THE IMPLICATION OF BLOCKCHAIN ON CRYPTOCURRENCY AMONG THE BANKING STUDENT (UITM)

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SUPERVISOR VERIFICATION

'I hereby declared that I had read through this thesis and in my opinion, this thesis is adequate in terms of scope and quality. This thesis is submitted to Universiti Teknikal Malaysia Melaka which fulfills the requirements for the completion and award of a Bachelor of Technology Management and Innovation (BTMI).

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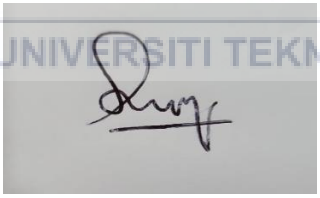
SIGNATURE : 

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DECLARATION

"I hereby declare that the report entitled the implication of blockchain on cryptocurrency among the banking student (UiTM) is the result of my research unless certain explanations and quotations are mentioned as references in the report."

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DEDICATION

This thesis is dedicated to my family members, especially my parents who always provide spiritual and financial support for me, as well as my beloved supervisor and panel who patiently guided me along the research journey.

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It is a great pleasure to have an opportunity in expressing my sincere appreciation to everyone who helped me complete this report. Firstly, I am very grateful to have a good health condition during conducting this research study. Next, I would like to thank my lovely family for always supporting and motivating me. Besides, I like to, especially thanks to my dedicated supervisor, Dr. Nurhayati Binti Kamaruddin for her guidance and encouragement throughout the journey in completing my final year project. Throughout her supervision, the progression of this report was run smoothly and I managed to complete this report successfully within the time given. In addition, I would like to thank all the previous researchers for their valuable findings in providing useful theory and knowledge which act as a source of reference for this study. Furthermore, I would like to thank all of the respondents that willing to sacrifice their time to answer my survey questionnaires. Lastly, the token of appreciation is also extended to those who are involved directly or indirectly in accomplishing this project. Hopefully, this report and findings will be useful resources for other researchers in the future.

ABSTRACT

Blockchain can be defined as a distributed ledger technology that enables the storage and sharing of data in a decentralized and unchanging manner over a distributed peer-to-peer network. In Blockchain -based systems, data and power can be distributed, and transparent and reliable transaction ledgers are created. This study aims to examine the implications of blockchain on cryptocurrencies among the banking student (UiTM). This study determines the relationship between the independent variable blockchain and the cryptocurrency dependent variable a probability sampling approach was used for the study and samples were taken from the banking student in UiTM. The purpose of choosing banking students as a study location is because they are currently studying or have a background in the field of banking either following a diploma or a banking degree with several years of experience. Students are the target group because they are the most influential on the internet in terms of blockchain understanding of new generation cryptocurrencies. The purpose of the targeted selection of respondents is to obtain more accurate facts and perspectives from respondents about the implications of blockchain on cryptocurrencies among banking students at UiTM. A five -point Likert scale questionnaire will be used to obtain respondent information. The questionnaire was evaluated with the help of the Statistical Package for the Social Sciences (SPSS). The contribution of this blockchain technology may result in an improvement of the management system. The results show that all independent variables have significant correlations. The conclusion of this study is expected to provide a good aspect to the banking student in UiTM.

Keywords: Blockchain, cryptocurrency, Technology, Security, banking, systems, implication

ABSTRAK

Blockchain boleh ditakrifkan sebagai teknologi lejar teragih yang membolehkan penyimpanan dan perkongsian data secara terpencar dan tidak berubah melalui rangkaian peer-to-peer yang diedarkan. Dalam sistem berasaskan Blockchain, data dan kuasa boleh diedarkan, dan lejar transaksi yang telus dan boleh dipercayai dicipta. Kajian ini bertujuan untuk mengkaji implikasi blockchain terhadap mata wang kripto dalam kalangan pelajar perbankan (UiTM). Kajian ini menentukan hubungan antara pembolehubah tidak bersandar blockchain dan pembolehubah bersandar cryptocurrency pendekatan pensampelan kebarangkalian digunakan untuk kajian dan sampel diambil daripada pelajar perbankan di UiTM. Tujuan memilih pelajar perbankan sebagai lokasi pengajian adalah kerana mereka kini sedang belajar atau mempunyai latar belakang dalam bidang perbankan sama ada mengikuti diploma atau ijazah perbankan yang berpengalaman beberapa tahun. Pelajar adalah kumpulan sasaran kerana mereka adalah yang paling berpengaruh di internet dari segi pemahaman blockchain terhadap mata wang kripto generasi baharu. Tujuan pemilihan responden yang disasarkan adalah untuk mendapatkan fakta dan perspektif yang lebih tepat daripada responden tentang implikasi blockchain terhadap mata wang kripto dalam kalangan pelajar perbankan di UiTM. Soal selidik skala Likert lima mata akan digunakan untuk mendapatkan maklumat responden. Soal selidik telah dinilai dengan bantuan Statistical Package for the Social Sciences (SPSS). Sumbangan teknologi blockchain ini mungkin menghasilkan peningkatan sistem pengurusan. Keputusan menunjukkan bahawa semua pembolehubah bebas mempunyai korelasi yang signifikan. Kesimpulan kajian ini diharapkan dapat memberikan aspek yang baik kepada pelajar perbankan di UiTM.

Kata kunci: Blockchain, cryptocurrency, Teknologi, Keselamatan, perbankan, sistem, implikasi

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Chapter one will present an introduction to this study and has nine main sections that introduce the background of the study and the problem statement of the study. The next section is about the objectives of the study followed by the research questions. This research continues with the scope and explains the importance and limitations of the research. Finally, this chapter has a summary and ends with an overview of this chapter.

As many people in Malaysia are still unsure whether blockchain on cryptocurrencies can be beneficial, this study investigates the implications of blockchain on cryptocurrencies among the banking student in UiTM. Several questions may be raised in this case study, however, the author chose to investigate what are the implications of blockchain on cryptocurrencies involving banking students in UiTM and whether blockchain on cryptocurrencies affects the banking student in UiTM. This research aims to identify the implication of blockchain on cryptocurrency among the banking student in UiTM and to study the implication of blockchain on cryptocurrency among the banking student in UiTM. The answers to the researcher's research questions can be used to identify two research objectives.

The research focus of this project is on the implications of blockchain on cryptocurrencies among the banking student in UiTM. Researchers must first identify the implications of blockchain on cryptocurrencies and the impact of blockchain on cryptocurrencies among banking students in UiTM. This research study does have some drawbacks. The limitations of the study are limited to banking student respondents in UiTM Merbok.

This research will last just one year and is targeted at banking students as a guideline highlighting cyber data security from a variety of perspectives. Researchers are trying to determine how the blockchain can help in changing the way investors are in terms of security. The results of this research study will be a guide to banking students and future investors to better understand and appreciate the blockchain system against cryptocurrencies, to ensure that no personal information is lost.

1.2 Background of study

The rise of cryptocurrencies such as Bitcoin, as well as the use of Initial Coin Offerings (ICOs) to generate funds, has heightened public and private sector interest in the use of digital ledgers to conduct business (also known as blockchain technology) and its possibilities. Many people are still unsure what the technology is, what it accomplishes, and what the trade-offs are for using it.(Giancarlo Giudici, Alistair Milne & Dmitri Vinogradov 2019)

A blockchain is a digital ledger that enables transactions between participants without the requirement for a central authority or other dependable third parties. In this ledger, transactions are grouped into blocks, which are subsequently tamper-proof cryptographically chained together to create a mathematically incontestable history. Blockchain is a creative use of already-existing technology, not a brand-new one. Blockchain is based on several technologies, including asymmetric key encryption, hash values, Merkle trees, and peer-to-peer networks.

To conduct new business, blockchain enables parties that may not trust one another to agree on the current distribution of assets and who owns those assets. The advantages of blockchain have generated a lot of enthusiasm, but several disadvantages might restrict its usefulness. The identities of the parties involved are verified when transactions are uploaded to the blockchain, and the transactions themselves are verifiable by other users. Parties that do not trust one another or a single computer platform can nonetheless agree on the state of resources as recorded in the ledger due to the strong connection between identities, transactions, and the ledger.

Contrarily, cryptocurrency is a form of digital or virtual money that is encrypted using cryptography, making it almost hard to forge or duplicate. Blockchain technology, which uses distributed ledgers enforced by several computer networks, is the foundation of many decentralized cryptocurrency networks. The distinguishing characteristic of cryptocurrencies is that they are often not issued by any central authority, rendering them potentially impervious to interference or manipulation by governments. (Mukhopadhyay et al., 2016)

Cryptocurrencies are a type of digital or virtual currency supported by cryptographic technologies. They enable secure online payments without the assistance of outside intermediaries. The term "crypto" refers to the various cryptographic techniques used to secure these entries, including hashing, public-private key pairs, and elliptical curve encryption. Cryptocurrencies can be mined or purchased on exchanges. Cryptocurrency transactions are

not supported by all e-commerce platforms. Cryptocurrencies are really used in almost all retail transactions, even well-known ones like Bitcoin. But as their value has expanded exponentially, cryptocurrencies are now more widely accepted as trading commodities. They are used sporadically for cross-border transactions. (Ashford, 2022)

They will be able to undertake a new transaction with a common understanding of who holds which resource and their ability to exchange that resource if they reach that agreement. Blockchain isn't a cure-all solution. When events occur, a blockchain records them as transactions in the sequence in which they occur, and in an add-on-only way. Previous data on the blockchain cannot be changed, and users of the blockchain have access to that data to authenticate resource allocation.

While blockchain has its advantages, it also has its drawbacks and unresolved issues that may limit its application. Data portability, ill-defined criteria, key security, user collusion, and user safety are just a few of the challenges. Users must study the business, legal, and technological issues of any technology before adopting it. The industry is currently testing blockchain, although it does not appear to be a total substitute for existing systems at this time.

1.3 Problem Statement.

The first problem is data security. Blockchains are only as secure as their weakest connection, however safe they may seem. This implies that the device in a private blockchain that is most easily compromised poses a risk to the privacy of the whole chain. While forging a transaction on a blockchain may be next to impossible, it is nevertheless feasible to get a fraudulent transaction approved.

Secondly, is Transparency. Using the most common variant of public blockchain in business settings or even investing in cryptocurrencies is not necessarily a smart move. Because if the supply chain is transparent, all customer and partner data is associated with the firm as well. Customers don't want any company in the supply chain to have access to their data, and businesses don't want their competitors to know about trade secrets, investment intellectual property, or their business tactics.

Lastly, about regulation. The absence of global standards in the field of blockchain technology and cryptocurrencies means that no single entity has the power to maintain law and order in the network. Each user may come from a different country and each transaction crosses

all borders. Smart contracts, which are agreements made on a blockchain, are not usually considered by law to be binding agreements or evidence. When trying to develop blockchain-based solutions on different platforms, developers face risks and difficulties because there are no global standards. (Ali, 2021)

1.4 Research Question

Research questions are based on the problem statement in the previous sub-topic which will be addressed at the end of this research. Hence, the research questions of this research are below:

RQ 1: What is the implication of blockchain on cryptocurrency among banking students (UiTM)?

RQ 2: Does blockchain on cryptocurrency affect the banking student (UiTM)?

1.5 Research Objectives

Two research objectives can be determined based on the research question. The purpose of this research study is:

RO 1: To identify the implication of blockchain on cryptocurrency among the banking student

RO 2: To study the level of security of blockchain on cryptocurrency among the banking student

1.6 Scope of Study.

The research scope of this project focuses on the implications of blockchain on cryptocurrencies among the banking student in UiTM. First, researchers need to identify the implications of the blockchain on cryptocurrencies. Finally, the scope of the research is to investigate the implications of blockchain on cryptocurrencies among the banking student in UiTM.

1.7 Limitation of Study.

There are several limitations to this research study. The limitation of this study is targeting banking student respondents at UiTM Merbok. Another limitation of this study is only for banking students as a guideline that emphasizes cyber security from various aspects. This study will only be conducted within a year.

1.8 Significant of Study.

In this study, the researchers tried to examine how the blockchain against cryptocurrencies can help banking students invest safely. Through this process, the researcher was able to identify the level of knowledge of banking students in UiTM regarding the development of new technology that as blockchain and cryptocurrency. In addition, through this research, researchers can understand the extent to which blockchain to cryptocurrency can help the privacy of every individual.

The findings of this research study will be a guideline and benefit banking students to deepen and understand the blockchain so that all personal data is not hacked. In addition, research material in this research study will be collected from previous researchers to be used as a reference source for building new studies or improving existing studies. Therefore, the banking student in UiTM will be more concerned about the security features of personal data than being hacked or cheated by irresponsible users.

1.9 Summary

Overall, this chapter focuses on discussing the background of the study. Second, identifying the problem statement that encounters in this study. Then, the research questions and research objectives are constructed based on the findings of the problem statements. Thus, this chapter also explains the scope and limitations of this study. Lastly, this chapter also states a few signs of this study that the researcher aims to achieve after completing this study.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction.

In chapter 2, the researcher explained more details about the overall topic and theory for the topic chosen. The researcher analyses the theory of the previous researcher to come out with this conceptual framework. The conceptual framework will consist of independent and dependent variables.

2.2 Brief History of Cryptocurrency and Blockchain

Virtual currencies, which are described as "a digital representation of value that is neither issued by a central bank or public authority nor necessarily attached to a conventional currency but is used as a means of exchange by natural or legal persons and can be transferred, stored, or traded electronically," gave rise to blockchain as a technology (Kancs, Ciaran, and Miroslava). The most well-known of these virtual currencies is likely Bitcoin, the first open-source virtual currency that employs an algorithm to store data and verify transactions (Institute for Prospective Technological Studies).

Over a thousand alternative cryptocurrencies currently employ blockchain, which was initially deployed with Bitcoin in late 2008 (Iansiti and Lakhani). Technology improved, despite the significant price volatility and risk connected with cryptocurrencies like Bitcoin (Institute for Prospective Technological Studies). The implications of integrating blockchain technology are tremendous, especially in terms of providing "transaction visibility," even though the adoption of bitcoin is a whole other road (Taylor). The literature on bitcoin and blockchain is varied since these ideas are still somewhat fresh. The fact that "transferring value or assets between parties is currently challenging, expensive, and requires one or more centralized entities" is highlighted here, among the many other characteristics of blockchain technology. (Bible, William, et al).

2.3 Blockchain-Based Future

Blockchain technology, in accordance with Agarwal, enables us to securely transfer information and virtually guarantee the accuracy of any piece of information we choose to keep private. Consider the current rumours that sell NFTs are being used by celebrities and memes to make money (non-fungible tokens). Because the underlying blockchain record for a digital asset cannot be changed, NFTs allow sellers to verify the authenticity of a digital asset. When you buy an NFT, a verifiable record of ownership is established since the transaction is added to the blockchain ledger. For anyone who want to be able to verify the legitimacy of a digital work, blockchain helps value them similarly to their physical equivalents. Theoretically, this results in creators sustaining value by receiving royalties on reproductions of their digital artwork.

That can seem confusing to the rest of us, Smith continues, who don't appreciate such things. The fact that a digital economy and digital property rights can coexist, however, is what it demonstrates. It gives you the opportunity to proclaim, in particular, "I own and administer this portion of the digital economy," he claims. For the majority of us, the secure transmission and storage of personal data may be one of the most significant blockchain uses. What if your financial data was stored on a blockchain? When you open an account with a new financial institution or transfer information across borders, a blockchain ledger could help in quickly and securely authenticating the authenticity of the transfer or new account using the information you've previously recorded. According to Agarwal, "it has the potential to eliminate a lot of expenses, a lot of overhead, and also become an excellent approach to combat fraud."

He asserts that "blockchain technology offers potential across nearly every industry" because "every organisation has some sort of information that they're trying to convey in a highly safe way." For a blockchain-based election, having a voting record that is locked in and cannot be modified after the fact may be useful. Businesses might benefit from using blockchain technology to retain more accurate inventory records. Customers may even be able to make wiser purchase selections thanks to the increased supply chain transparency made available by blockchain. The use of technology might facilitate the identification of recalled goods by food suppliers or enable customers to avoid goods produced using unethical labour practises. (Wang et al., 2021)

2.3.1 Key Features of Blockchain

Participants in the network maintain their ledgers and other records with conventional techniques of recording transactions and tracking assets. This conventional approach might be pricey since it requires middlemen who are paid for their services. Because of the delays in putting agreements into effect and the duplication of effort needed to maintain several ledgers, it is wasteful. The entire corporate network is impacted if a key system, like a bank, is compromised due to fraud, cyberattacks, or simple human error, making it susceptible. Blockchain's primary characteristics consensus, origin, diversity, and finality can solve or enhance older techniques.

Decisions are made by consensus among all pertinent parties; in this process, the majority of parties must concur that the transaction is lawful. Consensus algorithm implementation is used to accomplish this objective. Each network upholds the terms under which exchanges of assets or transactions can take place. Participants will be aware of the asset's origins and any ownership changes over time thanks to provenance. No party can alter a transaction once it has been added to the ledger thanks to immutability. A new transaction must be used to undo an incorrect transaction before both transactions may be viewed. In the end, a single shared ledger offers a single location to establish asset ownership or transaction settlement (Sanjaya Baru,2018) (Alexander Grech,2019).

2.3.2 Manage and Improve Educational Records

In the context of this article, "educational records" refers to groups of files, documents, and other materials that, are often kept by a school or other institution operating on its behalf in a community, including data directly relevant to a student's academic or professional background. There are several advantages and benefits to using a Blockchain-based educational repository, including the fact that papers are less secure and prone to "physical wear and tear" than education records that are uploaded and controlled on the Blockchain ledger. (Raza Sheeraz, 2018).

Additionally, anybody anywhere can view any educational data that are recorded on the blockchain at any moment. The seamless and efficient transmission of educational data among parties (universities, institutions, and companies) increases their exposure on a worldwide scale. In conclusion, employing blockchain technology to manage them stimulates the concept

of knowledge/reward, makes credentials more credible, and stores and makes available educational data. (Raza Sheeraz, 2018).

2.4 Overview of Blockchain Technology

A blockchain is a type of electronic ledger that contains digital information (such as records, events, or transactions) that must be hashed for digital security reasons. Members of the network confirm and maintain the ledger via a decentralised network using various consensus procedures. The name "blockchain" refers to the fact that each transaction's data is periodically recorded as a "block," adding to the "chain" (M. Ramage,2018), Blockchain, a distributed ledger technology, is widely used in the creation of new digital currencies. Blockchain technology has rapidly advanced, resulting in numerous new breakthroughs in industry and academia. It has also grown to become an essential platform for many cryptocurrencies. (T., Basu, A., & Choudhury, A.,2021)(M. Ramage,2018). However, the applications of Blockchain Technology are no longer limited to cryptocurrencies (T., Basu, A., & Choudhury, A.,2021) and it can become a partial solution to a problem when we move Blockchain away from its natural home of cryptocurrency (M. Mathews,2018) and into various environments where certain types of transactions are performed (T., Basu, A., & Choudhury, A.,2021). Blockchain technology has a few key characteristics that make it the most promising technology for revolutionizing numerous industries and application cases today (J. Garzik and J. C. Donnelly2018), including the construction industry:-

2.4.1 Decentralised

The fundamental aspect of blockchain technology that distinguishes it from the present centralized traditional database system or server that we use is its decentralized nature. Decentralization simply means that no mediator or central authority is required, such as a bank sending money or a lawyer confirming the terms of a contract (A. Koutsogiannis and N. Berntsen,2018). Each participant or selected member on a blockchain has access to check the records of its transaction partners, as well as direct access to the full database and its complete history, without the assistance of an intermediary (A. Koutsogiannis and N. Berntsen,2018). Blockchain removes the requirements for centralized authority by removing the need for the trust management middleman role, in other meaning, there is no single database or company,

or party on which it hinges to control the data or the information solely (A. Koutsogiannis and N. Berntsen,2018).

2.4.2 Peer-to-peer relationship

Peer-to-peer systems, which promote the operation of information or financial transactions from one wallet to another without the use of a reliable third party or central authorities as an intermediary, are another important aspect of blockchain technology. According to the statement, "Both the public and private sectors have great aspirations for blockchain technology since it lays the groundwork for creating peer-to-peer networks for moving information, assets, and digital commodities without intermediaries" (Huang, S.2021).

2.4.3 Immutable record

All participants or nodes inside the blockchain entity share and hold the same information or transaction record since blockchain technology is a decentralized network. This contrasts with traditional networks or centralized parties where the information is solely held by the central server or reliable third parties. Additionally, vital data and financial transaction records are deleted when the main site is hacked and hijacked. Contrarily, since the data is encrypted and dispersed among everyone in the network, blockchain maintains an indelible record of transactions on the ledger system, making it difficult to falsify them after the fact. (M. Ramage,2018).

2.4.4 Time-stamping

The information or transaction records included inside the Blockchain network's necklace chain are timestamped. This will give historical and chronological fulfillment, particularly in blockchain technology 2.0 and smart contracts, which are now being widely developed across many sectors. Blockchain may be used to time-stamp anything and offer proof-of-existence for a digital or digitalized item at a particular point in time (T. Aste, P. Tasca, and T. Di Matteo,2018).

2.5 Blockchain Financial service

Blockchain has been widely utilised for financial transactions and so-called cryptocurrencies. The use of cryptocurrencies in software is growing rapidly. The first block,

commonly referred to as the genesis block, contains the original transaction (not shown in the graphic). The first block's hash is given to the miner, who uses it to generate the second block's hash. The third block creates a hash that contains the previous three blocks, just like the first two blocks did, and so on. All blocks on the blockchain are created from the genesis block (U. Mukhopadhyay, 2016). The cryptocurrency has a unique form of money (coin). The mining process results in the addition of a fresh block to the blockchain. Blockchain is used by each node to verify that the currency is legitimate and has not already been spent. Before the transaction records are put to the blockchain, a bigger set of stakeholders must consent. Since mining uses a lot of resources, it is challenging for an attacker to validate a false transaction. The validity of each mined block's proof of stake or proof of labour is checked. (K. Christidis and M. Devetsikiotis, 2016).

2.6 Cryptocurrency

Cryptocurrency is a decentralised kind of money that uses cryptographic processes to conduct financial transactions (Doran 2014). Cryptocurrencies employ blockchain technology to guarantee decentralisation, transparency, and immutability (Meunier 2018). In the section above, the use of Blockchain technology for cryptocurrencies was discussed. Generally speaking, the security of cryptocurrencies is provided through encryption rather than by users or trust (Narayanan et al. 2016). For instance, Bitcoin uses "Elliptic Curve Cryptography" as a method to ensure the security of its transactions. (Wang et al. 2017).

Math is used to secure the security of transactions in elliptic curve cryptography, a type of public-key encryption. When 250 billion possibilities are examined every second, it will take brute force one-tenth of the universe's lifetime to find a value match and break the aforementioned encryption method (Grayblock 2018). In terms of how they can be used as money, cryptocurrencies are similar to fiat money. Its supply is in check. The majority of cryptocurrencies have limited monetary quantities that are available. For instance, until it reaches its maximum level in the year 2140, the supply of Bitcoin will steadily fall. The token supply is controlled by all cryptocurrencies via a schedule that is recorded in the Blockchain.

2.7 Blockchain to Cryptocurrency

Confirmation is a critical concept in cryptocurrencies; only miners can confirm transactions. By collecting transactions from the previous block, combining them with the hash of the previous block, and storing the resulting hash in the current block, miners add blocks to the Blockchain. Blockchain miners approve transactions, certify them as valid, and distribute them around the network. Each node must save the transaction in its database when the miner verifies it. In layman's words, it has been included in the Blockchain, and miners perform this labor to acquire digital currency tokens like Bitcoin. (Meunier 2018) Cryptocurrencies pertain to the usage of tokens based on distributed ledger technology, in contrast to Blockchain. A Blockchain native token or sub-token is used in every transaction including a buy, sell, investment, etc. Blockchain is a technology that serves as a distributed ledger for the network and is the engine behind cryptocurrencies. The network allows the flow of information and value by creating a means of transaction. The tokens used in these networks to move money and settle transactions are known as cryptocurrencies. On the Blockchain, they may be viewed as tools, and in certain situations, they can also serve as resources or utilities. In other cases, they are applied to digitize asset values. In conclusion, cryptocurrencies are a component of a Blockchain-based ecosystem.

2.7.1 Exchanges of cryptocurrencies

A company that enables cryptocurrency trading is known as a cryptocurrency exchange (digital currency exchange, or DCE). Exchanges for cryptocurrencies can act as market makers by simply collecting fees or as a matching platform by leveraging the bid-ask spread as a commission for services. Customers can trade cryptocurrencies at a cryptocurrency exchange, often known as digital currency exchange (DCE). Market makers or matching platforms are two different types of cryptocurrency exchanges that often charge fees based on the bid-ask spread (simply charging fees). (Nomics 2020).

2.7.2 Cryptocurrency trading

Cryptocurrency trading can be described in terms of its objective, mode of operation, and trading strategy. The object of cryptocurrency trading is the "cryptocurrency" that is being swapped. The method of trading cryptocurrencies, known as "trading of cryptocurrency

Contract for Differences (CFD)," depends on the type of exchange used. (The two parties, known to as the "buyer" and "seller," have an agreement that, when the position is closed, the buyer will pay the seller the difference (Authority 2019)) and "buying and selling cryptocurrencies via an exchange." A trading strategy is an algorithm developed by an investor that details a set of accepted rules for trading cryptocurrencies.

Software trading systems receive and carry out transaction orders, handle client accounts and information, and permit international transactions (Calo and Johnson 2002). A collection of rules and processes that are pre-programmed to permit trading between cryptocurrencies and between fiat currencies and cryptocurrencies is known as a cryptocurrency trading system. Systems for trading cryptocurrencies are designed to combat price manipulation, cybercrime, and transaction delays (Bauriya et al. 2019). We must take the capital market, base asset, investment strategy, and methods into account while creating a cryptocurrency trading system (Molina 2019). The most crucial component of a successful bitcoin trading system is a strategy, which will be described below.

2.7.3 Security and privacy

Currently, there are almost 2000 distinct cryptocurrencies available on the market, which is worth several billions of dollars. Its digital and decentralized characteristics make it a market that is open to attack and lucrative enough to draw crooks. The majority of bitcoin research, according to (Yli-Huumo,2016) concentrated on the privacy and security angles. When researchers came across Big Data and its linked technologies, this pattern remained unmodified.

Numerous studies have looked into how to use blockchain technology—the foundation of cryptocurrencies—to manage big data and restrict access to it (Jiang,2016). Blockchain technology has been expanded by researchers to enable decentralized data management while preserving anonymity. For instance, methods of data management systems for such sort of sensitive and private information are examined (Aitken, R,2018) to give patients with an immutable log and full access to their medical records across providers and treatment sites. In particular, writers presented the MedRec system, which included patients, medical information providers, and other stakeholders in the medical field while serving Big Data to researchers. Secure multi-party computing was introduced by Yue et al.(Yue, X.; Wang,2018) to allow untrusted third parties to process medical data without invading privacy.

2.8 Investing in the Future

Blockchain technology is still being tested and used by organizations and governments all around the world, but nothing will happen quickly. It won't be anytime soon if we ever get to the stage where government money is blockchain-based or when medical data are transformed into a blockchain. While there are other ways to invest in blockchain technology, you may make a bet on its potential by adding a blockchain-based cryptocurrency like Bitcoin to your portfolio.

Additionally, you may update more conventional investments to be blockchain-forward. For instance, check to see whether any of your mutual funds or ETFs are invested in businesses that are either developing blockchain technology or starting to utilize them. Even ETFs with a sole focus on these kinds of businesses exist; these are referred to as blockchain ETFs. The Siren Nasdaq Blockchain Economy Index (BLCN), which was introduced in 2018, is one example. It has outperformed the S&P 500's total return both year over year and on a three-year average. These funds don't invest any of your money, particularly in cryptocurrencies; instead, they choose a few corporate equities, from well-known corporations like IBM to lesser-known startups like Galaxy Digital. This can be a more cautious option than investing directly in the infamously unstable cryptocurrency market, however, it still doesn't guarantee a return.

2.9 Summary.

In summary, previous studies have shown that the most positive determinants are independent variables, such as family history and entrepreneurial attitude, and entrepreneurial attitude, that is, ICT skills such as operational skills, information literacy, and innovation skills. The researcher discusses the various independent variables and dependent variables that have been covered in the research framework. Lastly, the following chapter will be discussing the research methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter described the techniques utilized in this study to acquire data and information. this area is an overall framework for understanding a method and helps the analyst to draw a body of methodology knowledge that need in this research. It is important in this chapter to cover all the details explanations of the method that is used to ensure the research goals can be achieved. Research methodology is a technique used in this research.

Also, to guide the researcher in the systematic procedure to choose, the process describes and analyzes the topic information (Bouchrika, 2021). The researcher goes through the research design, methodological choices, primary and secondary data sources, research location, research strategy, time horizon, scientific canons, and data analysis technique in detail. This chapter is intending to make sure that adequate research procedures are followed. Therefore, the research results can be better evaluated and understood.

3.2 Research framework and research hypothesis

Conceptual framework.

The following figure shows the relationship between the two dependent and independent variables. The research will be studied from a conceptual framework, blockchain is a dependent variable among the banking student (UiTM) and cryptocurrency is an independent variable.

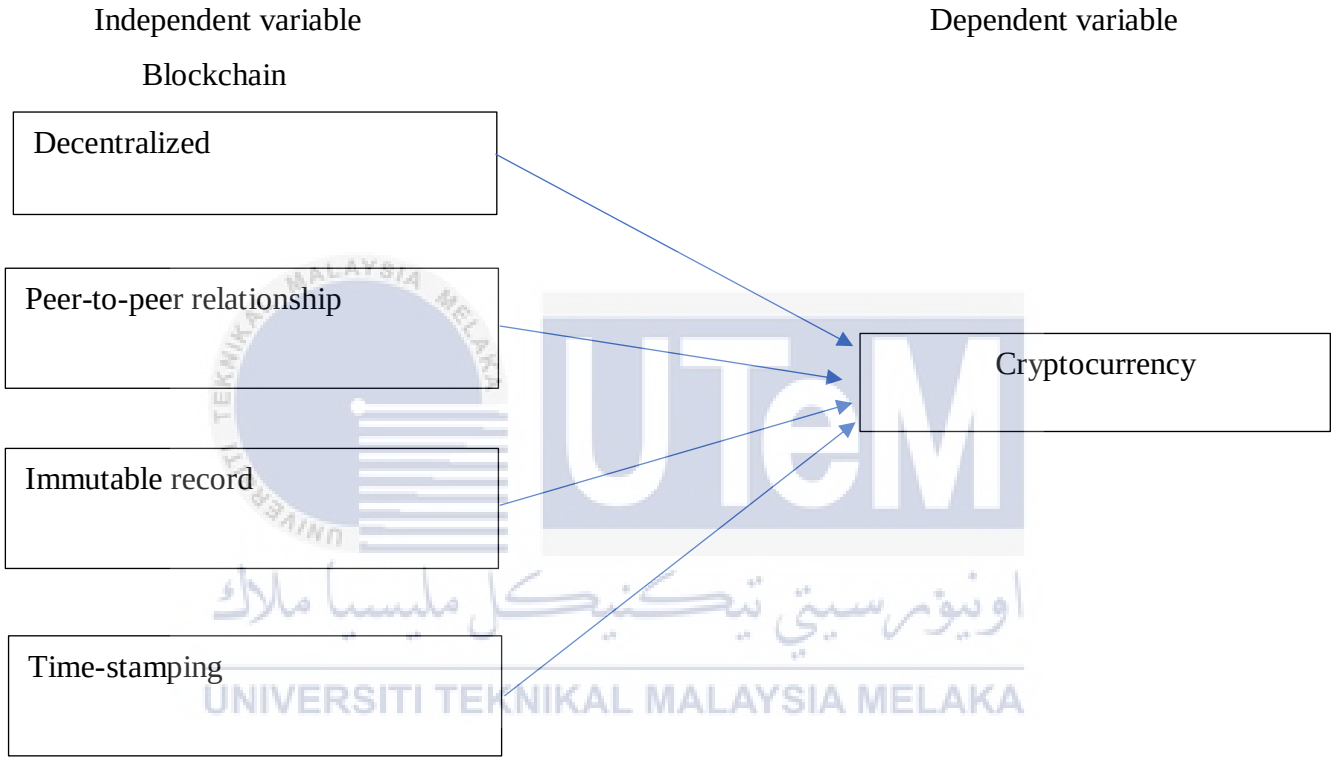

Figure 3.2 Conceptual frameworks for examining the blockchain on cryptocurrency

Hypothesis

Researchers construct hypotheses based on issue formulations and theoretical studies in general. The hypothesis used in a quantitative investigation is a statistical hypothesis, which means it must be evaluated using statistical procedures.

The analyst's approach is determined by the type of data and the purpose of the study. The use of sample data to determine the reliability of a hypothesis is known as hypothesis testing. Data from a wider population or data creation process may be used. In the following description, the word "population" will be used to describe both of these scenarios.

Hypothesis 1

H1: Decentralized in blockchain will significantly improve cryptocurrency.

Hypothesis 2

H1: Peer-to-peer relationships in blockchain will significantly improve cryptocurrency.

Hypothesis 3

H1: Immutable records in blockchain will significantly improve cryptocurrency.

Hypothesis 4

H1: Time-stamping in blockchain will significantly improve cryptocurrency.

3.3 General construction of research design

The study design is the overall strategy used by researchers to address research questions. The importance of research questions should not be overemphasized (Akhidime, 2017). The study design will contain clear objectives derived from the study questions and indicate the sources used by the researcher to collect the data. It also includes clearly showing the sources used by the researcher to obtain the data. It also includes proposed methods for collecting and analyzing data.

In the research design process, the research methodology process is a very critical decision because it determines how specific information can be gathered for analysis. When programming research, it is important to observe the type of evidence needed to answer questions about questions

in a reasonable way (Akhtar, 2016). Research design is the arrangement of conditions for the collection and examination of data in a manner that demonstrates the suitability of the research objectives with economic and process strategies (Akhtar, 2016).

Research design can be categorized into three types namely exploratory, explicit, or explanatory. In development, research design includes imperative components such as approach, concept structure, identifying who and what to test, information gathering and instruments as well as investigation methodology (Akhtar, 2016). To identify and capture information in the issue criteria, a descriptive study was selected for this research.

3.3.1 Justification of the study

Research design can be designed to fulfill either descriptive studies, explanatory studies, evaluative studies, or combined studies. The researcher can choose one of them, as the research design is based on the nature of their research. An explanatory study was carried on in this research to produce accurate information. Explanatory research investigates a scenario or an issue to explain the link between two variables.

The data collection is to gain a description of an event, the person, or the situation. Also, it likely includes 'who' 'what' 'where' 'when' or 'how' (Bhandari, 2020). The respondents must answer the question based on the Likert scale. The method of analyzing the data was through Statistical Package for the Social Science (SPSS) software. It is popular statistical software that generates results and can use to forecast the relationship among variables. SPSS helps to generate the data collected to graph statistics, correlation, and so on.

3.3.2 Deductive study

Deductive researchers will begin with an intriguing social theory and then evaluate its implications using facts. In other words, they employ the same techniques as inductive research, but they will apply them in the opposite direction, going from a general to a more precise level. Scientific enquiry is most frequently connected with deductive research techniques. The researcher reads existing theories regarding the topic being examined, investigates what others have done, and then evaluates any hypotheses that result from those theories.

3.3.3 Quantitative study

Quantitative research is used to quantify the issue by generating numerical data or data that may be transformed into usable statistics. It is used to quantify attitudes, views, actions, and other

particular elements in order to generalise the results from a larger sample size. Quantitative research employs quantifiable data to establish facts and pinpoint trends in the study. Comparatively more rigid methods are used to collect quantitative data than qualitative data.

In this research, researchers will use quantitative methods to study the Implications of blockchain on cryptocurrency among the banking student in UiTM. Quantitative research means phenomena by collecting numerical data that are interpreted using specific statistics based on mathematical methods (Almalki, 2016). According to (Jusoh et al.,2016), quantitative research examines the relationship between quantitatively calculated variables and evaluated using a variety of statistical and graphical approaches. Quantitative research can be used to test and validate hypotheses as to why the phenomenon occurs and allows researchers to generalize study findings (Mohajan, 2021). Researchers can test the proposed research framework and determine the level of knowledge about blockchain on cryptocurrency, effectiveness, data recording, security, and data storage (Shukla & Kushwah, 2020).

3.3.4 Time frame of the study

Time frame is an estimation of the time to complete a program, project or plan, or investment to produce returns. There are two types of time horizons involve longitudinal studies and cross-sectional studies. Longitudinal studies are the collection of data repeatedly over a long period. This sort of study gives the researcher some control over the factors being studied. Cross-sectional studies are the study of certain phenomena at a specific period, and the majority of research projects are chosen for academic courses that require a lot of time to be confined (Saunders et al., 2017). In this research, the researcher plans to use a cross-sectional study due to there is limited time to achieve data analysis and to conclude this study within the time frame.

3.7.1 Gant Chart 1st Semester

Task / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Article reading															
The selection of research title															
Construction of research questions and research objectives															
Completion of Chapter 1															
Reading literature review															
Construction of Conceptual Framework															
Completion of Chapter 2															
Drafting Chapter 3															
Completion of Chapter 3															
Amendments															
Compiling															
Slides Preparation															

Report submission															
PSM 1 Presentation															

APPENDIX B: GANTT CHART FOR PSM 2

Tasks	Weeks														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Form questionnaire															
Distribute questionnaire															
Data gathering															
Analysis data															
Completed for chapter 4															
Completed for chapter 5															
Report submission															
PSM 2 presentation															

3.4 Research Method

Research methods can be divided into three categories: quantitative methods, qualitative methods, and, mixed methods. Quantitative research is used to obtain numerical statistics through questionnaires and examine statistics primarily based entirely on graphs or statistics. For, qualitative research is used to collect non -numerical data through interviews and analyze data based on data categorization. Mixed method studies combine quantitative and qualitative method research to collect and analyze data (Almalki, 2016). for this study, the researcher uses Quantitative Research method because it is easier to get the respondent data.

3.4.1 Survey method

There are two types of data sources in this study: primary and secondary data. Primary data is true and original information that may be collected throughout the research project. Primary data were collected to solve the problem. The researcher is the first person to obtain the primary data. Examples of primary data sources include questionnaires, surveys, experiments, face-to-face interviews, and observations (Ajayi, 2017). The researcher used primary data collection by distributing questionnaires to respondents in all groups of banking students at UITM Merbok. Respondents were given a list of questionnaires that they answered by marking the appropriate answers.

Secondary data records have been collected or created with the help of different people. Secondary data sources can be analyzed to provide additional or different conclusions, knowledge, or interpretations (Almalki, 2016). Ainsworth (2021), describes secondary data as information collected by others with different purposes or addressing a particular issue of concern. According to Ajayi (2017), secondary data sources, journal articles, internal records, books, and government publication websites. Researchers used secondary data collection through Google Scholar web pages and library databases such as Emerald Insight and ScienceDirect. Researchers used library websites and databases to select appropriate journals, reports, and newspapers to support the purpose of this research. Secondary data is easier, cheaper, and faster to collect than primary data. However, the evaluation of secondary data may not be helpful in business studies because the information may be outdated or incorrect.

3.4.2 Research instrument

A research strategy is a plan for how the researcher answers the research question and attains the aim. There are some research strategies such as surveys, experiments, case studies, action research, archival and documentary research, ethnography, narrative inquiry, and grounded theory. The researcher selected the survey strategy as a research strategy. Data collection through a survey strategy can be easy to compare, as it uses a questionnaire to allow a large population to collect standardized data. The survey strategy can gather quantitative data by analyzing descriptive and inferential statistics and suggesting possible relationships among variables. The questionnaire was created and distributed to users who are using biometric technology on a smartphone (Jusoh et al., 2016).

3.4.3 Questionnaire

Questionnaires were distributed to the banking student in UiTM to collect primary data for this research. The questionnaire consists of three sections of closed-ended questions. The first part of the questionnaire looked at the demographic information of the respondents, such as their age, education level, and occupation. The second part of the questionnaire focuses on independent variables such as level of knowledge, effectiveness, safety, and others. The third part of the questionnaire was to survey the dependent variable i.e. blockchain impact. The second and third parts of the questionnaire will be measured using a Likert scale. The Likert scale is a five-point rating scale in which 1 indicates "strongly disagree," 2 indicates "disagree," 3 indicates "neutral," 4 indicates "agree," and 5 indicates "strongly agree." Questionnaires will be sent online using Google forms to selected respondents, and questionnaires will be shared for the public to answer. A five-point Likert scale is shown in Table 3.0 below.

SCALE	DESCRIPTION
1	Strongly Disagree
2	Disagree
3	Slightly Agree
4	Agree
5	Strongly Agree

Table 3.0: The description of the Likert Scale

3.4.4 Scaling

The researcher chose non -probability sampling because of the sampling design of this study. Facility sampling was used by the researchers to obtain market research data from a comfortable group of respondents. It is the most commonly used sampling method because it is fast, easy, and inexpensive. Members are often approached in a variety of settings to be part of the sample. Non -probability sampling strategies include goals, quotas, snowballs, facilities, and self-selection (Henning, 2016). In this study, the researcher will use facility sampling. Researchers used simple sampling because additional input was not required for the main study.

There are no special prerequisites to be part of this sample. As a result, adding components in this example becomes relatively easy. The sample is open to all members of the population, but their participation depends on the proximity of the researcher (Edgar & Manz, 2017). Since this study focuses on banking students in UiTM, the researcher needs to select a sample of such banking students. When it comes to evaluating high-level effects, effectiveness is key. This study examines the implications of blockchain on cryptocurrencies. According to Statista, the population of banking students at UiTM Merbok, is estimated at 140 people. As a result, the researcher selected 103 people to complete the survey as respondents. Using the table, determine the sample size for the known population.

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Table 3.1: The sample size of a known population is shown

3.4.5 Data analysis

Data analysis, as defined by Puteh and Ong (2017), is the procedure by which the researcher used statistical tools like the Statistical Package for Social Sciences (SPSS) to assess the data gathered from respondents. This study also employs a variety of analytical techniques, such as multiple regression analysis, descriptive analysis, and Pearson's correlation analysis.

3.4.6 Data collection

According to Yellapu (2018), descriptive analysis employs numerical description and comparison of variables to determine central tendency and dispersion. Mean, median, and mode are used to assess central tendency, whereas variance, standard deviation, and percentage are used to quantify dispersion. Descriptive analysis is used to evaluate information from respondents and turn raw data in a more understandable and interpretable manner. It is also used to characterize respondents' demographic backgrounds using percentages and frequency. In this research,

descriptive analysis is used to differentiate the age, family background, and educational level among the respondents who are banking students in UiTM.

3.5 Data collection method

To answer the research question, test the hypothesis (if you're using a deductive method), and assess the results, data collection is the act of gathering information from all pertinent sources. Secondary and main methods of data collecting can be used to categorize various data collection techniques.

3.5.1 The independent variable

An independent variable in a study is one that is managed or controlled in some other way. To establish a relationship between the independent and dependent variables, a researcher would purposefully change one independent variable while watching to see if and how the dependent variable responds.

The independent variable may also be referred to as the predicator, right-side, or variable. They reflect the uses of independent variables as they are intended to explain or foresee changes in the dependent variables. The experimenters in the study often strive to change independent variables as little as possible in order to thoroughly understand their true relationship with the dependent variables.

Age, for instance, may be used as an independent variable in a study since it affects certain possible dependent variables. Although participants' ages cannot be assigned at random, a researcher can restrict study participation to people of a certain age range or divide a sample into the appropriate age ranges.

3.5.2 Dependent variable

In an experiment, a dependent variable is one that is being measured and represents a result. This variable is not directly under the control of the researchers. Instead, they want to see how the dependent variable responds in various situations in order to understand more about the link between various factors.

The phrase "dependent variable" is the one that is used the most frequently, but other names for them include response variables, outcome variables, and left-side variables. These alternative

titles serve to emphasise their intended meaning: a dependent variable displays the result by responding to changes in other variables.

3.5.3 Control variable

A control variable is something that is continuous or limited in a research project. This variable is controlled even if it is irrelevant to the study's goals since it could have an effect on the findings. Variables can be controlled directly by keeping their value constant during a study, or they can be controlled subtly by employing methods like randomization or statistical control to account for participant characteristics like age in statistical tests.

3.6 Validity and Reliability

3.6.1 Validity

Validity worries about whether the findings are more or less as they seem to be. Validity is divided into two categories namely internal and external. Internal validity can be provided in survey questionnaires where fixed questions can be statistically proven to have relevance to analytical matters or results. External validity is focused on study results that can be generalized to other settings or groups. By placing the experiments in a natural setting and selecting respondents using simple sampling, the use of external validity can be enhanced. In addition, construct validity is also a type of validity. Construct validity is used to assess how it should be measured by testing (Mahajan & Haradhan, 2017).

In this research, the researcher collected data through a survey questionnaire and examined the relationship between the dependent variables and the independent variables. The dependent variable is a cryptocurrency, while the independent variable is blockchain. For the research topic, research questions, and research objectives, quantitative questionnaires need to be constructed. Therefore, the main group related to external validity in this research is the banking student in UiTM. The researcher must understand the sample size of the population as well as the findings of the study. Researchers should listen to the advice of supervisors to avoid any errors and biases.

3.6.2 Reliability

Lee Cronbach's Cronbach Alpha (or Alpha coefficient) established in 1951 can be used to assess the reliability or internal consistency of psychometric instruments. "Reliability" of a test refers

to the effectiveness of a test that regularly measures the things to be evaluated. Reliability tests revealed that the measurements were free of unstable errors, ensuring stable and consistent results. Cronbach's Alpha is a reliability test. The Cronbach's alpha value test is suitable for "multi-scale items," and it is an excellent indicator of consistent reliability between items (Teixeira, 2019). As a result, the table below contains rules for the value of Cronbach's alpha coefficient.

Alpha Coefficient Range	**Strength of Association**
< 0.5	Unacceptable
> 0.5	Poor
> 0.6	Questionable
> 0.7	Acceptable
> 0.8	Good
> 0.9	Excellent

Table 3.2: The Rule of Thumb for Cronbach"s Alpha Coefficient Value

Sources: George and Mallery (2003)

3.6.1 Internal consistency

The Pearson correlation coefficient describes the strength of the linear link between these two variables. A correlation coefficient is a number between -1 and +1. As a result, researchers chose Pearson's Correlation Coefficient to examine the link between all variables in this study. A complete positive connection is represented by a correlation coefficient value of +1; a perfect negative

correlation is indicated by a correlation coefficient value of -1. As a result, if the correlation coefficient cost equals 0, there is no link between the two variables (Nickolas, 2021).

Pearson Coefficient Value (r)	Interpretation
0.91 to 1.0 / -0.91 to -1.0	Very Strong
0.71 to 0.90 / -0.71 to -0.90	High
0.41 to 0.70 / -0.41 to -0.70	Moderate
0.21 to 0.40 / -0.21 to -0.40	Weak
0.01 to 0.20 / -0.01 to -0.20	Very Weak

Table 3.3: Rules of Thumb about Correlations Coefficient Size

Sources: Hair et al. (2010), Essential of Business Research Method

3.7 Pilot study

A pilot test is defined as a small-scale trial that allows researchers to test and review questionnaires to reduce problems when respondents answer questions and data recording issues (Jaggi, 2016). The researcher will select respondents from banking students (UiTM) to conduct a pilot test. The researcher will test the questionnaire related to the research study on the respondents. The researcher will use approximately one week to complete this test. Feedback and suggestions will be considered and involved in the final survey questionnaire. As noted by Hah (2018), the goal of the pilot test was to assess the reliability of the data and the validity of the questionnaire. A pilot test will be collected in this study before distributing the questionnaire to the respondents.

3.8 Population and sampling

This research was conducted by all banking students at UiTM. According to Statista, the estimated population of banking students at UITM Merbok is around 140 people who have experience studying banking. The purpose of selecting banking students as a study location is because banking students mostly consist of educated groups such as diplomas or college degrees at universities. The targeted respondents are students because they are the most influential on the internet in the level of awareness of blockchain on cryptocurrencies in banking students at UiTM. The reason for the selection of the targeted respondents is to obtain more accurate data and perceptions from the respondents on the implications of blockchain on cryptocurrencies in banking students.

3.8.1 Sample selection

Before the study even starts, sample selection, a crucial component of research design, can predict whether or not research questions will be addressed. A study is strengthened by wise sample selection and a sufficient sample size, which preserves precious time, money, and resources. Poor design in the context of healthcare research may result in the use of dangerous procedures, delays in the development of a novel therapy, and missed chances to provide high-quality care. While admitting the constraints of their design choices, researchers frequently attempt to strike a compromise between the ideal sample and one that is practicable or convenient. While sample selection is far from straightforward, here are some strategies to keep in mind when you read studies and use to your advantage.

3.9 Data collection process

There are two types of data sources in this study: primary and secondary data. Primary data is true and original information that may be collected throughout the research project. Primary data were collected to solve the problem. The researcher is the first person to obtain the primary data. Examples of primary data sources include questionnaires, surveys, experiments, face-to-face interviews, and observations (Ajayi, 2017). The researcher used primary data collection by distributing questionnaires to the new banking student of respondent in UiTM Merbok. Respondents were given a list of questionnaires that they answered by marking the appropriate answers.

Secondary data records that have been collected or created with the help of different people. Secondary data sources can be analyzed to provide additional or different conclusions, knowledge, or interpretations (Almalki, 2018). Ainsworth (2021), describes secondary data as information

collected by others with different purposes or addressing a particular issue of concern. According to Ajayi (2018), secondary data sources, journal articles, internal records, books, and government publication websites. Researchers used secondary data collection through Google Scholar web pages and library databases such as Emerald Insight and ScienceDirect. Researchers used library websites and databases to select appropriate journals, reports, and newspapers to support the purpose of this research. Secondary data is easier, cheaper, and faster to collect than primary data. However, the evaluation of secondary data may not be helpful in business studies because the information may be outdated or incorrect.

3.10 Approach and structure of data analysis

In particular, Saunders et al. (2019) say descriptive analysis is a numerical description and comparison of variables focused on the central tendency and scattering of data. Measures of central tendency include meaning, median, and mode, while measures of dispersion include variance, standard deviation, and population percentage. Descriptive analysis needs to be done to examine the information provided by the respondents and convert the raw data to a format that is easier to understand and interpret. Using percentages and frequency distributions can also be used to describe the demographic background of those who responded. In this study, descriptive analysis is used to differentiate between respondents among the banking student in UiTM based on their gender, age, occupation, and level of education.

3.11 Summary

Finally, the researcher describes the methodology used to collect data and information in this chapter. The researcher chose a descriptive study design and quantitative method for this research. Questionnaires as primary data sources are distributed to the banking student in UiTM through Google forms while journaling articles, the internet, and books as secondary data sources. This survey will be conducted in UITM Merbok. The researchers conducted questionnaire design, sampling design, and pilot test in cross-sectional time. In this chapter, the scientific canon investigates reliability and validity. The Statistical Package for the Social Sciences (SPSS) will be used to examine the data, and descriptive analysis, Pearson correlation coefficients, and multiple regression analysis are also discussed.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION

4.1 INTRODUCTION

This chapter shows the details of the data collection analysis from the questionnaire distributed to some target respondents which are banking student in UiTM Merbok. All results are interpreted through the data table shown below.

4.2 PILOT TEST

The purpose of the pilot test is to test the questionnaire whether the respondents understand or not the questions given and there will be no problem to record the data (Saunders et al, 2012). In addition, enable respondents to question the validity and reliability of the data to be collected. In addition, the risk of error and misinterpretation can be minimized in this pilot test where errors can affect the reliability and validity of the data (Saunders et al, 2012). The researcher has selected 30 respondents to conduct a pilot test in this research.

Table 4.0: Reliability Analysis for Pilot Test.

Reliability Statistics

Cronbach's Alpha	N of Items
.836	25

Table 4.0 shown there were included 30 items to be measured. From the table above, the alpha value of pilot test was 0.836. The acceptable level of alpha value was 0.70 and above. So, it can be concluded that all items in the questionnaire were reliable because the Cronbach's Alpha was above 0.836.

Table 4.1: Realibility statistics for each variable

Variables	Number of items	Cronbach's Alpha
Decentralized	4	0.818
Peer-to-peer	5	0.772
Immutable record	4	0.774
Time-stamping	4	0.755
Cryptocurrency	8	0.800

Table 4.1 shows the statistical output of the reliability of this study through Cronbach Alpha. The case processing description shows that the valid data is 120 units while excluded data is equal to zero which ensures that all data in this analysis is valid. In addition, there are 25 items analyzed, and Cronbach's Alpha score is 0.836. When the value of Alpha of Cronbach is above 0.60, the work is classified as high reliability (Goforth, C., 2015). Therefore, decentralized this analysis is good because Cronbach's Alpha value is 0.818. In addition, Table 4.3 shows the analysis of each variable item in this research. Most of the variables such as peer-to-peer, immutable record, and time-stamping have a good Cronbach's Alpha value, which the results state that it is higher than 0.7. Therefore, Cryptocurrency is very good because Cronbach's Alpha value is 0.800.

4.3 DESCRIPTIVE STATISTICS

The collection of a data set that reflects the whole population or a sample is called Descriptive Analysis. It provides a simple summary of the sample and measures. Moreover, together with the sample graphic analysis about the sample of every data has been analyzed.

Descriptive analysis is categorized into preliminary analysis, which involves data collection from the questionnaire. This analysis describes what data is being shown and describe the behavior of sample data. The descriptive analysis method is used to display, describe, and explain a set of data with the use table, graph, and summary.

4.3.1 Profile of Respondents.

Generally, the demographics of the respondent will be in the first section of the questionnaire. This is to inform the researcher well about their respondents. The frequency of all respondent demographic questions showed that 103 respondents answered the questionnaire. There are five questions in the demographic analysis such as gender, age, year of study, race, frequency of trading in cryptocurrency, experience as an investor and know about blockchain on cryptocurrency.

4.3.2 Gender

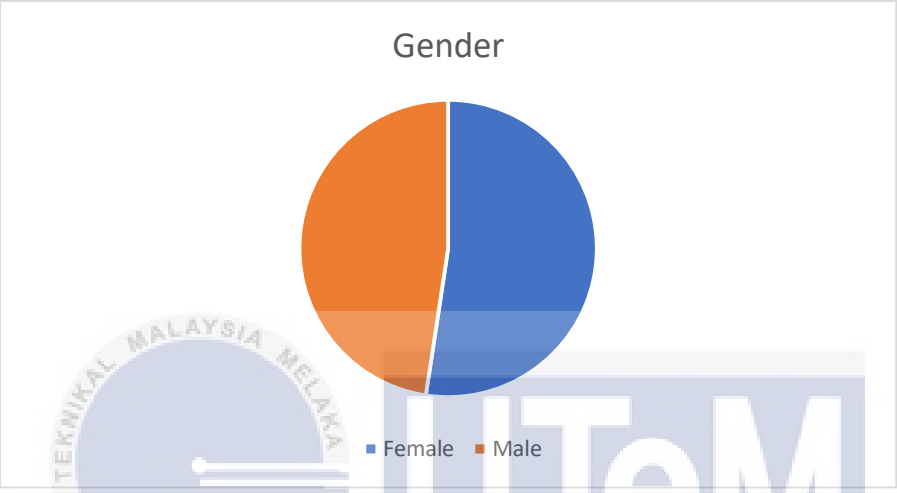

Figure 4.2: Pie Chart of gender

(Source: SPSS Output)

Table 4.2: Frequency and Percentage of Gender

1. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	54	52.4	52.4	52.4
	Male	49	47.6	47.6	100
	Total	103	100.0	100.0	

Table 4.2 above shows the number of respondents based on gender distribution. The highest number of respondents were female at 52.4 percent. Followed by men comprising 47.6 percent.

4.3.3 Age

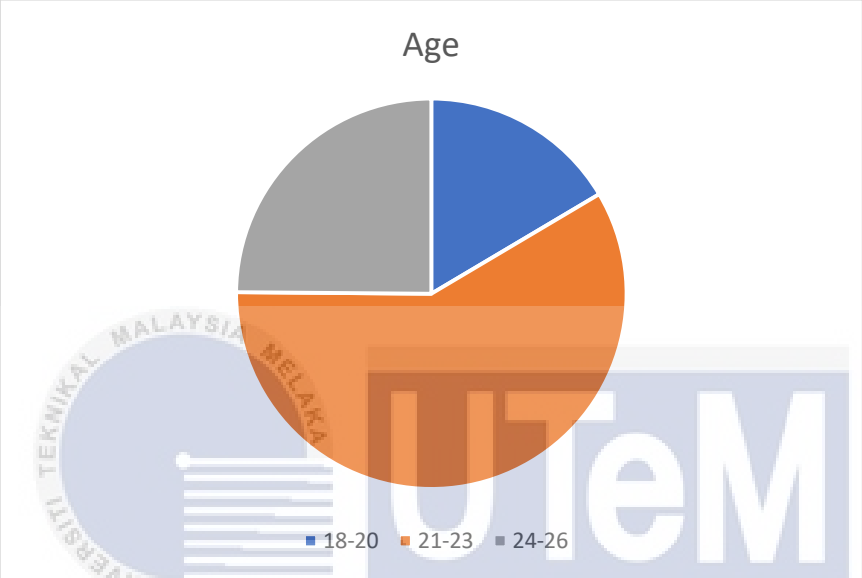

Figure 4.3: Pie Chart of age

(Source: SPSS Output)

Table 4.3: Frequency and Percentage of age

2. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-20	19	18.4	18.4	18.4
	21-23	59	57.3	57.3	75.7
	24-26	25	24.3	24.3	100.0
	Total	103	100.0	100.0	

Table 4.3 above shows the percentage of the results of the age of the respondents which consists of 18.4 percent representing 19 respondents who are students who are aged 18-20. While the respondents who belong to the range of 21-23 are 57.3 percent or 59 respondents and 25 respondents or 24.3 percent represent respondents in the range of students aged 24-26.

4.3.4 Year of study

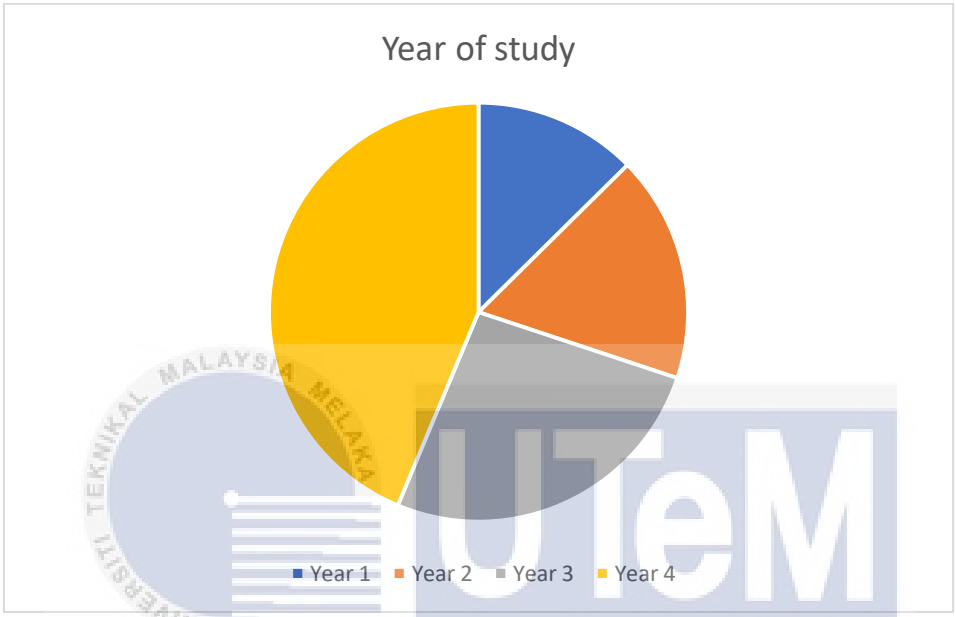

Figure 4.4: Pie chart of Year of study

(Source: SPSS Output)

Table 4.4: Frequency and Percentage of Year of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Year 1	13	12.6	12.6	12.6
	Year 2	18	17.5	17.5	30.1
	Year3	27	26.2	26.2	56.3
	Year4	45	43.7	43.7	100.0
	Total	103	100.0	100.0	

According to Table 4.4 shown above, the highest number of respondents who contributed to the survey were 4th year students with a total of 45 respondents or 43.7 percent

of the 103 respondents. Respondents from year 3 contributed as much as 26.2 percent and 27 respondents. From year 2 contributed 17.5 percent, and year 1 was 12.6 percent which is equivalent to 18 and 13 respondents.

4.3.5 Race

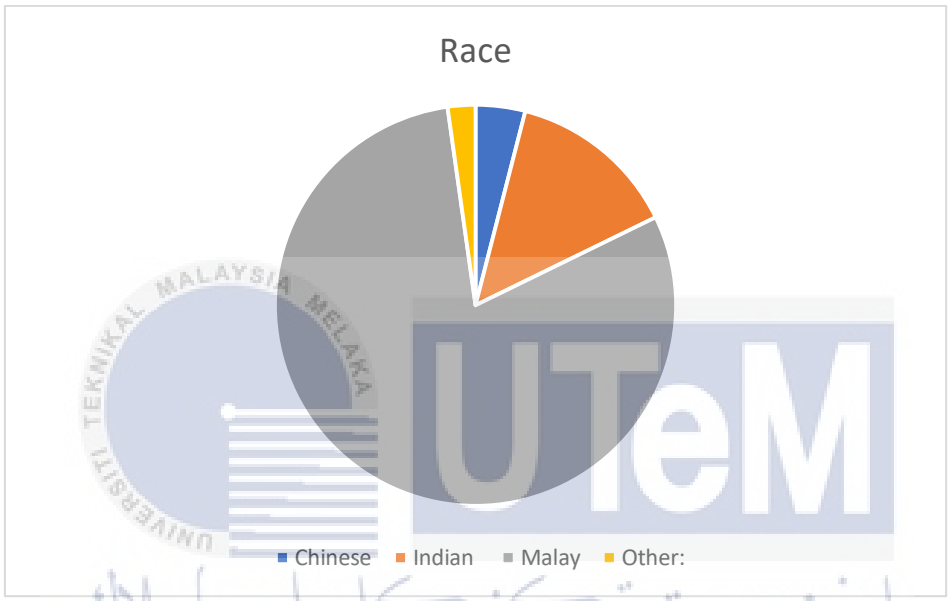

Figure 4.5: Pie chart of Race

(Source: SPSS Output)

Table 4.5: Frequency and Percentage of Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Chinese	19	18.4	18.4	18.4
	Indian	12	11.7	11.7	30.1
	Malay	70	68.0	68.0	98.1
	Other:	2	1.9	1.9	100.0
	Total	103	100.0	100.0	

According to Table 4.5 shown above, the highest number of respondents who contributed to the survey were Malay students with a total of 70 respondents or 68.0 percent of

the 103 respondents. Chinese respondents contributed as much as 18.4 percent and 19 respondents. Of the Indian students, 11.7 percent contributed as much as 12 respondents. The remaining 2 respondents, which is equivalent to 1.9 percent, are likely to be of Iban nationality because many UiTM students also come from Sabah and Sarawak.

4.3.6 Do you have experience as an investor?

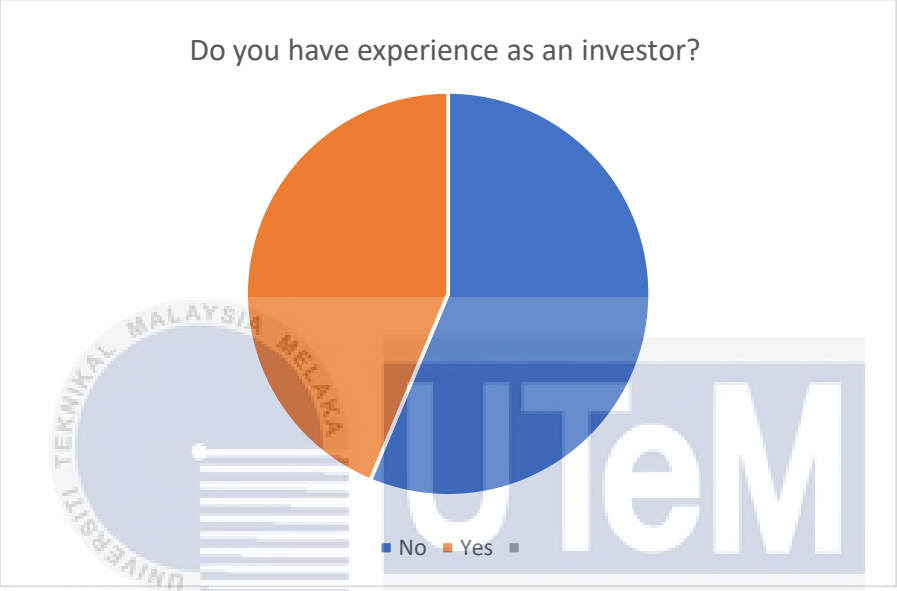

Figure 4.6: Pie Chart of do you have experience as an investor?

(Source: SPSS Output)

Table 4.6: Frequency and Percentage of do you have experience as an investor?

1. Do you have experience as an investor?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	58	56.3	56.3	56.3
	Yes	45	43.7	43.7	100
	Total	103	100.0	100.0	

Table 4.6 above shows the number of respondents based on have experience as an investor. The highest number of respondents chose no which is 56.3 percent and 58 respondents. Followed by yes consisting of 43.7 percent equivalent to 45 respondents.

4.3.7 Frequency of trading in cryptocurrency?

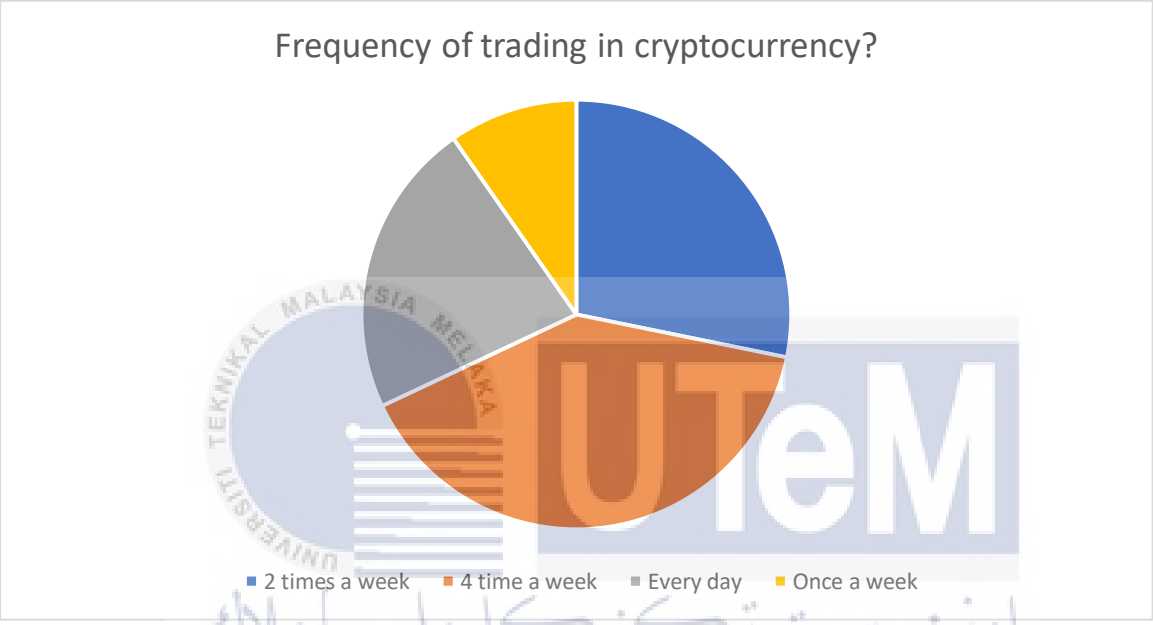

Figure 4.7: Pie chart of do you belong to a Frequency of trading in cryptocurrency?

(Source: SPSS Output)

Table 4.7: Frequency and Percentage of do you belong to a Frequency of trading in cryptocurrency?

2. Frequency of trading in cryptocurrency?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 times a week	29	28.2	28.2	28.2
	4 time a week	41	39.8	39.8	68.0

	Every day	23	22.3	22.3	90.0
	Once a week	10	9.7	9.7	100.0
	Total	384	100.0	100.0	

Table 4.7 above shows the number of respondents based on the frequency of trading in cryptocurrency. The highest number of respondents is within 4 times a week which is 39.8 percent. Followed by 2 times a week consisting of 28.2 percent and then accessing every day achieved 22.3 percent equivalent to 23 students. The least respondents from this group are students who access once a week which is 10 students and 9.7 percent only.

4.3.8 Do you know about blockchain on cryptocurrency?

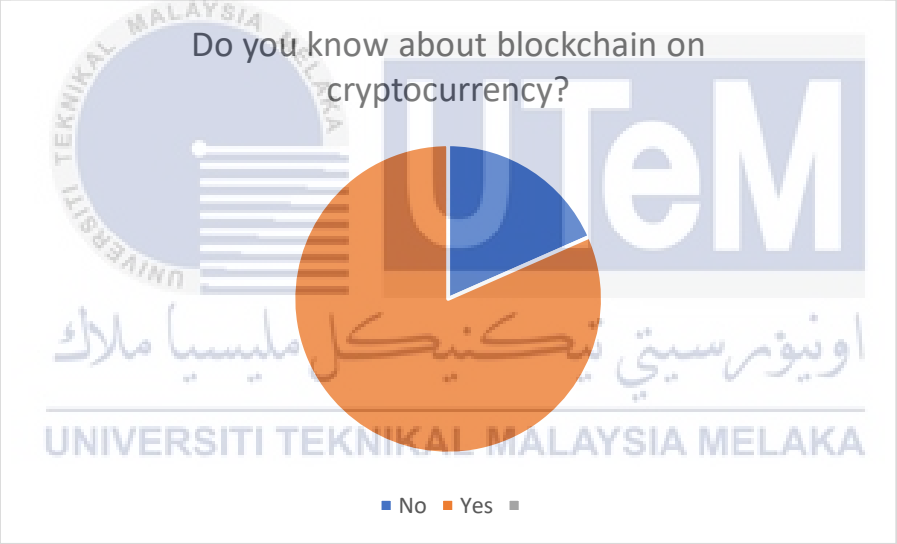

Figure 4.8: Pie Chart of do you know about blockchain on cryptocurrency?

(Source: SPSS Output)

Table 4.8: Frequency and Percentage of do you know about blockchain on cryptocurrency?

3. Do you know about blockchain on cryptocurrency?

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	No	19	18.4	18.4	18.4
	Yes	84	81.6	81.6	100
	Total	103	100.0	100.0	

Table 4.6 shows the majority of respondents who do you know about blockchain on cryptocurrency with a total of 81.6 percent equal to 84 respondents. the rest chose 'No' which is not aware of blockchain technology on cryptocurrency and polled as many as 19 respondents and 18.4 percent.

4.4 DESCRIPTIVE ANALYSIS

In this study, there are four variables which are the first independent variable which is decentralized variable, peer to peer, immutable record, time stamp and one dependent variable which is cryptocurrency. The researcher has released a descriptive analysis to find the mean for each part of the independent variable and the dependent variable.

4.4.1 Descriptive statistic for Decentralized

Table 4.9: Mean and Standard Deviation for Decentralized

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
D1. 1. This blockchain technology can make it easier for investors who are just starting to invest	103	2	5	4.31	.627
D2. Investors can access the investment platform to start investing without the help of a middleman.	103	3	5	4.48	.608
D3. Investors can invest at any time without any obstacles	103	3	5	4.28	.692

D4. Investors can set the time of purchase, sale of shares and also get the latest information on the latest issues.	103	3	5	4.40	.616
Valid N (listwise)	103				

Based on table 4.9, the descriptive analysis is decentralized. The results of the study show that all respondents agree with all previous achievement questions stated in the questionnaire. Reliability statistics of all items among 103 respondents. Respondents agreed that this blockchain technology can make it easier for investors who are just starting to invest with a mean of 4.31 and a standard deviation of 0.627. Next, investors can access the investment platform to start investing without the help of a middleman with a mean of 4.48 and a standard deviation of 0.608. In addition, investors can invest at any time without any obstacles with a mean of 4.28 and a standard deviation of 0.692. Finally, investors can set the time of purchase, sale of shares and also get the latest information on the latest issues with a mean of 4.40 and a standard deviation of 0.616.

4.4.2 Descriptive statistic for Immutable record

Table 4.10: Mean and Standard Deviation for immutable record

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
IR 1. Cryptocurrencies can be stored at in 'cold wallet' other than at in 'online wallet' to prevent theft.	103	3	5	4.56	.536
IR 2. Blockchain systems on cryptocurrencies can transfer cryptocurrencies to other people without incurring high charges.	103	3	5	4.39	.581

IR 3. The price or value of cryptocurrency is determined by the demand and supply of Bitcoin in the market.	103	3	5	4.59	.532
IR 48. Cryptocurrencies can also be used to buy goods. (Anuja Shukla, Priyanka Kushwah, Eti Jain, and Shiv Kumar Sharma, 2020)	103	3	5	4.47	.557
Valid N (listwise)	103				

Based on table 4.10, descriptive analysis is a record that cannot be changed. The results showed that all respondents agreed with all the previously unchanged record questions stated in the questionnaire. Reliability statistics of all items among 103 respondents. Respondents agreed that Cryptocurrencies can be stored at in 'cold wallet' other than at in 'online wallet' to prevent theft with a mean of 4.56 and a standard deviation of 0.536.

Next, Blockchain systems on cryptocurrencies can transfer cryptocurrencies to other people without incurring high charges with a mean of 4.39 and a standard deviation of 0.581. In addition, the price or value of cryptocurrency is determined by the demand and supply of Bitcoin in the market with a mean of 4.59 and a standard deviation of 0.532. Therefore, Cryptocurrencies can also be used to buy goods with a mean of 4.47 and a standard deviation of 0.557.

4.4.3 Descriptive statistic for Time-stamping

Table 4.11: Mean and Standard Deviation for Time-stamping

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
TS 1. Investor think it's very easy to trade on cryptocurrency exchanges	103	2	5	4.38	.688

TS 2. Blockchain timestamping is used to verify data and assign a time or date of creation for digital documents or events.	103	2	5	4.43	.709
TS 3. Characters that uniquely identifies the document or event and indicates when it was created.	103	2	5	4.18	.751
TS 4. Each block on a blockchain contains information on transactions between users on that blockchain.	103	3	5	4.25	.667
Valid N (listwise)	103				

Based on table 4.11, descriptive analysis is time setting. The results showed that all respondents agreed with all the time-stamping questions stated in the questionnaire. Reliability statistics of all items among 103 respondents. Respondents agreed that Investor think it's very easy to trade on cryptocurrency exchanges with a mean of 4.38 and a standard deviation of 0.688.

Next, Blockchain timestamping is used to verify data and assign a time or date of creation for digital documents or events with a mean of 4.43 and a standard deviation of 0.709. In addition, Characters that uniquely identifies the document or event and indicates when it was created a mean of 4.18 and a standard deviation of 0.751. Finally, Each block on a blockchain contains information on transactions between users on that blockchain with a mean standard deviation of 4.25 and 0.667.

4.4.4 Descriptive statistics for peer to peer

Table 4.12: Mean and Standard Deviation for Peer to peer

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
PTP 1. The application provided is very easy to understand by trading on the cryptocurrency exchange.	103	3	5	4.41	.550

PTP 2. Cryptocurrency is a good investment if I want to gain direct exposure to the demand for digital currency.	103	3	5	4.36	.502
PTP 3. Cryptocurrencies have no central issuing or regulatory authority, but instead use a decentralized system to record transactions and issue new units.	103	4	5	4.50	.502
PTP 4. I know the blockchain system is used in investing on cryptocurrencies.	103	3	5	4.47	.520
PTP 5 There are many platforms that can help investors to make trades	103	3	5	4.42	.586
Valid N (listwise)	103				

Based on table 4.12, descriptive analysis is peer-to-peer. The results of the study show that all respondents agree with all previous peer questions stated in the questionnaire. Reliability statistics of all items among 103 respondents. Respondents agreed that The application provided is very easy to understand by trading on the cryptocurrency exchange with a mean of 4.41 and a standard deviation of 0.550. Next, Cryptocurrency is a good investment if I want to gain direct exposure to the demand for digital currency with a mean of 4.36 and a standard deviation of 0.502. In addition, Cryptocurrencies have no central issuing or regulatory authority, but instead use a decentralized system to record transactions and issue new units with a mean of 4.50 and a standard deviation of 0.502. Therefore, I know the blockchain system is used in investing on cryptocurrencies with a mean of 4.47 and a standard deviation of 0.520. Finally, There are many platforms that can help investors to make trades with a mean of 4.42 and a standard deviation of 0.586.

4.4.5 Descriptive statistics for Cryptocurrency

Table 4.13: Mean and Standard Deviation for Cryptocurrency

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic

DV 1 I have trading skill in cryptocurrency.	103	3	5	4.50	.624
DV 2. I believe the blockchain technology on the trading platform has an unalterable record.	103	3	5	4.25	.606
DV 3. I know blockchain technology is used in trading platforms.	103	3	5	4.25	.653
DV 4. I believe that blockchain technology does not have a central issuing or regulatory authority, but instead uses a decentralized system to record information.	103	3	5	4.17	.687
DV 5. Blockchain is a great platform if I want to start trading without fear of being scammed	103	3	5	4.23	.703
DV 6. The blockchain technology provided is very easy to understand and use.	103	3	5	4.31	.596
DV 7. I believe that the blockchain technology available on the trading platform is decentralized and safer.	103	3	5	4.31	.701
DV 8. Among the various options, I prefer to use cryptocurrency trading because it is easier for me.	103	3	5	4.39	.630
Valid N (listwise)	103				

Table 4.13 shows the descriptive analysis for cryptocurrency. Based on the results, it illustrates that all respondents agree with all blockchain cryptocurrency questions. Table 4.11 shows the dependent variable for cryptocurrency among 103 respondents. I have trading skill in cryptocurrency with a mean of 4.50 and a standard deviation of 0.624. Next, I believe the blockchain technology on the trading platform has an unalterable record with a mean of 4.25

and a standard deviation of 0.606. Then, I know blockchain technology is used in trading platforms with a mean of 4.25 and a standard deviation of 0.653.

After that, I believe that blockchain technology does not have a central issuing or regulatory authority, but instead uses a decentralized system to record information with a mean of 4.17 and a standard deviation of 0.687. Moreover, Blockchain is a great platform if I want to start trading without fear of being scammed with a mean of 4.23 and a standard deviation of 0.703. For number 6, The blockchain technology provided is very easy to understand and use with a mean of 4.38 and a standard deviation of 0.596. Number 7, I believe that the blockchain technology available on the trading platform is decentralized and safer with a mean of 4.31 and a standard deviation of 0.701. Finally, Among the various options, I prefer to use cryptocurrency trading because it is easier for me with 4.39 and a standard deviation of 0.630.

4.5 NORMALITY ANALYSIS

Table 4.14: Analysis of skewness and Kurtosis

Source: Data Analysis of (SPSS)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
meanIV1	103	3.50	5.00	4.3665	.37836	-.453	.238	-.570	.472
meanIV2	103	3.50	5.00	4.5024	.32745	-.419	.238	-.213	.472
meanIV3	103	2.50	5.00	4.3350	.47942	-.958	.238	1.218	.472
meanIV4	103	3.80	5.00	4.4291	.29024	-.220	.238	-.247	.472
meanDV	103	3.00	5.00	4.3131	.34826	-.470	.238	1.117	.472
Valid N (listwise)	103								

Based on the rule of thumb, skewness, and kurtosis analysis are used to determine whether the data is normal or abnormal. Skewness is a measure of symmetry in a distribution, while kurtosis is a measure of peakedness or flatness in a distribution.

When the skewness and kurtosis values are equal to zero, the distribution is considered ideal, according to Hair et al. (2010). If the skewness value is 1 and the kurtosis value is 2, both are considered lean, but the distribution is still within an acceptable range. Values outside this range indicate that the data is not normal (Hair et al., 2010).

Table 4.12 above has presented the results of Skewness and Kurtosis analysis between ±1 and ±2 respectively. All variables have negative skewness values indicating that there are too many high scores in the distribution. Moreover, the kurtosis value of variables such as course activity is negative which means it has a flat and light-tailed distribution; the kurtosis value of a variable such as decentralized is positive which means it has a pointed distribution and 55 weight. In conclusion, the skewness and kurtosis results are within ±1 and ±2 respectively. Therefore, the data is considered to be a normally distributed population.

4.6 RELIABILITY ANALYSIS

Generally, Cronbach's alpha is used to measure the reliability of the questionnaire. Therefore, a value less than 0.60 is viewed as poor, while those close to 0.70 are good and those above 0.80 have high reliability (Azizi, 2007). Cronbach's alpha values for all variables for each section are shown in table 4.14 below. There are 23 items that have three independent variables and contain four and five questions each.

Table 4.15: Reliability Analysis

Case Processing Summary

		N	%
Cases	Valid	103	100.0
	Excluded[a]	0	.0
	Total	103	100.0

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

(Source: SPSS)

Table 4.16: Summary of the Cronbach's Alpha of Each Scale

	Variable	Cronbach's Alpha	No. of item

D	Decentralized	0.708	4
PTP	Peer-to-peer	0.774	5
IR	Immutable record	0.800	4
TS	Time-stamping	0.650	4
DV	Cryptocurrency	0.717	8

From the table above, a summary of Cronbach's Alpha for Each Scale. The alpha value for Decentralized is 0.708. The second variable is peer-to-peer is 0.774. Therefore, for immutable records, the alpha value is 0.800. Also, the alpha value for time-stamping is 0.650. The alpha value of the dependent variable which is cryptocurrency is 0.717. An acceptable level of alpha value is 0.70 and above. So, it can be concluded that all the items in the questionnaire are good and reliable because Cronbach's Alpha exceeds 0.70. In addition, after testing the validity and reliability is to prove that and produce the questionnaire is valid and reliable.

4.7 Objective Testing

In this section, there are some suitable research methodologies have been implemented by the researcher to analyze results produced by using SPSS. Besides, the analysis result for each objective of this study is also discussed in detail.

RO 1: To identify the implication of blockchain on cryptocurrency among the banking student in UiTM

RO 2: To study the level of security of blockchain on cryptocurrency among the banking student in UiTM

4.7.1 PEARSON CORRELATION ANALYSIS

Objective 1:
To identify the implication of blockchain on cryptocurrency among the banking student in UiTM

Objective 2:
To study the level of security of blockchain on cryptocurrency among the banking student in UiTM

Pearson's correlation coefficient analysis is one of the researchers' tools to study the relationship between two or more dependent variables and independent variables used by researchers in this research to measure the strength of the linear relationship between the two variables. Throughout the study, the researcher intends to explore the influence of the linear relationship between independent variables (Decentralized, Peer-to-peer, Immutable records, Time-stamping) and dependent variables (cryptocurrency) whether it is positive or negative. relationship. Table 4.13 shows the strength of the correlation coefficient (Saunders et al, 2016).

Table 4.17: Strength of the Correlation coefficient

(Source: Saunders et al., 2016)

Correlation Coefficient	Correlation Strength
0.71 to 1(-0.71 to -1)	Perfect Positive (Negative)
0.31 to 0.70 (-0.31 to -0.70)	Strong Positive (Negative)
0.1 to 0.30 (-0.1 to -0.30)	Weak Positive (Negative)
0	Perfect Independent

(Source: SPSS Output)

Table 4.18: Pearson Correlation Coefficient Analysis

Correlations

		meanIV1	meanIV2	meanIV3	meanIV4	meanDV
meanIV1	Pearson Correlation	1	.220*	.739**	.330**	.478**
	Sig. (2-tailed)		.025	<.001	<.001	<.001
	N	103	103	103	103	103
meanIV2	Pearson Correlation	.220*	1	.362**	.108	.343**
	Sig. (2-tailed)	.025		<.001	.279	<.001
	N	103	103	103	103	103
meanIV3	Pearson Correlation	.739**	.362**	1	.458**	.577**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	103	103	103	103	103
meanIV4	Pearson Correlation	.330**	.108	.458**	1	.404**
	Sig. (2-tailed)	<.001	.279	<.001		<.001
	N	103	103	103	103	103
meanDV	Pearson Correlation	.478**	.343**	.577**	.404**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	103	103	103	103	103

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.16 illustrates the Pearson Correlation Coefficient Analysis findings for four interval scale variables. Based on the above results, it is evident that all the independent variables (Decentralized, Peer-to-peer, Immutable records, Time-stamping) are positively and significantly associated with the dependent variable (cryptocurrency).

The correlation value between time stamp and cryptocurrency is the highest among other variables which is 0.577 with a significant level of < 0.001. This shows that there is a high positive significant relationship between these two variables due to the high correlation value which is greater than 0.7 and the significant value is less than 0.05. In addition, the second results of the study show that there is a strong positive significant relationship between decentralized and cryptocurrency because the correlation value is 0.478 with a significant value of < 0.001.

This shows that there is a strong positive significant relationship because the correlation value exceeds 0.31 (Jabar et al., 2018). Furthermore, the correlation value between peer-to-peer and cryptocurrency is 0.404 with a significance level of <0.001. While the correlation value between immutable record and cryptocurrency is 0.343 with a significant level of 0.000. According to Hair et al. (2007), a correlation coefficient scale of $0.31 \leq r \leq 0.70$

is considered a strong correlation. This means that the relationship between peer-to-peer and decentralized with cryptocurrency is correlated.

From this analysis, it can be concluded that the role of blockchain technology including Decentralized, Peer-to-peer, Immutable record and time stamp has a significant relationship with cryptocurrency due to its strong correlation value between the variables. This also shows that (Decentralized, Peer-to-peer, Immutable records, Time-stamping) has a significant relationship that has a positive effect on the implications of blockchain technology on cryptocurrency among Utem students.

4.8 HYPOTHESIS TESTING

The researcher decided to use multiple linear regression analysis for the hypothesis testing since the independent variables in this research more than one. Hair et al (2006), points out that is a well-suited method for researching relationships between two or more independent variables and dependent variables because of its well-developed underlying statistical theory. Hypothesis testing was used to check whether the developed hypothesis in research has a significant relationship or no significant relationship.

In this regression, the independent variables were decentralized, peer-to-peer, immutable records, time-stamping while the dependent variable was the cryptocurrency. In this section, three tables will be further discussing which are model summary, ANOVA, and coefficient table.

Decision-making process in Multiple Linear Regression Analysis:

· If the value significance <0.05, significant effect of independent variables on the dependent variable.

· If the value significance >0.05, then the independent variables have no significant effect on the dependent variable.

4.8.1 MULTIPLE REGRESSION

The Multiple Linear Regression Model is used to examine the relationship of two or more independent variables. The three data model below demonstrates the result of the relationship between the independent variable (decentralized, peer-to-peer, immutable records, time-stamping) while the dependent variable was the cryptocurrency).

Table 4.19: Model Summary

(Source: SPSS Output)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.624[a]	.390	.365	.27755

The table shows the table of model summary. Based on the result, the value of R=0.624 and the coefficient of determination (R Square) of 0.390. R square column represents the R2 values indicate how much of the total variation in the dependent variable which cryptocurrency explained by the independent variables such as decentralized, peer-to-peer, immutable records, time-stamping. From the table, the R2 is at 0.390 indicated that 39.0% of the cryptocurrency was significant.

4.8.2 ANOVA

Table 4.20: ANOVA

(Source: SPSS Output)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.822	4	1.205	15.648	<.001[b]
	Residual	7.549	98	.077		
	Total	12.371	102			

a. Dependent Variable: meanDV

b. Predictors: (Constant), meanIV4, meanIV2, meanIV1, meanIV3

The Anova table shows the overall regression model was significant which is F (4, 379) = 15.648, p<0.000, R2 = 0.390. It shows that the probability of significance was not more than 0.000, which is means the multiple regression models can be used to predict the influence of cryptocurrency. It shows that there are significant variables within the group which is between the dependent variable (cryptocurrency) and independent variable (decentralized, peer-to-peer, immutable records, time-stamping).

4.8.3 COEFFICIENT

Table 4.21: Coefficients

(Source: SPSS Output)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.892	.587		1.520	.132
	meanIV1	.126	.108	.136	1.162	.248
	meanIV2	.185	.090	.174	2.047	.043
	meanIV3	.237	.095	.326	2.493	.014
	meanIV4	.229	.107	.191	2.143	.035

a. Dependent Variable: meanDV

Based on SPSS output, it is shown that three independent variables significantly affect cryptocurrency. The results show that all of the variables explained with the adjusted R square

39.0% of the total variance in the cryptocurrency. Based on the coefficient table above, shows that all independent variables are significant.

Cryptocurrency has the highest effect on time-stamping which is the standardized coefficient beta is 0.326 followed by peer-to-peer which are 0.191. As for the immutable record the standardized coefficient beta is 0.174 followed by decentralized which are 0.136.

Based on this table, the equation for the regression line in this study can be generated as below. The equation uses the unstandardized coefficients beta value because the constant which means beta zero is included.

Y = a + b1x1 + b2x2 + b3x3+ b4x4

Y = Cryptocurrency

a = Constant

b1-b4 = Regression Coefficient to be estimated

x1 = time-stamping

x2 = immutable record

x3 = decentralized

x4 = peer-to-peer

Cryptocurrency = 0.326 (time-stamping) + 0.191 (peer-to-peer) + 0.174 (immutable record) + 0.136 (decentralized).

The results of multiple linear regressions are displayed in the table above. In this study, multiple linear regressions are calculated to find out the cryptocurrency with three variables namely (decentralized, peer-to-peer, immutable records, time-stamping). Therefore, a significant equation can be outlined here is F (4, 379) = 15.648, p<0.000, R2 = 0.390. According to the data above decentralized, peer-to-peer, immutable records, time-stamping are significant variables with cryptocurrency. In this study, the researcher concludes that the most influential factor for cryptocurrency is time-stamping with a significant value are 0.003 while immutable record, decentralized and peer-to-peer value is 0.144,0.223 and 0.514.

4.8.4 Hypothesis testing

Hypothesis 1

H1: Decentralized in blockchain will significantly improve the cryptocurrency.

H_0:

According to the results of the analysis data from SPSS, the significant value for decentralized is 0.248. which is a significant value that is less than the significance level of p = 0.05.

Therefore, H_1 is rejected i.e., it can be clarified that decentralized has affected cryptocurrency.

Hypothesis 2

H1: Peer-to-peer relationships in blockchain will significantly improve the cryptocurrency.

H_0:

Based on the table above (Table 4.19), the significant value for peer-to-peer is 0.35 which the significant value for this item exceeds the significance level of p = 0.05. Thus, it can be concluded that H2 is accepted because peer-to-peer affect cryptocurrency.

Hypothesis 3

H1: Immutable records in blockchain will significantly improve the cryptocurrency.

H_0:

Based on the table above (Table 4.19), the significant value for immutable record is 0.043 which the significant value for this item exceeds the significance level of p = 0.05. Thus, it can be concluded that H_1 is accepted i.e., it can be clarified that immutable record has affected cryptocurrency.

Hypothesis 4

H1: Time-stamping in blockchain will significantly improve the cryptocurrency.

H_0:

According to the results of the analysis data from SPSS, the significant value for time-stamping is 0.014. which is a significant value that is less than the significance level of p = 0.05.

Therefore, H_1 is accepted, it can be clarified that time-stamping has affected cryptocurrency.

4.8.5 SUMMARY OF HYPOTHESIS TESTING

The table below is shown the summarization of results of hypothesis.

Table 4.22: Summary of Hypothesis Testing

	HYPOTHESIS	MULTIPLE REGRESSION RESULTS
H1	H1: Decentralized in blockchain will significantly improve cryptocurrency.	Rejected
H2	H1: Peer-to-peer relationships in blockchain will significantly improve cryptocurrency.	Accepted
H3	H1: Immutable records in blockchain will significantly improve cryptocurrency.	Accepted

H4	H1: Time-stamping in blockchain will significantly improve cryptocurrency.	Accepted
	Cryptocurrency	

4.9 SUMMARY

Overall, this chapter has analyzed the details methodology of conduct the research. This research has applied the methods of data collection such as mean score and standard deviation test, description statistics of the variables, correlation, hypothesis and regression test as the description on this research paper. The next chapter will show the result of the analysis of the field data and interpretation on the research findings which discuss about the limitation of doing this research.

CHAPTER 5

CONCLUSION

5.1 Introduction

This section summarizes it will explain the overall implications of the study as well as some recommendations for further studies of this study.

5.2 Fulfillment of Study Objectives

The results of the study will be the results of a study in finding the ability of blockchain on cryptocurrency among banking students (UITM). This research will provide results that have important research objectives related to identifying the implications of blockchain on cryptocurrency among banking students (UITM) and studying the level of security of blockchain on cryptocurrency among the banking student. All research objectives

will be discussed below. To study the level of security of blockchain on cryptocurrency among the banking student.

5.2.1 Research Objective 1: To identify the implication of blockchain on cryptocurrency among the banking student (UITM)

The researcher's first research objective can be achieved through the analysis of multiple regression analysis by using SPSS software. According to Shukla (2020), the findings of this study show that the behavior of BTMI students (time-stamping) has a significant relationship with the dependent variable (cryptocurrency). According to T. Aste, P. Tasca, and T. Di Matteo (2018), an investor can more easily get information or transaction records that are included in the Blockchain timestamped on platform trading. This will provide historical and chronological fulfillment, especially in blockchain 2.0 technology and smart contracts, which are now being widely developed across many sectors. Blockchain can be used to time stamp anything and offer proof of existence for digital or digital items at a given time.

5.2.2 Research Objective 2: To study the level of security of blockchain on cryptocurrency among the banking student (UITM)

The research has successfully identified the blockchain technology part of cryptocurrency among the banking student in UiTM. The researcher's second research objective can be achieved throughout the analysis of multiple regression analysis by using SPSS software. The findings of this study show that there are independent variables (peer-to-peer and unchanged records) that have a significant relationship and there are independent variables (decentralized) that do not have a significant relationship with the dependent variable (cryptocurrency). According to Shukla (2020), decentralization does not affect cryptocurrency. The Internet is a democratic arena for students, validating claims that offline inequalities are produced and recreated in online environments through marked bodies, social positions and resource restrictions (Martinez Dy et al., 2018). Another key feature of blockchain is the notion of a peer-to-peer system. Both sides have high hopes for blockchain technology because it provides the basis for creating a peer-to-peer network to transfer information, assets and digital

commodities without intermediaries. Furthermore, increasing awareness of blockchain technology for cryptocurrency, the core of student uncertainty and how students are involved (Nambisan, 2017). It can be concluded that peer-to-peer and unchanging records among banking student in UiTM are related to cryptocurrency.

5.3 Implication of the Study

The results of the study will be the results of the study in finding the affordability of cryptocurrency among the banking student in UiTM. This research will provide results that have important implications related to decentralized, peer-to-peer, immutable records, time-stamping. All implications will be discussed below.

5.4 Suggestion for Further Research

Recommendations for further research are recommendations that need to be improved from the research that has been done now so that the information obtained is better and more accurate.

5.4.1 Including other variables

Future studies can address other variables that are not included in this research such as other skills, technology, experience, and so on. The suggestion of these variables may be able to generate different outcomes compared with the present study. Therefore, it has the possibility to obtain a higher value of R square than the current study. As a result, it is worth investigating insight for other variables in order to create many references for the researcher to analyze them.

5.4.2 Designing more suitable questions in the questionnaire

For the present study, the questionnaire is designed into three parts of sections namely the demographic section, independent variables section and last part is dependent variable section. For the independent and dependent variables sections, only a few questions are asked to fill in for each variable that is being measured by the Likert scale. Therefore, in a future study, it can suggest to include more questions for each variable to get more valid results or another suggestion is trying to put a few of questions in open-ended ways to acquire details of perspective of cryptocurrency based on their written answer. Hence, the research can able to capture different types of opinions from respondents.

5.4.3 Use other software

Future studies can use other software to analyze the data besides SPSS. It can be such as PLS Smart software. This is because can get deep insights into the data easily. Thus, it can easier to analyze the variables.

5.5 Limitations of the Study

A limitation of the study was that the questions were not clear which could lead to unclear responses, which resulted in some unclear data results. The lack of available data sources hinders the selection of indicators as this study only relies on questionnaire survey data for relevant analysis. In addition, the accuracy of the response depends on the willingness of the participants to answer honestly and completely. Some respondents did not fully focus on answering the questions. They only answer questions and then affect the accuracy of data collection. In addition, this study was largely constrained by some respondents who did not want to answer our questionnaire. This is because the respondents have focused on BTMI students at UTeM. It was quite challenging to collect data from the respondents because they got limited time to answer the questionnaire.

Finally, current research has confirmed the relationship between decentralized, peer-to-peer, immutable records, time-stamping, and cryptocurrency. Future studies will be conducted to obtain clear results on cryptocurrency for banking students in UiTM.

5.6 Overall Conclusion

This study explores the behavior of BTMI students and blockchain technology that has a relationship with cryptocurrency. Four variables namely decentralized, peer-to-peer, immutable records, and time-stamping are included to study the relationship between cryptocurrency. Respondents will be selected from banking students in UITM to analyze their perspective on the intention to use cryptocurrency through the distribution of questionnaires. Furthermore, there is a discussion of the results of the questionnaire. Descriptive analysis, correlation tests, and even multiple linear regression models were used to interpret the results.

The final results show that three variables peer-to-peer, immutable records, and time-stamping have a significant relationship with cryptocurrency. Finally, the study presents a summary of the final results based on data analysis. Therefore, the three hypotheses that have been stated in this study are accepted. On the other hand, it also includes the implications of the study and some suggestions for further research.

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3.7.1 Gant Chart 1*st* Semester

Task / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Article reading															
The selection of research title															
Construction of research questions and research objectives															

Completion of Chapter 1															
Reading literature review															
Construction of Conceptual Framework															
Completion of Chapter 2															
Drafting Chapter 3															
Completion of Chapter 3															
Amendments															
Compiling															
Slides Preparation															
Report submission															
PSM 1 Presentation															

APPENDIX B: GANTT CHART FOR PSM 2

Tasks	Weeks														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Form questionnaire															

Distribute questionnaire														
Data gathering														
Analysis data														
Completed for chapter 4														
Completed for chapter 5														
Report submission														
PSM 2 presentation														

The implications of blockchain on cryptocurrency among the banking student (UITM)

Dear Sir/Madam/Mr., Mrs.,

Assalamualaikum and a good day.

My name is Badrul Amin Bin Nazri, a final year student of Bachelor of

Technology Management (Innovation Technology) from Faculty of Technology Management and Technopreneurship,

Universiti Teknikal Malaysia Melaka (UTeM).

I am conducting research 'The implications of blockchain on cryptocurrency among the banking student (UITM)'

This questionnaire is designed to meet the requirements of completing the Final Year Project.

I would like to invite you to participate in this research by completing this questionnaire.

There are four (4) sections in this questionnaire and will take approximately around 10-15 minutes to complete. All the information obtained will be kept strictly confidential for academic research purpose only.

I would like to thank you for your participation and support. I apologize for any inconvenience.

For further clarification and or instruction, please contact:

Name: Badrul Amin Bin Nazri

Email:

Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, Hang Tuah Jaya, 76100 Durian Tunggal Melaka Malaysia.

Supervisor: DR. NURHAYATI BINTI KAMARUDDIN

Email:

SECTION A: DEMOGRAPHIC PROFILE

This section list some questions about personal information.

Please tick (/) on the space given.

1. Gender

Mark only ONE oval

- Male
- Female

2. Age

Mark only ONE oval

- 18-20 Years old
- 21-23 Years old
- 24-26 Years old

3. student year

- 1
- 2
- 3
- 4

4.Race

- Malay
- Chinese
- Indian
- Others

5. Do you know about blockchain on cryptocurrency?

- Yes
- No

6. Frequency of trading in cryptocurrency?

- Every day
- A week 4 times

A week 2 times

Once a week

7. Do you know about blockchain on cryptocurrency?

Yes

No

Section B: BTMI student behavior on The implications of blockchain on cryptocurrency among the banking student (UITM).

This section is a statement that reflects the behavior of banking student on blockchain on cryptocurrency. Please tick (✔) your answer in the appropriate space to indicate how much you agree with each statement using a five-point Likert scale as below:

using 5-point Likert Scale response framework.

Please tick one (/) number per line to show either you agree or disagree with the following statement.

(1)– Strongly disagree

(2)– Disagree

(3)– Neutral

(4)– Agree

(5)– Strongly agree

Decentralized

1. This blockchain technology can make it easier for investors who are just starting to invest

1	2	3	4	5

2. Investors can access the investment platform to start investing without the help of a middleman.

1 2 3 4 5

3. Investors can invest at any time without any obstacles

1 2 3 4 5

4. Investors can set the time of purchase, sale of shares and also get the latest information on the latest issues.

1 2 3 4 5

Immutable record

1. Cryptocurrencies can be stored at in 'cold wallet' other than at in 'online wallet' to prevent theft.

1 2 3 4 5

2. Blockchain systems on cryptocurrencies can transfer cryptocurrencies to other people without incurring high charges.

1 2 3 4 5

3. The price or value of cryptocurrency is determined by the demand and supply of Bitcoin in the market.

1 2 3 4 5

4. Cryptocurrencies can also be used to buy goods. (Anuja Shukla, Priyanka Kushwah, Eti Jain, and Shiv Kumar Sharma, 2020)

1 2 3 4 5

Time- stamping

1. Investor think it's very easy to trade on cryptocurrency exchanges?

1 2 3 4 5

2. Blockchain timestamping is used to verify data and assign a time or date of creation for digital documents or events.

1 2 3 4 5

3. Characters that uniquely identifies the document or event and indicates when it was created.

1 2 3 4 5

4. Each block on a blockchain contains information on transactions between users on that blockchain.

1 2 3 4 5

Peer to peer

1. The application provided is very easy to understand by trading on the cryptocurrency exchange.

1 2 3 4 5

2. Cryptocurrency is a good investment if I want to gain direct exposure to the demand for digital currency.

1 2 3 4 5

3. Cryptocurrencies have no central issuing or regulatory authority, but instead use a decentralized system to record transactions and issue new units.

1 2 3 4 5

4. I know the blockchain system is used in investing on cryptocurrencies

1 2 3 4 5

5. There are many platforms that can help investors to make trades

1 2 3 4 5

Section C: Cryptocurrency

In this section respondents are asked to indicate the extent to which they agree or disagree with each statement regarding the behavior of cryptocurrency using 5-point Likert Scale response framework.

Please tick one (/) number per line to show either you agree or disagree with the following statement.

(1)– Strongly disagree

(2)– Disagree

(3)– Neutral

(4)– Agree

(5)– Strongly agree

1. I have trading skill in cryptocurrency.

1 2 3 4 5

2. I believe the blockchain technology on the trading platform has an unalterable record.

1 2 3 4 5

3. I know blockchain technology is used in trading platforms.

1 2 3 4 5

4. I believe that blockchain technology does not have a central issuing or regulatory authority, but instead uses a decentralized system to record information.

1 2 3 4 5

5. Blockchain is a great platform if I want to start trading without fear of being scammed

1 2 3 4 5

6. The blockchain technology provided is very easy to understand and use.

1 2 3 4 5

7. I believe that the blockchain technology available on the trading platform is decentralized and safer.

1 2 3 4 5

8. Among the various options, I prefer to use cryptocurrency trading because it is easier for me.

1	2	3	4	5
⬭	⬭	⬭	⬭	⬭