678	-1.286	0.651
191	- 1.799	0.856	0.234	0.020	0.927	1.081	-0.488	0.181	1.281	0.383
192	- 0.100	0.856	-0.557	-0.385	1.045	1.081	1.038	1.112	-2.365	0.565
193	- 1.995	0.856	-0.461	-3.205	0.927	0.826	-0.842	0.212	0.740	0.560
194	0.669	0.449	-2.024	-0.014	0.927	1.081	-1.195	0.501	0.362	0.295
195	- 1.010	0.449	0.234	-0.023	0.927	0.826	0.220	0.212	0.964	0.560
196	- 0.295	-0.126	0.432	0.274	0.927	1.091	-0.190	0.181	0.740	0.383
197	0.669	-0.981	0.498	0.274	0.927	0.463	-0.235	-1.934	0.137	-2.238
198	0.150	-0.574	0.962	-0.687	0.952	0.299	1.548	0.792	1.122	0.822
199	- 0.815	-0.981	0.199	-0.014	-0.538	-0.010	-0.235	0.792	0.297	0.213
200	- 1.530	-0.146	-0.500	-0.014	0.632	-0.856	0.275	-0.996	0.297	0.213
201	- 1.010	0.000	-0.500	0.274	0.632	-0.856	0.275	-0.469	0.389	0.213
202	0.864	-0.083	1.190	-0.057	1.045	0.618	1.194	0.792	1.438	0.822
203	- 0.241	0.940	-1.056	0.348	0.195	0.299	-0.589	-0.056	1.438	-0.395
204	0.864	-0.146	1.557	-0.057	1.365	1.399	1.548	1.410	0.297	1.438
205	- 0.046	-0.126	0.199	0.918	0.195	-0.020	0.275	0.295	1.438	0.213
206	0.669	1.367	0.565	0.591	0.952	0.299	1.038	1.410	0.995	0.738
207	0.345	-0.126	0.565	0.313	0.195	0.836	0.684	1.410	-0.371	1.174
208	- 0.761	-0.146	-1.819	0.957	-1.708	-1.020	-2.271	-0.697	0.454	-1.546
209	- 0.761	0.000	-1.819	0.313	-1.708	-1.020	-2.271	-0.697	0.297	-1.546
210	0.150	0.856	1.557	-0.642	1.365	0.299	0.275	1.380	0.297	0.820
211	- 0.120	-0.083	-1.160	0.264	-0.975	-1.020	-1.761	-0.820	0.771	-1.631
212	- 0.046	0.856	-0.461	-3.854	0.195	0.080	0.275	-0.056	1.152	-0.051
213	- 1.260	-0.981	-0.065	-0.321	0.195	0.517	-0.235	0.295	-0.845	-0.133
214	0.595	0.449	0.199	0.323	-0.538	-0.519	0.275	-0.201	1.438	-1.276
215	0.150	0.365	-0.529	0.611	0.195	0.044	-0.079	-0.789	0.297	-0.405

216	- 0.565	-0.553	-0.461	0.957	-0.218	-0.483	-0.079	0.295	0.297	-0.049
217	- 1.530	-0.042	-1.423	0.591	-0.975	-1.110	-0.998	-0.469	0.297	-0.751
218	- 1.530	0.449	-1.423	0.630	-0.975	-1.110	-0.998	-0.469	1.438	-0.751
219	- 0.565	-3.861	-1.160	-3.205	-0.975	-0.802	-0.998	-0.820	-0.177	-1.013
220	1.114	0.877	-0.227	-0.004	-0.125	0.309	0.840	-0.201	0.297	0.213
221	0.150	0.877	0.199	0.918	0.195	0.299	0.275	0.295	0.139	0.213
222	- 1.010	-0.063	-0.896	0.303	-0.975	-0.238	-0.079	0.501	1.438	-0.405
223	- 0.565	-0.126	-1.160	0.957	-0.975	-0.802	-0.998	-0.820	-0.463	-1.013
224	- 0.046	0.428	-0.793	-0.053	0.195	-0.228	-0.589	-0.201	-0.845	-0.395
225	- 1.206	0.365	0.199	0.303	0.195	-0.238	-0.998	0.059	-0.845	-0.405
226	0.150	0.365	0.462	0.933	0.195	-0.238	0.275	-0.232	-0.845	0.213
227	- 1.010	0.449	0.199	-1.297	-0.563	-0.238	-0.644	0.265	-0.845	-0.142
228	0.150	0.449	-0.065	0.323	0.195	0.299	0.275	0.295	0.613	-0.133
229	- 0.046	0.449	-0.065	-3.512	-0.125	-0.238	0.275	0.295	-0.687	-0.133
230	0.150	0.449	0.199	-0.346	0.195	0.299	0.275	0.295	0.297	0.213
231	- 0.565	0.449	-1.160	0.591	-0.975	-1.648	-0.998	-0.820	-1.986	-1.013
232	- 0.565	0.365	-1.160	0.918	-0.975	-1.648	-0.998	-0.820	-1.986	-1.013
233	- 1.206	-3.861	-0.793	-3.210	0.195	-0.010	-0.589	-0.086	0.011	-0.395
234	- 1.725	0.877	-1.160	-0.346	-1.826	-1.365	-2.271	-1.171	-0.845	-1.013
235	- 0.491	0.365	-1.160	0.933	-0.975	-0.802	0.275	1.029	-0.845	-0.131
236	0.669	-1.002	1.293	-0.321	0.514	0.836	1.038	0.295	1.438	1.176
237	0.150	1.367	0.565	-0.019	1.365	0.862	1.548	0.295	0.297	0.831
238	- 0.619	0.449	1.293	0.933	1.365	0.772	1.548	0.646	-0.306	1.092
239	1.310	1.367	0.829	0.323	0.195	0.772	0.629	0.646	0.740	0.738
240	- 0.761	-0.553	-1.027	0.289	-0.950	-1.329	-0.998	-0.820	-1.319	-1.369
241	0.150	0.365	1.190	1.260	0.195	0.044	-0.998	0.295	1.281	0.202
242	- 0.295	-0.063	0.897	0.933	0.632	0.872	0.785	0.677	0.964	0.822
243	0.150	0.428	0.199	0.611	0.195	0.299	0.275	0.295	0.297	0.213
244	0.150	0.877	1.293	0.611	0.195	0.862	0.629	0.295	0.454	0.558
245	0.864	0.449	1.557	0.289	1.365	1.399	1.548	1.410	1.438	1.438
246	0.150	0.428	0.199	0.284	0.195	0.299	0.275	0.295	0.297	0.213
247	0.150	0.428	0.199	0.630	0.195	0.299	0.275	0.295	0.297	0.213
248	- 0.100	-0.490	1.557	0.611	1.045	0.872	1.038	0.677	-0.845	1.438
249	- 0.565	0.856	-1.160	0.630	-0.975	-0.802	-0.998	-0.820	-0.845	-1.013
250	0.399	0.365	-1.027	0.630	-1.388	-1.274	-0.998	-1.553	-0.306	-1.013

251	0.595	0.940	-0.500	0.650	-0.243	-0.274	0.220	-0.086	-0.371	-0.488
252	-0.565	-0.126	-0.828	0.591	-0.975	-1.339	-2.271	-0.583	-1.986	-1.367
253	-0.046	0.856	0.234	0.918	-0.218	0.080	-0.488	-0.232	0.549	0.215
254	0.150	0.856	-0.198	-3.512	-0.656	0.044	-0.134	-0.232	-0.687	-0.405
255	0.150	0.856	0.462	0.591	-0.563	0.044	0.275	1.410	0.297	0.558
256	0.150	0.365	0.462	0.625	-0.563	0.044	0.275	1.410	0.297	0.558
257	-0.315	-0.553	-2.518	-0.326	-1.733	-1.902	-1.918	-1.347	-1.986	-1.631
258	1.114	-3.861	-0.301	0.953	0.927	0.335	0.220	-0.087	0.011	-0.226
259	0.595	0.449	0.462	0.323	1.045	0.553	-0.235	0.677	-1.984	-0.053
260	-1.995	0.940	0.897	0.957	0.952	0.608	1.194	1.029	1.122	0.913
261	0.669	0.449	0.829	0.957	0.927	0.862	-0.644	0.563	0.075	0.822
262	0.399	-0.553	0.829	-0.346	0.514	0.618	0.684	0.914	0.392	1.083
263	0.595	-1.065	-0.196	0.323	0.927	-2.156	-0.644	1.029	0.740	0.913
264	0.669	-0.553	0.462	0.918	1.365	0.517	0.275	1.029	-1.602	0.913
265	-1.995	0.877	-0.174	1.260	0.952	0.836	1.548	0.914	0.294	1.083
266	0.864	0.365	0.858	0.591	0.102	-0.238	-1.761	0.563	-0.558	0.822
267	-1.010	0.940	-0.763	0.625	0.952	-3.002	-0.589	0.555	0.613	0.221
268	0.345	0.428	0.793	-0.648	1.045	0.862	0.785	-3.019	-0.177	-3.200
269	1.310	0.940	-3.509	0.625	-0.125	0.335	-0.134	1.143	0.008	0.829
270	1.310	0.428	0.530	0.616	0.632	0.862	-0.589	-3.049	0.424	-3.463
271	-0.474	0.940	-0.133	0.933	0.514	0.772	0.629	0.677	1.122	-0.053
272	0.669	0.365	0.962	0.625	0.632	0.836	-0.079	0.532	-1.984	0.558
273	-1.995	0.877	0.302	0.957	0.927	0.044	-0.134	0.914	0.583	1.083
274	-0.295	0.877	0.897	0.933	0.952	0.926	-2.782	-1.347	-2.365	-1.631
275	-1.995	1.367	0.793	0.591	-0.656	-2.748	-0.134	0.677	0.266	0.738
276	-0.491	0.877	0.858	0.650	1.045	0.836	0.785	1.029	-0.717	0.913
277	-1.213	0.877	-0.065	-3.210	0.514	0.862	-0.644	0.792	1.152	0.567
278	1.310	-0.553	1.225	0.953	0.952	0.862	-0.488	1.029	0.359	0.913
279	0.669	1.367	0.565	0.611	1.045	0.608	0.275	1.143	0.454	0.829
280	1.114	-0.126	0.331	0.289	0.927	-2.748	1.139	0.677	0.995	0.738
281	0.345	0.365	0.897	0.650	1.045	1.081	1.194	0.677	1.438	0.738
282	0.864	-0.063	1.293	1.260	0.927	-3.002	-0.589	0.677	0.995	0.738
283	0.345	-0.063	0.530	0.630	0.514	1.145	-1.352	-2.316	0.454	-2.763
284	1.114	0.856	0.498	0.957	0.927	-0.274	-0.235	0.181	-1.480	0.383
285	-1.213	0.856	0.234	0.957	0.927	0.826	1.038	-2.255	1.152	-2.236
286	1.310	0.856	0.500	0.957	0.927	1.145	0.220	0.677	0.837	0.738
287	-0.619	0.856	0.897	0.313	0.927	1.081	0.785	-2.202	-1.984	-2.847
288	-1.995	0.856	1.160	-3.219	0.927	0.826	1.038	0.677	0.204	0.738

289	- 1.010	0.856	1.160	0.957	0.927	0.826	1.038	0.677	0.392	0.738
290	0.595	-0.126	1.160	0.591	0.927	-3.002	0.220	0.677	0.964	0.738
291	- 0.295	0.856	0.897	0.957	0.632	0.826	1.038	1.059	0.613	1.176
292	0.345	0.856	0.897	0.918	0.927	-3.002	0.330	0.677	0.836	0.738
293	1.114	0.940	0.066	0.323	0.927	0.644	0.785	-2.782	-0.180	-2.854
294	- 1.408	-3.841	0.793	0.591	1.365	-1.455	1.139	0.677	0.613	0.738
295	0.345	0.428	0.897	0.591	-0.243	0.553	0.629	0.563	-0.558	0.822
296	- 1.010	0.449	-0.133	0.625	-0.125	0.517	0.684	-0.201	0.964	-0.142
297	- 0.295	-0.063	-0.461	0.630	0.514	0.826	1.548	-2.316	0.995	-2.763
298	- 0.295	0.428	-0.896	0.611	0.952	-0.264	-0.488	0.204	0.964	-0.397
299	0.790	0.856	-0.293	0.918	0.927	0.872	-0.134	0.677	0.232	0.221
300	0.790	0.428	0.530	0.625	-2.490	-0.555	0.629	0.150	-0.845	1.092
301	- 2.440	1.367	1.293	1.260	1.365	1.399	1.139	0.524	0.837	0.738
302	- 0.295	0.000	0.897	0.918	0.607	0.209	1.038	0.677	0.709	0.738
303	- 0.619	0.940	0.498	0.625	0.927	0.209	1.038	0.181	-2.746	0.215
304	- 0.100	0.856	0.432	0.650	0.952	0.035	0.376	-2.782	0.327	0.738
305	0.864	0.856	-3.245	0.650	-2.878	0.309	1.038	0.173	-0.401	0.215
306	1.310	0.856	0.234	0.650	0.287	0.026	1.038	-0.232	-0.180	0.211
307	0.669	0.449	-0.358	0.591	-0.361	0.363	0.220	-1.667	1.122	-0.920
308	1.310	0.449	0.234	0.313	0.927	-0.274	0.220	0.088	0.583	0.211
309	- 0.295	-2.985	0.234	0.020	0.607	0.453	1.038	0.792	-1.986	0.560
310	- 0.100	0.449	0.234	0.650	0.287	0.463	0.220	-2.316	-2.272	0.913
311	0.669	0.856	-3.148	-0.023	-2.996	-0.447	0.220	0.028	0.456	0.569
312	- 1.280	0.856	0.432	0.918	0.927	-0.110	-0.488	0.646	-0.845	0.383
313	1.310	-0.427	0.163	0.591	0.927	0.235	-3.034	0.555	-0.177	0.738
314	- 1.995	0.877	0.897	0.591	-2.053	-0.421	0.220	0.028	0.392	1.083
315	- 0.100	-0.855	0.698	0.264	0.927	-2.365	0.220	0.852	0.740	0.211
316	- 0.100	0.856	1.557	0.650	0.169	0.453	1.038	-2.057	-0.531	0.913
317	0.669	0.856	1.557	0.318	0.927	-0.056	1.038	1.143	1.152	0.211
318	- 1.995	1.367	0.234	0.274	0.632	0.363	1.038	-0.056	0.771	0.211
319	0.345	0.940	1.557	0.933	-2.238	1.145	1.139	-0.025	0.964	0.831
320	- 1.995	0.449	1.293	0.289	0.514	-3.002	0.275	0.028	-1.667	1.083
321	1.114	0.877	-0.396	0.933	1.045	0.209	-3.191	-1.399	-1.164	-0.658
322	- 2.440	0.856	1.557	0.616	0.514	-0.010	0.275	0.181	0.297	-2.938
323	1.310	0.877	0.595	0.957	1.045	0.080	0.785	1.029	1.122	1.083

324	- 0.295	0.449	-0.396	0.625	-0.218	1.091	-0.134	0.616	1.281	-0.051
325	- 0.295	0.877	1.293	0.284	1.045	0.517	0.785	0.822	-1.128	-2.763
326	- 0.046	0.428	-0.828	0.630	-2.465	-0.583	-0.488	-2.698	0.454	1.083
327	1.114	0.877	1.225	0.630	-2.465	1.145	0.730	0.150	1.152	-0.312
328	0.669	0.428	1.293	0.933	0.632	0.926	1.139	-0.056	0.392	-0.395
329	- 1.995	0.428	0.829	0.289	-2.878	0.872	0.275	0.150	-1.986	0.820
330	- 1.010	0.877	0.926	0.933	0.927	0.618	-1.862	0.409	0.392	0.913
331	0.864	0.856	0.565	0.957	0.927	-3.002	-0.235	-0.056	0.995	0.738
332	- 0.619	0.877	0.793	0.650	0.195	0.299	-2.625	-0.552	-0.244	-2.847
333	- 0.619	0.940	0.595	0.284	-2.053	0.926	0.275	-0.086	0.392	0.738
334	- 0.046	0.365	0.897	-0.019	0.195	1.091	0.275	-0.674	0.613	0.213
335	- 0.491	-0.063	-2.385	1.260	0.287	1.181	0.730	0.028	0.995	-1.620
336	- 0.619	0.940	1.225	0.611	-2.465	-0.264	-0.079	0.059	-2.367	-0.131
337	- 0.619	0.365	0.565	0.918	0.632	0.826	0.785	0.150	0.139	1.174
338	- 0.295	-0.918	0.530	0.953	0.632	1.399	-2.216	0.678	-2.144	-2.847
339	0.595	0.449	-3.148	0.591	-2.053	0.772	0.431	0.204	1.152	0.822
340	- 0.046	0.449	0.498	0.957	-3.315	-2.439	-3.034	-2.813	-0.242	1.083
341	- 2.244	1.367	0.858	0.591	0.632	0.618	0.220	-0.056	1.057	-3.202
342	- 0.619	-0.063	1.293	0.323	0.607	1.145	-3.034	0.379	-2.272	0.738
343	- 0.046	0.877	-2.018	-0.648	-2.053	-0.264	-0.644	0.181	0.837	0.567
344	- 0.295	0.856	0.163	-0.014	0.632	0.209	0.330	-0.201	-0.842	0.204
345	- 0.100	0.856	-3.479	0.957	0.195	1.399	0.275	0.822	-0.020	0.913
346	0.669	0.365	0.595	0.650	-2.238	-0.274	-0.134	-0.994	0.327	-1.013
347	- 1.475	0.877	0.565	0.918	0.632	0.772	1.038	-0.201	0.866	1.438
348	1.310	0.856	1.225	0.611	0.927	-0.274	-1.604	0.441	0.235	0.822
349	1.559	0.449	-0.396	0.616	-2.053	0.872	1.038	0.524	0.456	0.647

Latent  
Variable  
Covariances

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT	1.000	-0.062	0.033	0.012	0.008	0.018	0.029	0.066	0.058	0.102
BI	-0.062	1.000	0.466	0.583	0.338	0.385	0.443	-0.041	0.339	0.333
TR	0.033	0.466	1.000	0.431	0.605	0.425	0.503	0.026	0.302	0.424
CA	-0.012	0.583	0.431	1.000	0.345	0.300	0.370	-0.051	0.272	0.303
CS	0.008	0.338	0.605	0.345	1.000	0.389	0.432	0.060	0.277	0.272
CTT	0.018	0.385	0.425	0.300	0.389	1.000	0.455	0.062	0.312	0.234
FC	0.029	0.443	0.503	0.370	0.432	0.455	1.000	0.119	0.447	0.451
PE	0.066	-0.041	0.026	0.051	0.060	0.062	0.119	1.000	0.077	0.360
SI	0.058	0.339	0.302	0.272	0.277	0.312	0.447	0.077	1.000	0.278
TA	0.102	0.333	0.424	0.303	0.272	0.234	0.451	0.360	0.278	1.000



Inner model residual descriptives

	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness	Number of Observations Used
AT1	0.000	-0.018	-1.142	0.650	0.329	-0.253	-0.316	349.000
AT2	0.000	0.052	-1.923	1.717	0.864	-0.978	-0.185	349.000
AT3	0.000	0.053	-2.616	1.869	0.737	-0.281	0.090	349.000
BI1	0.000	-0.084	-2.883	1.549	0.577	1.742	-0.389	349.000
BI2	0.000	-0.023	-1.266	1.220	0.530	-0.548	-0.119	349.000
BI3	0.000	0.070	-1.428	1.910	0.561	-0.206	0.188	349.000
TR1	0.000	-0.010	-2.916	1.569	0.549	2.577	-0.393	349.000
TR2	0.000	0.041	-2.296	1.894	0.552	1.645	-0.400	349.000
TR3	0.000	0.039	-1.396	1.536	0.559	0.133	-0.222	349.000
TR4	0.000	0.046	-2.738	1.466	0.628	2.138	-0.819	349.000
CA1	0.000	-0.052	-1.714	1.308	0.485	0.058	-0.194	349.000
CA2	0.000	0.025	-1.361	1.152	0.533	-0.021	-0.303	349.000
CA3	0.000	0.055	-1.550	1.420	0.541	-0.129	-0.365	349.000
CA4	0.000	0.007	-1.389	1.668	0.483	0.266	-0.091	349.000
CS1	0.000	-0.037	-1.064	1.414	0.404	0.574	0.205	349.000
CS2	0.000	0.066	-1.713	1.184	0.430	0.251	-0.117	349.000
CS3	0.000	-0.032	-1.138	1.485	0.459	0.366	-0.179	349.000
CTT1	0.000	-0.126	-2.353	1.533	0.528	0.898	-0.140	349.000
CTT2	0.000	0.093	-1.801	1.487	0.452	0.892	-0.280	349.000
CTT3	0.000	0.008	-1.347	1.224	0.436	0.013	-0.255	349.000
CTT4	0.000	-0.022	-2.157	1.579	0.466	1.013	-0.102	349.000
FC1	0.000	-0.030	-1.876	1.398	0.525	0.675	-0.031	349.000
FC2	0.000	-0.018	-1.175	1.671	0.438	0.410	0.102	349.000
FC3	0.000	0.045	-1.622	1.165	0.510	-0.101	-0.209	349.000
PE1	0.000	0.009	-1.906	1.979	0.605	0.368	-0.039	349.000
PE2	0.000	-0.006	-1.592	1.123	0.577	-0.692	-0.138	349.000
PE3	0.000	0.011	-0.856	1.126	0.464	-0.534	-0.041	349.000
PE4	0.000	-0.018	-1.664	1.360	0.662	-0.639	-0.104	349.000
SI2	0.000	0.071	-1.924	1.435	0.498	1.256	-0.490	349.000
SI3	0.000	0.031	-1.299	2.512	0.454	3.753	0.653	349.000
SI4	0.000	-0.020	-2.562	2.482	0.606	4.613	0.044	349.000
TA1	0.000	-0.009	-1.262	1.566	0.446	0.523	0.137	349.000
TA2	0.000	-0.066	-1.477	1.345	0.537	0.220	-0.062	349.000
TA3	0.000	0.103	-1.251	1.591	0.477	0.350	-0.107	349.000
TA4	0.000	-0.054	-2.424	1.910	0.532	2.154	-0.612	349.000
SI1	0.000	0.044	-2.500	1.881	0.638	1.140	-0.445	349.000



Case ID	BI	CA
1	-0.134	-0.289
2	-0.131	-0.289
3	-0.847	0.609
4	-0.625	0.609
5	-0.056	0.018
6	1.092	0.463
7	-0.523	0.018
8	-0.769	0.261
9	0.364	0.463
10	-0.927	-0.427
11	-0.393	0.018
12	-0.173	0.018
13	-0.342	0.018
14	-0.363	0.018
15	0.291	0.463
16	0.824	-0.227
17	-0.238	0.018
18	0.103	0.018
19	-0.332	0.018
20	0.350	0.463
21	0.200	-0.345
22	1.148	-0.509
23	0.717	-0.816
24	-1.048	-0.427
25	-0.805	-0.427
26	-1.058	-0.427
27	-0.312	-0.729
28	-0.796	-1.306
29	0.265	0.463
30	-1.100	-0.871
31	-0.095	0.463
32	-1.191	-0.871
33	-0.063	0.282
34	0.078	0.350
35	-0.964	-0.381
36	0.378	-0.530
37	-0.090	-0.335
38	0.543	-0.530
39	-0.440	-0.974
40	-0.734	-1.224
41	-1.143	-0.427
42	0.615	0.463
43	-1.328	0.565
44	-1.018	-0.427
45	-0.624	-0.427
46	-0.951	0.045
47	-0.048	0.463
48	-0.121	0.463
49	-0.457	-0.974

50	-0.705	0.251
51	0.163	-0.631
52	-0.178	0.009
53	0.147	-0.704
54	-0.758	-0.079
55	-0.530	0.014
56	0.755	0.135
57	-1.342	-0.044
58	1.011	0.463
59	-0.048	-1.027
60	-1.668	0.602
61	-1.339	0.602
62	-1.640	0.602
63	-1.421	-0.540
64	-0.270	0.018
65	0.414	-0.231
66	-0.989	-0.729
67	-1.051	-0.729
68	-0.596	-0.301
69	-0.142	0.018
70	0.233	-0.231
71	-0.276	0.018
72	0.311	0.749
73	-0.176	1.010
74	0.501	0.463
75	-0.710	-0.974
76	-0.192	0.364
77	-0.323	0.378
78	0.599	0.052
79	1.178	-0.147
80	0.227	0.004
81	-0.182	-0.612
82	0.445	0.100
83	0.709	-0.484
84	-0.868	-0.427
85	0.561	0.463
86	0.264	-0.672
87	0.309	-0.672
88	0.362	-0.672
89	0.204	-1.123
90	-0.432	-0.003
91	0.907	-0.530
92	-0.722	0.295
93	0.078	-0.495



94	-0.796	-0.443
95	-1.337	-0.194
96	-0.821	-0.427
97	-1.072	-0.789
98	-1.500	0.158
99	-0.235	1.047
100	0.146	-0.285
101	0.700	0.018
102	0.350	0.018
103	-0.374	0.705
104	-0.519	-0.079
105	0.153	0.463
106	-0.083	0.018
107	-0.036	0.696
108	0.967	-0.489
109	-0.632	-1.370
110	-0.904	-1.370
111	0.410	-0.530
112	-1.003	-1.116
113	0.033	-0.289
114	-0.666	-0.035
115	-0.865	0.237
116	-0.979	-0.345
117	-0.128	-0.025
118	0.075	-0.725
119	0.143	-0.725
120	-0.570	-0.427
121	0.057	0.306
122	-0.279	0.018
123	-0.084	-0.345
124	-0.574	-0.427
125	-0.589	-0.079
126	-0.204	-0.974
127	0.009	0.018
128	-0.129	-0.326
129	-0.965	0.267
130	-0.331	0.267
131	0.011	0.018
132	-0.357	-0.427
133	-0.325	-0.427
134	-0.599	-0.079
135	-0.231	-1.398
136	-0.418	0.873
137	-0.213	0.458

138	-0.052	1.010
139	0.370	0.712
140	-0.472	0.368
141	-0.186	-0.746
142	0.207	-1.522
143	-0.156	0.378
144	-0.316	0.018
145	-0.117	0.110
146	0.382	0.463
147	-0.229	0.018
148	-0.443	0.018
149	0.269	0.160
150	-0.625	-0.427
151	-1.104	-0.427
152	-0.609	0.568
153	-0.884	-1.112
154	-0.482	-0.045
155	-0.306	-0.330
156	0.325	-0.231
157	0.216	-0.231
158	-0.149	-1.077
159	-0.713	0.648
160	-0.376	-0.614
161	-1.186	1.490
162	-1.170	1.163
163	0.898	0.313
164	-0.416	0.040
165	-0.091	-0.014
166	-0.343	0.640
167	0.157	0.348
168	-0.151	0.313
169	-0.016	-0.033
170	-0.774	0.272
171	0.548	0.092
172	-0.255	0.011
173	0.024	-0.614
174	-0.279	0.069
175	-0.184	0.277
176	-0.239	0.846
177	0.687	-0.186
178	0.644	-0.523
179	0.093	0.364
180	-0.752	-3.270
181	0.286	-0.367

182	-0.157	0.398
183	0.822	0.080
184	-0.126	0.059
185	0.326	0.609
186	0.661	-0.837
187	-0.376	0.584
188	-0.390	0.059
189	-0.900	0.926
190	0.940	-0.294
191	0.340	-0.479
192	0.998	-0.884
193	0.612	-3.704
194	0.933	-0.276
195	-0.045	-0.285
196	-0.527	0.348
197	-1.005	0.846
198	-1.223	-0.353
199	-1.020	0.558
200	-0.297	0.071
201	-0.043	0.274
202	-0.756	-0.009
203	1.063	-0.200
204	-0.944	0.028
205	-0.389	0.992
206	1.041	-0.206
207	-0.398	0.387
208	0.791	1.042
209	0.958	0.313
210	0.444	-1.142
211	0.639	0.312
212	0.753	-4.353
213	-0.960	0.251
214	0.495	0.061
215	0.418	0.398
216	-0.404	1.280
217	0.480	0.616
218	0.827	0.368
219	-3.304	-0.954
220	0.758	-0.515
221	0.746	0.407
222	0.052	0.339
223	0.468	1.031
224	0.861	-0.303
225	0.574	0.090

226	0.312	0.720
227	0.617	-1.559
228	0.371	0.061
229	0.604	-3.774
230	0.299	-0.607
231	1.365	0.329
232	1.282	0.705
233	-3.660	-0.958
234	1.652	-0.857
235	0.936	0.720
236	-1.841	0.263
237	0.750	-0.816
238	-0.302	0.671
239	0.967	-0.474
240	0.238	0.611
241	0.102	1.047
242	-0.704	0.969
243	0.278	0.362
244	0.272	0.100
245	-0.494	0.027
246	0.278	0.034
247	0.278	0.380
248	-1.170	0.897
249	1.498	0.131
250	0.975	0.417
251	1.227	0.102
252	0.947	0.664
253	0.729	0.419
254	1.053	-4.011
255	0.792	0.092
256	0.301	0.413
257	0.895	-0.003
258	-3.766	3.204
259	0.690	0.061
260	0.133	0.409
261	0.217	0.696
262	-0.998	-0.023
263	-0.649	0.944
264	-0.532	1.241
265	0.281	0.749
266	0.570	0.378
267	1.517	0.078
268	0.139	-0.898
269	1.825	0.078

270	0.455	0.366
271	0.752	0.385
272	0.325	0.413
273	0.512	0.446
274	1.286	0.422
275	1.403	-0.206
276	0.472	0.139
277	0.611	-3.721
278	-0.825	1.275
279	1.124	-0.186
280	-0.006	0.362
281	-0.363	0.437
282	0.119	1.296
283	-0.066	0.667
284	1.065	0.458
285	0.303	0.458
286	0.515	0.458
287	0.708	-0.186
288	0.078	-3.718
289	0.143	0.458
290	-0.056	0.664
291	0.224	0.458
292	0.961	0.419
293	0.894	-0.225
294	-4.207	12.830
295	0.104	0.341
296	0.080	0.364
297	-0.357	0.667
298	0.669	0.362
299	0.895	0.419
300	0.359	0.376
301	0.311	0.463
302	-0.531	0.918
303	0.915	0.078
304	0.147	0.151
305	1.521	0.151
306	0.719	0.151
307	0.281	0.329
308	0.420	0.052
309	-3.024	1.761
310	0.113	0.388
311	1.537	-0.522
312	0.858	0.419
313	0.042	0.840

314	0.338	0.080
315	-0.710	0.762
316	-0.076	0.151
317	0.392	-0.181
318	0.780	-0.523
319	0.052	0.385
320	0.442	0.027
321	1.557	0.422
322	0.694	0.117
323	0.550	0.446
324	0.294	0.364
325	1.043	-0.227
326	0.205	0.380
327	0.374	0.119
328	-0.111	0.683
329	0.066	0.039
330	0.616	0.422
331	1.046	0.458
332	1.391	0.139
333	0.416	-0.264
334	-0.249	-0.231
335	0.257	1.296
336	1.022	0.063
337	-0.248	0.705
338	-0.145	1.488
339	0.790	0.329
340	0.680	0.696
341	1.201	-0.206
342	0.089	0.359
343	1.307	-1.159
344	0.752	-0.513
345	1.327	0.458
346	0.365	0.437
347	-0.024	0.407
348	0.876	0.112
349	0.324	0.354





## Appendix K Convergent Validity (AVE)

### Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
AT	0.876	-2.163	0.764	0.534
BI	0.776	0.778	0.870	0.690
TR	0.838	0.849	0.891	0.672
CA	0.882	0.882	0.919	0.739
CS	0.886	0.900	0.929	0.814
CTT	0.905	0.919	0.933	0.777
FC	0.840	0.847	0.904	0.758
PE	0.856	0.903	0.886	0.662
SI	0.856	0.883	0.900	0.693
TA	0.890	0.900	0.923	0.751

## Appendix L Composite Reliability

### Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
AT	0.876	-2.163	0.764	0.534
BI	0.776	0.778	0.870	0.690
TR	0.838	0.849	0.891	0.672
CA	0.882	0.882	0.919	0.739
CS	0.886	0.900	0.929	0.814
CTT	0.905	0.919	0.933	0.777
FC	0.840	0.847	0.904	0.758
PE	0.856	0.903	0.886	0.662
SI	0.856	0.883	0.900	0.693
TA	0.890	0.900	0.923	0.751

## Appendix M Heterotrait-Monotrait (HTMT)

HTMT

	A	BI	T	CA	CS	CTT	FC	PE	SI	TA
AT										
BI	0.068									
TR	0.113	0.568								
CA	0.090	0.702	0.497							
CS	0.103	0.401	0.690	0.387						
CTT	0.085	0.452	0.489	0.333	0.432					
FC	0.070	0.547	0.593	0.429	0.492	0.520				
PE	0.057	0.079	0.067	0.089	0.081	0.066	0.133			
SI	0.046	0.389	0.328	0.291	0.295	0.337	0.506	0.095		
TA	0.099	0.398	0.489	0.343	0.306	0.256	0.520	0.405	0.299	

## Collinearity Statistics (VIF)

Outer VIF  
Values

	VIF
AT1	2.534
AT2	2.541
AT3	2.161
BI1	1.611
BI2	1.707
BI3	1.519
TR1	1.791
TR2	1.890
TR3	2.064
TR4	1.784
CA1	2.542
CA2	2.054
CA3	2.055
CA4	2.524
CS1	2.568
CS2	2.471
CS3	2.575
CTT1	2.369
CTT2	2.606
CTT3	2.843
CTT4	2.806
FC1	1.987
FC2	2.270



FC3	1.841
PE1	2.243
PE2	1.854
PE3	1.751
PE4	2.422
SI2	2.851
SI3	2.767
SI4	1.487
TA1	2.703
TA2	2.248
TA3	2.409
TA4	2.222
SI1	2.115

Model\_Fit  
Fit Summary

	Saturated Model	Estimated Model
SRMR	0.054	0.063
d_ULS	1.970	2.612
d_G	0.798	0.811
Chi-Square	1623.517	1644.521
NFI	0.794	0.791

Inner Model

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT		1.000								
BI				1.000						
TR		1.000								
CA										
CS		1.000								
CTT		1.000								
FC		1.000								
PE		1.000								
SI		1.000								
TA		1.000								

Outer Model

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
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AT1	- 1.000								
AT2	- 1.000								
AT3	- 1.000								
BI1		- 1.000							
BI2		- 1.000							
BI3		- 1.000							
TR1			- 1.000						
TR2			- 1.000						
TR3			- 1.000						
TR4			- 1.000						
CA1				- 1.000					
CA2				- 1.000					
CA3				- 1.000					
CA4				- 1.000					
CS1					- 1.000				
CS2					- 1.000				
CS3					- 1.000				
CTT1						- 1.000			
CTT2						- 1.000			
CTT3						- 1.000			
CTT4						- 1.000			
FC1							- 1.000		
FC2							- 1.000		

FC3							- 1.000			
PE1								- 1.000		
PE2								- 1.000		
PE3								- 1.000		
PE4								- 1.000		
SI2									- 1.000	
SI3									- 1.000	
SI4									- 1.000	
TA1										- 1.000
TA2										- 1.000
TA3										- 1.000
TA4										- 1.000
SI1										- 1.000

## Appendix N Cross-Loadings

Cross  
Loadings

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT1	0.944	-0.043	0.040	0.028	0.032	0.035	0.035	0.059	0.053	0.100
AT2	0.504	0.019	0.087	0.111	0.106	0.080	0.051	0.005	0.004	0.064
AT3	0.676	-0.008	0.135	0.057	0.110	0.083	0.061	-0.002	-0.006	0.078
BI1	-0.050	0.816	0.372	0.430	0.266	0.307	0.390	0.032	0.283	0.289
BI2	-0.047	0.848	0.386	0.508	0.255	0.312	0.338	-0.043	0.249	0.284
BI3	-0.056	0.828	0.401	0.511	0.318	0.340	0.379	-0.084	0.312	0.261
TR1	0.012	0.436	0.836	0.368	0.560	0.342	0.438	-0.014	0.222	0.343
TR2	0.004	0.408	0.834	0.392	0.549	0.357	0.433	0.071	0.258	0.402
TR3	0.044	0.346	0.829	0.302	0.465	0.350	0.393	0.032	0.307	0.327

TR4	0.059	0.317	0.778	0.341	0.378	0.347	0.377	-0.006	0.208	0.309
CA1	-0.061	0.489	0.363	0.875	0.309	0.214	0.290	-0.092	0.248	0.230
CA2	0.005	0.516	0.350	0.846	0.255	0.312	0.317	-0.077	0.256	0.235
CA3	0.004	0.493	0.370	0.841	0.277	0.232	0.321	0.051	0.195	0.308
CA4	0.011	0.505	0.398	0.876	0.345	0.270	0.344	-0.057	0.236	0.270
CS1	0.026	0.335	0.556	0.331	0.915	0.360	0.427	0.037	0.230	0.277
CS2	-0.003	0.313	0.538	0.319	0.903	0.388	0.402	0.068	0.256	0.217
CS3	-0.005	0.255	0.544	0.276	0.888	0.295	0.328	0.059	0.268	0.240
CT1	0.021	0.274	0.379	0.235	0.337	0.849	0.411	0.050	0.257	0.216
CT2	-0.004	0.379	0.376	0.315	0.301	0.892	0.423	0.077	0.322	0.229
CT3	0.057	0.374	0.391	0.227	0.356	0.900	0.384	0.061	0.282	0.171
CT4	-0.013	0.313	0.354	0.276	0.386	0.885	0.389	0.025	0.229	0.214
FC1	0.050	0.344	0.395	0.306	0.319	0.346	0.851	0.108	0.361	0.399
FC2	0.053	0.410	0.453	0.339	0.389	0.407	0.899	0.082	0.433	0.394
FC3	-0.024	0.397	0.460	0.321	0.414	0.428	0.860	0.121	0.369	0.386
PE1	0.010	-0.019	0.043	-0.070	0.061	0.043	0.034	0.796	0.047	0.266
PE2	0.013	-0.034	0.001	-0.007	0.037	0.037	0.119	0.817	0.032	0.331
PE3	0.110	-0.044	0.026	-0.061	0.054	0.069	0.112	0.886	0.094	0.300
PE4	0.021	-0.003	0.067	-0.026	0.078	0.047	0.109	0.749	0.107	0.275
SI2	0.095	0.270	0.232	0.218	0.219	0.278	0.361	0.068	0.867	0.230
SI3	0.031	0.294	0.252	0.257	0.235	0.289	0.414	0.038	0.891	0.264
SI4	0.014	0.342	0.339	0.267	0.298	0.267	0.400	0.090	0.796	0.254
TA1	0.099	0.315	0.380	0.279	0.208	0.239	0.368	0.311	0.246	0.895
TA2	0.048	0.250	0.361	0.268	0.244	0.130	0.335	0.340	0.204	0.844
TA3	0.098	0.319	0.351	0.254	0.269	0.252	0.449	0.311	0.258	0.879
TA4	0.101	0.262	0.381	0.252	0.223	0.170	0.403	0.291	0.249	0.847
SH1	0.076	0.157	0.101	0.104	0.100	0.167	0.265	0.052	0.770	0.129

### Cross-Loadings of Constructs and Dimensions

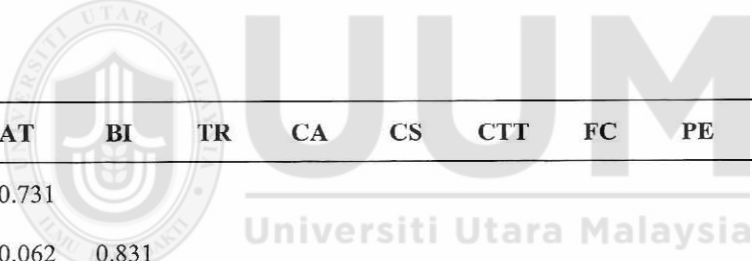
	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT1	0.944	-0.043	0.040	0.028	0.032	0.035	0.035	0.059	0.053	0.100
AT2	0.504	0.019	0.087	0.111	0.106	0.080	0.051	0.005	0.004	0.064
AT3	0.676	-0.008	0.135	0.057	0.110	0.083	0.061	-0.002	-0.006	0.078
BI1	-0.050	0.816	0.372	0.430	0.266	0.307	0.390	0.032	0.283	0.289
BI2	-0.047	0.848	0.386	0.508	0.255	0.312	0.338	-0.043	0.249	0.284
BI3	-0.056	0.828	0.401	0.511	0.318	0.340	0.379	-0.084	0.312	0.261
TR1	0.012	0.436	0.836	0.368	0.560	0.342	0.438	-0.014	0.222	0.343

TR2	0.004	0.408	0.834	0.392	0.549	0.357	0.433	0.071	0.258	0.402
TR3	0.044	0.346	0.829	0.302	0.465	0.350	0.393	0.032	0.307	0.327
TR4	0.059	0.317	0.778	0.341	0.378	0.347	0.377	-0.006	0.208	0.309
CA1	-0.061	0.489	0.363	0.875	0.309	0.214	0.290	-0.092	0.248	0.230
CA2	0.005	0.516	0.350	0.846	0.255	0.312	0.317	-0.077	0.256	0.235
CA3	0.004	0.493	0.370	0.841	0.277	0.232	0.321	0.051	0.195	0.308
CA4	0.011	0.505	0.398	0.876	0.345	0.270	0.344	-0.057	0.236	0.270
CS1	0.026	0.335	0.556	0.331	0.915	0.360	0.427	0.037	0.230	0.277
CS2	-0.003	0.313	0.538	0.319	0.903	0.388	0.402	0.068	0.256	0.217
CS3	-0.005	0.255	0.544	0.276	0.888	0.295	0.328	0.059	0.268	0.240
CTT1	0.021	0.274	0.379	0.235	0.337	0.849	0.411	0.050	0.257	0.216
CTT2	-0.004	0.379	0.376	0.315	0.301	0.892	0.423	0.077	0.322	0.229
CTT3	0.057	0.374	0.391	0.227	0.356	0.900	0.384	0.061	0.282	0.171
CTT4	-0.013	0.313	0.354	0.276	0.386	0.885	0.389	0.025	0.229	0.214
FC1	0.050	0.344	0.395	0.306	0.319	0.346	0.851	0.108	0.361	0.399
FC2	0.053	0.410	0.453	0.339	0.389	0.407	0.899	0.082	0.433	0.394
FC3	-0.024	0.397	0.460	0.321	0.414	0.428	0.860	0.121	0.369	0.386
PE1	0.010	-	0.043	-	0.061	0.043	0.034	0.796	0.047	0.266
PE2	0.013	0.019	0.001	0.070	0.037	0.037	0.119	0.817	0.032	0.331
PE3	0.110	0.034	0.026	0.007	0.054	0.069	0.112	0.886	0.094	0.300
PE4	0.021	0.044	0.067	0.061	0.078	0.047	0.109	0.749	0.107	0.275
SI1	0.076	-	0.101	-	0.100	0.167	0.265	0.052	0.770	0.129
SI2	0.095	0.157	0.232	0.104	0.219	0.278	0.361	0.068	0.867	0.230
SI3	0.031	0.270	0.252	0.218	0.235	0.289	0.414	0.038	0.891	0.264
SI4	0.014	0.294	0.339	0.257	0.298	0.267	0.400	0.090	0.796	0.254
TA1	0.099	0.342	0.380	0.267	0.208	0.239	0.368	0.311	0.246	0.895
TA2	0.048	0.315	0.361	0.279	0.244	0.130	0.335	0.340	0.204	0.844
TA3	0.098	0.250	0.351	0.268	0.269	0.252	0.449	0.311	0.258	0.879
TA4	0.101	0.319	0.381	0.252	0.223	0.170	0.403	0.291	0.249	0.847

## Appendix O Fornell-Larcker Discriminant Validity

Fornell-  
Larcker  
Criterion

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT	0.731									
BI	-0.062	0.831								
TR	0.033	0.466	0.820							
CA	-0.012	0.583	0.431	0.860						
CS	0.008	0.338	0.605	0.345	0.902					
CTT	0.018	0.385	0.425	0.300	0.389	0.882				
FC	0.029	0.443	0.503	0.370	0.432	0.455	0.870			
PE	0.066	-0.041	0.026	-0.051	0.060	0.062	0.119	0.813		
SI	0.058	0.339	0.302	0.272	0.277	0.312	0.447	0.077	0.832	
TA	0.102	0.333	0.424	0.303	0.272	0.234	0.451	0.360	0.278	0.866



	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT	0.731									
BI	-0.062	0.831								
TR	0.033	0.466	0.820							
CA	-0.012	0.583	0.431	0.860						
CS	0.008	0.338	0.605	0.345	0.902					
CTT	0.018	0.385	0.425	0.300	0.389	0.882				
FC	0.029	0.443	0.503	0.370	0.432	0.455	0.870			
PE	0.066	-0.041	0.026	-0.051	0.060	0.062	0.119	0.813		
SI	0.058	0.339	0.302	0.272	0.277	0.312	0.447	0.077	0.832	
TA	0.102	0.333	0.424	0.303	0.272	0.234	0.451	0.360	0.278	0.866



## Appendix P Structure Model

Path Coefficients  
Mean, STDEV, T-  
Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
AT -> BI	-0.090	-0.066	0.072	1.259	<b>0.209</b>
BI ->CA	0.583	0.586	0.064	9.163	<b>0.000</b>
TR-> BI	0.220	0.228	0.070	3.152	<b>0.002</b>
CS -> BI	0.011	0.011	0.058	0.198	<b>0.843</b>
CTT -> BI	0.153	0.149	0.056	2.727	<b>0.007</b>
FC -> BI	0.149	0.149	0.061	2.447	<b>0.015</b>
PE-> BI	-0.135	-0.111	0.075	1.809	<b>0.071</b>
SI-> BI	0.126	0.122	0.049	2.592	<b>0.010</b>
TA-> BI	0.157	0.146	0.049	3.212	<b>0.001</b>



Confidence  
Intervals

# UUM

Universiti Utara Malaysia

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
AT -> BI	-0.090	-0.066	-0.173	0.079
BI ->CA	0.583	0.586	0.458	0.704
TR-> BI	0.220	0.228	0.095	0.367
CS -> BI	0.011	0.011	-0.094	0.122
CTT -> BI	0.153	0.149	0.037	0.257
FC -> BI	0.149	0.149	0.030	0.273
PE-> BI	-0.135	-0.111	-0.216	0.060
SI-> BI	0.126	0.122	0.034	0.221
TA-> BI	0.157	0.146	0.055	0.243

Confidence  
Intervals Bias  
Corrected

	Original Sample (O)	Sample Mean (M)	Bias	2.5%	97.5%
AT -> BI	-0.090	-0.066	0.024	-0.181	0.065
BI -> CA	0.583	0.586	0.002	0.441	0.697
TR-> BI	0.220	0.228	0.008	0.089	0.353
CS -> BI	0.011	0.011	0.000	-0.091	0.127
CTT -> BI	0.153	0.149	-0.005	0.047	0.262
FC -> BI	0.149	0.149	0.000	0.031	0.274
PE-> BI	-0.135	-0.111	0.024	-0.224	0.052
SI-> BI	0.126	0.122	-0.005	0.045	0.245
TA-> BI	0.157	0.146	-0.011	0.072	0.267

Specific Indirect Effects

Mean, STDEV,  
T-Values, P-  
Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
AT -> BI -> CA	-0.053	-0.038	0.042	1.254	<b>0.210</b>
TR-> BI -> CA	0.129	0.134	0.044	2.951	<b>0.003</b>
CS-> BI -> CA	0.007	0.007	0.034	0.194	<b>0.846</b>
CTT-> BI -> CA	0.089	0.087	0.033	2.684	<b>0.008</b>
FC-> BI -> CA	0.087	0.088	0.040	2.197	<b>0.028</b>
PE -> BI -> CA	-0.079	-0.065	0.044	1.805	<b>0.072</b>
SI -> BI -> CA	0.074	0.071	0.029	2.560	<b>0.011</b>
TA -> BI -> CA	0.091	0.086	0.030	3.022	<b>0.003</b>

Confidence  
Intervals

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
AT -> BI -> CA	-0.053	-0.038	-0.104	0.046
TR-> BI -> CA	0.129	0.134	0.056	0.223
CS-> BI -> CA	0.007	0.007	-0.052	0.076
CTT-> BI -> CA	0.089	0.087	0.020	0.153
FC-> BI -> CA	0.087	0.088	0.013	0.173
PE -> BI -> CA	-0.079	-0.065	-0.128	0.037
SI -> BI -> CA	0.074	0.071	0.020	0.126
TA -> BI -> CA	0.091	0.086	0.031	0.148

Confidence  
Intervals Bias  
Corrected

	Original Sample (O)	Sample Mean (M)	Bias	2.5%	97.5%
AT -> BI -> CA	-0.053	-0.038	0.014	-0.115	0.032
TR-> BI -> CA	0.129	0.134	0.005	0.056	0.219
CS-> BI -> CA	0.007	0.007	0.001	-0.051	0.079
CTT-> BI -> CA	0.089	0.087	-0.003	0.031	0.161
FC-> BI -> CA	0.087	0.088	0.001	0.024	0.180
PE -> BI -> CA	-0.079	-0.065	0.014	-0.130	0.029
SI -> BI -> CA	0.074	0.071	-0.003	0.026	0.134
TA -> BI -> CA	0.091	0.086	-0.006	0.040	0.159

Mean,  
STDEV,  
T-  
Values,  
P-  
Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
at -> bi	-0.090	-0.066	0.072	1.259	<b>0.209</b>
at -> ca	-0.053	-0.038	0.042	1.254	<b>0.210</b>
bi -> ca	0.583	0.586	0.064	9.163	<b>0.000</b>
tr -> bi	0.220	0.228	0.070	3.152	<b>0.002</b>
tr -> ca	0.129	0.134	0.044	2.951	<b>0.003</b>
cs -> bi	0.011	0.011	0.058	0.198	<b>0.843</b>
cs -> ca	0.007	0.007	0.034	0.194	<b>0.846</b>
ctt -> bi	0.153	0.149	0.056	2.727	<b>0.007</b>
ctt -> ca	0.089	0.087	0.033	2.684	<b>0.008</b>
fc -> bi	0.149	0.149	0.061	2.447	<b>0.015</b>
fc -> ca	0.087	0.088	0.040	2.197	<b>0.028</b>
pe -> bi	-0.135	-0.111	0.075	1.809	<b>0.071</b>
pe -> ca	-0.079	-0.065	0.044	1.805	<b>0.072</b>
si -> bi	0.126	0.122	0.049	2.592	<b>0.010</b>
si -> ca	0.074	0.071	0.029	2.560	<b>0.011</b>
ta -> bi	0.157	0.146	0.049	3.212	<b>0.001</b>
ta -> ca	0.091	0.086	0.030	3.022	<b>0.003</b>

## Outer Loadings

Mean, STDEV, T-Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
AT1 <- ba	0.944	0.779	0.271	3.485	0.001
AT2 <- ba	0.504	0.731	0.305	1.650	0.100
AT3 <- ba	0.676	0.729	0.271	2.494	0.013
BI1 <- bi	0.816	0.817	0.026	31.310	0.000
BI2 <- bi	0.848	0.847	0.018	46.210	0.000
BI3 <- bi	0.828	0.826	0.018	45.606	0.000
BS1 <- bs	0.836	0.835	0.025	33.186	0.000
BS2 <- bs	0.834	0.834	0.023	36.037	0.000
BS3 <- bs	0.829	0.830	0.021	39.240	0.000
BS4 <- bs	0.778	0.777	0.027	29.158	0.000
CA1 <- ca	0.875	0.874	0.016	53.728	0.000
CA2 <- ca	0.846	0.846	0.020	43.138	0.000
CA3 <- ca	0.841	0.840	0.021	40.276	0.000
CA4 <- ca	0.876	0.875	0.017	51.236	0.000
CS1 <- cs	0.915	0.915	0.010	90.580	0.000
CS2 <- cs	0.903	0.904	0.013	71.055	0.000
CS3 <- cs	0.888	0.888	0.014	62.870	0.000
CT1 <- ct	0.849	0.848	0.024	35.889	0.000
CT2 <- ct	0.892	0.892	0.014	63.131	0.000
CT3 <- ct	0.900	0.900	0.013	71.147	0.000
CT4 <- ct	0.885	0.883	0.017	52.539	0.000
FC1 <- fc	0.851	0.849	0.021	41.154	0.000
FC2 <- fc	0.899	0.899	0.011	81.614	0.000
FC3 <- fc	0.860	0.859	0.019	44.610	0.000
PE1 <- pe	0.796	0.722	0.223	3.566	0.000
PE2 <- pe	0.817	0.676	0.277	2.948	0.003
PE3 <- pe	0.886	0.678	0.290	3.053	0.002
PE4 <- pe	0.749	0.719	0.242	3.091	0.002
SI2 <- si	0.867	0.865	0.022	40.127	0.000
SI3 <- si	0.891	0.890	0.015	57.965	0.000
SI4 <- si	0.796	0.798	0.034	23.622	0.000
TA1 <- ta	0.895	0.894	0.014	64.548	0.000
TA2 <- ta	0.844	0.841	0.023	36.937	0.000
TA3 <- ta	0.879	0.878	0.016	55.551	0.000
TA4 <- ta	0.847	0.846	0.023	36.903	0.000

<b>SI1 &lt;- si</b>	0.770	0.762	0.041	18.861	0.000
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Indicator Data (Standardized)

Case ID	AT1	AT2	AT3	BI1	BI2	BI3	TR1	TR2	TR3	TR4	CA1	CA2	CA3	CA4	CS1	CS2	CS3	CTT1	CTT2	CTT3
1	1.011	1.082	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.201	1.186	0.010	0.039	0.010	0.863	0.242	0.141	0.119	0.374	0.622
2	0.187	1.082	1.049	0.138	0.076	0.046	0.063	0.207	0.204	0.201	1.186	0.010	0.039	0.010	0.141	0.899	0.141	0.119	0.374	0.622
3	2.287	2.344	2.309	1.286	0.076	0.046	0.979	0.207	0.204	0.201	0.105	1.149	0.039	0.010	0.141	0.242	0.141	1.062	0.374	0.622
4	0.187	1.082	1.049	1.286	0.076	0.046	0.979	0.207	0.204	0.201	0.105	1.149	0.039	0.010	0.141	0.242	0.141	1.062	0.374	0.622
5	1.011	0.226	1.049	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
6	2.287	2.344	2.309	1.010	1.184	1.202	0.979	0.207	0.204	0.830	0.976	1.149	1.096	1.105	1.145	1.382	0.141	1.062	0.622	1.370
7	1.011	0.226	1.049	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
8	2.287	2.344	2.309	0.138	1.336	1.109	0.979	0.995	0.204	0.201	0.105	1.129	0.039	0.010	0.863	0.899	0.882	0.119	0.622	0.622
9	1.011	1.082	0.209	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	1.145	1.382	1.164	1.062	1.370	1.370
10	0.187	1.082	1.049	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.119	0.622	0.622
11	0.187	1.082	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.622	0.622
12	1.011	0.226	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
13	1.011	1.082	1.049	0.138	0.076	0.046	0.063	1.408	0.204	0.201	0.105	0.010	0.039	0.010	1.145	0.242	0.141	1.062	0.374	1.370
14	1.011	0.226	0.209	0.138	0.076	0.046	0.063	1.408	0.204	0.201	0.105	0.010	0.039	0.010	1.145	0.242	0.141	1.062	0.374	1.370
15	0.187	1.082	0.209	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	1.145	1.382	1.164	0.119	1.370	1.370
16	2.287	2.344	2.309	1.010	1.184	0.046	0.063	0.207	0.204	0.201	0.105	0.010	1.096	0.010	0.863	0.242	0.141	0.119	0.622	0.622
17	0.187	1.082	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
18	1.011	0.631	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	1.382	0.141	1.062	0.622	0.622
19	2.287	2.344	2.309	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
20	1.011	0.631	0.209	1.010	1.184	1.202	0.063	0.207	1.391	1.231	0.976	1.149	1.096	1.105	0.141	0.242	0.141	1.062	0.374	0.622

21	1.011	0.226	0.630	0.138	0.076	1.109	0.979	0.995	0.983	0.830	1.186	1.129	0.039	0.010	0.863	0.899	0.882	0.824	0.374	0.622
22	0.187	0.226	1.049	1.010	1.184	1.202	1.104	0.207	1.391	1.231	0.976	0.010	0.039	0.010	1.145	0.242	1.164	0.119	0.374	1.168
23	0.187	0.226	0.209	1.010	1.184	1.202	0.063	0.207	1.391	1.231	0.105	0.010	0.039	0.010	1.145	1.382	1.164	1.062	0.374	1.168
24	0.638	1.082	0.209	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
25	0.638	0.226	1.049	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
26	2.287	2.344	2.309	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
27	1.011	0.226	0.209	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	2.074	1.124	0.863	0.899	0.882	1.767	1.618	0.622
28	1.011	0.631	0.209	0.138	1.336	1.109	0.063	0.207	0.204	0.201	1.186	1.129	2.074	2.239	0.141	0.899	0.882	0.119	0.374	0.622
29	0.638	0.226	1.049	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	0.141	0.242	0.141	1.062	0.374	1.168
30	1.011	0.226	0.209	2.434	2.596	2.264	2.020	2.197	0.983	1.860	2.267	2.268	2.074	2.239	2.871	2.039	0.882	1.767	2.614	0.622
31	0.187	0.226	1.049	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	0.141	0.242	0.141	1.062	0.374	1.168
32	1.011	0.226	0.209	2.434	2.596	2.264	2.020	2.197	0.983	1.860	2.267	2.268	2.074	2.239	2.871	2.039	0.882	1.767	2.614	0.622
33	0.638	0.226	0.630	1.286	0.076	0.046	0.979	0.995	0.983	0.201	0.105	1.149	0.039	1.124	0.863	0.899	0.882	0.824	0.622	0.622
34	1.011	0.631	0.209	0.138	1.184	0.046	0.063	1.408	1.391	0.201	0.105	0.010	1.096	1.105	1.145	0.242	0.141	0.119	0.374	0.622
35	1.011	0.226	0.630	1.286	1.336	0.046	0.063	0.207	0.204	0.201	0.105	1.129	2.074	0.010	0.863	0.242	0.882	0.119	0.622	0.622
36	2.287	2.344	2.309	1.010	1.184	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	1.062	0.374	0.622
37	1.011	0.226	0.630	0.138	1.336	1.109	0.979	0.995	0.983	0.830	1.186	0.010	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
38	0.187	0.631	1.049	1.010	1.184	0.046	0.063	0.207	1.391	1.231	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
39	0.638	0.226	0.209	0.138	0.076	1.109	0.979	0.995	0.204	0.201	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.119	0.622	0.622
40	1.011	0.226	1.049	1.010	0.076	1.109	1.104	1.408	1.391	1.231	1.186	1.129	1.017	1.124	1.145	1.382	1.164	1.062	1.370	1.168
41	1.011	1.082	1.049	1.286	1.336	1.109	0.063	0.207	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.119	1.618	1.168
42	1.011	0.226	1.049	1.010	1.184	1.202	0.063	0.207	1.391	1.231	0.976	1.149	1.096	1.105	0.141	0.242	0.141	1.062	0.374	0.622
43	2.287	1.487	1.470	1.286	1.336	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.622
44	2.287	1.487	2.309	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
45	1.011	0.631	0.209	1.286	1.336	1.109	0.979	0.995	0.204	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.119	0.622	0.622
46	0.187	0.631	1.049	0.138	1.184	1.109	1.104	1.408	1.391	1.231	0.105	1.149	1.017	0.010	1.145	1.382	1.164	1.062	1.370	1.168
47	0.187	0.631	0.209	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	1.145	1.382	1.164	1.062	1.370	1.168
48	1.011	0.226	0.630	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	1.145	1.382	1.164	1.062	1.370	1.168
49	0.187	1.082	1.049	0.138	0.076	1.109	0.979	0.995	0.204	0.201	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.119	0.622	0.622
50	1.011	0.226	0.209	1.286	0.076	1.109	0.063	0.207	0.204	0.830	0.105	0.010	1.017	0.010	0.141	0.242	0.141	0.824	0.374	0.622
51	1.011	1.082	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.830	1.186	1.129	0.039	0.010	0.141	0.899	0.882	0.119	0.374	0.622
52	1.011	1.082	0.209	0.138	1.336	0.046	0.063	0.207	0.204	0.201	1.186	0.010	0.039	0.010	0.863	0.899	0.141	0.824	0.622	0.622
53	1.011	0.226	1.049	1.286	0.076	0.046	0.979	0.995	0.204	0.830	0.105	1.129	1.017	1.124	0.141	0.242	0.141	0.119	0.622	0.622
54	1.011	0.226	1.049	1.286	1.336	0.046	0.063	0.207	0.204	0.830	0.105	1.129	1.017	0.010	0.863	0.899	0.141	0.119	0.622	0.622



89	1.011	1.082	0.630	1.010	1.184	1.202	1.104	1.408	1.391	1.231	1.186	0.010	0.039	0.010	1.145	1.382	1.164	1.062	1.370	1.145
90	1.011	0.631	0.209	0.138	0.076	1.109	0.063	0.207	0.204	0.201	1.186	0.010	0.039	0.010	0.863	0.242	0.141	0.119	0.622	0.622
91	0.638	0.226	0.209	1.010	1.184	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.863	0.242	0.141	0.119	0.622	0.622
92	1.011	0.226	1.049	0.138	1.336	1.109	0.063	0.995	0.204	0.201	1.186	0.010	0.039	0.010	0.863	0.242	0.141	0.119	0.622	0.622
93	1.011	0.631	0.209	1.010	1.184	0.046	1.104	1.408	1.391	1.231	1.186	1.149	0.039	0.010	1.145	1.382	1.164	1.062	0.622	1.145
94	1.011	0.631	0.209	1.286	1.336	2.264	2.020	2.197	0.983	0.830	1.186	1.129	2.074	1.124	1.867	2.039	1.906	1.767	1.618	0.622
95	0.638	0.226	1.049	2.434	1.336	2.264	0.979	2.197	0.983	0.830	1.186	1.129	2.074	1.124	1.867	2.039	0.882	0.119	1.618	1.145
96	1.011	0.226	0.630	1.286	1.336	1.109	0.979	0.995	0.204	0.201	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
97	0.187	0.631	1.049	1.286	1.336	2.264	0.979	0.995	0.983	0.830	2.267	2.268	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
98	1.011	0.226	0.209	1.286	2.596	2.264	0.979	0.995	0.204	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
99	1.463	2.344	1.470	1.010	0.076	0.046	0.063	0.207	0.204	0.201	0.976	1.149	1.096	1.105	1.145	0.242	1.164	0.119	0.374	1.145
100	1.011	1.082	1.049	0.138	0.076	0.046	0.063	0.207	0.983	0.201	0.105	0.010	1.017	0.010	0.141	0.242	0.141	0.119	0.374	0.622
101	0.187	0.226	0.209	0.138	0.076	0.046	0.979	0.995	2.170	0.201	0.105	0.010	0.039	0.010	0.863	0.899	0.882	0.824	0.622	0.622
102	2.287	2.344	2.309	0.138	0.076	0.046	0.979	0.995	2.170	0.201	0.105	0.010	0.039	0.010	0.863	0.899	0.882	0.119	0.622	0.622
103	0.187	1.082	1.049	1.010	0.076	0.046	0.063	1.408	0.204	0.201	0.976	0.010	1.096	1.105	1.145	0.242	1.164	1.062	1.370	1.145
104	0.187	1.082	1.049	1.286	1.336	0.046	0.063	0.207	0.204	0.201	0.105	1.129	1.017	0.010	0.863	0.899	0.141	0.119	1.618	0.622
105	0.187	1.082	0.209	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	1.145	1.382	1.164	1.062	1.370	1.145
106	0.187	1.082	1.049	0.138	0.076	0.046	0.063	0.995	0.204	0.201	0.105	0.010	0.039	0.010	0.863	0.899	0.882	0.119	0.622	0.622
107	0.187	1.082	0.209	0.138	1.184	0.046	0.063	0.207	0.204	0.201	0.976	1.149	0.039	1.105	1.145	1.382	1.164	1.062	0.374	0.622
108	1.011	0.226	1.049	1.010	1.184	1.202	1.104	1.408	0.204	0.201	0.105	0.010	0.039	1.105	1.145	0.242	0.141	0.119	1.370	1.145
109	0.187	0.631	1.049	0.138	2.596	2.264	2.020	0.995	0.983	0.830	2.267	2.268	2.074	2.239	1.867	0.899	1.906	0.824	1.618	1.145
110	2.287	2.344	2.309	0.138	2.596	2.264	2.020	0.995	0.983	0.830	2.267	2.268	2.074	2.239	1.867	0.899	1.906	0.824	1.618	1.145
111	0.187	0.631	0.209	1.010	1.184	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.863	0.899	0.141	0.119	0.374	0.622
112	0.187	1.487	2.309	1.286	1.336	2.264	2.020	0.995	0.983	0.830	2.267	2.268	1.017	2.239	0.863	0.899	0.882	1.767	0.622	0.622
113	0.638	1.487	2.309	0.138	0.076	0.046	0.979	0.207	0.204	0.201	1.186	0.010	0.039	0.010	0.141	0.242	0.882	0.119	0.622	0.622
114	0.187	1.082	0.209	1.286	0.076	0.046	1.104	0.207	0.204	0.201	0.105	0.010	1.017	0.010	1.145	0.899	0.141	1.062	0.374	0.622
115	0.187	0.631	0.209	1.286	1.336	1.109	0.063	0.207	0.983	1.860	2.267	0.010	0.039	0.010	0.863	0.899	0.141	0.824	0.374	0.622
116	2.287	2.344	1.470	0.138	0.076	1.109	0.063	0.207	0.204	0.830	1.186	1.129	0.039	0.010	0.863	0.899	0.141	0.119	0.374	0.622
117	0.187	1.082	1.049	0.138	1.336	0.046	0.979	0.207	0.983	0.830	0.105	1.129	0.039	0.010	0.863	0.899	0.141	0.824	0.622	0.622
118	0.187	1.082	1.049	1.286	0.076	1.109	0.979	0.995	2.170	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
119	0.187	1.082	1.049	1.286	0.076	1.109	0.979	0.995	2.170	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
120	1.011	0.226	1.049	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.622
121	0.187	0.631	0.209	0.138	0.076	0.046	0.063	1.408	0.983	0.201	0.105	1.129	1.096	1.105	0.863	1.382	0.141	0.119	0.374	0.622
122	0.638	1.082	0.209	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.863	0.899	0.141	0.119	0.374	0.622



123	0.187	1.082	0.209	0.138	0.076	1.109	0.979	0.995	0.204	0.201	1.186	1.129	0.039	0.010	0.863	0.899	0.141	0.119	0.622	0.0
124	0.187	0.631	1.049	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.0
125	1.011	0.226	0.209	1.286	1.336	0.046	0.979	0.207	0.983	0.201	0.105	1.129	1.017	0.010	0.863	0.242	0.882	0.119	0.622	0.0
126	1.011	0.226	1.049	0.138	0.076	1.109	0.979	0.995	0.204	0.201	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.119	1.618	0.0
127	0.187	1.082	1.049	0.138	0.076	0.046	0.979	0.995	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.899	0.882	0.119	0.374	0.0
128	1.011	0.226	0.209	0.138	0.076	1.109	0.979	0.995	0.204	0.201	0.105	0.010	1.017	1.124	1.867	0.899	0.882	0.119	0.622	0.0
129	0.187	1.082	0.209	1.286	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0
130	1.463	2.344	1.470	1.286	0.076	0.046	0.979	0.995	0.204	0.201	0.105	0.010	0.039	0.010	0.863	0.899	0.882	0.119	0.622	0.0
131	1.011	0.226	1.049	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0
132	0.187	0.631	0.209	1.286	1.336	1.109	2.020	2.197	2.170	0.830	1.186	1.129	1.017	1.124	1.867	2.039	1.906	0.824	0.622	0.0
133	0.187	0.631	0.209	1.286	1.336	1.109	2.020	2.197	2.170	0.830	1.186	1.129	1.017	1.124	1.867	2.039	1.906	0.824	0.622	0.0
134	0.187	0.226	0.209	1.286	1.336	0.046	0.063	0.207	0.983	0.201	0.105	1.129	1.017	0.010	0.863	0.242	0.141	0.119	1.618	0.0
135	0.187	0.631	1.049	1.286	1.336	1.109	0.979	0.995	2.170	1.860	1.186	2.268	2.074	2.239	0.863	0.899	0.882	0.824	1.618	0.0
136	1.011	0.226	1.049	1.286	1.336	0.046	0.979	0.995	0.983	0.830	0.976	0.010	0.039	0.010	0.863	0.899	0.882	1.062	0.622	0.0
137	0.638	0.226	1.049	1.010	0.076	1.202	1.104	1.408	0.204	0.201	0.976	1.149	0.039	1.105	1.145	1.382	1.164	1.062	0.374	0.0
138	1.011	1.082	1.049	0.138	0.076	1.202	0.063	0.207	1.391	1.231	0.976	1.149	1.096	1.105	0.141	0.242	0.141	0.119	0.374	0.0
139	1.011	1.082	0.209	0.138	1.184	1.202	1.104	0.207	0.204	1.231	0.976	1.149	1.096	1.105	0.863	0.899	0.141	0.119	1.370	0.0
140	0.187	0.631	0.209	0.138	1.184	0.046	1.104	0.207	0.204	1.231	0.976	1.149	0.039	0.010	1.145	0.242	0.141	0.119	1.370	0.0
141	1.011	0.226	1.049	1.286	0.076	2.264	2.020	0.995	2.170	0.830	2.267	1.129	1.017	1.124	0.863	2.039	0.882	0.824	1.618	0.0
142	1.011	1.082	1.049	1.010	1.184	1.109	0.063	0.207	0.204	0.830	1.186	1.129	1.017	1.124	1.145	1.382	1.164	0.119	0.374	0.0
143	0.187	0.226	1.049	1.010	0.076	0.046	0.063	1.408	0.204	1.231	0.976	0.010	1.096	0.010	1.145	0.242	1.164	1.062	0.374	1.0
144	2.287	2.344	2.309	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0
145	1.011	0.226	0.209	1.010	0.076	0.046	0.063	0.207	1.391	1.231	0.105	1.149	0.039	0.010	0.141	0.242	0.141	0.119	0.374	1.0
146	1.011	0.226	1.049	1.010	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	1.105	1.145	1.382	1.164	1.062	1.370	1.0
147	0.638	0.631	0.630	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0
148	2.287	1.487	2.309	0.138	0.076	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0
149	0.638	0.226	0.630	1.010	1.184	1.202	0.063	1.408	0.204	1.231	0.976	1.149	0.039	1.105	0.863	0.899	0.882	1.062	1.370	0.0
150	0.187	0.226	0.630	1.286	1.336	1.109	0.979	0.995	0.983	0.830	1.186	1.129	1.017	1.124	0.863	0.899	0.882	0.824	0.622	0.0
151	0.187	1.082	0.209	1.286	1.336	1.109	2.020	0.995	0.983	1.860	1.186	1.129	1.017	1.124	0.863	0.899	0.141	0.824	0.622	1.0
152	0.187	0.631	0.630	1.286	0.076	1.109	0.063	0.995	0.204	0.830	0.105	1.149	0.039	1.124	0.863	0.242	0.882	0.824	0.374	0.0
153	0.187	0.226	0.630	1.286	1.336	2.264	2.020	2.197	0.983	0.830	1.186	2.268	2.074	2.239	1.867	2.039	1.906	0.824	0.622	1.0
154	0.638	0.631	0.209	0.138	1.336	0.046	0.979	0.207	0.204	0.201	0.976	1.129	0.039	1.124	0.863	0.242	1.164	0.119	0.622	0.0
155	1.011	0.226	0.630	0.138	0.076	1.109	0.063	0.207	0.204	0.830	1.186	0.010	0.039	1.124	0.863	0.899	0.882	0.119	0.374	0.0
156	1.011	0.226	1.049	1.010	0.076	0.046	0.063	0.207	0.204	0.830	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	1.0

157	0.187	1.082	0.209	1.010	0.076	0.046	0.063	0.207	0.204	0.830	0.105	0.010	0.039	0.010	0.141	0.242	0.141	0.119	0.374	1.0
158	0.187	0.226	0.209	1.286	1.336	2.264	2.020	2.197	2.170	1.860	2.267	1.129	2.074	2.239	1.867	2.039	1.906	1.767	1.618	0.0
159	0.638	0.631	0.630	0.138	1.336	0.046	1.104	0.207	0.983	2.890	0.976	0.010	1.017	1.105	1.145	0.242	1.164	1.062	0.622	0.0
160	1.011	0.226	0.209	1.010	0.076	1.109	1.104	0.995	0.204	1.231	0.105	1.129	0.039	1.124	1.145	0.242	1.164	0.824	0.374	1.0
161	0.187	0.226	1.049	1.286	0.076	1.109	0.979	1.408	0.204	1.231	0.976	0.010	1.096	1.105	1.145	0.242	1.164	1.062	0.374	0.0
162	0.187	0.631	0.630	1.286	0.076	1.109	1.104	0.995	0.204	1.231	0.976	0.010	1.096	0.010	1.145	1.382	0.141	1.062	0.374	0.0
163	0.187	1.082	0.209	1.286	0.076	1.202	0.979	0.207	0.983	2.890	0.976	0.010	1.017	1.105	1.145	0.242	0.882	2.710	2.614	1.0
164	1.463	1.487	1.470	1.010	0.076	1.109	1.104	0.207	0.983	0.201	0.105	1.129	0.039	1.105	1.145	0.899	0.141	0.824	0.374	1.0
165	0.638	0.226	1.049	1.286	0.076	1.202	1.104	0.995	0.204	1.231	0.976	0.010	1.017	0.010	1.145	0.242	1.164	1.062	0.622	0.0
166	0.187	0.631	1.049	0.138	1.336	1.202	1.104	0.995	0.204	1.231	0.976	0.010	1.096	0.010	1.145	0.242	0.141	0.824	0.374	1.0
167	0.187	1.082	0.209	1.010	0.076	1.109	0.063	0.995	1.391	0.830	0.976	1.129	0.039	1.105	1.145	0.242	1.164	2.710	1.618	1.0
168	0.187	0.226	0.630	1.286	0.076	1.202	0.979	0.207	1.391	0.830	0.976	0.010	1.017	1.105	0.141	1.382	0.141	0.119	1.370	1.0
169	0.187	0.226	1.049	0.138	1.184	1.109	1.104	0.995	0.204	1.231	0.105	1.129	1.096	0.010	1.145	0.242	1.164	1.062	1.370	0.0
170	0.187	0.226	1.049	1.286	0.076	0.046	0.979	0.207	1.391	0.201	0.976	0.010	1.017	0.010	0.863	2.039	0.882	0.119	1.370	1.0
171	0.187	1.082	0.209	1.010	0.076	1.202	1.104	0.995	0.204	1.231	0.976	0.010	1.096	0.010	0.141	0.899	0.141	0.119	1.370	0.0
172	0.187	1.082	1.049	0.138	1.184	1.109	1.104	0.995	0.204	1.231	0.976	0.010	1.017	0.010	1.145	0.242	0.882	1.062	0.374	1.0
173	1.011	0.226	0.209	1.010	0.076	1.109	0.979	0.207	1.391	0.201	0.105	1.129	0.039	1.124	1.145	0.242	0.882	1.062	0.374	1.0
174	1.463	1.487	2.309	1.010	0.076	1.109	0.979	0.207	0.983	0.201	0.105	1.149	0.039	1.124	0.141	0.899	0.141	0.119	1.370	1.0
175	0.187	0.226	0.209	0.138	1.336	0.046	1.104	0.207	0.983	2.890	0.105	1.129	1.096	0.010	1.145	0.242	1.164	1.767	1.618	1.0
176	0.638	0.226	0.209	1.286	0.076	1.109	1.104	0.207	0.983	0.201	0.976	1.129	0.039	1.105	1.145	0.242	1.164	2.710	2.614	2.0
177	2.287	2.344	2.309	1.010	1.184	1.202	1.104	0.207	0.204	0.201	0.105	0.010	1.096	1.105	1.145	0.242	0.141	1.062	0.374	1.0
178	0.187	1.082	1.049	1.010	1.184	1.202	1.104	1.408	1.391	0.201	0.976	1.129	0.039	1.105	0.141	0.242	0.141	0.119	0.374	1.0
179	1.011	0.226	0.209	0.138	1.184	0.046	0.063	0.207	0.204	1.231	0.105	1.149	1.096	0.010	0.141	0.242	1.164	0.119	1.370	1.0
180	0.187	0.226	1.049	1.286	1.336	0.046	0.063	0.207	0.204	0.830	3.348	3.407	3.131	3.353	1.145	1.382	0.141	2.710	2.614	2.0
181	0.187	1.082	1.049	1.286	0.076	0.046	0.063	0.207	0.983	0.830	1.186	0.010	0.039	1.124	0.141	0.242	1.164	1.062	0.374	0.0
182	0.187	0.226	1.049	1.010	0.076	0.046	1.104	1.408	0.204	0.201	0.105	0.010	1.096	1.105	0.141	0.242	0.141	1.062	0.374	0.0
183	1.011	0.226	0.209	1.010	1.184	0.046	1.104	0.207	0.204	0.201	0.976	0.010	1.096	0.010	1.145	0.242	0.141	2.710	2.614	2.0
184	0.187	0.226	0.630	0.138	0.076	1.202	0.063	1.408	1.391	1.231	0.105	0.010	0.039	1.105	1.145	1.382	1.164	1.062	1.370	0.0
185	1.011	1.082	0.209	1.286	0.076	0.046	0.063	0.207	0.983	0.201	0.105	1.149	0.039	0.010	1.145	1.382	0.141	2.710	2.614	1.0
186	2.287	2.344	1.470	1.010	1.184	0.046	0.063	0.207	0.983	0.830	1.186	0.010	0.039	0.010	0.141	0.242	1.164	0.119	1.370	0.0
187	1.011	0.226	0.209	0.138	1.336	0.046	3.062	0.207	0.983	0.201	0.976	1.129	1.096	0.010	1.145	0.242	1.164	1.062	0.374	1.0
188	0.187	1.082	1.049	1.010	0.076	1.109	1.104	0.207	0.983	0.201	0.976	0.010	1.017	0.010	0.141	1.382	0.141	1.062	0.374	1.0
189	0.187	1.082	1.049	0.138	1.336	0.046	1.104	0.207	0.983	1.231	0.976	0.010	1.096	0.010	0.141	1.382	0.141	1.062	0.374	1.0
190	0.187	1.082	0.209	0.138	1.184	0.046	1.104	0.207	0.983	0.201	0.105	1.129	0.039	1.105	1.145	0.242	1.164	2.710	2.614	2.0

191	2.287	2.344	1.470	1.010	0.076	1.202	1.104	0.207	0.983	0.201	0.105	1.149	1.017	0.010	1.145	0.242	1.164	1.062	0.374	1.1
192	0.187	1.082	1.049	1.010	0.076	1.202	1.104	0.207	0.983	2.890	0.105	1.129	1.096	1.124	1.145	1.382	0.141	1.062	0.374	1.1
193	2.287	2.344	2.309	1.010	0.076	1.202	0.063	0.995	0.204	0.830	2.267	2.268	3.131	3.353	1.145	0.242	1.164	1.062	0.374	1.1
194	1.011	1.082	0.209	0.138	1.184	0.046	3.062	0.207	0.983	2.890	0.976	0.010	1.017	0.010	1.145	0.242	1.164	1.062	0.374	1.1
195	0.638	0.226	0.630	0.138	1.184	0.046	1.104	0.207	0.983	0.201	1.186	0.010	1.096	0.010	1.145	0.242	1.164	1.062	0.374	1.1
196	0.187	1.082	0.209	1.010	0.076	1.109	1.104	0.995	0.204	1.231	0.976	1.129	0.039	1.105	1.145	0.242	1.164	1.062	1.370	0.1
197	1.011	1.082	0.209	1.286	0.076	1.109	1.104	0.207	0.983	1.231	0.976	1.129	0.039	1.105	1.145	0.242	1.164	1.062	0.374	0.1
198	0.187	0.226	0.209	0.138	1.336	0.046	1.104	1.408	0.204	0.201	0.105	1.129	0.039	1.124	0.141	1.382	1.164	0.119	0.374	0.1
199	0.638	0.226	0.209	1.286	0.076	1.109	0.063	0.207	0.204	0.201	0.976	0.010	1.017	0.010	0.863	0.242	0.882	0.119	0.374	0.1
200	1.463	0.631	0.630	1.010	1.336	0.046	0.979	0.207	0.983	0.201	0.976	0.010	1.017	0.010	0.141	1.382	0.141	0.824	0.622	1.1
201	0.638	0.226	0.630	1.286	0.076	1.202	0.979	0.207	0.983	0.201	0.976	1.129	0.039	1.105	0.141	1.382	0.141	0.824	0.622	1.1
202	1.011	1.082	1.049	0.138	1.336	1.202	0.063	1.408	1.391	1.231	0.105	1.129	1.096	0.010	1.145	1.382	0.141	0.119	1.370	0.1
203	0.187	0.226	1.470	0.138	1.184	1.202	0.063	0.995	0.983	1.860	0.105	1.149	1.017	1.105	0.141	0.242	0.141	0.119	0.374	0.1
204	1.011	1.082	1.049	1.010	1.336	0.046	1.104	1.408	1.391	1.231	0.105	1.129	1.096	0.010	1.145	1.382	1.164	1.062	1.370	1.1
205	0.187	0.226	0.630	1.010	0.076	1.109	0.063	0.207	0.204	0.201	0.976	0.010	1.096	1.105	0.141	0.242	0.141	0.119	0.622	0.1
206	1.011	1.082	0.209	1.010	1.184	1.202	1.104	0.207	0.204	0.201	0.976	0.010	1.096	0.010	0.141	1.382	1.164	0.119	0.374	0.1
207	0.187	0.226	1.049	1.010	0.076	1.109	1.104	0.207	0.204	0.201	0.976	0.010	1.017	1.105	0.141	0.242	0.141	1.062	1.370	0.1
208	0.638	0.631	1.470	1.010	1.336	0.046	0.979	2.197	0.983	1.860	0.976	1.149	0.039	1.105	1.867	0.899	1.906	1.767	0.622	0.1
209	0.638	0.631	1.470	1.286	0.076	1.202	0.979	2.197	0.983	1.860	0.976	0.010	1.017	1.105	1.867	0.899	1.906	1.767	0.622	0.1
210	0.187	0.226	0.209	1.010	0.076	1.202	1.104	1.408	1.391	1.231	1.186	1.129	1.017	1.105	1.145	1.382	1.164	0.119	0.374	0.1
211	0.638	1.487	0.630	0.138	1.336	1.202	0.979	0.995	0.983	0.830	0.976	0.010	1.096	1.124	0.863	0.899	0.882	1.767	0.622	0.1
212	0.187	0.226	0.630	1.010	0.076	1.202	0.063	0.995	0.204	0.830	3.348	3.407	3.131	3.353	0.141	0.242	0.141	0.824	0.374	0.1
213	0.638	1.082	0.209	1.286	0.076	1.109	0.063	0.207	0.204	0.830	0.105	0.010	1.017	0.010	0.141	0.242	0.141	1.062	0.374	0.1
214	0.187	0.631	0.209	0.138	1.184	0.046	0.063	0.207	0.204	0.201	0.105	1.149	0.039	0.010	0.863	0.242	0.882	0.119	0.374	0.1
215	0.187	0.226	0.209	1.010	0.076	0.046	0.063	0.995	0.983	0.201	0.105	0.010	1.096	1.105	0.141	0.242	0.141	0.119	0.374	0.1
216	0.638	0.631	0.630	0.138	0.076	1.109	0.063	0.995	0.204	0.830	0.976	1.149	0.039	1.105	0.863	0.242	0.141	0.824	0.374	0.1
217	1.463	0.631	0.630	0.138	1.184	1.109	0.979	0.995	0.983	1.860	0.976	0.010	1.096	0.010	0.863	0.899	0.882	0.824	0.622	1.1
218	1.463	0.631	0.630	0.138	1.184	0.046	0.979	0.995	0.983	1.860	0.976	1.149	0.039	0.010	0.863	0.899	0.882	0.824	0.622	1.1
219	0.638	0.631	0.630	3.581	3.857	2.264	0.979	0.995	0.983	0.830	2.267	2.268	3.131	3.353	0.863	0.899	0.882	0.824	0.622	0.1
220	1.011	0.226	0.209	1.010	1.184	0.046	1.104	2.197	0.204	0.201	0.105	1.149	0.039	1.124	0.141	0.242	0.882	0.119	1.370	0.1
221	0.187	0.226	0.209	1.010	1.184	0.046	0.063	0.207	0.204	0.201	0.976	0.010	1.096	1.105	0.141	0.242	0.141	0.119	0.374	0.1
222	0.638	0.226	0.630	0.138	0.076	0.046	0.979	0.995	0.983	0.201	0.976	1.149	0.039	1.124	0.863	0.899	0.882	0.824	0.622	0.1
223	0.638	0.631	0.630	1.010	0.076	1.109	0.979	0.995	0.983	0.830	0.976	1.149	0.039	1.105	0.863	0.899	0.882	0.824	0.622	0.1
224	0.187	0.226	0.630	0.138	0.076	1.202	0.063	0.995	0.983	0.830	0.976	1.129	0.039	0.010	0.141	0.242	0.141	0.824	0.374	0.1

225	-	0.638	0.226	1.470	1.010	0.076	0.046	0.063	0.207	0.204	0.201	0.976	1.149	0.039	1.124	0.141	0.242	0.141	0.824	0.622	0.0
226	0.187	0.226	0.209	1.010	0.076	0.046	0.063	0.207	0.204	1.231	0.976	1.149	1.096	0.010	0.141	0.242	0.141	0.824	0.622	0.0	
227	0.638	0.226	0.630	0.138	1.184	0.046	0.063	0.207	0.204	0.201	1.186	1.129	1.017	1.124	0.141	0.899	0.882	0.824	0.622	0.0	
228	0.187	0.226	0.209	0.138	1.184	0.046	0.063	0.207	0.204	0.830	0.105	1.149	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0	
229	0.187	0.226	0.630	0.138	1.184	0.046	0.063	0.207	0.204	0.830	3.348	2.268	3.131	3.353	0.141	0.242	0.882	0.824	0.622	0.0	
230	0.187	0.226	0.209	0.138	1.184	0.046	0.063	0.207	0.204	0.201	0.105	0.010	0.039	1.124	0.141	0.242	0.141	0.119	0.374	0.0	
231	0.638	0.631	0.630	0.138	1.184	0.046	0.979	0.995	0.983	0.830	0.976	0.010	1.096	0.010	0.863	0.899	0.882	1.767	1.618	1.0	
232	0.638	0.631	0.630	1.010	0.076	0.046	0.979	0.995	0.983	0.830	0.976	0.010	1.096	1.105	0.863	0.899	0.882	1.767	1.618	1.0	
233	0.638	0.226	1.470	3.581	3.857	2.264	0.063	0.995	0.983	0.830	3.348	2.268	2.074	3.353	0.141	0.242	0.141	0.119	0.374	0.0	
234	1.463	0.631	1.470	1.010	1.184	0.046	0.979	0.995	0.983	0.830	0.105	0.010	0.039	1.124	1.867	2.039	0.882	0.824	0.622	1.0	
235	0.187	1.082	0.630	1.010	0.076	0.046	0.979	0.995	0.983	0.830	0.976	1.149	1.096	0.010	0.863	0.899	0.882	0.824	0.622	0.0	
236	1.011	1.082	0.209	1.286	1.336	0.046	1.104	1.408	1.391	0.201	0.105	0.010	1.017	0.010	0.141	0.242	1.164	1.062	1.370	0.0	
237	0.187	0.226	0.209	1.010	1.184	1.202	1.104	0.207	0.204	0.201	0.105	0.010	0.039	0.010	1.145	1.382	1.164	0.119	0.374	1.0	
238	0.638	0.226	1.049	0.138	1.184	0.046	1.104	1.408	1.391	0.201	0.976	1.149	1.096	0.010	1.145	1.382	1.164	1.062	0.374	0.0	
239	1.011	0.226	1.049	1.010	1.184	1.202	1.104	0.207	0.204	1.231	0.105	1.149	0.039	0.010	0.141	0.242	0.141	1.062	0.374	0.0	
240	0.638	0.631	1.470	0.138	0.076	1.109	0.979	0.207	0.983	1.860	0.976	0.010	0.039	0.010	1.867	0.242	0.882	1.767	0.622	1.0	
241	0.187	0.226	0.209	1.010	0.076	0.046	0.063	1.408	1.391	1.231	0.976	1.149	1.096	1.105	0.141	0.242	0.141	0.119	0.374	0.0	
242	0.187	1.082	0.209	0.138	0.076	0.046	1.104	0.207	1.391	0.201	0.976	1.149	1.096	0.010	0.141	1.382	0.141	0.119	1.370	0.0	
243	0.187	0.226	0.209	0.138	0.076	1.202	0.063	0.207	0.204	0.201	0.105	0.010	1.096	1.105	0.141	0.242	0.141	0.119	0.374	0.0	
244	0.187	0.226	0.209	1.010	1.184	0.046	1.104	1.408	1.391	0.201	0.105	0.010	1.096	1.105	0.141	0.242	0.141	0.119	0.374	1.0	
245	1.011	1.082	1.049	0.138	1.184	0.046	1.104	1.408	1.391	1.231	0.976	0.010	0.039	0.010	1.145	1.382	1.164	1.062	1.370	1.0	
246	0.187	0.226	0.209	0.138	0.076	1.202	0.063	0.207	0.204	0.201	0.105	0.010	1.096	0.010	0.141	0.242	0.141	0.119	0.374	0.0	
247	0.187	0.226	0.209	0.138	0.076	1.202	0.063	0.207	0.204	0.201	0.976	1.149	0.039	0.010	0.141	0.242	0.141	0.119	0.374	0.0	
248	0.187	1.082	1.049	1.286	0.076	0.046	1.104	1.408	1.391	1.231	0.105	0.010	1.096	1.105	1.145	1.382	0.141	0.119	1.370	0.0	
249	0.638	0.631	0.630	1.010	0.076	1.202	0.979	0.995	0.983	0.830	0.976	1.149	0.039	0.010	0.863	0.899	0.882	0.824	0.622	0.0	
250	0.187	0.631	0.630	1.010	0.076	0.046	0.979	0.207	0.983	1.860	0.976	1.149	0.039	0.010	1.867	0.899	0.882	1.767	0.622	0.0	
251	0.187	0.631	0.209	0.138	1.184	1.202	0.979	0.207	0.983	0.201	0.105	1.149	0.039	1.105	0.141	0.899	0.141	0.119	0.622	0.0	
252	0.638	0.631	0.630	1.010	0.076	1.109	0.979	0.995	0.204	0.830	0.976	0.010	1.096	0.010	0.863	0.899	0.882	1.767	1.618	0.0	
253	0.187	0.226	0.630	1.010	0.076	1.202	1.104	0.207	0.983	0.201	0.976	0.010	1.096	1.105	0.863	0.242	0.141	0.824	0.374	0.0	
254	0.187	0.226	0.209	1.010	0.076	1.202	0.063	0.995	0.204	0.201	3.348	2.268	3.131	3.353	0.863	0.899	0.141	0.119	0.374	0.0	
255	0.187	0.226	0.209	1.010	0.076	1.202	0.063	0.207	0.204	1.231	0.976	0.010	1.096	0.010	0.141	0.899	0.882	0.119	0.374	0.0	
256	0.187	0.226	0.209	1.010	0.076	0.046	0.063	0.207	0.204	1.231	0.105	1.149	1.096	0.010	0.141	0.899	0.882	0.119	0.374	0.0	
257	0.638	1.487	1.470	0.138	0.076	1.109	2.020	2.197	2.170	1.860	1.186	0.010	0.039	0.010	0.863	2.039	1.906	1.767	1.618	1.0	
258	1.011	0.226	0.209	3.581	3.857	2.264	0.979	0.995	0.204	1.231	0.105	1.149	1.096	1.105	1.145	0.242	1.164	0.824	0.374	0.0	

259	0.187	0.631	0.209	0.138	1.184	0.046	0.063	0.207	0.204	1.231	0.105	1.149	0.039	0.010	1.145	1.382	0.141	0.119	0.374	0.1
260	2.287	2.344	2.309	0.138	1.184	1.202	1.104	0.207	1.391	0.201	0.976	1.149	0.039	1.105	0.141	1.382	1.164	0.119	0.374	1.1
261	1.011	1.082	0.209	0.138	1.184	0.046	1.104	0.207	0.204	1.231	0.976	1.149	0.039	1.105	1.145	0.242	1.164	0.119	0.374	1.1
262	0.187	0.631	0.630	0.138	0.076	1.109	1.104	0.207	0.204	1.231	0.105	0.010	0.039	1.124	0.141	0.242	1.164	0.119	1.370	0.1
263	0.187	0.631	0.209	0.138	1.336	1.109	0.063	1.408	0.204	2.890	0.105	1.149	0.039	0.010	1.145	0.242	1.164	1.767	1.618	1.1
264	1.011	1.082	0.209	0.138	0.076	1.109	0.063	0.207	0.204	1.231	0.976	0.010	1.096	1.105	1.145	1.382	1.164	1.062	0.374	0.1
265	2.287	2.344	2.309	1.010	1.184	0.046	3.062	1.408	1.391	0.201	0.976	1.149	1.096	1.105	0.141	1.382	1.164	1.062	1.370	0.1
266	1.011	1.082	1.049	1.010	0.076	0.046	0.063	1.408	0.204	1.231	0.976	0.010	1.096	0.010	0.863	0.242	1.164	0.824	0.622	0.1
267	0.638	0.226	0.630	0.138	1.184	1.202	0.979	0.207	0.983	0.830	0.105	1.149	1.096	0.010	0.141	1.382	1.164	2.710	2.614	2.1
268	0.187	0.226	1.049	0.138	0.076	1.202	0.063	0.207	1.391	1.231	0.105	0.010	1.017	1.124	1.145	1.382	0.141	0.119	0.374	1.1
269	1.011	0.226	1.049	0.138	1.184	1.202	2.020	3.398	3.357	2.890	0.105	1.149	1.096	0.010	0.141	0.242	0.882	0.824	0.374	0.1
270	1.011	0.226	1.049	0.138	0.076	1.202	0.063	0.207	1.391	0.201	0.976	0.010	0.039	1.105	0.141	1.382	0.141	0.119	0.374	1.1
271	1.011	1.082	0.630	0.138	1.184	1.202	0.063	0.207	0.983	0.201	0.976	1.149	1.096	0.010	0.141	0.242	1.164	1.062	0.374	0.1
272	1.011	1.082	0.209	1.010	0.076	0.046	1.104	1.408	0.204	0.201	0.105	1.149	1.096	0.010	0.141	1.382	0.141	1.062	1.370	0.1
273	2.287	2.344	2.309	1.010	1.184	0.046	1.104	0.207	0.204	0.830	0.976	1.149	0.039	1.105	1.145	0.242	1.164	0.119	0.374	0.1
274	0.187	1.082	0.209	1.010	1.184	0.046	1.104	0.207	1.391	0.201	0.976	1.149	1.096	0.010	0.141	1.382	1.164	0.119	1.370	1.1
275	2.287	2.344	2.309	1.010	1.184	1.202	0.063	0.207	1.391	1.231	0.976	0.010	1.096	0.010	0.863	0.899	0.141	2.710	2.614	2.1
276	0.187	1.082	0.630	1.010	1.184	0.046	0.063	1.408	0.204	1.231	0.105	1.149	0.039	1.105	1.145	1.382	0.141	1.062	1.370	0.1
277	2.287	2.344	1.049	1.010	1.184	0.046	0.063	0.207	0.204	0.830	3.348	2.268	2.074	3.353	0.141	0.242	1.164	0.119	0.374	1.1
278	1.011	0.226	1.049	0.138	0.076	1.109	1.104	1.408	0.204	1.231	0.105	1.149	1.096	1.105	0.141	1.382	1.164	0.119	0.374	1.1
279	1.011	1.082	0.209	1.010	1.184	1.202	1.104	0.207	0.204	0.201	0.105	0.010	1.096	1.105	1.145	1.382	0.141	0.119	0.374	1.1
280	1.011	0.226	0.209	1.010	0.076	1.109	0.063	1.408	0.204	0.830	0.976	0.010	0.039	0.010	1.145	0.242	1.164	2.710	2.614	2.1
281	0.187	0.226	1.049	1.010	0.076	0.046	1.104	0.207	1.391	0.201	0.105	1.149	0.039	1.105	1.145	1.382	0.141	1.062	0.374	1.1
282	1.011	1.082	1.049	0.138	0.076	0.046	1.104	1.408	1.391	0.201	0.976	1.149	1.096	1.105	1.145	0.242	1.164	2.710	2.614	2.1
283	0.187	0.226	1.049	0.138	0.076	0.046	0.063	0.207	1.391	0.201	0.976	1.149	0.039	0.010	0.141	0.242	1.164	1.062	1.370	1.1
284	1.011	0.226	0.209	1.010	0.076	1.202	1.104	0.207	0.983	1.231	0.976	1.149	0.039	1.105	1.145	0.242	1.164	0.119	0.622	0.1
285	2.287	2.344	1.049	1.010	0.076	1.202	1.104	0.207	0.983	0.201	0.976	1.149	0.039	1.105	1.145	0.242	1.164	1.062	0.374	1.1
286	1.011	0.226	1.049	1.010	0.076	1.202	1.104	0.995	1.391	0.201	0.976	1.149	0.039	1.105	1.145	0.242	1.164	1.062	1.370	1.1
287	0.638	0.226	1.049	1.010	0.076	1.202	1.104	0.207	1.391	0.201	0.976	0.010	1.017	1.105	1.145	0.242	1.164	1.062	0.374	1.1
288	2.287	2.344	2.309	1.010	0.076	1.202	1.104	0.207	1.391	1.231	2.267	3.407	3.131	2.239	1.145	0.242	1.164	1.062	0.374	1.1
289	0.638	0.226	0.630	1.010	0.076	1.202	1.104	0.207	1.391	1.231	0.976	1.149	0.039	1.105	1.145	0.242	1.164	1.062	0.374	1.1
290	0.187	0.631	0.209	1.010	0.076	1.109	1.104	0.207	1.391	1.231	0.976	0.010	1.096	0.010	1.145	0.242	1.164	2.710	2.614	2.1
291	0.187	1.082	0.209	1.010	0.076	1.202	1.104	0.207	1.391	0.201	0.976	1.149	0.039	1.105	0.141	1.382	0.141	1.062	0.374	1.1
292	0.187	0.226	1.049	1.010	0.076	1.202	1.104	0.207	1.391	0.201	0.976	0.010	1.096	1.105	1.145	0.242	1.164	2.710	2.614	2.1

293	1.011	0.226	0.209	0.138	1.184	1.202	0.063	0.995	0.204	1.231	0.105	1.149	0.039	0.010	1.145	0.242	1.164	0.824	0.374	1.1
294	2.287	2.344	0.209	3.581	2.596	3.420	0.063	0.207	1.391	1.231	0.976	0.010	1.096	0.010	1.145	1.382	1.164	0.119	0.622	2.1
295	0.187	0.226	1.049	0.138	0.076	1.202	1.104	0.207	1.391	0.201	0.976	0.010	1.096	0.010	0.141	0.899	0.141	0.119	0.374	0.1
296	0.638	0.226	0.630	0.138	1.184	0.046	0.063	0.207	0.983	0.201	0.105	1.149	1.096	0.010	0.141	0.242	0.882	1.062	0.374	0.1
297	0.187	1.082	0.209	0.138	0.076	0.046	0.063	0.995	0.204	0.830	0.976	1.149	0.039	0.010	0.141	0.242	1.164	1.062	0.374	1.1
298	0.187	1.082	0.209	0.138	0.076	1.202	0.979	0.995	0.983	0.201	0.105	0.010	1.096	1.105	0.141	1.382	1.164	0.119	0.374	0.1
299	0.187	0.631	1.049	1.010	0.076	1.202	1.104	0.207	0.983	1.860	0.976	0.010	1.096	1.105	1.145	0.242	1.164	0.119	1.370	0.1
300	0.187	0.631	1.049	0.138	0.076	1.202	0.063	0.207	1.391	0.201	0.105	1.149	1.096	0.010	0.863	3.180	2.929	1.062	0.374	0.1
301	2.287	1.487	2.309	1.010	1.184	1.202	1.104	1.408	1.391	0.201	0.976	1.149	1.096	1.105	1.145	1.382	1.164	1.062	1.370	1.1
302	0.187	1.082	0.209	1.286	0.076	1.202	1.104	0.207	1.391	0.201	0.976	0.010	1.096	1.105	1.145	0.242	0.141	1.062	0.374	0.1
303	0.638	0.226	1.049	0.138	1.184	1.202	1.104	0.207	0.983	1.231	0.105	1.149	1.096	0.010	1.145	0.242	1.164	1.062	0.374	0.1
304	0.187	1.082	1.049	1.010	0.076	1.202	1.104	0.995	0.204	1.231	0.105	1.149	0.039	1.105	0.141	1.382	1.164	0.119	0.622	1.1
305	1.011	1.082	1.049	1.010	0.076	1.202	2.020	3.398	3.357	1.860	0.105	1.149	0.039	1.105	2.871	2.039	2.929	0.119	1.370	0.1
306	1.011	0.226	1.049	1.010	0.076	1.202	1.104	0.207	0.983	0.201	0.105	1.149	0.039	1.105	1.145	0.242	0.882	0.824	0.374	0.1
307	1.011	1.082	0.209	0.138	1.184	0.046	1.104	0.995	0.204	1.860	0.976	0.010	1.096	0.010	0.141	2.039	1.164	0.119	1.370	0.1
308	1.011	0.226	1.049	0.138	1.184	0.046	1.104	0.207	0.983	0.201	0.976	0.010	1.017	1.105	1.145	0.242	1.164	0.119	0.622	0.1
309	0.187	1.082	0.209	1.286	2.596	3.420	1.104	0.207	0.983	0.201	0.105	1.149	1.017	0.010	1.145	0.242	0.141	1.062	0.622	0.1
310	0.187	1.082	1.049	0.138	1.184	0.046	1.104	0.207	0.983	0.201	0.105	1.149	0.039	1.105	1.145	0.242	0.882	1.062	0.374	0.1
311	1.011	1.082	0.209	1.010	0.076	1.202	3.062	2.197	2.170	2.890	1.186	0.010	1.096	0.010	2.871	3.180	1.906	1.767	0.374	0.1
312	1.463	1.487	1.470	1.010	0.076	1.202	1.104	0.995	0.204	1.231	0.976	0.010	1.096	1.105	1.145	0.242	1.164	1.062	0.622	0.1
313	1.011	0.226	1.049	2.434	0.076	1.202	0.979	0.207	1.391	0.201	0.976	0.010	1.096	0.010	1.145	0.242	1.164	0.119	0.622	0.1
314	2.287	2.344	2.309	1.010	1.184	0.046	1.104	0.207	1.391	0.201	0.976	0.010	1.096	0.010	0.863	2.039	2.929	2.710	0.622	0.1
315	0.187	1.082	1.049	3.581	0.076	1.202	1.104	1.408	0.204	0.830	0.976	0.010	1.096	1.124	1.145	0.242	1.164	2.710	0.622	2.1
316	0.187	1.082	1.049	1.010	0.076	1.202	1.104	1.408	1.391	1.231	0.105	1.149	0.039	1.105	1.145	0.899	0.141	1.062	0.622	0.1
317	1.011	1.082	0.209	1.010	0.076	1.202	1.104	1.408	1.391	1.231	1.186	1.149	1.096	0.010	1.145	0.242	1.164	1.062	0.622	0.1
318	2.287	2.344	2.309	1.010	1.184	1.202	1.104	0.207	0.983	0.201	0.976	1.129	0.039	1.105	0.141	1.382	0.141	0.119	1.370	0.1
319	0.187	0.226	1.049	0.138	1.184	1.202	1.104	1.408	1.391	1.231	0.976	1.149	1.096	0.010	2.871	2.039	0.882	1.062	1.370	1.1
320	2.287	2.344	2.309	0.138	1.184	0.046	1.104	1.408	1.391	0.201	0.976	0.010	0.039	0.010	0.141	0.242	1.164	2.710	2.614	2.1
321	1.011	0.226	0.209	1.010	1.184	0.046	0.063	0.207	0.983	0.830	0.976	1.149	1.096	0.010	1.145	1.382	0.141	1.062	0.374	0.1
322	2.287	1.487	2.309	1.010	0.076	1.202	1.104	1.408	1.391	1.231	0.976	0.010	0.039	1.105	0.141	0.242	1.164	0.119	0.374	0.1
323	1.011	0.226	1.049	1.010	1.184	0.046	0.063	1.408	0.204	0.201	0.976	1.149	0.039	1.105	1.145	1.382	0.141	0.824	0.374	0.1
324	0.187	1.082	0.209	0.138	1.184	0.046	0.063	0.207	0.983	0.830	0.105	1.149	1.096	0.010	0.863	0.242	0.141	1.062	1.370	0.1
325	0.187	1.082	0.209	1.010	1.184	0.046	1.104	1.408	1.391	0.201	0.105	0.010	1.096	0.010	1.145	1.382	0.141	1.062	0.374	0.1
326	0.187	0.226	0.630	0.138	0.076	1.202	0.979	0.995	0.204	0.830	0.976	1.149	0.039	0.010	1.867	2.039	2.929	0.119	0.622	0.1

327	1.011	0.226	0.209	1.010	1.184	0.046	1.104	1.408	0.204	1.231	0.976	1.149	0.039	0.010	1.867	2.039	2.929	1.062	1.370	1.1
328	1.011	1.082	0.209	0.138	0.076	1.202	1.104	1.408	1.391	0.201	0.976	1.149	1.096	0.010	0.141	1.382	0.141	0.119	1.370	1.1
329	2.287	2.344	2.309	0.138	0.076	1.202	1.104	0.207	0.204	1.231	0.976	0.010	0.039	0.010	2.871	2.039	2.929	0.119	1.370	0.1
330	0.638	0.226	0.630	1.010	1.184	0.046	0.063	1.408	1.391	0.201	0.976	1.149	1.096	0.010	1.145	0.242	1.164	0.119	1.370	0.1
331	1.011	1.082	1.049	1.010	0.076	1.202	1.104	0.207	0.204	0.201	0.976	1.149	0.039	1.105	1.145	0.242	1.164	2.710	2.614	2.1
332	0.638	0.226	1.049	1.010	1.184	0.046	0.063	0.207	1.391	1.231	0.105	1.149	0.039	1.105	0.141	0.242	0.141	0.119	0.374	0.1
333	0.638	0.226	1.049	0.138	1.184	1.202	0.063	1.408	0.204	0.201	0.105	0.010	1.096	0.010	0.863	2.039	2.929	0.119	1.370	1.1
334	0.187	0.226	0.630	1.010	0.076	0.046	1.104	0.207	1.391	0.201	0.105	0.010	0.039	0.010	0.141	0.242	0.141	1.062	1.370	0.1
335	0.187	1.082	0.630	0.138	0.076	0.046	2.020	0.995	2.170	2.890	0.976	1.149	1.096	1.105	1.145	0.242	0.882	0.119	1.370	1.1
336	0.638	0.226	1.049	0.138	1.184	1.202	1.104	1.408	0.204	1.231	0.105	0.010	1.096	1.105	1.867	2.039	2.929	0.119	0.374	0.1
337	0.638	0.226	1.049	1.010	0.076	0.046	1.104	0.207	0.204	0.201	0.976	0.010	1.096	1.105	0.141	1.382	0.141	1.062	0.374	1.1
338	0.187	1.082	0.209	2.434	0.076	0.046	0.063	0.207	1.391	0.201	0.105	1.149	1.096	1.105	0.141	1.382	0.141	1.062	1.370	1.1
339	0.187	0.631	0.209	0.138	1.184	0.046	3.062	2.197	2.170	2.890	0.976	0.010	1.096	0.010	0.863	2.039	2.929	1.062	0.374	0.1
340	0.187	0.226	0.630	0.138	1.184	0.046	1.104	0.207	0.983	1.231	0.976	1.149	0.039	1.105	2.871	3.180	2.929	2.710	2.614	1.1
341	2.287	1.487	1.470	1.010	1.184	1.202	0.063	1.408	0.204	1.231	0.976	0.010	1.096	0.010	0.141	1.382	0.141	0.119	1.370	0.1
342	0.638	0.226	1.049	0.138	0.076	0.046	1.104	1.408	1.391	0.201	0.105	1.149	0.039	0.010	1.145	0.242	0.141	1.062	1.370	1.1
343	0.187	0.226	0.630	1.010	1.184	0.046	0.979	0.995	2.170	2.890	0.105	0.010	1.017	1.124	0.863	2.039	2.929	0.119	0.374	0.1
344	0.187	1.082	0.209	1.010	0.076	1.202	0.979	0.207	1.391	0.201	0.976	0.010	1.017	0.010	0.141	1.382	0.141	1.062	0.374	0.1
345	0.187	1.082	1.049	1.010	0.076	1.202	3.062	2.197	3.357	2.890	0.976	1.149	0.039	1.105	0.141	0.242	0.141	1.062	1.370	1.1
346	1.011	1.082	0.209	1.010	0.076	0.046	0.063	1.408	0.204	0.201	0.105	1.149	0.039	1.105	2.871	2.039	0.882	0.119	0.622	0.1
347	1.463	1.487	2.309	1.010	1.184	0.046	1.104	0.207	0.204	0.201	0.976	0.010	1.096	1.105	0.141	1.382	0.141	1.062	0.374	0.1
348	1.011	0.226	1.049	1.010	0.076	1.202	1.104	1.408	0.204	1.231	0.105	0.010	1.096	1.105	1.145	0.242	1.164	0.119	0.622	0.1
349	1.011	0.631	0.209	0.138	1.184	0.046	0.063	0.207	0.983	0.830	0.976	0.010	0.039	1.105	0.863	2.039	2.929	0.119	1.370	0.1

### Appendix Q Collinearity

Inner  
VIF  
Values

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT		1.014								
BI				1.000						
TR		1.984								
CA										
CS		1.674								
CTT		1.392								
FC		1.793								
PE		1.181								
SI		1.293								
TA		1.577								

### Appendix R R<sup>2</sup>

R Square

	R Square	R Square Adjusted
BI	0.338	0.322
CA	0.340	0.338

### Appendix S F<sup>2</sup>

F Square

	AT	BI	TR	CA	CS	CTT	FC	PE	SI	TA
AT		0.012								
BI				0.515						
TR		0.037								
CA										
CS		0.000								
CTT		0.026								
FC		0.019								
PE		0.023								



SI	0.019								
TA	0.024								

### Appendix T Blindfold ( $Q^2$ )

#### Blindfold

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
AT	1047.000	1047.000	
BI	1047.000	827.460	0.210
TR	1396.000	1396.000	
CA	1396.000	1053.234	0.246
CS	1047.000	1047.000	
CTT	1396.000	1396.000	
FC	1047.000	1047.000	
PE	1396.000	1396.000	
SI	1396.000	1396.000	
TA	1396.000	1396.000	

