



**A PROJECT REPORT  
ON  
THE BENEFITS AND RISKS OF BLOCKCHAIN TECHNOLOGY  
AND CRYPTOCURRENCIES ON FUTURE OF FINANCE: A CASE  
STUDY OF NATIONAL BANK OF OMAN**

By

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JANUARY 2024

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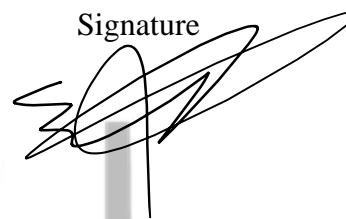
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## APPROVAL FORM

The project report entitled THE BENEFITS AND RISKS OF BLOCKCHAIN TECHNOLOGY AND CRYPTOCURRENCIES ON FUTURE OF FINANCE: A CASE STUDY OF NATIONAL BANK OF OMAN submitted by EATIDAL SALIM AL-JAHWARI ,20S19967 is approved in partial fulfillment of the requirements for Bachelor of Arts (Honors) in Business Administration with specialization in General Management.

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## ACKNOWLEDGMENT

I would like to express my thanks to Allah for giving me the health and strength to complete my studies successfully. I would also like to extend my thanks to my supervisor, Dr. Blossom Christina, for her invaluable guidance and effort throughout this period. Additionally, I extend my sincere thanks to the National Bank of Oman, especially Dr. Ali Salim Al-Shukaili, Assistance General Manager for his generous support that made this research possible. Lastly, I would like to express my deepest gratitude to my family and everyone who encouraged me, may Allah bless them all.

## ABSTRACT

The world is witnessing a rapid digital transformation driven by technological innovations. This research investigates the opportunities and challenges of blockchain technology and its impact on the future of finance, while highlighting the National Bank of Oman for being the first bank working in the field of blockchain and cryptocurrencies in Oman. This study uses qualitative and exploratory research design to conclude the potential impact on banking operations and financial transactions. One of the most important objectives of the research is to evaluate the bank's readiness to adopt blockchain technology and identify the opportunities and challenges associated with it. The research methodology includes interviews and analysis of documents taken from reliable sources, which are considered primary sources. As for secondary sources that rely on previous studies, such as relevant literature, books, and web pages. This research seeks to know about the adoption of blockchain technology, its use, and the envisioned future of financial transactions within the organization. It is expected that the results of this study will contribute to the financial sector, and everyone interested in the field of digitalization. Furthermore, this research helps decision makers within the National Bank of Oman to develop policies and strategies that are aligned with the unique context of the financial field in the Sultanate. The study highlights the challenges and opportunities that the organization faces while implementing this technology. However, the research suggests various strategies to enhance the effectiveness of blockchain technology and cryptocurrencies to keep pace with rapid technological development, as Oman Vision 2040 aspires to increase the rate of digital transformation of institutions.

### **Keywords:**

Blockchain; Cryptocurrencies; FinTech; Digital Transformation; Smart Contract; Decentralized Application

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## CHAPTER ONE INTRODUCTION

### 1.0 Background of the Study

There is a huge potential for Blockchain technology and digital currencies to make a transformation in entrepreneurship financing. One of the main uses of this technology is to provide strategic financing, meaning that reducing the role of the intermediary and making financial transactions secure and encrypted (Sharma, 2022). Further, blockchain technology started by offering floating initial coins as an aid to providing long-term funds to startups. Furthermore, in general, modern technology has changed the financial and economic sector. It has created the need for more innovation in the field of banking services by transforming financing into electronic financing used by banks as well as companies (Coulter, 2023). Blockchain technology and digital currencies are typically viewed as a strategic technology for the financial services industry, yet research on its impact on business models and the banking sector is still not covered enough (Rajnak & Puchmann, 2020). Blockchain technology did not start now, actually, it has been around since the early nineties. Because of its huge advantages, it has become one of the fastest growing technologies lately. Khatib et al. (2021) presented in their research that the world could be transformed by generating new resources and putting appropriate information in the hands of humans. In addition, blockchain technology helps improve the efficiency of transactions, preserve financial assets as well as facilitate access to global markets.

In Oman, one of the few banks that uses blockchain technology is the National Bank of Oman (NBO). National Bank of Oman is one of the advanced banks as it uses blockchain technology and digital currencies to facilitate financial transactions at a reasonable price. Plus, it enhances the generation of application of financial transactions in light of controls of trust, transparency as well as accountability. Moreover, National Bank of Oman is the first bank in the Sultanate of Oman that adopt this advanced technology so that the bank can find the latest digital solutions for customers (Oman Observer, 2017). National Bank of Oman continues to work diligently to overcome any obstacles that could limit the use of this technology. The digital transformation office has highly experienced employees and developers in the technical field who have sufficient experience in dealing with codes and are willing to be part of digital transformation.

## **1.1 Research problem**

There is a scarcity of research related to the impact of blockchain and cryptocurrencies on the future of finance, as it is a strategy that is still developing in the world of financial and digital technology. It has many economic and security positives and benefits. On the other hand, there are many risks and challenges resulting from it. It is important for every organization that has adopted the blockchain and cryptocurrencies to have the ability to confront and reduce these risks such as the National Bank of Oman.

## **1.2 Aim**

The aim of the project is to examine the impact of blockchain technology and cryptocurrencies on the future of finance in NBO.

## **1.3 Objectives**

- 1- To determine the benefits of blockchain technology and cryptocurrencies in financing operations.
- 2- To evaluate the potential risks of using blockchain technology in the bank.
- 3- To investigate the impact of blockchain and cryptocurrencies on improving the efficiency and security of financing operations in NBO.
- 4- To discuss the important solutions to overcome the risks of blockchain technology and cryptocurrencies on the future of finance in NBO.

## **1.4 Research Questions**

- 1- What are the advantages of blockchain technology and cryptocurrencies in finance?
- 2- What are the potential risks of using blockchain and cryptocurrencies in the bank?
- 3- Does blockchain technology and cryptocurrencies improve the efficiency and speed of financial transactions in the bank?
- 4- What are the appropriate recommendations for NBO to have a successful blockchain technology.

## **1.5 Scope of the study**

This research will focus on the main branch of the National Bank of Oman, which is located in Muscat Governorate. The research aims to shed light on the bank's digital transformation office within three months the study will be completed by using primary data and secondary data.

## **1.6 Significance of the study**

This study aimed to provide valuable information on how blockchain and cryptocurrencies impact the future of finance. For the organizations and the financial sector in particular, this project enlightens them to avoid the risks and take the advantages of the opportunities. In addition, the



importance of research goes back to management, in order to implement a successful blockchain technology and cryptocurrencies. One of the importance of the research is that it helps decision makers in making the appropriate decision for the organization to achieve the goals of blockchain technology and cryptocurrencies and overcome the risks arising from it.

### 1.7 Limitation of the study

The study is limited to the banking sector only and may not apply to other industries. Moreover, the study is based on information reported by the Digital Transformation Office of the National Bank of Oman. Further, this study began on October 10, 2023, and will end on January 10, 2024. Here are some of the weaknesses of the study:

**Limited time:** The time available to study the research problem is very limited, and this is one of the factors that affects the needs of future study.

**Limited data:** Unable to access all the organization's data regarding blockchain technology and cryptocurrencies, therefore considered one of the challenges that the researcher faces during the interview.

**Lack of previous research studies on the topic:** Citing and referring to previous research studies is the basis of the research. However, depending on the scope of the research topic, previous research studies are limited, so the researcher explores the gaps and shows further development in the field of study.

### 1.8 Operational definition terms

1. Blockchain: it is a unique system, based on encryption and equal distribution of information among participant and stores the data securely and transparently.
2. Cryptocurrencies: a means of encrypted exchange and is used to secure transactions and control the creation of new units of currency based on blockchain technology.
3. Finance: a field that deals with managing money from risks and includes financial planning, investment, asset and liability management and financial statement analysis.
4. Digital: a word used to describe anything related to numbers or electronic systems and refers to modern technology such as smart phones, computers, and Internet.
5. NBO: National Bank of Oman.
6. CBO: Central Bank of Oman.

## 7. Mala'a: Oman Credit and Financial Information Centre.

### 1.9 Research structure

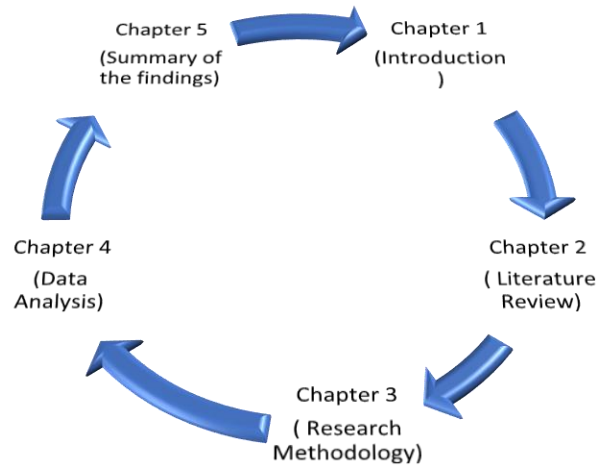


Figure 1. *Structure of Research*

### 1.10 Summary of the chapter

This chapter includes introduction about the blockchain technology and cryptocurrencies. It is also providing an overview regarding the National bank of Oman and expected outcomes in terms of objectives and research aim. The next chapter will introduce the literature review of previous studies and highlight research gaps that have not yet been addressed.

## CHAPTER TWO

### LITERATURE REVIEW

#### **2.1 Introduction**

In recent years, the financial landscape has witnessed a transformative wave propelled by the advent of blockchain technology and cryptocurrencies. The standard practices of financial transactions have been redefined by this technological advancement, which has also challenged established banking paradigms and opened new avenues for opportunity. With promises of improved security, transparency, and efficiency, these distributed and decentralized ledger systems have the potential to completely transform the way financial transactions are carried out. But these technologies' infancy also prompts questions about possible dangers and difficulties, necessitating careful consideration and wise decision-making. Using the National Bank of Oman as a case study, this study attempts to investigate the possible effects of digital currencies and blockchain technology on the future of banking. In particular, it will go over how financial institutions may profit from enhanced cross-border payments, quicker transaction processing times, more security, and lower costs as a result of blockchain technology and cryptocurrencies. In addition, it will look at the dangers and difficulties that come with implementing these technologies, including volatility, ambiguous regulations, cybersecurity problems, and even illegal activity. Additionally, it will assess how block chain technology and cryptocurrencies affect the speed and effectiveness of financial transactions carried out by banks, looking at things like transaction settlement times, international payments, and operating expenses. Finally, in order to assist the safe and responsible adoption of these technologies in the financial sector, it will concentrate on finding viable solutions and mitigation methods to address the risks connected with blockchain technology and cryptocurrencies.

#### **2.2 Definitions of Blockchain and cryptocurrencies**

Cryptocurrency is a kind of virtual or digital money that operates on decentralized networks built on the technology known as blockchain and employs encryption for security. Cryptocurrencies, in contrast to conventional currencies issued by governments and central banks, rely on a distributed ledger known as a block chain to record transactions and preserve the currency's authenticity. A decentralized and distributed ledger system called blockchain technology makes it possible to record transactions securely and openly throughout a network of systems. A chain of blocks including a list of transactions in each block is referred to as a "blockchain". Blockchain's capacity to make digital transactions safe, transparent, and economical has led to its increasing rise in

prominence. Online payments may be made without the use of middlemen like banks, exchanges, or financial institutions by utilizing blockchain technology.

### **2.3 The impact of Blockchain and Cryptocurrencies on improving the efficiency and security of Financing Operations**

The use of blockchain technology has the potential to enhance the financial industry's security and transparency (Tian et al., 2020). Verification on the blockchain increases openness between parties. (Tian et al., 2020) notes that further massive blockchain applications have been discovered as a result of this approach. Since a decentralized blockchain does not rely on any one governing body, it is inherently more secure than systems that rely on a central. Due to this safe and efficient method, blockchain technology serves as an immutable record of important transactions. As a result, it is ideal for sending and receiving funds internationally. By eliminating the need for human middlemen and automating the whole process on the distributed ledger, processing of transactions speeds up and costs go down. To reduce transaction fees, blockchain technology may do away with the need for banks to complete transactions (Tian et al., 2020). Most regulatory oversight is based on records, but there's no denying that the consequences of failing to do so are much more severe. Consequently, businesses must adhere to all regulations as regulatory framework pertaining to the virtual asset industry is now still being developed by the Capital Market Authority of Oman. Corporations and regulators alike benefit from Blockchain's real-time record updates, which cut down on inefficiencies and make anomalies simpler to identify. For record management, blockchain's centralized encryption is especially useful as it gets rid of problems like duplicate entries and fraudulent ones (Moşteanu & Faccia, 2020).

Furthermore, the combined expenses of a Network and its enabling ecosystem exceed the individual expenses of handling transactions at any one bank when these institutions work together on a Blockchain. The expenses are divided between all participating parties, which results in a considerable drop in cost. Campbell-Verduyn and Giumelli (2022) state that when banks and other financial institutions employ smart contracts, they improve contractual term performance because they automatically execute once certain pre-established criteria are fulfilled. All relevant laws and regulations, including any cross-jurisdictional compliances that may be required, must be adhered to by these smart contracts. Financial asset transfers that are complicated and governed by an immutable set of rules might benefit from blockchain technology, can automate the resolution of some disputes. Blockchain's ability to eliminate the need for a trustworthy intermediary makes it ideal for

decentralized, peer-to-peer transactions. Blockchain technology has the potential to render custodial banks and clearers, who charge fees as middlemen, obsolete in the financial services industry. Due to the drastic reduction in operating expenses seen by banks, blockchain technology provides exceptional capital (Campbell-Verduyn & Giumelli, 2022). At this time, blockchain transactions can be programmed and automated. With these cornerstones in place, banking institutions like NBO can eventually achieve the efficiency, openness, and safety that consumers need. Blockchain technology has the potential to have far-reaching effects on the capital market, where companies can go to obtain funds by selling financial assets like contracts and shares. With the new blockchain technology, there is no longer any need for intermediaries, and it is possible to create and trade assets rapidly and cheaply. More complete personalization of blockchain technology is possible (Spiridonov, 2021). Potentially increasing trade efficiency is the replacement of difficult, paper-based procedures with simplified, automated ones. Due to its decentralized nature, which prevents any one party from controlling it, a publicly accessible blockchain may be a valuable instrument for working together. Distributed ledger technology, such as Blockchain, offers a potential improvement over the present manner of bank transaction settlement and tracking Peer-to-peer transactions in financial services and banking might be made feasible by using Blockchain technology (Spiridonov, 2021). Hence, financial service providers like National Bank of Oman can ease concerns over the role that middlemen play in peer-to-peer transactions. Smart contracts expedite transaction settlement, increase accuracy, and provide immutability of data when used in conjunction with blockchain technology. Most importantly, monitoring each network transaction may assist in reducing the risks associated with credit and money management. Therefore, NBO may be able to better control risk if Blockchain is integrated into the finance function.

## **2.4 Impact of Blockchain and cryptocurrencies in Middle East on financial operation**

In 2016, there was a surge of interest in the application of blockchain technology within the Gulf States, with notable traction in Saudi Arabia, Bahrain, Oman, and the United Arab Emirates (UAE), particularly within governmental and financial sectors. Bahrain, before implementing blockchain for digital documents and banking services, undertook thorough research into the legal implications of this technology, working diligently to establish the necessary regulatory and legal frameworks. Simultaneously, Saudi Arabia and the UAE directed their efforts towards investigating and comprehending the current and prospective applications of blockchain technology in various sectors such as commerce, finance, and government operations. Recent developments in the

financial, political, and legislative landscapes of the region suggest a significant potential impact of blockchain technology, indicating its role in shaping and transforming the financial industries across the Gulf. (Alsubaei, 2019) The Gulf nations have adeptly kept pace with and capitalized on contemporary technological advancements, elevating productivity and efficiency while bolstering government services through the establishment of a sophisticated technical infrastructure adept at handling emerging digital data. In 2016, the Dubai government inaugurated the Global Blockchain Council with the explicit purpose of exploring present and future applications of blockchain transaction technologies. This council has played a pivotal role in catalysing the inception of numerous enterprises in the United Arab Emirates, specializing in the creation of blockchain platforms tailored for smart contract development, digital asset exchange, and the seamless transmission of digital documents. Additionally, Saudi Arabia and IBM and Elm have partnered to explore ways to offer public and private sector services using blockchain technology. Furthermore, UAE and Saudi banks have argued on launching a blockchain based digital currency for cross-border transactions (Alsubaei, 2019). Notwithstanding these initiatives, blockchain initiatives in the Gulf states are still in their infancy, and considering how young the technology is, complete acceptance of it is uncommon—as is the case in many other nations. However, the rate at which blockchain technology is already being adopted in the area suggests that the Gulf states are about to embark on a new stage of their digital revolution (Alsubaei, 2019).

## **2.5 Benefits of Blockchain and Cryptocurrencies in financing operations**

The advent of cryptocurrencies and blockchain technology is causing a paradigm change in the financial industry. With their many advantages over other financial procedures, these cutting-edge technologies have the power to completely transform finance operations. For the last 10 years, the financial services sector has conjectured about the potential of blockchain technology. Blockchain is nothing more than a financial transaction ledger. This ledger is published, distributed, and stored in several places. Every time a transaction happens, a block is created and added to each ledger copy. (Kimani et al., 2020) This makes it easier to guarantee correct transaction recording. Because there are many variations of the record, blockchain is almost immutable and very secure. A hacker would have to edit every copy of the ledger simultaneously, which is extremely difficult to achieve, in order to alter or fabricate any part of the record. Blockchain enables simple, secure transactions and fosters trust between business partners. Deterministic smart contracts are tamper-proof software that automate business logic, increase efficiency, and foster trust. It makes generating and using them easier. Initially, the majority of banks viewed the Blockchain technology—which powers cryptocurrencies like Bitcoin, Ethereum, and other altcoins—with great suspicion and contempt

(Attaran & Gunasekaran, 2019). But things have begun to shift lately, and the banking and financial industries are talking about it a lot. The main reason is that it is far quicker at processing transactions and substantially less costly.

According to Schär (2021) banks have been investigating how to use blockchain technology for trade financing, syndicated loans, and clearing and settlement. Conventional financial institutions impose different charges for their services, which increases the total expense of financing operations. This is because transactions often involve multiple banks before reaching the final recipient. As a result, money transfers are both time-consuming and costly. However, blockchain technology has the capacity to substantially decrease these expenses by eliminating intermediaries and simplifying procedures. This is especially advantageous for international transactions, which often incur substantial costs and experience delays. Blockchain has the capacity to enhance the efficiency, accuracy, and cost-effectiveness of international transactions. Consequently, this will lower transaction-processing costs for banks and allow them to process payments more rapidly and correctly. These benefits are pushing banks in adopting blockchain technology. Accenture Digital (2017) conducted interviews with thirty-two individuals in commercial banking. The findings showed that nine out of ten executives claimed their bank is presently investigating the usage of blockchain. Since 2015, several prominent global financial institutions have begun the process of developing ideas for the blockchain industry. Banking titans such as Goldman Sachs and J.P. Morgan have developed their own blockchain labs and conducted extensive research on this issue in partnership with blockchain platforms. They have also released a series of papers on the subject (Guo & Liang, 2016). J. P. Morgan, together with the Royal Bank of Canada and Australia and New Zealand Banking Group Limited, has introduced the Interbank Information Network (INN), which is the biggest blockchain payments network in existence. The new project may use blockchain technology to reduce inefficiencies in the global payments process, therefore enabling quicker and more secure money transfers to beneficiaries with fewer procedural requirements (Osmani et al., 2020). Additionally, the Sultanate of Oman has launched Blockchain Solutions & Services Co. (BSS), marking the beginning of its blockchain program following the Oman Blockchain Symposium in November 2017. Using the most effective and secure distributed ledger technologies, this firm aims to promote innovation and enhance services. A thorough digital strategy for Oman has been in the works for some time now. Within the private sector, blockchain applications are being considered in ongoing competitions. Banks in Oman, such as Bank Dhofar, are collaborating with Ripple on block chain projects. As the first Omani bank to use RippleNet, the global corporate Blockchain network that facilitates money order services, Bank Dhofar recently revealed his use of Ripple for cross-border payments. More than a

hundred member banks and organizations who utilize blockchain for fast payments may be reached by the bank via this program (Hilali & Shaker, 2021). Additionally, the bank is able to provide a clear payment procedure and instant, hassle-free, secure cross-border transfer of funds in a matter of seconds. The BSS is also working with the Oman Banking Association on block chain initiatives and the companies like Oman Oil and OQ Group, together with HSBC Bank Oman, successfully executed the first prototype financial transaction at the group's headquarters in Muscat. The CEO of HSBC Oman said that in order to facilitate commerce and make it easier, quicker, and more secure, HSBC actively supports the integration of contemporary technology like blockchain (Hilali & Shaker, 2021). The banking industry of Oman may now use new digital technology thanks to this transaction. This program highlights how blockchain may be used to replace conventional paper-based exchanges in both commercial and operational contexts. From what we can gather from these discussions, the different financial institutions in the world are actively seeking new blockchain applications in this space. Additionally, the use of blockchain is no longer seen by the banking and financial industry as a danger to established business structures.

## **2.6 The potential risks of using Blockchain Technology in Banks**

The financial industry appears to gain a great deal from blockchain technology, but there are substantial risks associated with its implementation that must be properly evaluated. Mollajafari and Bechkoum (2023) state that security is one of the main issues with blockchain technology and cryptocurrency applications in banking. However, there are still security concerns with blockchain technology, especially when used in financial institutions, despite its many praises for its decentralized and secure architecture. Vulnerabilities in smart contracts, that are programmable contracts that execute themselves, is an important cause for concern. Criminals may steal money or get sensitive data if they find a way to exploit a vulnerability in smart contracts. As a further concern, blockchain networks are vulnerable to 51% assaults. Vilić (2022) reports that cyberattacks on banks increased by 238% in the year 2020. Among the most prevalent methods of attack used by bad actors is phishing, which has seen a 600% spike in assaults since February 2021 Vilić (2022) The convenience of mobile banking has not prevented data theft, however, as many users do not set two-factor authentication, sensitive information stored on their smartphones remains vulnerable People risk losing money if they don't use this function, get their smartphone stolen, or engage on a dangerous link in a phishing email (Alyami et al., 2023). An additional risk is that they may bring malware to the network they access, which might put a whole company's network at risk. The possibility of transaction manipulation or disruption of the procedure for consensus arises in a situation when a single organization or group owns more than half of the computing resources in the network (Alyami



et al., 2023). It is also critical that digital wallets, which consumers use to store encrypted keys that allow them to gain access to and handle their financial data, be secure. A wallet's contents are vulnerable to theft if it falls victim to a spoofing attempt, malware, or other security breach. These potential risks underscore the need for banks to establish strong security measures, audit their code thoroughly, and teach their customers how to protect their digital assets; this will ensure that financial institutions' blockchain ecosystems remain intact, even though blockchain improves security through consistency and transparency. Javaid et al. (2022) states that financial institutions must tread cautiously when integrating blockchain technology into their operations because of the many operational issues it poses. The logistical challenge of adapting current financial systems to blockchain technology is a major operational risk. Modifying existing systems, integrating new technology, and setting up secure network connections are all part of the complex implementation process. Critical financial processes are disrupted as a result of system failures, downtime, and interruptions to normal banking operations caused by these changes. Another important factor to think about is the sustainability of blockchain networks. When the number of transactions increases, the system might become overloaded and slow down banking activities Javaid et al. (2022). Banks can protect the dependability and consistency of their operations while adopting blockchain technology by investing in thorough testing procedures, making sure blockchain solutions work with current infrastructure, and having backup plans ready for any unexpected disruptions. Challenges with scalability are an example of a technical issue; existing blockchain systems aren't scalable enough to process the massive amounts of transactions processed by major banks (Tyagi & Kathuria, 2021). Smart contracts are self-executing programs recorded on the blockchain. However, they may be vulnerable to security flaws that might result in financial losses if abused. Integrating and exchanging data across banks is further made more difficult by the fact that various blockchain systems are not compatible with one another (Attaran & Gunasekaran, 2019)

Because blockchain technology and cryptocurrencies are still in their infancy, the regulatory environment around them is complicated, unpredictable, and ambiguous. The anonymity and international nature of cryptocurrencies make it difficult for banks to comply with current laws, such as Anti-Money Laundering and Counter-Terrorist Financing rules (Financial Action Task Force, 2019). When incorporating cryptocurrencies and blockchain technology into their systems, banks need to take into account a number of important factors, including potential regulatory crackdowns, tax implications, and issues with know your customer (KYC) and anti-money laundering (AML) compliance (Martino, 2019). Banks and their clients have additional challenges in navigating the

ever-changing regulatory environment due to the unknown tax consequences of cryptocurrency (Martino, 2019).

Banks run the risk of losing money if they retain or make investments in cryptocurrencies due to their unavoidable volatility. Market mood, governmental declarations, and technology upheavals are among the elements that might worsen this volatility. Also, since the extent of their attacks grows, institutions may be more susceptible to advanced assaults after using blockchain technology (Dyrberg et al., 2018). According to the World Economic Forum (2020), this might result in monetary losses, harm to one's image, and interruptions to vital activities. Moreover, if not properly handled, the broad use of cryptocurrencies as an alternative to conventional currencies can threaten systemic financial stability and perhaps destabilize the whole banking system. Furthermore, financial organizations must cautiously handle the reputational concerns brought about by the deployment of blockchain-based technology in banks. A lot of people are cautious of blockchain technology because of its affiliation with digital assets, which has faced criticism from both the general public and government agencies. Customers' faith in their banks might take a hit in the event of incidents like exchange attacks, theft, or technical glitches in blockchain networks. These breaches or interruptions to operations could negatively impact the image of institutions that use it. Customers could view a bank's use of blockchain technology through a different lens if they believe cryptocurrencies are just theoretical. Additionally, Blockchain technology's potential impact on financial inclusion is worth considering. Some groups, such as those without banks or those living in poor nations, find it difficult to acquire cryptocurrencies due to their technical complexities (World Bank, 2017). Chow et al. (2021) note that privacy issues are heightened by the consistency and openness of blockchain transactions, which might lead to the exposure and exploitation of sensitive personal data. Last but not least, Digiconomist (2023) notes that some blockchain consensus techniques, like Proof-of-Work, are very energy hungry, which contributes to global warming and loss of resources. Financial institutions must do thorough risk assessments and put in place solid threat management systems to deal with these threats. Authorities, financial companies, and technology vendors must work together to establish transparent rules and guidelines for the responsible and secure growth of the use of blockchain technology in the banking industry.

## **2.7 Conclusion**

Many Industries might be radically altered by blockchain technology, but the banking and finance industries stand to benefit the most. Safety and Security, transparency, speed, and efficiency are just

a few of the many advantages it provides. Through the use of smart contracts, blockchain technology may modernize processes, do away with middlemen, lower transaction costs, and automate jobs. However, there are obstacles to deploying blockchain as well. Issues including scalability, cyber vulnerabilities, privacy constraints, and regulatory issues need thorough attention. The advantages of blockchain technology outweigh the drawbacks, and organizations that use it will have a leg up in the marketplace.

Nevertheless, blockchain deployment requires meticulous preparation, thorough investigation, and substantial capital. Which might be problematic for less established businesses and organizations. Additionally, others worry that there won't be enough trained individuals to design, implement, and oversee blockchain systems. Despite these obstacles, blockchain technology has the potential to revolutionize several sectors with tactical execution and compliance with regulatory frameworks. It is important to investigate and resolve all issues in order to make educated judgments about the worldwide adoption of blockchain technology in companies. Researching the process of implementing blockchain technology and integrating it into existing systems requires thorough study. Businesses may improve their operations, increase trust and transparency, and remain relevant in an increasingly digital environment by tackling these obstacles and using blockchain's potential.

## **2.8 Summary of the chapter**

This chapter has shed light on the potential benefits of block chain and cryptocurrencies in financing operations and the potential risk that comes with implementing the block chain technology. Additionally, we assessed the impact of block chain and cryptocurrencies on improving the efficiency and security of financing operations in banks. Lastly, we shed light on the possible solutions that can be adopted to minimize the risks associated when implementing the block chain technology in NBO. In the Next Chapter will discuss the Research methodology.

## CHAPTER THREE

# RESEARCH METHODOLOGY

### 3.1 Introduction

This project aims to examine the impact of blockchain technology and cryptocurrencies on the future of finance at the National Bank of Oman. The scope of the study focused on the main branch of the National Bank of Oman located in Muscat, the capital of the Sultanate of Oman, and highlighted the organization's digital development office. Moreover, this chapter presents multiple aspects such as explanation of research design, sample size, sample techniques, data collection strategies, legal, ethical, and social considerations.

### 3.2 Research design

To achieve this project objectives, a qualitative research design was employed. It is a type of research methodology that explores and provides deeper insights into a phenomenon or problem rather than collecting numerical data points as is the case in quantitative research. Furthermore, qualitative research is concerned with beliefs and experiences and presents insights that quantitative research may not be able to capture (Jain, 2023). Qualitative research is important to this study because it contains “how” and “why” research questions and captures a deeper understanding of experiences and context. In addition, this type of methodology has the potential to ask questions that cannot easily be put into numbers to understand the impact of blockchain and cryptocurrencies on the future of finance. Another advantage of qualitative research is that uses smaller samples, which reduces costs. Many qualitative research projects can be completed quickly, accurately, and on an inexpensive budget because it uses smaller samples than other research approaches. Thus, it allows obtaining faster results so that the project can move forward with good data, since the duration of this study is very limited. However, one of the disadvantages of qualitative research is that takes a long time due to the huge amount of information that is collected while conducting this research. The process of sorting this data takes a lot of personal effort and a long time to extract the main points of the project.

### **3.3 Population**

A population is a group of people who have a role in the subject of study. This study targets the banking sector, which focuses on the National Bank of Oman, specifically employees of the Digital Development Office, whose number varies between 20 employees.

### **3.4 Sample size and sampling techniques**

This research is based on an exploratory qualitative research methodology, so the sample size is small, targeting the Digital Development Office of the National Bank of Oman. This project used a convenience sampling technique which considers non-probability sampling which doesn't include a random selection of participants. To collect the data, the interview took place on December 10, 2023, with the Head of Digital Channels Services and Assistant General Manager, Dr. Ali bin Salim Al-Shekaili.

### **3.5 Research Instrument**

It is a tool or method used to obtain, measure, and analyze the required data based on the type of study being conducted. The tool varies depending on the type of study (DiscoverPhDs, 2020). Since quantitative research therefore uses research tools such as observation, interview, focus group discussion and document analysis. The current study uses primary and secondary data, and primary data means information collected directly from the target organization. This data was taken through personal interview and document analysis that left behind and try to go through it. The secondary data was collected from different reviews of relevant articles and using previous research related to the impact of blockchain and cryptocurrencies.

### **3.6 Data collection method**

Primary and secondary data analysis was used in this study by conducting a personal interview to obtain correct and accurate information directly from the target organization in order to achieve the objectives of the study. An appointment was made to conduct the interview with Dr. Ali, Head of Digital Channels Services, on December 10, 2023. It contained 6 questions that included all the project's objectives and knowledge of everything related to the blockchain and cryptocurrencies. The interview was recorded with the bank's permission to use its information. The interview helped to obtain clear and correct information to prove the extent of the impact of block chain technology

and cryptocurrencies on the future of finance. Furthermore, use secondary sources to support primary sources so that the research endeavor achieves an in-depth understanding of the project and effectively addresses the objectives of the study.

### **3.7 Data analysis techniques**

In this current study, a variety of methods were used to analyze qualitative data through grouping and classification, linking abstract concepts, and creating theory from emerging themes. The purpose of qualitative data is to explore relationships, cause, effect, and possible solutions by using descriptive analysis. Further, qualitative analysis helps clarify data and improve the research in achieving its objectives.

### **3.8 Legal, Ethical and Social considerations**

Ethical, legal, and social considerations in research are important to adhere to in order to advance the research objectives, such as true knowledge and avoid making mistakes. For example, not to falsify information or distort research data. This is considered one of the ethical standards that adhere to certain rules of behavior when collecting information from targeted people. This research is consistent with the principles of ethics in order to achieve scientific integrity and cooperation between science and society. It also prevents reducing the credibility of the research because if something happens that violates the ethics of the research, it will create doubt about the validity of the information used in the project.

Regarding social considerations, the research complies with the requirements of academic integrity, as it preserves human rights and does not cause harm. There is no issue of violation of humanitarian regulations laws. Rather, this study is useful to society in terms of scientific and technical aspects, targeting students, the technical and banking fields, and the organization itself. In this research, all necessary licenses were obtained from the competent authorities. The research is also based on complete confidentiality because all these principles are considered necessary for conducting any research to ensure that it does not cause any harm to any person or to society in general.

### **3.9 Summary of the chapter**

This chapter explains the methodology chosen to collect data for this study, as the primary sources were through conducting an interview with the digital development office at the bank. Furthermore, were using secondary data from external sources such as web pages, articles, books and previous scientific research in order to support the validity of the primary data. The chapter concludes the importance of conservatism and commitment to social, ethical and legal considerations.

The upcoming chapter will focus on analyzing data taken directly from the organization and presenting it in detail, clarifying relationships, causes and solutions using descriptive analysis.



## CHAPTER FOUR

### DATA ANALYSIS

#### 4.1 Introduction

This chapter aims to analyze the data taken from the interview, which is based on clarifying and investigating the impact of blockchain technology and cryptocurrencies on the future of finance. The primary data were collected from the National Bank of Oman and the interview was recorded after taking permission from the Assistant General Manager. The NVIVO application was used to obtain the transcript to make the process easier.

#### 4.2 Interview Results

The interview questions are based on objectives and research questions:

##### 4.2.1 What's your bank vision regarding digitalization?

The National Bank of Oman (NBO) has a vision, for digitalization, which is reflected in its strategy to transform services and transactions. In an interview with the Assistant General Manager, it was revealed that the bank is fully committed to digitalization and has devised a roadmap to enhance customer experiences and improve efficiency.

Digital transformation goes beyond benefits. Encourages an innovative culture within the bank allowing it to adapt quickly to changes in the industry. It's not about technology; it's strategically shifting towards a future where customer satisfaction, operational excellence and competitive advantage are all key components of a successful bank. (Tran, Le, & Hang, 2023)

Throughout 2021 NBOs main goal was to ensure uninterrupted customer service without requiring clients to visit their branches. This ambitious objective demonstrates the bank's dedication to providing services and aligns with the trend in the banking industry, which involves leveraging technology to redefine the banking experience.

One notable aspect of NBOs approach is their focus on offering 24/7 service availability. This shift toward a customer model acknowledges the changing needs and expectations of clients who value flexibility and convenience in their banking interactions.

The decision to operate without being bound by time or location shows a forward-thinking approach, in adapting to the age. Moreover, the interview highlights that NBO has effectively



incorporated avenues to enable a wide range of customer interactions. These avenues extend beyond banking and encompass various technological solutions that cater to different preferences and needs. The diverse nature of these channels demonstrates the bank's dedication to offering an inclusive digital banking experience.

#### **4.2.2 What are the reasons for implementing blockchain technology in the bank?**

The National Bank of Oman (NBO) has made the decision to implement technology after recognizing its advantages and operational improvements (Assistant General Manager, 2023). This aligns with industry trends highlighted in a study by Schweizer (2019) which emphasizes the growing significance of blockchain in the sector, means that the financial industry is undergoing a transformation driven by the emergence of technology. This innovative distributed ledger technology (DLT) disrupts the centralized database model. Offers a revolutionary approach to record keeping. Unlike the vaults and cumbersome paperwork of the past, blockchain provides a transparent and shared record of every financial transaction. This fundamental shift has implications for trust, efficiency, and security within the landscape.

The Assistant General Managers interview revealed reasons behind this adoption. Firstly, implementing blockchain will eliminate the need for third party involvement in processes, like insurance. This move aims to streamline transactions and expand services for customers. In situations, like when applying for a loan there can be delays if we must rely on third party organizations such as the Royal Oman Police (ROP) or the Ministry of Labor. However, by using technology we can create a decentralized platform that reduces our dependence on external entities and speeds up transaction processing.

The mention of the Mala'a center, which is supported by the Central Bank of Oman (CBO) adds another layer to our reasoning. This center relates to ministries including Labor, ROP, and Municipalities. It aligns perfectly with our goal at NBO to create a connected ecosystem. By using technology to maintain transaction records across these ministries we enhance collaboration. Ensure smooth information flow ultimately improving operational efficiency.

Moreover, in an interview it was emphasized that we aim to provide signatures for processes involving mortgaged properties in collaboration with the Ministry of Housing. Our use of blockchain in this context aims to expedite the loan approval process which traditionally takes

weeks. The security recording transactions offered by blockchain contributes to an efficient and transparent process.

At NBO we are dedicated to creating a user experience for our customers. That's why we have developed an application that utilizes technology. With this application all transactions are consolidated in one place so customers can easily access their history across services, like ATMs and Cash Deposit Machines (CDMs).

This demonstrates the banks alignment with the digitalization plan proposed by the CBO. The test initiative initiated in 2016 exemplifies NBOs approach to embracing transformation within the regulatory framework established by the CBO. This intentional integration of blockchain technology aligns with prevailing trends, in the industry highlighting NBOs dedication to utilizing solutions that enhance customer experiences and operational efficiency.

#### **4.2.3 What are the benefits of implementing blockchain technology in NBO?**

The National Bank of Oman (NBO) is looking forward to implementing technology, which is expected to bring benefits as mentioned in the interview, with the Assistant General Manager. The main objective is to streamline business processes that're important for all consortium members. They plan to build and operate business platforms based on technology. For instance, there is a project called Digital Trade Chain supported by seven banks aiming to facilitate border trade for small and medium sized businesses.

Implementing blockchain in NBO offers advantages:

##### **1. Ensuring Synchronization of Sensitive Data**

With blockchain it becomes possible to synchronize customer and transactional information while still respecting data privacy laws. This is achieved by concealing identifiers of data subjects while allowing the detection of information like duplicated financing or fraudulent claims. As a result, data privacy and compliance can be maintained.

##### **2. Accessing Shared Data:**

The blockchain ecosystem provides access to shared data contributed by members. This collaborative approach creates a network where relevant information can be readily accessed thereby enhancing the depth and quality of data, for analysis and decision-making purposes.

### 3. AI Development and Analytics:

Blockchain enables the creation and training of AI engines offering a foundation for analysis of key metrics related to risk and fraud. This capability equips the bank with data driven tools to improve decision making processes and risk management.

### 4. Cost Reduction and Efficiency Gains:

The implementation of blockchain has the potential to significantly reduce costs associated with intermediaries by eliminating their need in processes. Furthermore, it enhances efficiency by streamlining and automating workflows resulting in more cost-effective transactions.

### 5. Elimination of Reconciliation Processes:

The transparent nature of minimizes the requirement for time consuming reconciliation procedures. With an immutable ledger all involved parties have an accurate view of transactions reducing the likelihood of errors or discrepancies.

### 6. Enhanced Transparency:

Blockchain strengthens transparency across the supply chain by providing an unalterable record of transactions. This transparency does not support operations but also fosters trust among stakeholders such as customers, partners, and regulators.

### 7. Advantage:

By embracing technology NBO positions itself to maintain competitiveness, in the financial landscape. By adopting solutions and staying at the forefront of advancements the bank can meet evolving customer needs while staying relevant in a dynamic market.

To sum up incorporating technology, in the National Bank of Oman brings advantages. These include safeguarding data privacy, promoting collaboration, reducing costs, improving efficiency,

and staying competitive in the sector. The integration of aligns with the industry movement, towards utilizing technology to bring about positive changes and foster innovation.

#### **4.2.4 How will blockchain affect the future of finance in the bank?**

The National Bank of Oman (NBO) is looking forward to the integration of technology, which is expected to have a positive impact, on the future of finance in the institution. In an interview with the Assistant General Manager several important factors were highlighted that contribute to this outlook for implementation.

Firstly, blockchain is seen as a catalyst for simplifying customer interactions and reducing costs. By leveraging the secure nature of blockchain NBO aims to streamline processes making them more user friendly for customers. The elimination of intermediaries. The adoption of transaction records that cannot be tampered with contributes to increased efficiency in financial operations.

NBOs strategic approach ensures that each implementation aligns with objectives related to cost reduction, income generation and enhanced customer experiences. Blockchain technology naturally supports these goals due to its efficiency and transparency benefits. The positive impact of cost reduction is particularly noteworthy as it minimizes the reliance on intermediaries and speeds up transaction processes.

Furthermore, NBOs implementation of blockchain is part of a transformation strategy. This comprehensive approach ensures integration into existing operations while optimizing aspects of how the bank functions. Blockchain has the potential to greatly influence income, cost structures and customer interactions in a way making it an important factor for growth in the future of finance. According to Abdollahi, Sadeghvaziri, & Rejeb (2023) they found that Blockchains impact on the sector goes beyond its aspects and directly affects key drivers of long-term success, income generation, cost structures and customer interactions.

Apart from the advantages blockchain is expected to enhance customer experience by offering a unified platform for financial interactions. In an interview mentioned by Abdollahi et al. they discussed an application that incorporates technology. This application consolidates transactions across services like ATMs and Cash Deposit Machines (CDMs). The consolidation contributes to creating an accessible financial ecosystem for customers.

In conclusion the National Bank of Oman anticipates a impact from blockchain on the future of finance. The technology aligns with the bank's objectives of reducing costs, generating income, and providing customer experiences. By implementing blockchain within a transformation framework NBO positions itself as a leader, in financial innovation. This ensures that it can meet the evolving needs of its customers while maintaining efficiency and cost effectiveness.

#### **4.2.5 What are the main challenges of doing blockchain in NBO?**

The incredible impact that blockchain technology can have on industries cannot be denied. However, there are a few hurdles that hinder its adoption. One of these challenges is the limitation, in scalability, which affects the speed at which transactions can be processed. Additionally, the complexity of user interfaces and the public's lack of understanding about this technology also contribute to the adoption rate. (Yue,2020)

One of the obstacles highlighted in an interview, with the Assistant General Manager regarding the implementation of blockchain in the National Bank of Oman (NBO) revolves around transaction scalability. While blockchain excels in high volume transaction environments Omans population presents a challenge.

For blockchain to truly maximize its efficiency and benefits a substantial number of transactions is usually required. Nevertheless, in Oman where the population's comparatively lower than some countries there are limitations on overall transaction volume. This poses a challenge as blockchains optimal functioning relies on a mass of transactions to fully realize its potential.

The challenge lies in finding ways to adapt and optimize technology within a context where the transactional landscape may not naturally align with the operating conditions of this technology. Strategies to address this challenge could involve exploring solutions that encourage increased transactions fostering collaborations, with institutions or identifying specific use cases where blockchain can provide significant value despite a lower transaction volume.

Recognizing and dealing with this challenge is essential for NBO to ensure that the implementation of blockchain is not just technically robust but tailored to the demographic and transactional characteristics of Oman. It emphasizes the importance of adopting a nuanced and context specific strategy to maximize the advantages of blockchain in a scenario where high transaction volumes, typically linked with blockchain performance may not be readily available.

#### **4.2.6 What are the potential risks of using blockchain technology?**

The use of technology despite its advantages carries inherent risks as acknowledged by the Assistant General Manager of the National Bank of Oman during an interview. One major concern revolves around the newness of blockchain in the market with no guarantee of its success. This underscores the significance of conducting research and planning before implementing it to mitigate risks.

In the context of a bank one notable risk associated with blockchain is its impact on financial transactions. Any unexpected issues or malfunctions within the system could have consequences for these transactions. Given the stakes involved in operations a careful approach becomes crucial to ensure both reliability and security when using this technology.

Also, the interview highlights how interconnected blockchain systems are. For instance, when dealing with processes such as property mortgage releases blockchain relies not on a banks system but on external systems like that of the Ministry of Housing. Consequently, any disruption or damage to either system poses a threat to maintain integrity within the network. This emphasizes how important it is to establish a resilient infrastructure.

It's intriguing to consider how risks can be viewed as indicators that a company is heading in the direction. Adding a layer of strategic understanding. This perspective suggests that dealing with difficulties is a part of progress and being able to effectively manage risks indicates a forward-thinking organization.

Lastly the interview hints, at the possibility of collaborating with Omani institutions, which's a strategic move to expand the blockchain ecosystem. While collaboration can improve the usefulness and compatibility of technology it also brings about the need for careful coordination and risk management to safeguard the integrity of shared blockchain systems.

To summarize risks related to blockchain implementation in the National Bank of Oman encompass uncertainties associated with its emerging status, the importance of transactions its interconnectedness with external systems and the challenges involved in collaborative initiatives. Adopting a watchful approach to risk management is crucial as the organization navigates through the landscape of implementing blockchain technology.

### **4.3 summary of the chapter**

Data analysis refers to the process of examining organizing and modifying data to summarize information. In this study focused on analyzing qualitative data collected through interviews and observations to gain a deeper understanding of meanings, experiences, and perspectives. In addition, data has been gathered to enhance the findings and generate ideas. It is important to note that the information presented here is based on an interview conducted with the Assistant General Manager of the National Bank of Oman with their permission. This ethical approach ensures the integrity of the data collection process by adhering to research standards and protocols. The insights garnered from this interview provide perspectives that contribute to a discussion on digital transformation within the banking sector.

The next Chapter will present an overview of the main findings of the study. Moreover, it will provide suggestions and recommendations for successful blockchain technology.



## CHAPTER FIVE

# SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Introduction

This chapter summarizes the results of the study conducted on the banking sector, specifically the National Bank of Oman. It also explains some recommendations that help improve the impact of the blockchain. Moreover, highlighting the limitations that the researcher faced while conducting the study.

### 5.2 Summary of Findings

The study's objectives were to determine the benefits of blockchain technology and cryptocurrencies in financing operations, to evaluate the potential risks of using blockchain technology in the bank and investigate the impact of blockchain on improving the efficiency of financing operations in NBO. However, the study found that one of the reasons why banks resort to using blockchain technology is to cut the financial costs incurred by third parties from transactions. It also became clear that the Oman Strategy 2040 is directed towards digitalization and encourages organizations to shift towards technological innovation. Blockchain technology is still under development in the bank due to security challenges and the small number of users in Oman. These challenges are being addressed and the opportunities resulting from this technology are also being exploited.

### 5.3 Conclusion

The first chapter of the project provided a comprehensive overview of the study, including the background, importance of the study and expected results. Furthermore, presenting the research problem and defining the scope. This allows the reader to understand the impact of the blockchain on the future of finance at the National Bank of Oman and how it can improve the quality of financial services in the future. The research objectives and questions were also discussed.

The second chapter presented previous studies on the benefits and risks of blockchain and cryptocurrencies and their impact on the future of finance. The focus was on reviewing the literature and identifying research gaps that have not yet been addressed to be covered through this research.

The third chapter dealt with the research methodology and its type, as qualitative research was used for the study. The primary data was collected through conducting an interview at the National Bank of Oman with the Head of the Digital Transformation Department and the Assistant General Manager.



As for secondary sources, previous research, books, and scientific web pages were used. The chapter concluded by focusing on the extent to which the research complies with ethical, social, and legal standards.

Chapter Four presented a qualitative analysis drawn from the previously conducted interview, which was interpreted and linked to the research questions in order to discover new scientific insights about the blockchain and cryptocurrencies.

## 5.4 Suggestions and Recommendations

Based on the findings of this study, it has been recommended to improve the effectiveness of blockchain technology in NBO and invest more in the pilot project to activate it permanently. Here are some suggestions may benefit NBO to improve the efficiency of blockchain technology:

- a. **Security measures:** In order to stay ahead of cybercriminals, banks need to prepare themselves. For the banking and financial sector to run smoothly and keep the public's faith in money systems intact, dependable, robust systems and security are essential. When it comes to creating standards and using cutting-edge technology to safeguard their systems and assets, banks are at the forefront. Numerous cyber threats provide serious dangers to the operations, client data, and general financial viability of banks and other financial organizations. To develop effective cybersecurity measures, it is crucial to comprehend these dangers. As mentioned earlier the most common cyber risks encountered by banks and other financial organizations. Cybercriminals pose a significant threat because they use a variety of techniques, including malicious software, phishing links, and software security breaches, to steal money from people via digital platforms. Many prominent financial organizations have fallen victim to this quickly expanding crisis. Inspiring a plethora of government programs aimed at bolstering cybersecurity throughout the world. To cover come this issue National Bank of Oman must have robust cybersecurity safeguards to successfully combat these attacks. Included in these safeguards are policies for continuous surveillance, encryption, multi-factor authentication, strengthened network security, and thorough incident response preparation. To better detect and counteract new cyber dangers, it is essential that the organization carry out assessments of vulnerability on a regular basis, conduct evaluation, and encourage industry-wide information exchange. NBO and other financial institutions can protect their clients, data, and systems against cybercriminals by taking these preventative steps. However, the experts claim that these creative solutions might work in certain scenarios. For instance, (Meng et al., 2019) put up a blockchain-based trust model as a means to aid in the prevention of insider assaults.

Theoretically, this concept works, but most businesses could struggle to afford the implementation and maintenance costs and there are no outside factors to worry about since the system and blockchain are set up in a controlled environment during testing, just as the designers wanted. According to Hewa et al. (2021), security issues arise in real-world settings due to the presence of several moving components. Problems with device setup or failures, or even just human mistake, may be one of these variables. Without complete visibility into data flow throughout their networking environment, developers may find security solutions using blockchains to be hard to manage due to the number of moving parts. Thus, before thinking about integrating blockchain into current systems, National Bank of Oman will need thorough risk and feasibility evaluation.

- b. User education:** Stakeholders and employees must be educated about modern technology and banking market trends. Through training programs and informing them of the bank's latest achievements in applying blockchain technology and cryptocurrencies. Moreover, interact and participate in global conferences to exchange experiences and acquire skills from other organizations.

## 5.5 Limitation

This study faces several limitations. Firstly, time constraints, this project has specific timetables and therefore insufficient time for comprehensive study. Secondly, the lack of data availability, there is a lack of previous research related to the study, as there is only a small number of literatures that has dealt with the topic. This could lead to poor research quality and validity. Finally, the short duration of the interview, access to primary data is crucial, as its source was from conducting the interview, which was only 23 minutes, and may limit the depth and validity of the research.

## 5.6 Future research

In future research, it is possible to address some of the issues related to Blockchain and cryptocurrencies, making them more capable and efficient in handling larger amounts of transactions. Also in the future, much research may be presented related to the development of decentralized finance (DeFi) applications in the Sultanate of Oman or in the Gulf countries, which aim to provide financing without intermediaries. It's an interesting field of research with a lot of opportunities.

## 5.7 Summary of the chapter

This chapter presents a summary of the results analyzed previously. Moreover, some recommendations and suggestions were presented that are beneficial to the National Bank of Oman and to those

interested in this field. The limitations that the researcher faced during the study are discussed in this chapter and proposes future research.

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