

# CHAPTER I

## INTRODUCTION

### 1.1 Research Background

There have been technological developments and innovations in the current era of globalization, such as big data, blockchain, artificial intelligence, and financial technologies (web 3.0). These developments are thought to be the starting point of the fourth industrial revolution, which focuses on the development of cyber technology and artificial intelligence. The development of cyber technology and artificial intelligence was previously marked by the use of the internet. Blockchain is predicted to be the revolution the global business landscape (Subhan et al., 2020) Newly developing IT technologies, such as the Internet of Things (IoT), artificial intelligence (AI), and blockchain technology, are gaining transaction in driving business model innovation and change (Yeon Park et al., 2020) Among these technologies, blockchain is one of the most commonly used in a number of businesses.

Blockchain is a transactional database that is secured by cryptography and governed by a consensus mechanism: it's essentially an immutable record of digital events (Nordgen et al., 2019) The main feature of blockchain is decentralization, which occurs because the records are stored at different nodes instead of at a single location; they are accessible to every authorized participant, and they are immutable (Bonson et al., 2019) The fintech industry, which involves many parties and still uses manual and rigid methods, is thought to be a good fit for blockchain technology. This technological

development is also thought to be effective in stimulating the realization of security and accuracy of transaction data, allowing the bank to provide security assurances.

It is concluded that implementing Blockchain Technology (BCT) will result in more efficient, transparent, and secure financial transactions because only authorized participants can perform or do transactions in the block, and it is difficult to be attacked due to the main feature of decentralization, as all transactions are recorded in all blocks.

Blockchain technology will have far-reaching economic and social implications, which are not yet foreseeable to their full extent. It will reduce transaction costs by disintermediating many well establish sectors and most incumbent businesses from the banking and finance sectors and provide opportunities for newcomers (Witzig and Salomon, 2018). Because of its decentralization system, blockchain is considered to be an influential technology at the beginning of web 3.0 development, not only ensuring quality and facilitating the dissemination of information, but also reducing other limitations (such as transaction costs and transfer limits) when compared to traditional banks.

With the rapid development of technology, many companies or start-ups have formed, taking advantage of this momentum by adopting renewable technology. In 2019, Indonesia ranks fifth in the world with 2,193 start-ups, behind the United States, India, the United Kingdom, and Canada ([kominfo.go.id](http://kominfo.go.id)). The growth of start-ups and technology-based businesses is evidence of the industrial revolution 4.0's driving power, which is based on modern technology.

Many businesses have been encouraged by the 4.0 revolution to adopt web 3.0, specifically blockchain technology especially in fintech business, which was previously only known as the technology behind bitcoin. The potential use of blockchain technology is very useful and can play a vital role in facilitating transactions and safer databases for businesses resulting in lower transaction costs for businesses (Niranjnamurthy, 2018) and one of the firm's objectives is to lower the costs of resource exchange within the company by this phenomenon it can be foreseen that blockchain has a lot potentials and advantages if it applied in business.

Blockchain with its tremendous potentials or benefits gained in blockchain applications on the other hand there are a lot that has not been revealed and is very promising when applied in business, but with the many potentials or benefits gained in blockchain applications, blockchain is still far from its full potential and still requires a lot of research and experts in blockchain applications because it is a new technology (Fanning, 2016), there is still a lot of study being done on prospective blockchain applications in businesses and start-ups, as well as mapping blockchain uses, particularly in Southeast Asia. The countries as the nation of study objects are limited; there are Indonesia, Malaysia, Singapore, Philippines, Vietnam because these countries have the highest in number of fintech start-up companies established among other countries (fintechnews.sg) in Southeast Asia

Based on the description above, researcher interested to conduct research with the title "Mapping Blockchain Technology Applied in Fintech Start-up Companies" in ASEAN countries especially (Indonesia, Singapore, Malaysia, Philippines, and

Vietnam). With the advancement of increasingly renewable technologies, the researcher interested in seeing how blockchain technology affects start-up businesses.

## 1.2 Problem Statement

The formulation of the problem of this research is finding benefits and potency of blockchain technology and mapping blockchain technology applied in fintech start-up companies in Southeast Asia (Indonesia, Malaysia, Singapore, Philippines, Vietnam)

## 1.3 Research Objective

Based on the problem statement above, the objectives of this research are to analyzing the potential and benefit for blockchain technology to be used in start-up companies and mapping the application of blockchain technology in fintech start-up companies in Southeast Asia (Indonesia, Malaysia, Singapore, Philippines, and Vietnam)

## 1.4 Research Benefits

This research is expected to have benefits for some parties as follows:

1. For Researcher

This research is expected to give knowledge about the mapping blockchain technology applied in fintech start-up companies

2. For Company

This research will be useful for company as a consideration in applying blockchain technology in their companies.



### 3. For Further Research and Others

This research is expected to be a reference and additional literature for future research within the same topics.

## 1.5 Writing Systematic

Writing systematics used to give a clear picture of this research, so that the readers can understand the content of this research. This research contains 5 chapters that will be explained as follows:

### Chapter 1: Introduction

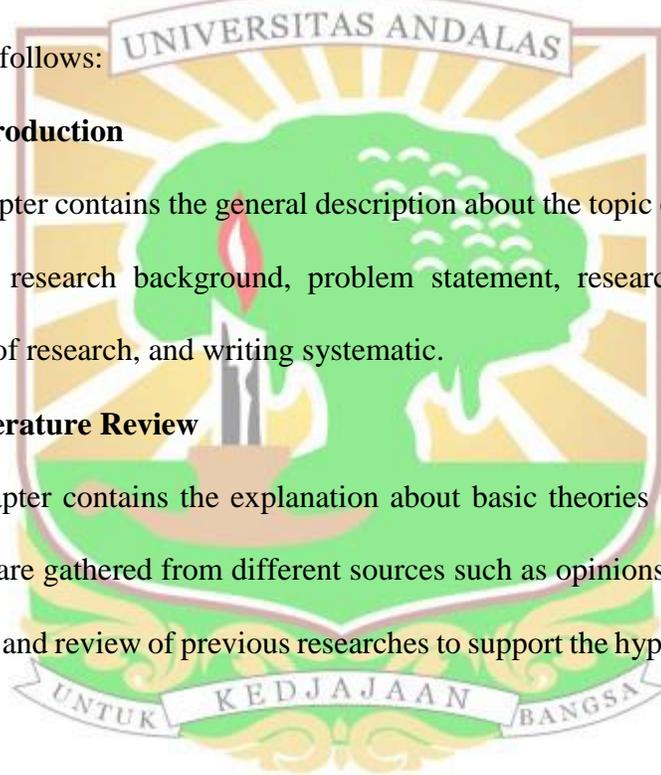
This chapter contains the general description about the topic of research, which consists of the research background, problem statement, research objectives and benefits, scope of research, and writing systematic.

### Chapter 2: Literature Review

This chapter contains the explanation about basic theories underlying to this research which are gathered from different sources such as opinions from the experts, books, journals, and review of previous researches to support the hypothesis generation of the study.

### Chapter 3: Research Method

This chapter provides information of an overview of the plan in doing the research including the research design, research model, operational definition and research variable, population and sampling, data and data collection method, and analysis method.



#### **Chapter 4: Analysis and Discussion**

This chapter gives explanation about the data processing result based on research methodology and analysis as well as discussion of the research results regarding mapping of blockchain technology applied in fintech start-up companies (Indonesia, Malaysia, Philippines, Singapore, and Vietnam)

#### **Chapter 5: Conclusion and Suggestion**

This chapter describes the conclusion from analysis of data, limitations of this research, research implications, and also the suggestions for further research.

