

Exploring Personality Traits, Financial Risk Tolerance and Cryptocurrency Adoption: Evidence from Malaysia

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Abstract: *This study aims to explore individuals' intention to adopt digital currency such as cryptocurrency based on the Big Five Personality Traits, Financial Risk Tolerance and Theory of Planned Behaviour. A self-administrated online questionnaire was distributed across Malaysians aged more than 21 years old. A total of 240 usable data was used for the data analysis. The measurement model and structural model were run using PLS-SEM to ensure the reliability and the validity of the model to test the hypotheses. The findings show that results in the subjective norms, attitude towards cryptocurrency, perceived behavioural control and financial risk tolerance positively influence the intention of cryptocurrency adoption. The antecedents of Big Five Personality traits such as openness, conservatism, extraversion and neuroticism also affect financial risk tolerance. This study provides new insights to financial institutions and Malaysia about consumers' attitude and behavioural intention to adopt cryptocurrency. Thus, this is crucial for regulators to create policy that can help to develop and enhance FinTech's usage in our country as it is still immature in Malaysia.*

Keywords: Theory of Planned Behaviour, Cryptocurrency, Big Five Personality Traits, Financial Risk Tolerance, Behavioural Intention

1. Introduction

Digital currency is a subset of virtual currency created by a specific virtual community to be used online digitally but not all forms of digital currency can be named as cryptocurrencies (Rose, 2015). There are inter-correlation in between virtual currency, digital currency and cryptocurrency. Bitcoin has been treated as one of the first and most successful virtual currencies since more than a decade ago until now due to its surging value and support of merchants. Although cryptocurrency is yet to be a legal tender of every country, it might take the edge off macroeconomic fluctuations as a currency substitution (Caton, 2019).

From the past empirical studies (O'Neill et al., 2017), the bank is trying to turn digital money into cash money through loan payment to its customers. Besides, there are many firms in the US that are forced to adopt new financial technology (FinTech) that usually produces high-powered and efficient transactions of costs and benefits (Aldunate & Nussbaum, 2013). Thus, cryptocurrencies have been explored by financial institutions, financial systems, global businesses especially regulators (Seetharaman et al., 2017). The large financial services provider such as well-known American Express Co. has been using the digital ledger of many cryptocurrencies to provide service for customers to restore financial statements and accepted by various merchants such as Expedia, Dell, Microsoft, Cheap-Air, Whole Foods, as well as

corporations Tesla, Wikipedia, Bloomberg, WordPress and Reddit (Kethineni & Cao, 2020; Kharif, 2020). In addition, there are various cryptocurrencies that have been created as initial coin offerings (ICO) and were used by firms as a new platform to fund innovation (Aste, 2019). Subsequently, the adoption of cryptocurrency has become a discussed context that could contribute and drive the economy by following the surge of the latest business models applied on blockchain and the assistance of virtual tokens. According to Ossinger (2020), Bitcoin reached the new high record at 20,000 USD per coin and was treated as an asset during the pandemic of COVID-19 to combat inflation.

The digital exchange platform Luno claimed that there are four approved cryptocurrencies to be invested, namely Bitcoin (BTC), Ethereum (ETH), Litecoin (LTC) and Ripple (XRP) (Fintech News Malaysia, 2020). Based on the survey of CompareHero.my, many “pioneer adopter” Malaysians have traded cryptocurrency as a digital asset in millions beside gaining the attention of regulators and financial institutions to legalise it as an officially accepted currency (Mohd Muslimin, 2020). With the potential growth and fast development of Fintech, cryptocurrency would probably be treated as normal assets such as gold or cash for transaction purposes in many countries.

Therefore, it is an advantage for policy makers, cryptocurrency adopters and investors, academics to explore the intention to adopt cryptocurrency whether it can drive the economy. Past research has adopted Theory of Planned Behaviour to understand that a human’s personality could help to know their behaviour with the world and individuals’ personality might affect their own decision making in financial investment (Durand et al., 2013; Kourtidis et al., 2017). In another words, the differences of individuals’ characteristics can successfully influence their performance based on an individual’s volitional control over an intended behaviour (Ajzen, 1985) due to the mentality of individuals’ character has been influenced by the five different factors models OCEAN: Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism (Rolland et al., 2014). Financial risk tolerance and the three factors of Theory of Planned Behaviour e.g., attitude towards cryptocurrency, subjective norms and perceived behavioural control are yet to be used to discover the individuals’ intention to adopt cryptocurrency. Limited research has studied the personality traits affecting financial risk tolerance and most of the research only focused on users’ behavioural intention without exploring the underlying reason or factors of those behaviours. Thus, this research would like to examine the underlying reasons for the financial risk tolerance level of individuals and their intention to adopt digital currency in Malaysia.

2. Theoretical Framework, Literature Review and Hypothesis Development

The big five personality traits would certainly dominate an individual’s actions besides enhancing or weakening a person’s willingness or frame of mind towards manners and the theory of planned behaviour (TPB) (Ajzen, 1985; Wang & Yang, 2006). Besides, the TPB has appeared in many different contexts to examine individual recognition of approach use and adopting an online tool, in short it can be known as the most proper instrument to understand online adoption such as digital currency acceptance validation (Lee, 2009; Mazambani & Mutambara, 2020). The theoretical foundation was proposed due to limited studies to examine the intention to adopt cryptocurrency in Malaysia. This was discovered as an essential survey based on the concept that digital money which imposed financial risk but was still accepted by different merchants to be used as a tool of payment. Thus, this study aims to know more on the behavioural intention of the users who adopt cryptocurrency in Malaysia. Up to now, there are very few studies about investors’ behaviour towards digital money adoption, especially

cryptocurrency (Akhtar & Das, 2019; Ayedh et al., 2021). Personality traits were used as antecedents of financial risk tolerance of individuals who are interested in digital currency adoption. In addition, financial risk tolerance, attitude towards cryptocurrency, subjective norms and perceived behavioural control were used to predict an individual's intention to adopt cryptocurrency (Tauni et al., 2017).

2.1 Behavioural Intention (BI)

Behavioural intention is defined as the desire of an individual to perform certain behaviour (Yadav & Pathak, 2016). According to Grable (2000), individuals' personality characteristics could affect the financial risk tolerance in financial decision making. Rodrigues and B.V. (2024) found that openness, extraversion and neuroticism positively affect one's financial risk tolerance in his or her financial decision making, while Mukhdoomi and Shah (2023) found a positive relationship between openness and extraversion and financial risk tolerance. If all the prerequisites such as financial risk tolerance, attitude towards cryptocurrency, subjective norms and perceived behavioural control of behavioural intention are favourable, it would be a higher chance for a person to carry out a specific behaviour (Akhtar & Das, 2019; Grable, 2000; Grable & Lytton, 1999; Kuznaik et al., 2015).

2.2 Openness (OP)

The Big Five personality research shows that people with openness are more likely to explore everything enthusiastically (Costa & McCrae, 1992). According to Kubilay and Bayrakdaroglu (2016), individuals with high openness characteristics are over optimism and overconfidence. From the past empirical evidence, studies found that individuals with a high openness personality are outgoing, extroverted and easy to accept new things which is linked to a higher risk acceptance level (Mukhdoomi & Shah, 2023; Rodrigues & B.V., 2024). Therefore, the "Give-it-a-try" mindset would exist in individuals with a high openness to adopt cryptocurrency. Based on the past studies, this research hypothesised hypothesis one (H1) that high openness has a positive effect on financial risk tolerance.

H1: High Openness positively affects financial risk tolerance.

2.3 Conscientiousness (CON)

Conscientious people seem to be well organised, responsible and efficient (Costa and McCrae, 1992). High conscientious individuals perform good jobs, organized, responsible and less likely to be emotional instabilities (Kleine et al., 2016). Based on Ahmed et al. (2022), such personality traits are less risk averse, this implies that they are high risk tolerance clusters who are ready to take risk decisions such as high volatility cryptocurrency adoption. In contrast, Mukhdoomi and Shah (2023) found investors with this trait are more risk averse. We hypothesised the following hypothesis two (H2).

H2: High Conscientiousness positively affects financial risk tolerance.

2.4 Extraversion (EV)

Extraversion individuals are active, social and like to interact with others (Costa & McCrae, 1992) and they are usually happy, enthusiastic and outgoing (Kleine et al., 2016). Past studies found that people with a high score in extraversion are high-risk propensity and willing to take risks (Ahmed et al., 2022; Mukhdoomi & Shah, 2023). Furthermore, extraversion individuals focus on positive events rather than afraid of losses and they usually participate in high risk activity that brings excitement (Conner & Abraham, 2001; Oehler & Wedlich, 2018). Hence, we hypothesised that extraversion has a positive influence on financial risk tolerance towards the intention to adopt cryptocurrency. Hypothesis three (H3) was formed as follows:

H3: High Extraversion positively affects financial risk tolerance.

2.5 Agreeableness (AG)

The person with agreeableness traits is compassionate, accountable and being trusted (Costa & McCrae, 1992). People with agreeable personality traits possess characteristics of high dependency on others (Kleine et al., 2016; Kubilay & Bayrakdaroglu, 2016). High levels of agreeableness individuals tend to be more sceptical when less information and prevent risky financial decisions (Ahmed et al., 2022; Kleine et al., 2016; Mukhdoomi & Shah, 2023). This is because people with higher agreeableness highly depend on others' decisions rather than put themselves in risky activities. Nicholson et al. (2005) observed that agreeableness has a positive impact on risk aversion. Thus, we proposed hypothesis four (H4) as follows:

H4: High Agreeableness negatively affects financial risk tolerance.

2.6 Neuroticism (NEU)

The person with neuroticism traits is more towards depression, anger, fear, anxiety (Costa & McCrae, 1992). Kubilay and Bayrakdaroglu (2016) claimed that individuals with neurotic characteristics show regret aversion behaviour. This means that the individuals possessing such personality can easily get tension, guilt, anxious and unstable (Kleine et al., 2016; Pan & Statman, 2013). Past study found that high neuroticism individuals tend to be risk averse (Oehler & Wedlich, 2018) which implicate that the personality exerts impact on financial risk tolerance. In contrast, Rodrigues and B.V. (2024) found a positive relationship between neuroticism and financial risk tolerance. However, this study hypothesised that high Neuroticism negatively affects financial risk tolerance as follows:

H5: High Neuroticism negatively affects financial risk tolerance.

2.7 Financial Risk Tolerance (FRT)

According to Lucarelli et al. (2015), financial risk-taking decisions and risk tolerance are influenced by individuals' emotions. In these circumstances, personality traits have been taken as psychological factors that could impact risk behaviours. For instance, individuals will be risk taking when they are in the situation of gain, whereas risk averse when they are in the domain of loss (Grable, 1999; Nicholson et al., 2005). Based on Grable and Lytton (1998), there is a strong relationship between the socioeconomic characteristics and financial risk tolerance and financial decision making. To know more respondents' level of FRT and their intention to adopt cryptocurrency, we developed hypothesis six (H6) as follows:

H6: Financial risk tolerance positively affects intention to adopt cryptocurrency.

2.8 Subjective Norms (SN)

Subjective norms can be explained as a person engaging in certain behaviour due to social pressure of their surroundings (Akhtar & Das, 2019). According to the TPB, subjective norms usually make an appearance from peers, family, friends especially one that is the closest to an individual. Subjective norms may affect one's attitude towards the cryptocurrency and his or her intention to enter the market of cryptocurrency (Lai, 2019). Eventually, herding exists when individuals follow the judgements and opinions of others (Baker et al., 2021). Hence, the following hypothesis seven (H7) was proposed to test the relationship between subjective norms and intention to adopt cryptocurrency.

H7: Subjective norm positively affects intention to adopt cryptocurrency.

2.9 Attitude towards Cryptocurrency (ATC)

Attitude refers to human's beliefs towards actions (Lee, 2009). For instance, individuals with positive attitude or negative attitude towards life events tend to overestimate market or risk, respectively, which might lead to loss in his or her investment (Pak & Mahmood, 2015). Verghese and Chin (2022) also mentioned the attitude positively affects investors' intention to

purchase gold and silver bullion. This means attitudes will have a positive effect on behavioural intention. Hence, hypothesis eight (H8) was developed as follows:
 H8: Attitude towards cryptocurrency positively affects intention to adopt cryptocurrency.

2.10 Perceived Behavioural Control (PBC)

Perceived behavioural control is defined as the awareness and perceptions of internal or external restriction that the individual possesses on self-behaviours (Lee, 2009). In current study, perceived behavioural control has become the resource (Lai, 2019) such as knowledge or ability to adopt cryptocurrency. If a person has more resources, the possibility for him or her to enter the cryptocurrency market will be higher than those who do not have the resource. In another word, the higher ability to control one’s own mindset, the higher possibility that a person will adopt cryptocurrency (Schaupp & Festa, 2018). Hence, hypothesis nine (H9) was formed as follows:

H9: Perceived behavioural control positively affects intention to adopt cryptocurrency.

Based on the above, Figure 1 shows the research model of the study.

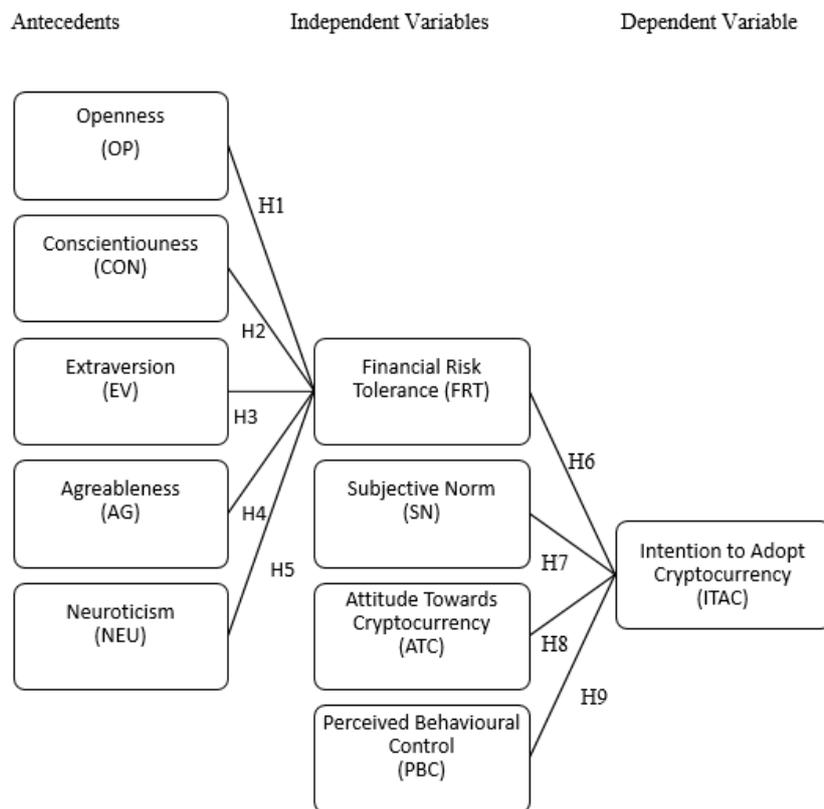


Figure 1: Research Model

3. Research Methodology

3.1 Research Design

This paper employed a self-administered online questionnaire method to collect data. The questionnaires can be an effective mechanism for data collection when the researchers know precisely what information is required to examine the proposed hypothesis (Sekaran & Bougie, 2014). In this study, the questionnaire was divided into three sections. First section includes 21 Big Five Personality Traits questions (Baker et al., 2021; Costa & McCrae, 2010) to identify

the personality traits of the respondents. Section two is 23 questions related to subjective norms, attitude towards cryptocurrency, perceived behavioural control and financial risk tolerance. Section three is respondents' demographic factors. The questionnaire link was sent through E-mail, WhatsApp, Facebook, Messenger and various social media to achieve the desired sample size across all 13 states and three federal territories in Malaysia.

3.2 Research Sample

This study adopted a purposive and snowball sampling method since it was opened only to respondents aged 18 years old and above. Respondents were required to acknowledge if they have met the age limit before proceeding with the survey. This study applied G* Power 3.1.9.4 version software to calculate the sample size. Taking the effect size of 0.15, 5% of significant level and statistical power of 80%, a minimum sample size of 85 respondents was required for this study (Faul et al., 2007).

3.3 Data Analysis Method

The data analysis was done by the SPSS and the Smart-PLS version 3.0. The SPSS was used to carry out the descriptive analysis as well as identifying the missing values. On the other hands, the Smart-PLS was adopted to check out the measurement model and structural model of this study. The measurement model was explored to confirm the internal consistency, discriminant validity, convergent validity and indicator reliability whereas the structural model was used to test the research hypotheses.

4. Research Findings

4.1 Descriptive Analysis

For demographic information, we have included seven variables: gender, age, marital status, education background, personal income, occupation, and states. A total of 246 data was collected across all states in Malaysia. Based on Table 1, this study has an equal distribution in terms of gender (44.6 percent males and 55.4 percent females), most of the respondents aged between 21 years old and 45 years old (82.9 percent), most respondents are single (60.8 percent), a total of 90.8 percent of respondents obtained bachelor's degree and above while 68.3 percent of respondents work in the private sector. Table 1 shows the respondents' demographic.

Table 1: Respondents' Demographic Factors

Demographic Factors	Item	Frequency	Percentage (%)
Gender	Male	107	44.6
	Female	133	55.4
Age	21-30	122	50.8
	31-45	77	32.1
	46-60	35	14.6
	>60	6	2.5
Marital Status	Single	146	60.8
	Married	92	38.3
	Others	2	0.8
Highest Level of Academic Qualification	Secondary School	6	2.5
	Certificate/ Diploma/ Advanced Diploma	16	6.7
	Bachelor's Degree	152	63.3

	Master's Degree & Above	66	27.5
Yearly Income	< 25,000	35	14.6
	25,000 - 49,999	72	30.0
	50,000 - 74,999	47	19.6
	75,000 - 99,999	33	13.8
	> 100,000	53	22.1
Occupation	Retired	7	2.9
	Self-employed	22	9.2
	Private sector	164	68.3
	Public sector	27	11.3
	Others	20	8.3

4.2 Measurement Model

The measurement model was used to examine the reliability and validity of variables in this study. Table 2 summarises the outcomes of internal consistency reliability, discriminant validity and convergent validity. Table 3 shows the findings of HTMT ratio. The test began with internal consistency reliability, which is to provide reliability based on inter-correlation of the observed variables. The threshold of composite reliability (CR) is set at above 0.7 (Gefen et al., 2000) for explanatory research. The CR values in this study are ranging from 0.831 to 0.968 indicating the study meets the internal consistency reliability.

The indicator reliability denotes the proportion of indicator variance that is explained by the variable. The acceptable loading values are equal to and greater than 0.60. All variables in this study have outer loadings more than 0.60, indicating that all items can explain at least fifty percent of the indicator's deviation. Hence, this study met the indicator reliability.

For the convergent validity, the Average Variance Extract (AVE) was used to identify the deviation of its indicators (Hair et al., 2011, 2017, 2019; Hair et al., 2014). The threshold value for AVE is 0.5. The AVE values of all variables in this study are higher than 0.50, indicating that this study met the convergent validity.

Discriminant validity refers to the degree to which indicators differentiate across variables by examining the correlations between the measures of potentially overlapping. This study applied Heterotrait-Monotrait ratio of correlation (HTMT) to evaluate its validity (Henseler et al., 2015). The threshold level for HTMT is below 0.90 (Gold et al., 2001) and below 0.85 (Hair et al., 2012). All variables in this study have HTMT ratio less than 0.90 indicating that there is no overlapping among the measures.

Table 2: Internal Consistency Reliability, Discriminant Validity and Convergent Validity.

Variable	Item	Outer Loadings (*>0.6)	CR (*.70)	AVE (*0.50)	Adapted & Adopted source
Openness (OP)	OP1: I often try new and latest technology.	1.000	1.000	1.000	(Baker et al., 2019; Costa & McCrae, 2010)
	CON1: I keep my belongings neat and clean.	0.888	0.842	0.727	
Conscientiousness (CON)	CON2: I am pretty good about pacing myself so as to get things done on time.	0.816			
Extraversion	EV1: I really enjoy talking to people.	0.690	0.873	0.700	

(EV)	EV3: I am a cheerful, high-spirited person.	0.878			
	EV4: I am a very active person.	0.923			
Agreeableness (AG)	AG1(R): I often get into arguments with my family and co-workers.	0.926	0.821	0.700	
	AG3(R): Some people think of me as cold and calculating.	0.735			
Neuroticism (NEU)	NEU1: I often feel inferior to others.	0.650	0.871	0.632	
	NEU2: When I am under a great deal of stress, sometimes I feel like I am going to pieces.	0.741			
	NEU4: Sometimes I feel completely worthless.	0.891			
	NEU5: Too often, when things go wrong, I get discouraged and feel like giving up.	0.874			
Subjective Norm (SN)	SN1: People important to me think that it would be fine to use cryptocurrency.	0.904	0.942	0.844	(Lee, 2009; Mazambani & Mutambara, 2019; Venkatesh et al., 2003)
	SN2: People whose opinions are valuable to me would prefer that I use cryptocurrency.	0.928			
	SN3: People who are important to me would be in favour of using cryptocurrency.	0.925			
Attitude towards Cryptocurrency (ATC)	ATC1: Using cryptocurrency as a currency would be a good idea.	0.881	0.939	0.793	(Lee, 2009; Mazambani & Mutambara, 2019)
	ATC2: Using cryptocurrency as a currency would be a pleasant experience.	0.891			
	ATC3: I would like to conduct my financial transaction using cryptocurrency.	0.887			
	ATC4: I like the idea of using cryptocurrency.	0.902			
Perceived Behavioural Control (PBC)	PBC1: I will be able to use cryptocurrency.	0.801	0.918	0.691	(Lee, 2009; Mazambani & Mutambara, 2019)
	PBC2: I have sufficient knowledge to use cryptocurrency.	0.831			
	PBC3: I have sufficient extent of self-confidence to make a decision to adopt cryptocurrency.	0.890			
	PBC4: Using cryptocurrency is entirely within my control.	0.771			
	PBC5: I have the resources, knowledge and ability to use cryptocurrency.	0.858			
Financial Risk Tolerance (FRT)	FRT2: If I unexpectedly receive RM50,000 to invest, I will invest in cryptocurrency.	0.938	0.938	0.884	(Grable & Lyton, 1999)
	FRT3: In terms of my investment experience, I am very comfortable to invest in cryptocurrency.	0.942			
Intention to Adopt Cryptocurrency (ITAC)	ITAC1: I expect to buy and sell using cryptocurrency in the future.	0.876	0.968	0.860	(Lee, 2009; Maichum et al., 2016; Mazambani & Mutambara,
	ITAC2: I will recommend others to use cryptocurrency.	0.898			
	ITAC3: I intend to use cryptocurrency if they are made available.	0.960			

ITAC4: I plan to use cryptocurrency if they are made available.	0.951	2019; Yadav & Pathak, 2016)
ITAC5: I want to use cryptocurrency if they are made available.	0.948	

Noted: (1) * indicates threshold level

(2) OP2, OP3, OP4, CON3, CON4, EV2, AG2, NEU3, FRT1, FRT4, FRT5, and FRT6 were removed from the data analysis due to low outer loadings.

(3) (R) = Reverse coded item.

Table 3: HTMT Ratio

Variable	AG	ATC	CON	EV	FRT	ITAC	NEU	OP	PBC	SN
AG										
ATC	0.122									
CON	0.143	0.054								
EV	0.259	0.083	0.481							
FRT	0.149	0.685	0.294	0.257						
ITAC	0.146	0.890	0.044	0.047	0.691					
NEU	0.541	0.121	0.370	0.281	0.149	0.105				
OP	0.192	0.108	0.392	0.227	0.207	0.179	0.157			
PBC	0.082	0.589	0.125	0.124	0.558	0.670	0.078	0.240		
SN	0.097	0.675	0.084	0.091	0.573	0.651	0.248	0.133	0.492	

4.3 Structural Model

In the initial stage of assessing structural models, it is crucial to address the lateral collinearity issue. This study ran the Variance Internal Factor (VIF) as tabled in Table 4. All variables have VIF inner values lower than 3.3 (Coltman et al., 2008) indicating no collinearity issue in this study.

A bootstrapping procedure of subsamples 5000 was then ran to give estimated t-values for significance testing of the structural path (Wong, 2014). Table 4 summarises the outcomes of the hypotheses testing. The coefficient of determination (R^2) is the predictive accuracy of the research model. The findings show that the five personality traits can explain 13.9% of FRT while FRT, ATC, SN and PBC explains 75.9% of ITAC. Based on Hair et al. (2019), the R^2 values indicate that this study has a moderate and substantial coefficient of determination.

Based on the analysis of path coefficient between personality traits and FRT as shown in Table 4, a total of three relationships are found to have t-value ≥ 1.645 , hence significant at 0.05 level of significance. The predictors of OP ($\beta = 0.138$, $p < 0.05$), CON ($\beta = 0.172$, $p < 0.05$) and EV ($\beta = 0.196$, $p < 0.05$) are positively related to FRT respectively. Thus, H1, H2 and H3 are supported. The relationship between AG and FRT is not significant ($\beta = 0.016$, $p > 0.05$), hence, H4 is not supported. The H5 is not supported even though the relationship is significant ($\beta = 0.246$, $p < 0.05$) because our hypothesis is that NEU negatively affects FRT.

In terms of the relationship between ATC, SN, PBC, FRT and ITAC, the predictors of SN ($\beta = 0.088$, $p < 0.05$), ATC ($\beta = 0.59$, $p < 0.05$), PBC ($\beta = 0.215$, $p < 0.05$) and FRT ($\beta = 0.117$, $p < 0.05$) are positively related on ITAC, which explain the 75.9% variance in ITAC. Thus, H6, H7, H8 and H9 are supported.

The effect size (f^2) is also assessed to measure the f^2 , which according to Cohen (1988) guideline was applied. The values of 0.35, 0.15 and 0.02 represent large, medium, and small effect sizes. Based on Table 4, the results show that OP, CON, EV, AG and NEU have small

effect size in producing R^2 for FRT. The SN, PBC and FRT have small effect size, while ATC has large effect size in producing R^2 for ITAC.

Subsequently, the predictive relevance of the model was investigated using the blindfolding procedure. We used Stone and Geisser's Q^2 (Geisser, 1975; Stone, 1974) to assess the predictive relevance of this study. If the results of Q^2 value is greater than 0, it indicates that both the exogenous variables and the endogenous variable have predictive relevance (Hair et al., 2019). The predictive relevance Q^2 for FRT ($Q^2 = 0.095$) and ITAC ($Q^2 = 0.646$) are more than 0, which indicates that the model used in this study has sufficient predictive relevance.

Table 4: Hypothesis Testing

Hypothesis	Path Correlation	Std. Beta	Std. Error	t-value	P-values	Results	f ²	VIF
H1	OP -> FRT	0.138	0.061	*2.275	0.023	supported	0.019	1.159
H2	CON -> FRT	0.172	0.069	*2.503	0.012	supported	0.027	1.281
H3	EV -> FRT	0.196	0.069	*2.832	0.005	supported	0.037	1.194
H4	AG -> FRT	0.016	0.070	0.224	0.823	not supported	0.000	1.222
H5	NEU -> FRT	0.246	0.096	*2.568	0.010	not supported	0.053	1.317
H6	SN -> ITAC	0.088	0.045	*1.966	0.049	supported	0.019	1.725
H7	ATC -> ITAC	0.590	0.054	*10.881	0.000	supported	0.662	2.183
H8	PBC -> ITAC	0.215	0.050	*4.309	0.000	supported	0.123	1.567
H9	FRT -> ITAC	0.117	0.049	*2.382	0.017	supported	0.032	1.758

Note: * $p < 0.05$

5. Discussions

This study first examined the relationship between personality traits and financial risk tolerance, and then the impact of subjective norms, attitude towards cryptocurrency, perceived behavioural control and financial risk tolerance towards intention to adopt cryptocurrency in Malaysia. Openness has a positive influence towards financial risk tolerance as supported by past studies (Mukhdoomi & Shah, 2023; Rodrigues & B.V., 2024). Our finding concludes that the digital currency adopters are mostly with high openness who are imaginative, creative and open-minded (Costa & McCrae, 1992). In summary, openness positively affects the way of individuals interpreting as well as influencing their decision making (Tauni et al., 2018) to adopt cryptocurrency. The finding shows a positive association between conservatism and financial risk tolerance, which is aligned with Ahmed et al. (2022). The result indicates that people who are well organised, responsible and efficient are more likely to have a better financial risk-tolerance. We also find that extraversion is positively associated with financial risk tolerance, and the result is consistent with past studies (Ahmed et al., 2022; Conner & Abraham, 2001; Mukhdoomi & Shah, 2023; Oehler & Wedlich, 2018). This represents that people with higher extraversion may be exposed to greater financial risk tolerance. Individuals with high extraversion find themselves developing social networks easily with their assertive, dominant, ambitious and energetic traits that lead them to be more risk tolerant (Caliendo et al., 2014). Our result observes that neuroticism is positively associated with financial risk tolerant, which is not consistent with our hypothesis, but aligned with Rodrigues & B.V. (2024). The finding indicates that people who are showing high neuroticism have a better financial risk tolerance. We also noticed that people with high agreeableness do not significantly affect their financial risk tolerance. The finding is not consistent with past findings (Ahmed et al., 2022; Kleine et al., 2016; Mukhdoomi & Shah, 2023; Nicholson et al., 2005).

In terms of the relationship with TPB variables and intention to adopt cryptocurrency. The results show there are significant and positive relationships between subjective norms, attitude towards cryptocurrency, perceived behavioural control, financial risk tolerance and intention to adopt cryptocurrency. The attitude towards cryptocurrency has the strongest effect on intention to adopt cryptocurrency, and then followed by perceived behavioural control, financial risk tolerance and subjective norms. The results are aligned with past studies (Akhtar & Das, 2019; Grable, 2000; Grable & Lytton, 1998; Lai, 2019; Pak & Mahmood, 2015; Schaupp & Festa, 2018; Verghese & Chin, 2022). Our findings indicate that when people feel that using cryptocurrency is a good idea and pleasant experience, feel comfortable to invest in cryptocurrency, having sufficient knowledge, control and ability to use cryptocurrency, and their families or friends want them to use cryptocurrency, then, they will be more likely to adopt cryptocurrency.

6. Implications, Limitations, Future Research And Conclusion

The study provides insights to the policy makers and financial institutions. First, personality traits can influence one's financial risk tolerance, and his or her behavioural intention. Thus, policy makers and financial institutions should always understand their consumers' characteristics. For example, studies have identified that younger generations tend to exhibit higher openness and extraversion, which could lead to higher financial risk tolerance and cryptocurrency adoption as compared with older generations. Policy makers and financial institutions should consider personality traits in their consumer research and marketing strategies.

Second, the theory of planned behaviour has proven to be effective in predicting cryptocurrency adoption. Policy makers and financial institutions should always review their customers' attitude towards cryptocurrency, impress their existing customers on cryptocurrency so that they can help to recommend to their friends and families, and need to ensure that customers feel control on their cryptocurrency management. These will help to enhance the adoption of cryptocurrency in Malaysia.

This study provides few promising avenues for future study. Since the study only includes those Malaysians aged 21 years old and above, the implication of the study may not be of global application. Future research can include more countries. In addition, the developed model could serve as the foundation for further study in customers' intention to purchase or interest in digital currency adoption such as prefer mobile banking over cash application, adopting new digital currency that is not a legal tender in specific countries. Hence, this research hopes to shed light in a profound examination of the users' intention in cryptocurrency adoption as well as the research model can be the base of further research in digital currency development in Malaysia.

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