

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



**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

## 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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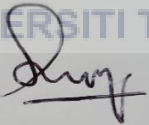
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**DECLARATION**

"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.



## ACKNOWLEDGEMENT

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.

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## 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 terpecah 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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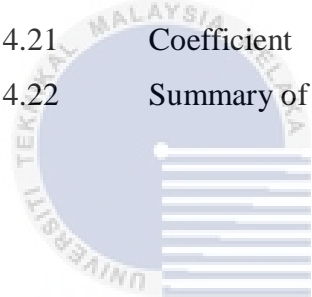
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# CHAPTER 1

## 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,