



## Journal of Advanced Research in Computing and Applications

Journal homepage:  
<https://akademibaru.com/submit/index.php/arca/index>  
ISSN: 2462-1927



# The Awareness of Cryptocurrency in Malaysia

Muhammad Anas Esmady<sup>1,\*</sup>, Zariyawati Mohd Ashhari<sup>1</sup>

<sup>1</sup> School of Business and Economics, Universiti Putra Malaysia 43400 Serdang, Selangor, Malaysia

### ARTICLE INFO

#### Article history:

Received 10 December 2021  
Received in revised form 19 January 2022  
Accepted 23 February 2022  
Available online 14 March 2022

#### Keywords:

Awareness; cryptocurrency; Malaysia

### ABSTRACT

This research aims to highlight the key predictors that influence the perception of Malaysians towards cryptocurrency. The Unified Theory of Acceptance and Usage of Technology (UTAUT) was adopted in this research and the main constructs such as performance expectancy (PE), effort expectancy (EE), social influence (SI) and the extension of new variables such as trust (T), price value (PV) and behavioural intention (BI) were included in investigating the perception of Malaysians towards cryptocurrency. The sample size for this study was 219 Malaysians aged 18 years old and above. Descriptive research design has been carried out in this paper and primary data has been used and collected through the online questionnaire method. Other relevant and important information has also been reviewed and referred to in this paper. For the purpose of the analysis, statistical tools such as graphs, charts, reliability test, normality test, multicollinearity, multiple regression analysis and so on were used. Findings show that only 4 of the independent variables had a significant relationship towards the dependent variable of which the perception of Malaysians towards cryptocurrency. SI has been reported to have the greatest influence on the perception of Malaysians towards cryptocurrencies among other variables. The independent variable, PE was also found to be a valid construct in influencing the perception of Malaysians towards cryptocurrency. Several recommendations in accordance with each of the predictors have been suggested to cryptocurrency institutions and financial institutions in Malaysia as well as future researchers that are interested in similar research topic. Overall, this study is being concluded where PE, SI, PV and BI had a significant influence towards the perception cryptocurrency by Malaysians.

## 1. Introduction

In the 1990s, rapid technological advances driven by the internet revolution deeply affected the global financial market. Since then, financial technology (fintech) has emerged as a new term to describe the adoption of new technologies that enhance financial activities for greater efficiency and quality. Existing fintech literature, according to Milian *et al.*, [14], shows that the most discussed topics includes network externality, electronic banking, cryptocurrency, big data, and authentication of biometrics. Blockchain is the latest technology to be applied within fintech.

Blockchain technology is still at its infancy stage even at the present day and the fluctuation of the cryptocurrency remains volatile thus being very risky. This does not, however, repel the fact that

\* Corresponding author.

E-mail address: [anasesmady@gmail.com](mailto:anasesmady@gmail.com) (Muhammad Anas Esmady)

this technology and cryptocurrency act as an enabling force for economic transformation capable of transforming conventional financial services. Blockchain-based technologies have been applied in a wide range of contexts beyond the financial sector. For instance, there is electronic medical record system, supply chain, manufacturing, intelligent transportation system.

One of the new up comings of the blockchain industry is the cryptocurrency. Cryptocurrency is a digital asset that can be collected by individuals and be used as a medium of exchange that uses strong cryptography to secure financial transactions. Compared to the central banking systems and the centralized digital currency, cryptocurrency uses a decentralized control that works through a distributed ledger technology commonly known as the blockchain, which is used as a public financial transaction database. Recently, the term cryptocurrency has become more and more popular as people are starting to see its true potential for a new transition towards digital currency and also as a means of an investment.

Cryptocurrency in simple terms can be explained as digital money. This basically shows that it relates to all of the money that we currently use nowadays in our banks as even that is considered to be accessed digitally. However, cryptocurrency is far more complicated than that, as it is considered to be a new innovative technology created along with the blockchain to complete certain tasks without anyone overseeing it or as stated by DeVries [7] by having a cryptocurrency, users are able to exchange value digitally without having a third-party oversight.

Cryptocurrency has a decentralized nature which means that the power and authority is taken away from it and is shared amongst everyone within the network. An example of a cryptocurrency that is becoming more and more popular in our time is the "Bitcoin". The bitcoin has slowly made its way up the cryptocurrency market and is the leading cryptocurrency that is being used most worldwide. DeVries [7] stated that there is a finite number of bitcoins that will ever be generated, preventing an overabundance and ensuring its rarity. This is why there will always exist a value for the bitcoin and the value will continue to exist due to trust and acceptance by the users.

Cryptocurrency is not a totally new technology as even before this some people have tried to introduce it to the world, however, they were not successful at it. In 1998, a computer engineer by the name of Wei Dan discussed the use of "B-money" in a paper that he published. The idea that was brought forward was of a digital currency which could be sent along a group of untraceable digital pseudonyms. Nick Szabo, a blockchain pioneer then drafted another cryptocurrency called Bit Gold in the same year. However, both of these cryptocurrencies were never really created, but they each had a very important part for the inspiration behind the creation of Bitcoin.

Long after that, in 2009 the first decentralized cryptocurrency called Bitcoin was created by a pseudonymous developer by the name of Satoshi Nakamoto. This was described as a peer-to-peer electronic cash system by the developer where he had created a digital cash that many had failed to do before. By March 2010, the first cryptocurrency market was started by the name of bitcoinmarket where the exchange of the cryptocurrencies could be done. As the years go by, more and more cryptocurrencies emerged and by May 2013, the cryptocurrency market counted 10 digital assets including Litecoin, Ripple and many others. "The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work" [19]. The transactions are hashed into a single block and the chain is made up of all blocks, hence the term "blockchain".

### *1.1 Cryptocurrency and Blockchain*

All cryptocurrencies have several transactional properties in common. Firstly, all cryptocurrencies are free from permission. This basically means that anyone anywhere in this world is allowed to

engage themselves in the world of cryptocurrency and is allowed to mine, trade, and purchase things with cryptocurrency. No specific permission is needed from anyone such as banks or the government in order to engage themselves with cryptocurrency. Furthermore, cryptocurrencies are irreversible meaning that once a transaction is made there no way of getting it back or reversing the transaction and nobody has the authority to do so. Therefore, if a transaction was made by a mistake then there is no way of getting it back.

Moreover, the third property that they have in common is that they are all very highly secure. This is due to the fact that they are governed by a security system known as cryptography. This is where there are highly sophisticated encryption techniques guarding all the ledger, blocks, transactions and all the crypto-funds stored by users. Furthermore, cryptocurrencies are instantaneous as all the transfers being made all happens immediately, unlike the banking transactions which sometimes could take up to several days to complete. With cryptocurrency, all that is needed to make a transfer is a computer and the necessary software and it can be done anywhere which is an advantage of the technology. Lastly, users of cryptocurrencies could stay anonymous while making the transactions as cryptocurrency transactions are not linked to the real-world identities. The currencies are being sent to and from addresses, not the names of the people using it.

In relation to cryptocurrency, blockchain is something very important to it and contributes a lot in order for the cryptocurrency to work and function properly. Blockchain is a modern internet-based technology that provides better visibility and transparency in transactions among its users [16]. Transactional data are stored in blocks within a blockchain which can be shared between members. A chain will be formed as a chronological sequence will be put together using those blocks. Blockchain is specifically great for record keeping as it is an open distributed ledger meaning that when the shared members have confirmed the transactions then the records stored in the chain cannot be erased. This will make the records permanent and irreversible just like cryptocurrency.

The same person who invented bitcoin is also the inventor of the blockchain who is called Satoshi Nakamoto and he invented the blockchain in the year of 2008. Initially, blockchain was invented merely for the purpose of serving the public transactions ledger for the cryptocurrency bitcoin, however, as the years go by more and more cryptocurrencies are being introduced and all of them are using the same blockchain technology to assist their functions.

### *1.2 Cryptocurrency in Malaysia*

As of now the current Malaysian market doesn't know too well about the cryptocurrency, however, the awareness of the currency is slowly growing as we can see that the government is also taking some actions in order to improve that. This can be seen in a statement by Zmudzinski [27], where he says that Malaysian regulators have shown their support by allocating investment fund for peer-to-peer financing platforms. This shows that a small step has been taken to support the cryptocurrency and make it more practical in Malaysia. However, even with this support, we rarely see the Malaysians actually using cryptocurrency in their daily lives as most of them has not fully accepted it properly. This could be due to the fact that the awareness of cryptocurrency hasn't really got to the public yet. There may be some people using it but the percentage can be said to be fairly low.

In addition, we can see that even the Bank Negara Malaysia (BNM) has started to use and implement cryptocurrencies in their working environment. This can be seen as they have proposed certain rules and regulations regarding the use of cryptocurrency which shows that they have accepted it and allowed for the public to also use it but with caution towards the security of the

technology. This will definitely help to improve the awareness of cryptocurrency as BNM is the main central bank that will control the rules and regulations of all financing activities, which means that when a statement is made by them, the whole of Malaysia should be aware of it.

Malaysia's cryptocurrency industry status was unclear even up until now. Trading in cryptocurrency remained unregulated but was not called illegal. Nonetheless, on January 14<sup>th</sup>, 2019, the Finance Minister Lim Guan Eng of Malaysia announced new rules to monitor crypto-trading. "Capital Markets and Services Digital Currency and Digital Token Order, 2019" will help coin issuers and exchange operators to serve as criteria. It will also help in maintaining uniform pricing, trading and asset protection activities. All future digital asset offerings would require Securities Commission approval. It will also have to comply with guidelines for funding anti-money laundering and counter-terrorism. This just shows how slowly the Malaysian government is allowing the use of cryptocurrencies as they are trying to regulate it but doing so in small phases to ensure security for its users.

Cryptocurrency has existed for a long time since the year 2008, and it keeps on growing up until now. In late May 2017, "bitcoin" and "ethereum" were among the most popular search terms on Google trends [26]. In addition, the bitcoin processor called "Bitpay" which in the year of 2016 has shown a transaction rate grow 110% in the past 12 months. This is a clear indicator that the global user acceptance on cryptocurrency is growing. Despite the constant growth of awareness for the other countries, Malaysia still has a significantly low adoption rate towards this technology. This is mainly due to the fact that Malaysia's technology is not as up to date nor is it at the same pace as the other countries around the world. Therefore, new innovative technologies such as the cryptocurrency and blockchain would take way longer for it to become a common use for the citizens of Malaysia. This needs to be improved if we want to be at the same pace as the technology advancement of the other countries. However, even if the technology of our country is at the same pace as the outside countries, the lack of awareness of cryptocurrency among Malaysians would be a major cause of the low adoption rate.

Furthermore, even if people are aware of the cryptocurrency but they have a lack of understanding about how to actually use the cryptocurrency then this may very well affect the growing rate of the technology. Hence, a poor understanding of the actual technology is also a reason for the lower adoption rate [20]. When we do not have a clear understanding of the technology then it is most likely that we will not want to use it as we don't know how the actual thing works and also the impacts and benefits that it will have on the firm. Prior research mentions that cryptocurrency has not truly proved its worth in any other sector except for finance [20]. If it was understood, then managers would be well aware of the competitive advantages that it could provide to the firm. Therefore, for it to have a higher adoption rate in Malaysia, it needs to be given more of an awareness to the public and also educate the citizens about the technology. All of this are the reasons as to why the acceptance rate of the cryptocurrency is fairly low which is due to the fact that people are still sceptical and do not trust it well enough to start using it.

In addition, after the awareness and acceptance, another factor that will prevent people from using the cryptocurrency are the risks and safety of the cryptocurrency. This needs to be acknowledged for it become more popular and practical in Malaysia. Relating to the acceptance factor, the public doesn't really trust this technology as of now due to not knowing the risks and threats involved with the technology which makes them sceptical. However, a recent study states that this technology has "low transaction cost, high level of security, decentralized, easy to use, and real time settlement" [15]. With this we know that the special design of this technology was made specifically to improve the current banking situations and provide a better system for the future. However, this has not yet been proven efficiently which is why people are still sceptical about the

technology. Furthermore, this technology is also completely anonymous and fully transparent as all details are securely stored which is exactly why it should be safe enough for people to start using it. In addition, no third party would have to be involved in the transactions which means that it would cost less than the traditional banking systems and also take shorter time to process.

Moreover, a lot of cryptocurrency exchanges has been introduced in the Malaysian market and registered itself with Bank Negara Malaysia (BNM). This shows the demand that it currently has in Malaysia and as of now there are 56 of them registered with BNM. However, all cryptocurrency exchanges operating in Malaysia needs to be regulated by Securities Commission Malaysia (SCM) and only 3 of the 56 cryptocurrency exchanges has been approved by them. This shows that most of them might not be very secured as it might be used to assist in money laundering and terrorism financing. This could be a factor of why some people do not trust cryptocurrency as of now and do not want to start using it yet in Malaysia.

Hence, this study would like to investigate the awareness and perception towards cryptocurrency. In other words, these are the major factors that needs to be considered before someone dives into cryptocurrency. Having knowledge about cryptocurrency is very important as it could very well be the new exchange medium worldwide in the future and could help a lot of businesses to progress. That is why a further study in this topic is very important. This research study is being done to find out about the awareness of cryptocurrency in Malaysia. This paper is also used to study the perceptions of Malaysians towards the cryptocurrency.

## **2. Literature Review**

### *2.1 Development of Digital Currency*

Although the presence of virtual currency can describe modern trade to some degree, this concept is not a new one. Virtual currency maintains traditional currency's main features, meaning that virtual money is a symbol or synonym for a value of the currency, a payment system technology that has continued to grow over the past 20 years [17]. The concept of trading money without the permission of an entity is based on virtual currency [12]. United States statutory acts clarify that virtual currency is a medium of exchange that functions as a currency in some contexts but does not have all the real currency attributes that suggest the absence of legal tender status in any jurisdiction.

### *2.2 Cryptocurrency*

Crypto-currency is one of the most important financial inventions in the latest blockchain technology. The first cryptocurrency was launched in the year of 2009 called Bitcoin and since then many new cryptocurrencies have been introduced to meet different needs and purposes. Cryptocurrency is a cryptographic payment system executing its electronic operations all over the world. Traditionally, conventional transfers of cross-border money use the Society for Worldwide Interbank Financial Telecommunications (SWIFT) system or the Single Euro Payments Area (SEPA) system in the European Union region which both offer secure and accurate transfer of funds. Some of these major drawbacks, though, is the long settlement process, as it normally takes a couple of days to complete financial transactions via the SWIFT system.

Cryptocurrencies can be said to be a form of a digital currency which relies on cryptography in order to create and manage the currency, usually alongside a proof-of-work scheme. A decentralized network of peer-to-peer computer nodes operating in sync generates and verifies network-wide exchange transactions of that currency [2]. There is no need for a trusted third party when using the internet infrastructure and cryptographic security in order for cryptocurrencies to be transferred

instantly and securely between any two parties. Its value is not backed by any single government or organization [4].

According to Trautman [23], cryptocurrencies are a type of digital currencies, either with centralized entities or centered on a decentralized network. Bryans [5] believes that the digital currency is issued by one entity for a centralized currency system, which assures that digital coins can be traded back for fiat currencies or used for buying and selling digital goods.

Decentralized currency systems, however, according to Karlstrom [9], tries to avoid as much as possible central institutions and are based on a network of transaction partners. As long as the transaction partners are able to monitor each other, they can build confidence based on their behaviours. If it is not possible to observe the transaction partners, other methods must be established to create secure transactions.

A cryptocurrency is a digital token created by cryptographic algorithms, according to Bryans [5]. Using protocols like peer-to-peer networking, this token is then transported across cyberspace. Its value derives primarily from the demand and supply for such tokens by the consumers, and a significant part of their appeal lies in the decentralization of the system they exist from. There is currently a debate between some regulators on whether the technology would be good in the future where some are staying away from it whilst others such as the Financial Technology community strongly believes about the inevitable widespread use of cryptocurrency [5]. The security features, ease of use on mobile devices, relatively low production and transmission costs through the block chain transmission protocol, and low long-term inflation risks are among the main advantages as [28].

### *2.3 Advantages and Challenges of Cryptocurrency*

While each currency has its own unique features, cryptocurrencies usually have four major advantages over standard currencies. Firstly, when payments and money transfers is made either nationally or internationally using cryptocurrencies, it will not be required by them to go through financial intermediaries or money transfer operators (MTOs), which settles the transactions or exchanges the currencies. For countries where most citizens do not have convenient access to financial services, this function is ideal. According to the 2017 Global Findex Database, only 34% and 37% of the population in the Philippines and Mexico, respectively, have an account primarily in a bank, a microfinance institution or a regulated financial institution. These two countries are respectively the world's third and fourth largest remittance receiving countries (Statista, 2018). Those numbers show how difficult it is for people to gain access to traditional banking services. The possibility of no intermediaries needed in the remittance system opens the door to new possibilities in countries such as those listed above.

Secondly, cryptocurrencies transactions are processed and resolved quicker than those using other methods of payment, including conventional digital payments. As well as shorter payment times, since any transfer request using a cryptocurrency can be done using a digital device such as a smartphone or tablet, users can save time by not going to a financial institution physically, a necessary step in using the SWIFT system. A third advantage is that in many cases, digital money transfers can afford to impose lower transaction fees than conventional methods, or even no fees at all. Such fast, cheaper and more efficient transactions can be accomplished through the use of blockchain technology in a network. Finally, one of the cryptocurrencies' most important advantages is that they have built-in security against inflation. A The central bank has the utmost control of whether to print more fiat currencies, making them inflationary in nature. The A controlled supply that is limited by a cap, in the case of cryptocurrencies is present, which means that no financial

entity can manipulate the quantity issues. This is the security value that cannot be given by fiat currencies.

Although there are several promising advantages loaded with cryptocurrencies, they still face several challenges. First and foremost, some technical knowledge is required in order to understand the mechanism of the blockchain technology as it is very complex. Furthermore, a lack of regulations will cause investors and consumers to worry about the security and privacy that this software provides, thus discouraging people from enjoying this beneficial program. Secondly, a negative characteristic of the blockchain technology could be seen due to the fact that it has a non-recovery feature inherent to it. The restoration of the cryptocurrencies could not be restored if lost, and if there happens to be any sort of hacking involved, then there would be no way to retrieve the coins taken by the hackers.

Thirdly, since the data associated with each crypto coin cannot be found in most cryptocurrencies, such as the name of the user and also the location of usage, although the high level of security can also be considered a benefit of using blockchain technology, it paves the way for money laundering or black-market use. Rapid technology advancement which makes it easier for users to access digital currencies and transfer money globally at a fraction of the cost and time compared to conventional methods of money transfer has led to the recent rapid growth in the cryptocurrency market. This however, has caused the network users to have a higher speculation towards the blockchain technology. Despite the fact that rapid technological improvements have had positive effects in many respects, this rapid change has led to the entry of more speculators in the market. As a result, the demand for cryptocurrencies has become more competitive than stock markets or other commodity markets, which makes it more volatile.

#### *2.4 The Impact of Digital Currency in Malaysia*

Because cryptocurrency is not accepted as a legal tender in Malaysia, the efforts to completely achieve the efficiency of a cashless society and e-payment have a potential significant gap. As we live in an open age of information technology, people could quickly embrace an idea or concept once they have gone viral, it is just a matter of time before Bitcoins become more popular among the Malaysians and is applied in their daily lives. This is particularly true where nearly everybody in Malaysia is linked and has Internet access.

It is clear from the BNM's latest comment that the Malaysian government had begun to look at the cryptocurrency issue. Therefore, it is argued that more needs to be done to take a closer look and explore more regulatory framework for Bitcoin's development and use or any other innovation in cryptocurrencies. It is suggested that due to some issues, there are strong reasons for the Malaysian government to take a closer look at regulatory approaches to the cryptocurrency. This is due to the fact that we are heading towards a cashless society. The convergence of globalization, social media, IT cloud models, and fast data motion catalyses the digitisation of the banking systems, paving the way for a ' cashless society ' in Malaysia. The concept of "cashless society" is where the use of physical payment methods such as cash and checks decrease and gives way to more cashless methods such as debit and credit cards, online credit cards, mobile payments, banking portals, digital wallets, cryptocurrencies and more.

At the moment, Malaysia is in the transition from money to cashless society. Factors such as ease of access to financial services, adoption of cashless payment solutions by retailers, readiness for technology and infrastructure, and macroeconomic and cultural factors affect this upward trend. A cashless society will substantially reduce their costs for banks and many businesses in the financial sector by removing the need to handle cash on a daily basis. Going cashless means making payment

easier for end users and ensures a safer environment where losses due to potential crime activities such as pick-pocketing, house breaches, and stealing wallets will become less common.

According to the BNM Financial Blueprint 2011-2020 of Bank Negara Malaysia, e-payment migration (cashless) is described as a key enabler of increased economic performance, competitiveness and development as Malaysia transitions towards a high-value, high-income economy. This can be accelerated by making it cost-effective, safe, fast and easy to use the payment landscape in Malaysia. BNM was a major driver for greater e-payment adoption with concerted efforts to achieve this agenda with several economic sectors and the Malaysian government. It is therefore highly recommended that the Malaysian government use the FSA 2013 to expand its regulatory framework to Bitcoin and other digital currencies as well, based on the discussions above. This Bitcoin and virtual currency regulations allow it to be used legally by the masses with consumer protection and financial liberalization, thus opening up the Malaysian financial system to more extensive 'legal' positive technological innovations.

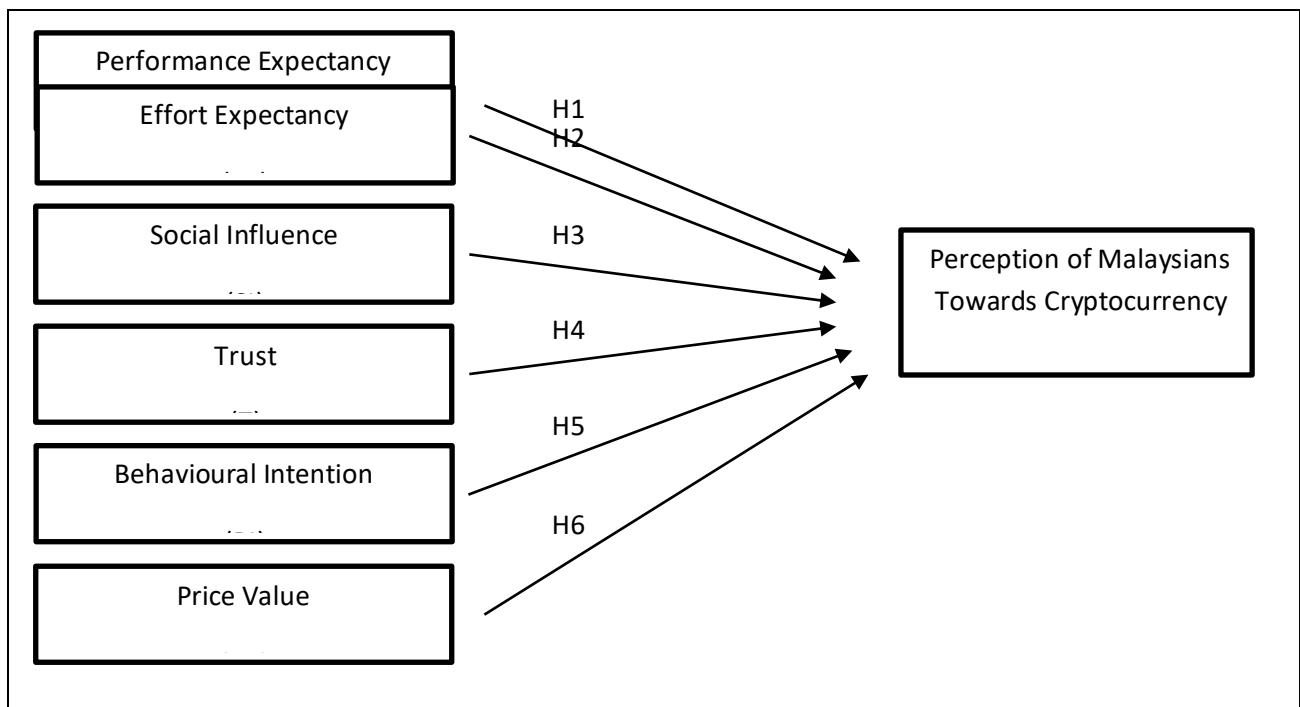
### *2.5 Awareness of Cryptocurrency*

In order to be accepted as an alternative currency, a large consumer market would also need to be developed for cryptocurrencies. Looking at the data from a recent survey conducted by Bitcoin start-up "Luno" in Malaysia, Bitcoin appears to be increasingly used as a common "money" type. Although the survey showed investors in Malaysia were switching progressively to digital currencies, Malaysia's lack of regulation is the major drawback to Bitcoin adoption. The CBM has spoken on this and suggested that a much wider population will naturally take a greater interest in it when a government bans the digital currency and, in effect, expand the market. If central banks were to understand the growing interest in digital currency, a suitable legal and regulatory structure should be established to regulate cryptocurrency and protect consumers against cybercrimes.

China is an example of a country who has embraced the change in a creative way. It is now the world's first nation to create and operate its own domestic digital currency. Due to the fact that Luno's study shows a growing knowledge of alternative currencies in Malaysia, the Malaysian's Central Bank should learn from China and grow its own cryptocurrency. It was reported that 47.4 percent of Malaysian investors in cryptocurrency bought Bitcoins and other "altcoins," compared with 52.6 percent who bought only Bitcoins. Malaysian investors quoted investment (44.7%), followed by speed, affordability and convenience (16.3%), and trading / speculation (15.1%) as the main reasons for buying Bitcoins. Investors were very optimistic about Bitcoin being an investment tool, with 48.8 percent answering that they trusted the digital currency, compared to 19.7 percent who said they didn't. Approximately 90 percent of investors said that if the government regulates it, they would buy more Bitcoins. It is also suspected that inadequate regulation would hold back start-ups and the development of financial technology.



## 2.6 Theoretical Framework



**Fig. 1.** Factors influencing the perception towards cryptocurrency

The figure above shows the conceptual framework of this study which involves the different factors that would influence the perception of Malaysians towards cryptocurrency. All of these factors will be hypothesized to examine how cryptocurrency will be viewed in the eyes of the social community of Malaysia. PE, EE, and SI are extracted from the UTAUT theory [24,25] where a famous model exists for the purpose of assessing technology adoption. Trust and value are the extension factors that have been added to see how it affects the perception of Malaysians towards cryptocurrency.

Performance Expectancy (PE) is where a person believes that with the use of cryptocurrency, his or her job performance and efficiency will be enhanced [6]. Users would have a better perception towards cryptocurrency if they see that with the use of this technology, everything will be made easier.

Effort Expectancy (EE) is defined as amount of effort perceived as necessary to use the technology [24]. It is very important that the technology is simple and easy for users as this will allow more adoption by them and also improve their perception towards it. A difficult technology to use will definitely hinder some users as more effort would need to be exerted out of them in order to use the technology.

Social Influence (SI) is the social pressure that a user has based on their surroundings to use the technology. This could be from families, friends, co-workers, leaders and would have a big impact on the individual [13]. The encouragement from these people would also escalate the intention and motivation of users to adopt the cryptocurrency.

In the technology context, Trust (T) can be explained as the willingness of an individual to rely on a certain technology to perform specific tasks. Previously, many different technologies have been hacked which made the users lose their trust in them substantially and this is why trust would be a great addition towards the factors to further understand the perception of users towards cryptocurrency.

Behavioural Intention (BI) is the intention of the individual to use a particular technology that directly affects its actual usage (Venkatesh et. Al, 2016). With the use of this factor, we can further understand what it is actually that makes the users want to adopt the cryptocurrency and how the other factors affect that.

Lastly, is the Price Value (PV) factor which is described as the cognitive trade-off between the applications perceived benefits and their monetary costs of using them [25]. This is an important factor when considering the adoption of cryptocurrency due to the high volatility that it has. And with this factor being studied we will see how it truly affects the behaviours of users when they are faced with that issue.

## *2.7 Unified Theory of Acceptance and Use of Technology (UTAUT)*

UTAUT was created in 2003 by analyzing eight of the most popular theoretical frameworks and selecting the most prominent buildings (Venkatesh, Morris, Davis, & Davis, 2003). The goal of designing UTAUT was to create a unified vision despite the broad and unstructured use and extension of previous models (Rondan-Cataluña et al., 2015). Eight influential models, including TRA, TAM, TPB, IDT and social cognitive theory, were considered in synthesizing UTAUT. The model has reached four usage determinants and five moderators [24]. Age, gender, experience, and voluntariness were the moderators. The four determinants were defined as follows: Performance Expectancy (PE) is the belief in the ability of the technology to assist in the performance of tasks, Effort Expectancy (EE) is the amount of effort perceived as necessary to use the technology, Social Influence (SI) is the social pressure to use the technology, and finally, Facilitating Conditions (FC) is the perception of the available resources and support for the usage of the technology.

UTAUT explained 77% of behavioral intention variation and 52% of actual use in longitudinal field studies [24]. Much like TAM and IDT, UTAUT has been developed primarily for practical use in organizational contexts [18]. UTAUT2 was developed in 2012 to specifically tackle the consumer context [25]. UTAUT2 added hedonic motivation (or enjoyment) to include consumer-specific constructs; costs or price value (PV) that increase the time / effort aspects of the base model; and finally habit as an alternative mechanism for mediating behavioural intent. Additionally, voluntariness was dropped from UTAUT, as the presumption was that customers should voluntarily act [21,22].

Price value (PV) is described as the cognitive trade-off between the applications ' perceived benefits and their monetary costs of using them [24]. While monetary trade-offs are minimal in terms of entry barriers and transaction costs, the price volatility is not. This is more so since the perceived cognitive trade-off is not the rational trade-off to which price value refers. Therefore, price value may be a significant factor in the adoption of cryptocurrency where volatility is seen either as a cost to consumers or a lack of confidence in the cryptocurrency.

Habit is the third and final contribution to the UTAUT development of the base. Experience and habit are distinct interacting structures in which experience precedes habit [25]. The opportunity to use the technology is what the experience refers to. Habit, on the other hand, refers to how automatic behavior is related to past experiences with technology as distinct from purpose [11]. Habit is operationalized as an automated interpretation of the behaviour. It is not anticipated that habit would play a role in deciding acceptance due to the newness of cryptocurrency technology. In addition, behavioural intention that influenced usage more directly was moderated experience in UTAUT2. Increased technology experience has been found to decrease behavioural intent as a driver. It is hypothesized that this is due to habit rather than the intention to use becoming the method that

is more powerful. In other words, the action is automatic and does not allow intention to precede the actions.

### **3. Methodology**

#### *3.1 Research Design*

Research design and methodology is an essential part of the approach to continue with the collection and analysis of the data. Research design will be established to provide clear direction for conducting this research as well as to ensure the collection of relevant information on the basis of research questions that have been produced. Quantitative analysis will be adopted to process relevant data and information and to achieve the ultimate goal of the research to testify the relationship of each of the factors towards the perception and awareness of cryptocurrency. Four potentially significant constructs that acquired from UTAUT of which performance expectancy (PE), effort expectancy (EE), social influence (SI) and the extension factor, trust (T) will be used in this study in order to understand factors influencing the awareness of cryptocurrency. All these concepts, as described, will be assessed using a standardized questionnaire with the appropriate measuring scale. In the subsequent part of this report, the findings or results of data collection will then be presented statistically. Quantitative analysis is a method of measurement that transforms meaningless numerical data into a statistical analysis capable of producing useful results and insights. Moreover, the questionnaires will be distributed online to gather relevant information from Malaysians about their awareness and perceptions of cryptocurrency, which makes this a non-experimental design paper. Online survey or questionnaire will be distributed in conjunction with the adoption of convenient sampling technique to gather relevant and useful information for conducting this research study by evaluating the relationship of variables towards cryptocurrency.

For this specific research, the method of collecting data chosen is from the primary and secondary data. Relevant information with reference to this research will be gathered through both primary and secondary data to obtain empirical results capable of providing significant insights into the relationships of each factors towards the awareness and perceptions of cryptocurrency.

#### *3.2 Measurement Scale*

Measurement scale are elements allocated to each construct for further assessment of each construct's reliability and accuracy. There are 4 levels of measurement scale including nominal, interval, ordinal, and ratio. This study will use ordinal, nominal and interval (Likert-type scale) in different sections of questionnaire design. In questionnaire design the interval scale will be used to accurately calculate the key concepts in study. Interval scale has measurements where there is significant variation between values. It means the variations between points on the scale are measurable and exactly equal and this makes it possible to evaluate the major variables in this study. The researcher will use a six-point Likert-type Scale to calculate cryptocurrency variables in this research including PE, EE, SI, T, PV and BI. The six-point Likert-type Scale will be used to assess the views of users from a strongly disagree to strongly agree for each question.

**Table 1**

**Measurement Table**

No.	Construct	Sample item	Reference
1.	Performance Expectancy (PE)	Please read each statement carefully and indicate your level of agreement from "1 - Strongly disagree" to "5 - Strongly agree". Eg.: <ul style="list-style-type: none"> <li>• I find cryptocurrencies useful in my daily life.</li> <li>• Using cryptocurrencies increases my productivity.</li> <li>• Using cryptocurrencies and related services (wallets, exchanges) helps me accomplish tasks more quickly.</li> </ul>	1. Venkatesh <i>et al.</i> , [25] 2. Venkatesh <i>et al.</i> , [24]
2.	Effort Expectancy (EE)	Please read each statement carefully and indicate your level of agreement from "1 - Strongly disagree" to "5 - Strongly agree". Eg.: <ul style="list-style-type: none"> <li>• It is easy for me to become skilful at using Cryptocurrencies.</li> <li>• I find Cryptocurrencies and related services easy to use.</li> <li>• I have the knowledge necessary to use Cryptocurrencies.</li> </ul>	1. Venkatesh <i>et al.</i> , [25]
3.	Social Influence (SI)	Please read each statement carefully and indicate your level of agreement from "1 - Strongly disagree" to "5 - Strongly agree". Eg.: <ul style="list-style-type: none"> <li>• People whose opinions I value prefer that I use Cryptocurrencies.</li> <li>• My friends use cryptocurrencies in their daily lives.</li> <li>• I have heard about cryptocurrencies from other people before.</li> </ul>	1. Venkatesh <i>et al.</i> , [25] 2. Koenig-Lewis <i>et al.</i> , [10]
4.	Price Value (PV)	Please read each statement carefully and indicate your level of agreement from "1 - Strongly disagree" to "5 - Strongly agree". Eg.: <ul style="list-style-type: none"> <li>• At the current price, using Cryptocurrencies and related services provides good value.</li> <li>• Cryptocurrencies services (e.g. wallets and exchanges) are reasonably priced.</li> <li>• I believe that Cryptocurrencies could save us a lot of money.</li> </ul>	1. Venkatesh <i>et al.</i> , [25]
5.	Trust (T)	Please read each statement carefully and indicate your level of agreement from "1 - Strongly disagree" to "5 - Strongly agree". Eg.: <ul style="list-style-type: none"> <li>• I have trust in Cryptocurrencies.</li> <li>• I feel assured that legal and technological structures adequately protect me from problems with Cryptocurrencies.</li> <li>• I do not doubt the honesty of Cryptocurrencies their systems and related services.</li> </ul>	1. Slade <i>et al.</i> , [21] 2. Alalwan <i>et al.</i> , [3]
6.	Behavioural Intention (BI)	Please read each statement carefully and indicate your level of agreement from "1 - Strongly disagree" to "5 - Strongly agree". Eg.: <ul style="list-style-type: none"> <li>• I intend to use Cryptocurrencies in the future.</li> <li>• I will always try to use Cryptocurrencies in the future.</li> <li>• I predict I would use Cryptocurrencies in the future.</li> </ul>	1. Slade <i>et al.</i> , [22]

### 3.3 Questionnaire Design

Close-ended questions will be constructed and included in the questionnaire in this study. Questions related to the key variables will be included in section A of the questionnaire. Questions will be related and linked with PE, EE, SI, T and BI of cryptocurrency awareness. Measurement scale will be drawn, reviewed and improvised for each variable from previous research related to the use of similar variables in cryptocurrency awareness. Five-point Likert scale will be used to measure each variable from "1-strongly disagree" to "5-strongly agree" in this study.

In summary, online questionnaire is primary information will be used to obtain the general research concept. For data collection, convenient sampling technique will be used. Using SPSS computer software, data analysis will be carried out to testify to the hypotheses formed such as descriptive analysis, reliability testing, normality testing and multiple linear regression analysis.

## 4. Results

### 4.1 Respondent's Profile

**Table 2**

Demographic profile of respondents

Profile	Items	Frequency	Percentage (%)
Gender	Male	86	39.3
	Female	130	59.4
	Prefer not to say	3	1.3
Age	17 and younger	2	0.9
	18 – 24	95	43.4
	25 – 34	46	21
	35 – 44	23	10.5
	45 – 54	48	21.9
	55 and over	5	2.3
	Income Level (Yearly)	RM 10,000 below	188
RM 10,001 – 50,000		8	3.7
RM 50,001 – 100,000		9	4.1
RM 100,001 – 200,000		10	4.6
RM 200,001 and above		4	1.8
Education Level	No schooling	2	0.9
	High school	21	9.6
	Bachelor's degree	146	66.7
	Master's degree	19	8.7
	Post graduate degree	31	14.2
Awareness of Cryptocurrency	Yes	105	47.9
	No	114	52.1
State	Johor	1	0.5
	Kelantan	2	0.9
	Kuala Lumpur	16	7.3
	Melaka	2	0.9
	Negeri Sembilan	1	0.5
	Pahang	10	4.6
	Perak	1	0.5
	Putrajaya	2	0.9
	Sabah	2	0.9
	Selangor	174	79.3
	Shah Alam	1	0.5
	Terengganu	7	3.2

The number of respondents involved for this research were 219 respondents. Based on Table 2 above, the respondents consist of 39.3% male, 59.4% female and 1.3% where they did not prefer to say what gender they were. The highest feedbacks of respondents come from the ages of 18 – 24 years old with the total respondents of 95 and having the percentage of 43.3%. This is then followed by the ages of 45 – 54 years old with the percentage of 21.9% whilst being followed by the ages of 25 – 34 years old with the total number of respondents being 46 and the percentage being 21% respectively. Furthermore, the table shows that the income level that the respondents received yearly is mostly dominated by the range from RM 10,000 and below with a total of 188 respondents being 85.8%. This is most likely to be due to the fact that most of them are still in their studying phases of their life and are not working as of yet. This is then followed by the yearly income level with the range of RM 100,001 – 200,000 with the total of 10 respondents and having a percentage of 4.6%. The least number of respondents were in the range of RM 200,001 and above where there were only 4 respondents with the percentage of 1.8%.

Next, most of the respondents have a highest level of education of the bachelor's degree with the total of 146 respondents being 66.7% of the whole population. This is followed by the post graduate degree respondents with a frequency of 31 respondents being 14.2%. Lastly, the education level with the least number of respondents belong to the ones that have not completed any form of schooling at all, which has a total of 2 respondents and being only 0.9% of the total population.

Moreover, it can be seen in table that just under half of the total respondents have got some awareness about Cryptocurrency. This is seen as there is a total of 105 respondents who said that they do know some things about Cryptocurrency and this 47.9% of the population. Just over half of the respondents did not know what Cryptocurrency was, as 114 respondents said that they were not aware of it and this is a total of 52.1%. Therefore, more respondents do not know about Cryptocurrency than the ones that do.

Lastly, all of the respondents are from Malaysia, however, to be more specific most of them are from Selangor with the total of 37 respondents, which is 16.7%. This is excluding the ones that said they were from Malaysia. Followed by Selangor is Kuala Lumpur with with 16 number of respondents at 7.3%. The state with the least number of respondents is from 4 different locations which are Johor, Negeri Sembilan, Perak, and Shah Alam all bearing a percentage of 0.5%.

#### 4.2 Reliability Test

Cronbach's Alpha is a reliability metric that indicates how well the objects in a group correlate positively to each other. From Table 3, it is seen that the Cronbach's Alpha for all of the independent variables are above the 0.60 mark. For these variables, if the Cronbach's Alpha is seen to be less than 0.60 then it would be considered to be poor. Therefore, with the results above, it is clear that all of the Cronbach's Alphas are accepted. The highest value for the Cronbach's Alpha is for the behavioural intention variable at 0.929, whilst the lowest value is for the social influence variable at 0.612. All of the other values are practically stable with the value being around 0.85.

**Table 3**

Cronbach's Alpha for perception, performance expectancy, effort expectancy, social influence, trust, behavioural intention, and price value

Variables	Item	Cronbach's Alpha
Performance Expectancy	3	0.887
Effort Expectancy	3	0.840
Social Influence	3	0.612
Trust	3	0.842
Behavioural Intention	3	0.929
Price Value	3	0.857

### 4.3 Normality Test

Normality tests are used in measurements to determine whether sample data has been drawn from a normally distributed population. Exploratory Data Analysis in SPSS will be used by the researcher to run the normality test. There will be two types of statistics that will be provided by the SPSS, which are Kolmogorov-Smirnov and Shapiro-Wilk. In order to prove that data are normally distributed, it is necessary for the data to have a p-value that is larger than 0.05. Data distribution is often considered normal if the skewness is between the range of -1 and +1. Furthermore, the skewness or Kurtosis is acceptable if their values range from +2 and -2.

As shown in the Table 4, the skewness of all of the different variables, which includes, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Trust (T), Behavioural Intention (BI), and Price Value (PV) all have shown to be normal and also at the same time acceptable. This is because all the skewness value fell in the range between -2 and +2 which makes it acceptable. Furthermore, as they all also fell in between the ranges of -1 and +1, it means that they will be normal as well.

**Table 4**

Data normality assessment of model 1

	Mean	Standard Deviation	Skewness	Kurtosis	Shapiro-Wilk df.	sig.	Distribution Status
Performance Expectancy	2.86	0.89	-0.216	0.043	400	.000	Normal
Effort Expectancy	2.75	0.89	0.37	-0.227	400	.000	Normal
Social Influence	2.90	0.76	0.089	0.454	400	.000	Normal
Trust	2.88	0.83	-0.132	0.216	400	.000	Normal
Behavioural Intention	3.22	0.94	-0.362	-0.132	400	.000	Normal
Price Value	3.02	0.80	-0.084	0.877	400	.000	Normal

### 4.4 Multiple Linear Regression

According to Table 5, the p-value of 0.000 is less than the alpha value of 0.1 and its F-value is 8.409, this means that the regression model is fit to the data. This result showed that the overall multiple regression model was significant at the 10% level of significance. Furthermore, the regression model indicated a good relationship between the perception of Malaysians toward cryptocurrency and the 6 independent variables, which are performance expectancy (PE), effort expectancy (EE), social influence (SI), price value (PV), trust (T), and behavioural intention (BI).

**Table 5**

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.337 <sup>a</sup>	0.114	0.100	0.47428

Predictors: Performance Expectancy, Effort Expectancy, Social Influence, Price Value, Trust, Behavioural Intention

a. Dependent Variable Perception of Malaysians Toward Cryptocurrency

b. Predictors (Constant). PE (Performance Expectancy), EE (Effort Expectancy), SI (Social Influence), PV (Price Value), T (Trust), BI (Behavioural Intention)

Table 6 presented the coefficient of six independent variables. Performance expectancy had the highest standardized coefficient beta value of 0.209. This indicates that performance expectancy has contributed a higher significance towards the perception of Malaysians towards cryptocurrency compared to the other variables such as EE, SI, PV, T and BI. The standardized coefficient beta value also can be denoted as 1% increment in performance expectancy will result in a 0.209% of increment in standard deviation of the perception of Malaysians toward cryptocurrency while other variables remain constant.

**Table 6**

Coefficient of independent variables

Factor	Unstandardizedd Coefficient Beta	Standardized Coefficient Beta	T value	Pvalue Sig.	Tolerance	VIF
(Constant)	1.936		18.502	0.000		
PE (Performance Expectancy)	0.117	0.209	2.504	0.013	0.323	3.092
EE (Effort Expectancy)	-0.015	-0.027	-0.303	0.762	0.277	3.609
SI (Social Influence)	-0.298	-0.455	-5.923	0.000	0.381	3.623
PV (Price Value)	0.107	0.171	1.912	0.057	0.282	3.551
T (Trust)	0.023	0.039	0.482	0.630	0.348	2.872
BI (Behavioural Intention)	-0.071	-0.133	-2.007	0.045	0.511	1.956

Dependent variable: Perception of Malaysians Toward Cryptocurrency

On the other hand, for the unstandardized coefficient beta, performance expectancy ( $\beta=0.117$ ) also played the main role in the variation of the perception of Malaysians toward cryptocurrency. To further interpret the unstandardized coefficient beta, every 1% increment of performance expectancy would lead to 0.117% of increment in the perception of Malaysians toward cryptocurrency in this study. All in all, the coefficients of regression reflected an equation that defines the relationship between independent variables (performance expectancy, effort expectancy, social influence, price value, trust and behavioural intention) and the dependent variable (perception of Malaysians towards cryptocurrency) will be established as follows:

Perception of Malaysians towards Cryptocurrency = 1.936 + 0.117 (Performance Expectancy) – 0.015 (Effort Expectancy) – 0.298 (Social Influence) + 0.107 (Price Value) + 0.023 (Trust) – 0.071 (Behavioural Intention)



Table 7 shows the p value and unstandardized coefficient beta of 6 independent variables. A p value greater than 0.1 is considered non-significant whereas a p value less than 0.1 is considered to be significant. The reason that the p value has to either be greater or lower than 0.1 is because, the confidence level being used is 90% instead of the normal 95%. Therefore, the significance has to be measured according to whether the p value is below or greater than 0.1. Hence, from the Table 7, the researcher observed that there 2 independent variables that were not significant with the perception of Malaysians towards cryptocurrency. And these variables were effort expectancy (EE) and trust (T) with a p value of 0.762 and 0.630 accordingly. All the other 4 variables such that performance expectancy ( $p=0.013$ ), social influence ( $p=0.000$ ), price value ( $p=0.057$ ), and behavioural intention ( $p=0.045$ ) are considered to be significant with the dependent variable as they had a p value lower than 0.1.

**Table 7**  
 Relationship between Independent Variables and Dependent Variable

Variables	Value		Relationship towards Perception of Malaysians
PE (Performance Expectancy)	P = 0.013	$\beta = 0.117$	Significant and Positive
EE (Effort Expectancy)	P = 0.762	$\beta = -0.015$	Not Significant and Negative
SI (Social Influence)	P = 0.000	$\beta = -0.298$	Significant and Negative
PV (Price Value)	P = 0.057	$\beta = 0.107$	Significant and Positive
T (Trust)	P = 0.630	$\beta = 0.023$	Not Significant and Positive
BI (Behavioural Intention)	P = 0.045	$\beta = -0.071$	Significant and Negative

On the other hand, 3 variables such that performance expectancy ( $\beta= 0.117$ ), price value ( $\beta= 0.107$ ), and trust ( $\beta= 0.023$ ) showed that they had positive relationship with the perception of Malaysians towards cryptocurrency as all of their unstandardized betas value were positive. In contrast to this, the other 3 variables including effort expectancy ( $\beta= -0.015$ ), social influence ( $\beta= -0.298$ ), and behavioural intention ( $\beta= -0.071$ ) showed that they had a negative relationship with the perception of Malaysians towards cryptocurrency as all of their unstandardized betas value were negative.

Tolerance is the amount of variability in one independent variable that is not explained by other independent variables. Tolerance values below 0.1 indicate a collinearity. Small tolerance value indicates high multicollinearity cut-off threshold which is where tolerance  $< 0.19$ . In this research, all of the independent variables had high tolerance values. Thus, there were no multicollinearity issues as each variable had a tolerance value that was larger than 0.1. This includes performance expectancy (0.323), effort expectancy (0.277), social influence (0.381), price value (0.282), trust (0.348) and behavioural intention (0.511). To further access the multicollinearity issue, the researcher has examined the Variance Inflation Factor (VIF). VIF is reciprocal of tolerance, it is always greater than or equal to 1. VIF values that exceed 10 are considered as high multicollinearity, whilst the ideal conditions would be that the VIF values are below 2.5. In accordance with Table 6, the researcher has discovered that there is no high multicollinearity between the variables as each of the variables such that performance expectancy (3.092), effort expectancy (3.609), social influence (3.623), price value (3.551), trust (2.872) and behavioural intention (1.956) had VIF values that are either lower than 10 or 2.5.

In this analysis, there were six independent variables and only three of them were found to have a positive relationship with the perception of Malaysians towards cryptocurrency. The other 3 variables had a negative relationship towards it. Apart from that, the researcher also discovered that 4 out of the 6 variables (performance expectancy, social influence, price value, and behavioural intention) had a significant relationship towards the dependent variable (perception of Malaysians

towards cryptocurrency). The other 2 variables (effort expectancy and trust) did not have a significant towards the dependent variable. To sum it up, the hypotheses developed in this study are determined not fully determined as only 4 of the six independent variables were seen to have a significant relationship with the perception of Malaysians towards cryptocurrency.

#### *4.5 Discussions*

The results presented show that only 4 of the variables (performance expectancy, social influence, price value, and behavioural intention) were significant with the perception of Malaysians towards cryptocurrency. Furthermore, only 3 of the variables (performance expectancy, social influence, and price value) were seen to be having a positive relationship with the dependent variable. The other variables either were not significant, had a negative relationship with the dependent variable or both. This research will be able to provide as a valid reference for Bank Negara Malaysia (BNM) when trying to control the usage of cryptocurrency in Malaysia. BNM might refer to these factors and further enhance or emphasize them to allow for a higher adoption and awareness of cryptocurrency.

As claimed in the data analysis result, PE is described as the strongest predictor when affecting the perception of Malaysians towards cryptocurrency. PE had a beta of 0.117, which was the highest out of all the other factors and makes it the strongest predictor.

This means respondents are highly concerned about how cryptocurrency could help them more efficiently and effectively manage their financial-related services. BNM may provide more education towards the public about the concept of cryptocurrency to allow for more awareness of the technology and possibly attract more adoption towards it. Normalizing the use of cryptocurrencies could also be a big help when trying to raise awareness about it, which could be done by integrating cryptocurrencies with the banks to allow for more of the public to see the existence of cryptocurrency.

The price value also had the second highest beta of 0.107, with a significance value of 0.057. This denoted that PV had a major positive relationship with Malaysians' perception of cryptocurrency. At the same time, respondents in this study also stress the value trade off which they will get if they use the cryptocurrency. Respondents preferred where cryptocurrency is very useful, with low volatility and providing them with more value. More value being added for the users of cryptocurrency will enhance the perception of Malaysians towards cryptocurrency. Hence, if this is improved then we will see a better perception of Malaysians towards cryptocurrency and possible a higher adoption rate. Banks and other financial institutions should very well consider adding more value for the usage of cryptocurrency so that it could attract more people to wanting to learn more about cryptocurrency and start to adopt it.

In addition, stores everywhere including the shopping centres restaurants and even any places that involves the payment or transaction of money should start accepting cryptocurrency payments as it would allow the awareness of cryptocurrency to be more spread out. Also, if the interface of the cryptocurrency applications were made to be more easily understood and clear then it could help people to learn to use it better as it will not take much effort to do so. This could be achieved by having proper guidance at the user interface of the cryptocurrency applications to ease the usage of the technology.

On the other hand, social influence was also one of the significant predictors with beta of -0.298 and p-value of 0.000. However, even though it was seen to be significant, it still had a negative beta. This represented that SI had a negative significant relationship with the perception of Malaysians towards cryptocurrency. It also suggested that the respondents who participated in this survey were

worried about the attitude of society against them in terms of Malaysians' perception of cryptocurrency. Malaysia or most of the countries in Asia Pacific tends to have a collectivistic culture. This means that the Malaysians appear to work in group and respect the relationship as well as the opinion of the surrounding people. In this aspect, friends, family members, spouses, parents, colleagues will be the key influencer in influencing Malaysians' perception of cryptocurrency. However, as the beta was negative, it shows that SI had a negative relationship with the perception of Malaysians towards cryptocurrency. This means that the respondents of this survey were not very influenced by their surroundings and could be due to the lack of knowledge that the people have about cryptocurrency. Institutions that uses cryptocurrencies are recommended to offer rewards for users of cryptocurrency. For example, users of cryptocurrency could get a discount from a restaurant that uses the cryptocurrency as a means of a payment system. When more people have a better perception towards cryptocurrency, then the adoption rate of cryptocurrency should go up automatically due to the collective nature of this society.

Moreover, trust had a p-value of 0.630 and a beta of 0.023 which symbolized a positive non-significant relationship with the perception of Malaysians towards cryptocurrency. Trust was not seen to be significant with the perception of Malaysians towards cryptocurrency, however, it had a positive beta meaning that the more trust people have towards cryptocurrency, the better their perception towards it will be. Since cryptocurrency is considered as a new technology for Malaysians, respondents would have doubts about the cryptocurrency 's functionality and security. In order for institutions to tackle this security perception towards cryptocurrency, they must ensure that the services provided are guaranteed in terms of the functionality and security. If the user figured out they could conduct financially related services in a more reliable, convenient, safe and stable way through cryptocurrency, then the users would have a better perception of cryptocurrency which would lead them to accept it as their financial services platform. Therefore, cryptocurrency institutions should upgrade their security framework from time to time, as well as ensuring that the cryptocurrency framework works well without breaking down to improve Malaysians' perception of cryptocurrency.

Lastly, the results of the behavioural intention variable show that the p-value is significant at 0.045, however, the beta is negative with a value of -0.071. This means the variable is significant with the perception of Malaysians towards cryptocurrency, however, as the beta is negative, it shows that the less plans that the respondents have on adopting cryptocurrency, the better their perception will be. This could be due to the lack of understanding on the technology which has led them to not want to adopt it in the future. In order to address this issue, the cryptocurrency institutions should provide more awareness and education about the use of cryptocurrency and the benefits of adopting it. This is so that Malaysians will have a better perception towards it and maybe would plan to use it more in the future.

## **5. Conclusions**

For strategic perspective, it is recommended that cryptocurrency organizations prioritize all independent variables such as PE, SI, PV and BI as they are found to have a strong relationship with Malaysians' perception towards cryptocurrencies. Thus, cryptocurrency institutions could design promotion of cryptocurrency based on several factors mentioned above. This means that cryptocurrency institutions should focus on the performance of the cryptocurrency, value being given for its users, and influencing the people of Malaysia to have a better perception towards cryptocurrency. This is so that it will allow for more adoption of cryptocurrency in Malaysia for the future and allow us to move along with the technology.

Cryptocurrency institutions and potential researchers can obtain more valuable insights by referring to this study that has been connected to factors that affect Malaysians' perception of cryptocurrency. Nonetheless, all of the variables such as performance expectancy (PE), social influence (SI), price value (PV), and behavioural intention (BI) have a significant relationship with the perception of Malaysians towards cryptocurrency. Hence, cryptocurrency institutions and other related parties should have more concern on these factors to encourage more users to have a better perception towards cryptocurrency and allow for more adoption in the future.

## References

- 1] Demircug-Kunt, Asli, Leora Klapper, Dorothe Singer, and Saniya Ansar. *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank Publications, 2018. <https://doi.org/10.1596/978-1-4648-1259-0>
- 2] Ahamad, Shaikshakeel, Madhusoodhnan Nair, and Biju Varghese. "A survey on crypto currencies." In *4th International Conference on Advances in Computer Science, AETACS*, pp. 42-48. Citeseer, 2013. <https://doi.org/02.AETACS.2013.4.131>
- 3] Alalwan, Ali Abdallah, Yogesh K. Dwivedi, and Nripendra P. Rana. "Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust." *International journal of information management* 37, no. 3 (2017): 99-110. <http://doi.org/10.1016/j.ijinfomgt.2017.01.002>
- 4] Ametrano, Ferdinando M. "Hayek money: The cryptocurrency price stability solution." Available at SSRN 2425270 (2016). <https://doi.org/10.2139/ssrn.2425270>
- 5] Bryans, Danton. "Bitcoin and money laundering: mining for an effective solution." *Indiana Law Journal* 89, no. 1 (2014): 441-472.
- 6] Bhatiasevi, Veera. "An extended UTAUT model to explain the adoption of mobile banking." *Information Development* 32, no. 4 (2016): 799-814. <https://doi.org/10.1177/0266666915570764>
- 7] DeVries, Peter. "An Analysis of Cryptocurrency, Bitcoin, and the Future." *International Journal of Business Management and Commerce*. Vol. 1. (2016). Pages 1-9.
- 8] Hardy, Robert Augustus, and Julia R. Norgaard. "Reputation in the Internet black market: an empirical and theoretical analysis of the Deep Web." *Journal of Institutional Economics* 12, no. 3 (2016): 515-539.. <https://doi.org/10.1017/S1744137415000454>
- 9] Karlstrøm, Henrik. "Do libertarians dream of electric coins? The material embeddedness of Bitcoin." *Distinktion: Scandinavian journal of social theory* 15, no. 1 (2014): 23-36. <https://doi.org/10.1080/1600910X.2013.870083>
- 10] Koenig-Lewis, Nicole, Morgan Marquet, Adrian Palmer, and Anita Lifan Zhao. "Enjoyment and social influence: predicting mobile payment adoption." *The Service Industries Journal* 35, no. 10 (2015): 537-554. <http://doi.org/10.1080/02642069.2015.1043278>
- 11] Limayem, Moez, and Sabine Gabriele Hirt. "Force of habit and information systems usage: Theory and initial validation." *Journal of the Association for information Systems* 4, no. 1 (2003): 3. <http://doi.org/10.1016/j.actbio.2005.04.004>
- 12] Maftai, Loredana. "Bitcoin-between legal and informal." *CES Working Papers* 6, no. 3 (2014): 53-59.
- 13] Malaquias, Rodrigo F., and Yujong Hwang. "An empirical study on trust in mobile banking: A developing country perspective." *Computers in human behavior* 54 (2016): 453-461. <https://doi.org/10.1016/j.chb.2015.08.039>
- 14] Milian, Eduardo Z., Mauro de M. Spinola, and Marly M. de Carvalho. "Fintechs: A literature review and research agenda." *Electronic commerce research and applications* 34 (2019): 100833. <https://doi.org/10.1016/j.elerap.2019.100833>
- 15] Othman, Anwar Hasan Abdullah, Syed Musa Alhabshi, Salina Kassim, and Ashurov Sharofiddin. "The impact of cryptocurrencies market development on banks' deposits variability in the GCC region." *Journal of Financial Economic Policy* 12, no. 2 (2019): 161-184. <https://doi.org/10.1108/JFEP-02-2019-0036>
- 16] Pilkington, Marc. "Bitcoin through the lenses of complexity theory: Some non-orthodox implications for economic theorizing." *Handbook of the Geographies of Money and Finance*, Pollard, J. & Martin, R.(eds.), Edward Elgar (2017).. <https://doi.org/10.4337/9781784719005.00035>
- 17] Rogojanu, Angela, and Liana Badea. "The issue of "true" money in front of the BitCoin's offensive." *Theoretical & Applied Economics* 22, no. 2 (2015).

- 18] Rondan-Cataluña, Francisco Javier, Jorge Arenas-Gaitán, and Patricio Esteban Ramírez-Correa. "A comparison of the different versions of popular technology acceptance models: A non-linear perspective." *Kybernetes* 44, no. 5 (2015): 788-805. <http://doi.org/10.1108/K-09-2014-0184>
- 19] Nakamoto, Satoshi. "Bitcoin: A peer-to-peer electronic cash system." (2008).
- 20] Sheel, Ashutosh, and Vishnu Nath. "Effect of blockchain technology adoption on supply chain adaptability, agility, alignment and performance." *Management Research Review* 42, no. 12 (2019): 1353-1374. <https://doi.org/10.1108/MRR-12-2018-0490>
- 21] Slade, Emma L., Michael Williams, and Yogesh Dwivedi. "An extension of the UTAUT 2 in a healthcare context." (2013). <https://doi.org/10.1362/146934714X14024779062036>
- 22] Slade, Emma, Michael Williams, and Yogesh Dwivedi. "Extending UTAUT2 to explore consumer adoption of mobile payments." (2013).
- 23] Trautman, Lawrence J. "Virtual currencies; bitcoin & what now after liberty reserve, silk road, and Mt. Gox?." *Richmond Journal of Law and Technology* 20, no. 4 (2014). <https://doi.org/10.2139/ssrn.2393537>
- 24] Venkatesh, Viswanath, James YL Thong, and Xin Xu. "Unified theory of acceptance and use of technology: A synthesis and the road ahead." *Journal of the association for Information Systems* 17, no. 5 (2016): 328-376. <https://doi.org/10.17705/1jais.00428>
- 25] Venkatesh, Viswanath, James YL Thong, and Xin Xu. "Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology." *MIS quarterly* (2012): 157-178. <http://doi.org/10.1111/j.1365-2729.2006.00163.x>
- 26] Zalan, Tatiana. "Born global on blockchain." *Review of International Business and Strategy* 28, no. 1 (2018): 19-34. <https://doi.org/10.1108/RIBS-08-2017-0069>
- 27] Zmudzinski, Adrian. "Four Iranian Banks Support Gold-Backed Cryptocurrency." *Cointelegraph*. Feb 5 (2019).
- 28] Harvey, C. R. "Do Cryptocurrencies Such as bitcoins Have a Future? The Wall Street Journal." (2015)