CYBERSECURITY RISKS AND INHERITANCE OF DIGITAL ASSETS IN KENYA: STRATEGIES FOR MINIMIZING LOSSES

Submitted in partial fulfillment of the requirements of the Bachelor of Laws Degree, Strathmore University Law School

By

Mburu Brett Wachai

112520

Prepared under the supervision of

Dr. Lynette Osiemo

April 2024

Word count 13965

Contents

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to my dissertation advisor, Dr. Lynette Osiemo, for her invaluable guidance, support, and encouragement throughout this journey. Her expertise, patience, and constructive feedback have been instrumental in shaping the direction and quality of this research.

I extend my sincere appreciation to Strathmore Law School for providing the resources and facilities necessary for conducting this research.

I am indebted to my family for their unwavering love, understanding, and encouragement. Their belief in me has been a constant source of motivation and strength.

To all my friends who have supported me, celebrated my successes, and stood by me through the trials and tribulations of law school, I am forever grateful. Your friendship is a cherished gift that I will always hold dear.

Above all, I wish to acknowledge the divine presence of God in every aspect of this journey. It is through His grace and guidance that I have been granted the strength, wisdom, and perseverance to embark on this dissertation endeavor. In times of uncertainty and challenge, His steadfast support has been a beacon of light, illuminating my path and instilling in me the courage to overcome obstacles.

I am deeply grateful for the blessings bestowed upon me, recognizing that every achievement is a testament to His boundless mercy and generosity. May His divine guidance continue to inspire and empower me as I navigate through this academic pursuit and beyond.

DECLARATION.

I, MBURU BRETT WACHAI, do hereby declare that this research is my original work and that to the best of my knowledge and belief, it has not been previously, in its entirety or in part, been submitted to any other university for a degree or diploma. Other works cited or referred to are accordingly acknowledged.

Signed: .....

Date: .....

This dissertation has been submitted for examination with my approval as University Supervisor.

Signed: ..... 5 April 2024

Dr. Lynette Osiemo.

ABSTRACT:

This dissertation investigates the cybersecurity risks associated with the inheritance of digital assets, particularly focusing on cryptocurrency, in Kenya. The emergence of digital assets presents unique challenges for estate planning and inheritance due to their electronic nature and reliance on complex security measures. The study aims to explore the legal and regulatory framework governing digital assets inheritance, identify cybersecurity risks, and propose strategies to minimize these risks.

The research employs a qualitative methodology, drawing on secondary sources such as academic articles, legal documents, and reports. Analysis of existing literature and case studies reveals common cybersecurity threats including hacking, phishing attacks, and unauthorized access. The study also examines the current legal landscape in Kenya, highlighting the absence of specific legislation governing digital assets inheritance, and compares it with regulatory frameworks in other jurisdictions.

Based on the findings, recommendations are formulated to enhance the legal and regulatory framework for digital assets inheritance in Kenya. Strategies for minimizing cybersecurity risks include comprehensive estate planning, secure storage of private keys, and implementation of multi-factor authentication.

The study contributes to the understanding of cybersecurity risks associated with digital assets inheritance and provides valuable insights for policymakers, regulators, and individuals involved in estate planning. It underscores the importance of developing a robust legal framework and adopting proactive cybersecurity measures to safeguard digital assets and ensure their secure transfer across generations.

LIST OF CASES.

1) Lipisha Consortium Limited & Another v Safaricom ltd (2015)

2) Wiseman Talent Ventures v Capital Markets Authority (2019)

3) Securities Exchange Commission (SEC) v W.J Howey Co. (1946) Co.328US 293

LIST OF LEGAL INSTRUMENTS.

1. The Constitution of Kenya 2010.
2. Law of Succession Act (CAP160)
3. Law of Contract Act (CAP 23).
4. The Data Protection Act no. 24 of 2019
5. The Data Protection (General) Regulations 2021
6. The National Payment Systems Act no. 39 of 2011
7. The Computer Misuse and Cybercrimes Act no. 5 of 2018
8. The Central Bank Act no 15 of 1996.
9. The Money Remittance Regulations 2013
10. The Capital Markets Act CAP 485, Laws of Kenya
11. The European Union General Data Protection Regulation(GDPR)

LIST OF ABBREVIATIONS

ACCA	The Association of Chartered Certified Accountants
ATM	Automated Teller Machine
CBDC	Central Bank Digital Currency
CBK	Central Bank of Kenya
CMA	Capital Markets Act
CMSR	Capital Markets Soundness Report
CSIS	The Center for Strategic and International Studies
DCI	Directorate of Criminal Investigation
DFC	Digital Fiat Currency
ETH	Etherium
FINMA	The Financial Market Supervisory Authority
FSB	Financial Stability Board
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
IAS	International Accounting Standard
ICO	Initial Coin Offering
ICT	Information Communication Technology
IFRIC	International Financial Reporting Standards Interpretation Committee
IMF	International Monetary Fund
KICA	Kenya Information and Communication Act
NPSA	National Payments Systems Act

RUFADAA	Revised Uniform Fiduciary Access to Digital Assets Act 2015
SARB	South African Reserve Bank
SEC	Securities Exchange Commission
ULC	Uniform Law Commission

1 INTRODUCTION

1.1 BACKGROUND

Digital assets comprise virtual assets held or kept at online and compute based systems, applications and even software that can only be accessed and managed through access and use of internet by the owner alone.[1] The emergence of digital assets, including cryptocurrency, has created new challenges for estate planning and inheritance. Unlike traditional assets such as real estate and tangible personal property, digital assets exist solely in electronic form, and their ownership is often secured by complex passwords and private keys. Private keys are simply defined as secret numbers that act as passwords to allow access and management of digital assets by the owner.[2] As a result, the inheritance of digital assets poses unique cybersecurity risks that must be addressed to ensure the secure transfer of these assets.

Cyber security is the application of technologies, processes, and controls to protect systems, networks, programs, devices and data from cyber-attacks. It aims to reduce the risk of cyber-attacks and protect against the unauthorized exploitation of systems, networks, and technologies.[3] Cyber-attacks continue to grow in sophistication, with attackers using an ever-expanding variety of tactics. These include social engineering, malware and ransomware. According to a study by McAfee and the CSIS, based on data collected by Vanson Bourne, the world economy loses more than $1 trillion each year due to cybercrime.[4]

Cryptocurrency is a class of digital money that is protected by block chain technology. Block chain is a decentralized system that stores financial transaction data in such a way

[1] https://sanadvocates.co.ke/digital-wealth-and-the-challenges-posed-to-the-administration-of-estates/
[2] https://bitcoinke.io/2022/03/digital-assets-inheritance-in-kenya/, March 2022.
[3] itgovernance.co.uk/what-is-cybersecurity/
[4] https://www.mcafee.com/enterprise/en-us/assets/reports/rp-hidden-costs-of-cybercrime.pdf/ , page 3, December 2020.

that can't be changed, hacked, or cheated. Unlike traditional money, cryptocurrency has no physical manifestation. It's an asset that can only be used in the digital space. For security reasons, cryptocurrency can't be accessed unless you hold the private key, which is typically stored in a digital wallet.[5] The adoption of cryptocurrency has been on the rise in recent years, with millions of people worldwide owning and trading cryptocurrency. According to a report by Chainalysis, the value of cryptocurrency transactions in Africa rose by 55% between 2019 and 2020, with Kenya being one of the leading countries in cryptocurrency adoption.[6] As a result of this, there is need to explore the new domain of cryptocurrency and inheritance as failure to have an adequate plan for the succession of this digital assets poses a risk of losing the asset completely through cybersecurity crimes such as identity theft or failure to let your loved ones know about the assets may result in permanently losing it.

In the United States of America, there is The Revised Uniform Fiduciary Access to Digital Assets Act 2015, commonly known as RUFADAA, that governs access to a person's online account when the account owner dies or loses the ability to manage the account.[7] A fiduciary is a person appointed to manage the property of a another person, subject to strict instructions to act in the best interest of the other person (like executors in fact). It was developed primarily by the Uniform Law Commission (ULC) to provide fiduciaries with a legal path to managing the digital assets of deceased or incapacitated people. The legal experts at the ULC wrote the law as a guideline for states to consider and adopt. Most states have either enacted the law or are in process of doing so.[8]

The current situation of the law in Kenya regarding digital assets is that there is no specific legislation that governs these assets. However, the Central Bank of Kenya has issued warnings about the risks associated with digital assets, including cryptocurrency, and has

[5] https://trustandwill.com/learn/how-to-leave-cryptocurrency-in-your-will/

[6] https://www.imf.org/en/Blogs/Articles/2022/11/22/africas-growing-crypto-market-needs-better-regulations, November 2022.

[7] https://www.uniformlaws.org/committees/community-home?CommunityKey=f7237fc4-74c2-4728-81c6-b39a91ecdf22#:~:text=The%20Revised%20Uniform%20Fiduciary%20Access,ability%20to%20manage%20the%20account/

[8] https://www.nolo.com/legal-encyclopedia/ufadaa.html/

advised caution in investing in these assets.[9] Additionally, the Capital Markets Authority is in the process of developing regulations to govern digital assets in Kenya.[10]

This paper will therefore study what are the cybersecurity risks involved in the inheritance of digital assets, including cryptocurrency, in Kenya, and what strategies can be employed to minimize the losses associated with these risks?

1.2 STATEMENT OF THE PROBLEM

The statement of the problem in this dissertation is the cybersecurity risks involved in the inheritance of cryptocurrency in Kenya. The growth of cryptocurrency has created new challenges for estate planning and inheritance, as these assets exist solely in electronic form and can be vulnerable to cybersecurity risks such as hacking, phishing attacks, and ransomware. Furthermore, the legal and regulatory framework for digital assets is still developing in Kenya, which can make it difficult for individuals to pass on these assets to their beneficiaries. This problem is compounded by the fact that many people in Kenya are unaware of the cybersecurity risks involved in the inheritance of digital assets, and may not have the knowledge or resources to implement effective cybersecurity strategies or loss minimization strategies. As a result, there is a need to develop a comprehensive framework for the inheritance of cryptocurrency, in Kenya that takes into account the legal and regulatory framework, cybersecurity risks, and loss minimization strategies to ensure the secure and efficient transfer of these assets from one generation to another.

1.3 RESEARCH OBJECTIVES

1. To examine the legal and regulatory framework for digital assets, including cryptocurrency, in Kenya.
2. To identify the cybersecurity risks associated with the inheritance of digital assets in Kenya.

[9] https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf/

[10] Vincent O,' Kenya's capital markets regulator puts Crypto assets under close watch' The East African, 16 February 2022- < https://www.theeastafrican.co.ke/tea/business/kenya-capital-markets-regulator-crypto-assets-lose-watch-3717786/ > on 16 February 2023.

3. To explore the strategies that can be employed to minimize the cybersecurity risks associated with the inheritance of digital assets in Kenya.
4. To evaluate the effectiveness of current estate planning and inheritance strategies for digital assets in Kenya.
5. To provide recommendations for the development of a comprehensive framework for estate planning and inheritance of digital assets, including cryptocurrency, in Kenya.

1.4 RESEARCH QUESTIONS.

1. What are the legal and regulatory frameworks governing the inheritance of digital assets, including cryptocurrency, in Kenya?
2. What are the cybersecurity risks associated with the inheritance of digital assets, including cryptocurrency, in Kenya?
3. What cybersecurity strategies can be implemented to minimize the risks associated with the inheritance of digital assets, including cryptocurrency, in Kenya?

1.5 HYPOTHESIS

The hypothesis of this dissertation is that effective cybersecurity strategies, combined with a strong legal and regulatory framework and loss minimization strategies, can mitigate the cybersecurity risks associated with the inheritance of digital assets, including cryptocurrency, in Kenya.

1.6 JUSTIFICATION

The justification for this study is based on the growing popularity of digital assets, including cryptocurrency, as a means of investment in Kenya. As more individuals invest in these assets, the need for effective estate planning and inheritance strategies becomes increasingly important. However, the legal and regulatory framework for digital assets is still developing in Kenya, and there are significant cybersecurity risks associated with the inheritance of digital assets, including cryptocurrency.

The potential financial losses associated with the loss or theft of digital assets can be significant, and there is a need for effective loss minimization strategies to ensure the secure transfer of these assets from one generation to another.

By exploring the cybersecurity risks involved in the inheritance of digital assets in Kenya and identifying strategies to minimize these risks, this study will contribute to the development of a comprehensive framework for estate planning and inheritance that takes into account the unique challenges posed by digital assets.

Furthermore, this study will be relevant not only to individuals in Kenya who are investing in digital assets but also to policymakers and regulators who are tasked with developing an effective legal and regulatory framework for these assets. Overall, this study has significant implications for the secure and efficient transfer of digital assets, including cryptocurrency, in Kenya and beyond.

1.7 THEORETICAL FRAMEWORK

A theoretical framework for this study on the legal and regulatory framework for digital assets inheritance can be drawn from the essay "A Conceptual Framework for the Regulation of Cryptocurrencies" by Omri Marian. He argues that the existing regulatory approaches for traditional financial systems are inadequate for regulating cryptocurrencies due to their unique characteristics. He proposes a new framework that focuses on achieving the following objectives: (1) consumer protection, (2) financial stability, (3) prevention of illegal activities, and (4) fostering innovation.[11]

To achieve these objectives, Marian suggests a combination of legal and technological solutions. The legal solutions include a risk-based approach to regulation, application of existing laws to cryptocurrencies, and the creation of new laws to address regulatory gaps. The technological solutions include the development of new tools for monitoring and

[11] Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p55.

analyzing block chain transactions, and the use of smart contracts to enforce regulatory requirements.[12]

Marian also emphasizes the importance of international cooperation in regulating cryptocurrencies, as they are not limited by national borders. He suggests the creation of a global regulatory body to oversee cryptocurrency activities, and the establishment of international standards for cryptocurrency regulation.[13]

Based on the essay, the following theoretical framework can be drawn to answer the research question on the legal and regulatory framework for the inheritance of digital assets in Kenya:

1. The concept of digital assets inheritance and its legal implications: This framework will focus on defining digital assets, highlighting their importance and how their inheritance poses legal challenges. This will involve an analysis of the Kenyan legal framework and its ability to provide adequate protection for digital assets.
2. The challenges of regulating digital assets inheritance: This framework will address the challenges associated with regulating digital assets inheritance, including the absence of a clear legal framework, the anonymity of cryptocurrency transactions, and the lack of a centralized authority to oversee digital assets.
3. The need for a comprehensive legal and regulatory framework: This framework will highlight the importance of developing a comprehensive legal and regulatory framework that addresses the challenges associated with digital assets inheritance. This will involve analyzing the existing legal and regulatory framework in Kenya and identifying gaps that need to be addressed to provide adequate protection for digital assets.
4. Best practices for digital assets inheritance: This framework will focus on identifying best practices for digital assets inheritance, including the use of digital wallets, the need for proper estate planning, and the use of smart contracts to automate the inheritance process.

[12]Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p 60.

[13] Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p 62.

5. The role of stakeholders in digital assets inheritance: This framework will analyze the role of stakeholders in digital assets inheritance, including individuals, financial institutions, and regulatory bodies. It will also address the need for collaboration among stakeholders to develop a comprehensive legal and regulatory framework for digital assets inheritance.

1.8 LITERATURE REVIEW

1.1.1 On Regulations of Cryptocurrency in Kenya

In Kenya, cryptocurrency is primarily regulated by the following acts: (1) The National Payments Systems Act (NPSA); (2) the Capital Markets Act (CMA); and (3) the Kenya Information and Communication Act (KICA). The NPSA is administered by the Central Bank of Kenya (CBK). In contrast, the CMA is administered by the Capital Markets Authority (CMA). Finally, the KICA is administered by the Communications Authority.[14]

The NPSA authorizes the CBK to oversee and regulate payment systems and payment service providers within Kenya. All payment service providers, including mobile phone service providers, are regulated under the NPSA. The CBK is responsible for overseeing payment service providers to ensure that platforms are safe for investors.

In 2015, the CBK published public warnings on the risks of cryptocurrencies. Specifically, the CBK emphasized that cryptocurrency is volatile and lacks specific regulation. For these reasons, the CBK advised the public to refrain from trading cryptocurrencies, including Bitcoin. Nevertheless, the CBK did not prohibit cryptocurrency trading. Therefore, Kenyans are legally allowed to buy and sell cryptocurrencies. In fact, Kenya holds more than $1.5 billion worth of Bitcoin alone, equating to 2.3% of Kenya's GDP. Substantially, this figure does not include other cryptocurrencies, such as Ethereum or Dogecoin. These statistics indicate that cryptocurrency is accepted by Kenyan society despite the CBK's warnings.[15]

The CBK is also authorized to regulate cryptocurrencies through Kenya's Money Remittance regulations. Under these regulations, cryptocurrency companies must acquire

[14] Block chain Laws and Regulations in Kenya, Global Law Insight- International Legal Business Solutions, 2021.

[15] James Gathii, 'Bitcoin and other virtual currencies from a Kenyan legal perspective'.

licensing from Kenyan authorities to offer transmission services within Kenya. Licensing is required whenever a company offers a service for the transmission of money or any representation of monetary value without any payment accounts being created in the name of the payer or the payee, including: (1) where funds are received from a payer for the sole purpose of transferring a corresponding amount to a payee or another payment service operator acting on behalf of the payee; or (2) where funds are received on behalf of and made available to the payee. Therefore, virtually all cryptocurrency providers must be licensed in Kenya to legally operate within the country.[16]

To summarize, the CBK may regulate cryptocurrency either through the NPSA or through Kenyan money remittance regulations. Therefore, the CBK is empowered with broad discretion and several legal avenues to regulate the cryptocurrency space.

1.1.2 On Digital Assets in Kenya

Patrick Obura Ogada compares the legal and regulatory frameworks governing digital assets in Kenya and South Africa. This author highlights the lack of clarity in Kenya's legal and regulatory frameworks, which have not kept pace with the rapid growth of digital assets. The study shows that South Africa has taken a more proactive approach in regulating digital assets, with clear legal definitions and regulatory frameworks in place. In April 2019, the South African Reserve Bank (SARB) issued a consultation paper on policy proposals for the regulation of cryptocurrencies, indicating a willingness to work with industry players to develop an appropriate regulatory framework. The paper outlines the potential benefits and risks of digital assets and suggests possible regulatory approaches, including a registration process for cryptocurrency exchanges and the creation of a regulatory sandbox for innovation. The author notes that this proactive approach contrasts with the lack of clear regulation and policy in Kenya. The author argues that Kenya needs to adopt a more robust legal and regulatory framework for digital assets to avoid potential risks and to promote

[16] Geral D., Muthoni I., & Kalule B., 'Unscrambling Block chain: Regulatory Frameworks in Cryptocurrency', Bowmans.

growth in this sector. The study also highlights the importance of international cooperation in regulating digital assets, given their borderless nature.[17]

Gakuru and Mwaura examine the challenges related to digital asset inheritance in Kenya. They discuss the lack of clarity and guidance in the legal and regulatory frameworks in Kenya regarding digital assets, particularly in the context of succession planning. The authors also note the absence of specific laws addressing digital assets and suggest that the current legal framework in Kenya may not be adequate to address the unique challenges presented by digital asset inheritance. The article concludes with recommendations for the development of a legal and regulatory framework in Kenya that specifically addresses digital asset inheritance.[18]

Mercy Maina and Alice Odera examine the legal framework for the inheritance of digital assets in Kenya with a focus on block chain technology. They explain that block chain technology has the potential to revolutionize estate planning and inheritance by providing a secure and decentralized way of storing and transferring digital assets. However, they note that the current legal framework in Kenya does not adequately address the issues of digital asset inheritance, which creates significant challenges for individuals and families. The authors propose that the Kenyan government should consider adopting new laws and regulations that specifically address the issues of digital asset inheritance, including the use of smart contracts and other block chain-based solutions. They also emphasize the importance of educating the public and legal practitioners about the unique challenges and opportunities associated with digital asset inheritance in Kenya.[19]

Diana and Sarah compare the legal and regulatory frameworks governing cryptocurrency in Kenya and the United States. The article discusses the challenges of cryptocurrency inheritance and estate planning, and how the legal and regulatory frameworks in both countries address these challenges. The authors note that while the legal framework for

[17] Patrick O, 'Digital Assets: A Comparative Analysis of the Legal and Regulatory Frameworks in Kenya and South Africa' International Journal of Innovative Research and Development, 2019, p77.
[18] Evanson M & Ann N, 'Digital Asset Inheritance in Kenya: Legal and Regulatory Challenges' African Journal of Corporate Governance, 2021, p 43.
[19] Mercy M & Alice O, 'Block chain and Estate Planning in Kenya: The Legal Framework for Inheritance of Digital Assets' Journal of Internet Banking and Commerce, 2020, p 98.

cryptocurrency in the United States is more advanced, Kenya is making progress in this area with the Central Bank of Kenya recently setting up a task force to study the potential use of digital currencies. The article also highlights the need for comprehensive estate planning that includes digital assets such as cryptocurrency.[20]

Evanson and Anne highlight the legal and regulatory challenges faced in Kenya with regards to digital asset inheritance. They note that despite the growing use of digital assets in the country, there is no clear legal framework governing their inheritance, which poses a challenge to individuals seeking to include them in their estate planning. The authors also point out that the lack of clarity in the legal and regulatory framework exposes digital assets to the risk of theft and fraud. They recommend the need for the development of clear laws and regulations to govern digital asset inheritance in Kenya to safeguard the rights of beneficiaries and promote their wider use in estate planning.[21]

1.1.3 On Cyber Risks On Digital Assets Inheritance

Tyra emphasizes the importance of developing a comprehensive digital inheritance plan that includes measures for protecting digital assets from cyber threats. He also discusses the potential vulnerabilities of digital assets, such as cryptocurrency, and the need for individuals to take proactive steps to safeguard their assets. The article provides practical guidance on developing a secure digital inheritance plan and highlights the importance of staying informed about evolving cyber risks.[22]

He recommends taking the following steps:

1. Create a comprehensive list of all digital assets and their corresponding login credentials.
2. Store the list in a secure location such as a safe deposit box or with a trusted attorney or family member.

[20] Diana N & Sarah K, 'Estate Planning for Cryptocurrency: A Comparative Analysis of the Legal and Regulatory Frameworks in Kenya and the United States' Journal of Economics and Finance, 2020, p 60.
[21] Evanson M & Anne N, 'Digital Asset Inheritance in Kenya: Legal and Regulatory Challenges' African Journal of Corporate Governance, 2021, p 21.
[22] Jason T, 'Securing the Future: Cybersecurity and Digital Inheritance' Journal of Accountancy, 2019, p48.

3. Use a password manager to generate and securely store strong, unique passwords for each digital account.
4. Enable two-factor authentication on all digital accounts that support it.
5. Keep software and antivirus programs up to date on all devices.
6. Include provisions for digital assets in estate planning documents such as wills and trusts.
7. Communicate plans and instructions with trusted family members and heirs to ensure a smooth transition of digital assets.

In another article, the authors examine the security risks and solutions associated with digital asset inheritance planning. They highlight the importance of digital asset planning, particularly given the increase in the use of cryptocurrencies and other digital assets, and the potential risks involved in managing and transferring these assets after death. The authors explore various security risks associated with digital asset inheritance planning, including the risk of theft, fraud, and unauthorized access. They also provide practical guidance and suggest solutions to mitigate these risks, including the use of multi-factor authentication and encryption, the development of contingency plans, and the use of third-party custodians. Overall, the authors emphasize the need for careful planning and implementation of security measures in digital asset inheritance planning.[23]

John discusses the cybersecurity risks associated with digital asset inheritance. He highlights the potential threats, such as hacking, malware, and phishing, that can compromise the security of digital assets and lead to their loss or theft. He argues that the rapidly evolving nature of technology and the lack of clear regulations and guidelines present challenges to managing these risks. The author also provides some suggestions on how to mitigate these risks, including developing a cybersecurity plan, utilizing strong encryption and multi-factor authentication, and engaging trusted advisors for expert guidance.[24]

[23] Sarah-Jane M & Mathew D, 'Digital Asset Inheritance Planning: An Exploration of Security Risks and Solutions' International Journal of Business and Information, 2020, p33.
[24] John R,' Cybersecurity Risk in the Context of Digital Asset Inheritance: An Overview' Journal of Wealth Management, 2021, p 24.

Max Petracci and Guido Migliaccio explore the challenges of cryptocurrency inheritance and provide best practices for managing the cybersecurity risks associated with it. The authors highlight that the decentralization of cryptocurrencies and the lack of regulation make them especially vulnerable to cyber threats, and therefore, require unique cybersecurity considerations. They suggest that an effective cybersecurity strategy for cryptocurrency inheritance should include securing private keys, using a trusted third party, and implementing a multi-signature process. The authors also stress the importance of proper estate planning and documentation to ensure that beneficiaries receive their inheritance without complications.[25]

Hirschfeld and Tatum discuss the increasing importance of digital inheritance planning in the age of technology. The authors note that with the growth of digital assets, such as cryptocurrencies, there is a need for individuals to properly plan for the transfer of these assets after their death. They highlight the risks and challenges associated with digital inheritance, including the potential for cyber-attacks and hacking. The authors provide guidance on best practices for digital inheritance planning, such as creating a comprehensive inventory of digital assets, securing passwords and access codes, and designating a trusted individual to manage digital assets after death. [26]

1.9 METHODOLOGY

The nature of research in this study will be qualitative with the main sources of data being secondary sources such as books, articles, and reports. Desk-based research is likely to be a significant component of the methodology. The study will involve an extensive review of relevant literature, including academic articles, government reports, and legal documents, to provide a comprehensive understanding of the legal and regulatory framework governing cryptocurrency inheritance in Kenya.

To identify the common cybersecurity risks associated with inheritance of digital assets: A qualitative methodology will be used to analyze existing literature and case studies on

[25] Max P & Guido M, 'Cryptocurrency Inheritance and Cybersecurity: Challenges and Best Practices' Journal of Digital Banking, 2021, p13.
[26] Laura M & Lisa V,' Digital Inheritance and Cybersecurity: The Risks and Challenges of Estate Planning in a Digital Age' Journal of Financial Planning, 2022, p19.

cybersecurity risks associated with digital assets inheritance. The sources will include academic articles, legal and regulatory documents, and news reports. The analysis will involve identifying common patterns and themes in the literature.

To explore the current legal and regulatory framework governing inheritance of digital assets in Kenya: A qualitative methodology will be used to analyze legal and regulatory documents in Kenya, including legislation, case law, and regulatory guidelines. The analysis will involve identifying the relevant laws and regulations governing digital assets inheritance in Kenya and their strengths and weaknesses

To develop recommendations for minimizing cybersecurity risks in digital assets inheritance in Kenya: A qualitative methodology will be used to analyze the findings from the literature review, legal and regulatory analysis. The analysis will involve identifying common themes and patterns, as well as generating objective claims and recommendations based on the research findings. The recommendations will be aimed at improving the legal and regulatory framework governing digital assets inheritance in Kenya and increasing awareness and preparedness among digital asset holders and their beneficiaries regarding cybersecurity risks.

1.10 CHAPTER BREAKDOWN

Chapter 1: Introduction

This chapter will introduce the research question and provide a background on digital assets inheritance and cybersecurity.

Chapter 2: Theoretical Framework

This chapter will provide a comprehensive review of the literature on digital assets inheritance and cybersecurity. It will include a review of the articles you have collected and other relevant literature. Legal and regulatory frameworks for digital assets inheritance in Kenya. Cybersecurity risks and solutions for digital assets inheritance. Comparative analysis of digital assets inheritance in other jurisdictions. Conceptual and theoretical frameworks for digital assets inheritance

Chapter 3: Methodology

This chapter will discuss cryptocurrency as a digital asset. We will look at the discussion of cryptocurrency in Kenya so far, where the state regulatory bodies stand on this topic, while comparing with other jurisdictions that have attempted to regulate cryptocurrencies.

Chapter 4: Results and Findings.

This chapter will analyze the results presented in the previous chapter. It will also compare the results to the theoretical framework developed earlier in the dissertation and include the limitations of the study.

Chapter 5: Conclusion and Recommendations

This chapter will summarize the main findings of the research and provide a conclusion to the research question. This is where recommendations will be provided for the policy makers and its implications for future research. There will also be reflections on the research do.

2. THEORETICAL FRAMEWORK.

2.1 Introduction.

This chapter presents the theoretical framework that underpins the study on the legal and regulatory framework for digital asset inheritance and cybersecurity risks in Kenya. The theoretical framework provides a conceptual basis for understanding the complex issues related to digital assets and their inheritance, as well as the cybersecurity challenges that accompany them. It draws from existing theories and concepts in the fields of law, finance, and cybersecurity to guide the analysis and interpretation of the study's findings.

2.2 Conceptual Framework for Cryptocurrency Regulation

To understand the regulatory challenges associated with digital assets, particularly cryptocurrencies, the study adopts a conceptual framework inspired by the work of Omri Marian. Marian's framework for regulating cryptocurrencies emphasizes achieving four key objectives:

1. Consumer Protection: Ensuring that individuals who invest in digital assets are protected from fraudulent schemes, scams, and unscrupulous actors in the digital asset space. This aspect of the framework recognizes the vulnerability of consumers and aims to mitigate their risks.[27]

2. Financial Stability: Acknowledging that the proliferation of digital assets, especially cryptocurrencies, can have implications for the stability of financial systems. The framework seeks to establish measures to maintain financial stability and prevent systemic risks.[28]

[27] Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p 65.

[28] Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p 67.

3. Prevention of Illegal Activities: Recognizing the potential misuse of cryptocurrencies for illicit purposes, such as money laundering and terrorist financing. The framework includes measures to prevent and detect illegal activities within the digital asset ecosystem.[29]

4. Fostering Innovation: Encouraging technological advancements and innovation in the digital asset space while ensuring that regulatory frameworks do not stifle the development of new technologies.[30]

This conceptual framework serves as a lens through which the study analyzes the existing legal and regulatory landscape for digital asset inheritance in Kenya. It helps evaluate how well the current framework aligns with these four objectives and where improvements may be needed.

2.3 Legal Implications of Digital Asset Inheritance

The theoretical framework also encompasses the legal implications of digital asset inheritance, drawing from principles of succession law and contract law.

2.3.1 Law of Succession Act

Succession law governs the transfer of assets from one generation to another, primarily through wills, trusts, or intestacy laws. Key principles and considerations related to digital asset inheritance include:

Testate Succession: When an individual creates a valid will, they can specify how their digital assets, including cryptocurrencies and online accounts, should be distributed among beneficiaries. The will should clearly identify these assets and the intended beneficiaries.[31]

[29] Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p 73.
[30] Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies', published, Chicago, 2017, p 89.
[31] Section 3, Law of Succession Act (CAP 160).

Intestate Succession: In cases where there is no valid will, intestacy laws come into play. These laws determine how assets, including digital assets, are distributed among legal heirs. The Law of Succession Act delegates life interest on the digital assets to the surviving spouse in the case of one;[32] where there deceased is survived by a child or children without a spouse, the assets is inherited by the child or divided equally among the children.[33]

It is vital to note that the Law of Succession Act may not explicitly address digital assets, leading to potential challenges in identifying, valuing, and distributing these assets. Legal reforms or clarifications may be necessary to address this gap.

2.3.2 Law of Contract.

Contract law deals with the contractual relationships and agreements that underpin digital asset ownership and access. Smart contract, a pivotal innovation within this domain of digital asset, is a self-executing program that automates the actions required in an agreement or contract.[34] Once completed, the transactions are trackable and irreversible.[35] The use of smart contracts have legal implications. The code and the agreements contained therein exist across a distributed, decentralized block chain network. Smart contracts facilitate, verify, or enforce the negotiation or performance of a contract, making them a crucial component of many block chain platforms, especially those built on Ethereum.[36] Ethereum, a prominent block chain platform powering the cryptocurrency ether (ETH) and thousands of decentralized applications,[37] serves as a foundation for many smart contract applications, offering developers tools to create decentralized applications with embedded smart contract functionality. The Law of Contract does not expressly define smart contracts. However,

---

[32] Section 35, Law of Succession Act (CAP 160).

[33] Section 38, Law of Succession Act (CAP 160).

[34] Stuart D, 'An Introduction to Smart Contracts and Their Potential and Inherent Limitations', Harvard Law,< https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-and-their-potential-and-inherent-limitations/> 26th May 2018.

[35] Jake F, 'What are Smart Contract on the Block Chain and How They Work' 31st October 2023 < https://www.investopedia.com/terms/s/smart-contracts.asp#:~:text=Error%20Code%3A%20100013)-,What%20Is%20a%20Smart%20Contract%3F,transactions%20are%20trackable%20and%20irreversible./ > on 13th February 2024

[36] Stuart D, 'An Introduction to Smart Contracts and Their Potential and Inherent Limitations', Harvard Law,< https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-and-their-potential-and-inherent-limitations/> 26th May 2018.

[37] < https://ethereum.org/what-is-ethereum/ > on 13 February 2024

smart contracts are in writing and therefore protected by the Law of Contract Act by the requirement of an electronic signature[38] in smart contracts.

Many digital asset platforms and exchanges have terms and conditions that users agree to when creating accounts. Understanding the legal implications of these agreements, including any clauses related to inheritance, is crucial.

Digital asset transactions, including transfers and exchanges, may involve contractual elements. Understanding the legal implications of these transactions, especially when it comes to ownership and succession, is vital.

2.4 International Cooperation in Cryptocurrency Regulation

Recognizing the global nature of digital assets, the study incorporates the concept of international cooperation in regulation. This involves exploring the potential need for international standards and collaboration among regulatory bodies to address cross-border issues related to digital assets. Concepts such as harmonization of regulations and the establishment of a global regulatory body may be considered within this framework.

2.5 Property Rights Theory

The Property Rights Theory, as proposed by Schlager and Ostrom, posits that individuals have the right to control and derive benefits from their property.[39] This theory is particularly relevant in the context of digital assets, which are increasingly becoming a significant part of individuals' property portfolios.

[38] Section 3, Law of Contract Act (CAP 23).

[39] Schlager, E and Ostrom, E, 'Property-Rights Regimes and Natural Resources: A Conceptual Analysis' (1992) 68 Land Economics 249.

In the digital realm, property rights can be complex due to the intangible nature of digital assets. These assets, which can range from digital currencies to social media accounts, exist in a virtual space, and their ownership and control can be challenging to define and enforce. The application of Property Rights Theory to digital assets raises several questions. For instance, how are property rights for digital assets defined in the current legal framework in Kenya? How are these rights enforced, especially in cases of inheritance? What are the challenges in enforcing these rights, and how can they be addressed?[40]

These questions form the basis of the study's examination of the legal aspects of digital asset inheritance. By exploring these issues, the study aims to provide insights into the legal and regulatory framework for digital asset inheritance in Kenya and highlight areas that may require further attention or reform.

2.6 Risk Management Theory

The Risk Management Theory, as proposed by Aven, is relevant for understanding the cyber-security risks associated with digital asset inheritance. This theory suggests that individuals and organizations should identify potential risks, assess their impact, and take appropriate measures to mitigate them.[41]

In the context of digital asset inheritance, this could involve exploring the types of cyber-security risks that exist and how they can be managed. For instance, unauthorized access to digital assets after the owner's death could be a significant risk. This risk could be managed through various measures, such as strong authentication mechanisms, encryption, and educating the users about safe online practices. Furthermore, the legal implications of these risks could also be explored. For example, who would be held liable if a digital asset was

[40] Fairfield, J, 'Owned: Property, Privacy, and the New Digital Serfdom' (Cambridge University Press 2017).

[41] Aven, T, 'Risk assessment and risk management: Review of recent advances on their foundation' (2016) 29 European Journal of Operational Research 1.

breached after the owner's death? Would it be the responsibility of the digital platform, the executor of the estate, or the beneficiaries?[42]

2.7 Regulatory Theory

The Regulatory Theory, as proposed by Baldwin, Cave, and Lodge, suggests that regulations are necessary to ensure fairness, protect consumers, and maintain stability in the market.[43] This theory is particularly relevant in the context of digital asset inheritance, where the rapid evolution of technology often outpaces the development of regulations.

In Kenya, the regulatory framework for digital assets is still in its nascent stages. The Central Bank of Kenya, for instance, has issued warnings about the risks associated with digital currencies but has not yet established comprehensive regulations for them.[44] This lack of clear regulations can create uncertainty for individuals seeking to include digital assets in their estate planning.

Furthermore, the enforcement of any regulations that do exist can be challenging due to the global and decentralized nature of many digital assets. For instance, a digital asset may be stored on a server in a different country, raising questions about jurisdiction and enforcement. These issues highlight the need for a robust regulatory framework that can address the unique challenges posed by digital asset inheritance. Such a framework would need to balance the protection of individual property rights with the need to mitigate cyber-security risks and ensure market stability.

This chapter has outlined the theoretical framework that underpins the study. It integrates concepts from cryptocurrency regulation, succession law, property law, contract law,

---

[42] Gordon, L A and Loeb, M P, 'The economics of information security investment' (2002) 5 ACM Transactions on Information and System Security 438.

[43] Baldwin, R, Cave, M, and Lodge, M, Understanding Regulation: Theory, Strategy, and Practice (Oxford University Press 2012).

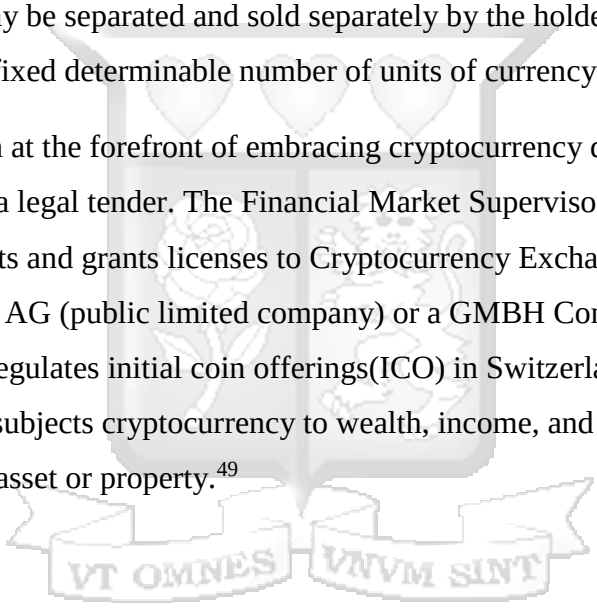
[44] Central Bank of Kenya, 'Press Release: Caution to the Public on Virtual Currencies such as Bitcoin' (2018) https://www.centralbank.go.ke/images/docs/media/Press Release - Caution to Public on Virtual Currencies such as Bitcoin.pdf.

cybersecurity, and international cooperation to provide a comprehensive perspective on digital asset inheritance and associated challenges in Kenya. The framework will serve as a foundation for the subsequent chapters, where it will be applied to analyze and address the specific research objectives and questions of the study

3. CRYPTOCURRENCY AS A DIGITAL ASSET

The question of whether to categorize cryptocurrencies as intangible assets is still up for debate. The International Financial Reporting Standards Interpretation Committee (IFRIC) defined cryptocurrency as crypto-assets with all these features: (1) a digital or virtual currency recorded on a distributed ledger[45] that uses cryptography for security (2) not issued by law enforcement or another party (3)the contract is strictly between the holder with the exclusion of other parties.[46] Where a cryptocurrency meets the above three features, it is to be accounted for under International Accounting Standard (IAS) 38, Intangible assets on the condition that :(i) may be separated and sold separately by the holder (ii) the holder is not entitled to receive a fixed determinable number of units of currency

Switzerland has been at the forefront of embracing cryptocurrency despite not acknowledging it as a legal tender. The Financial Market Supervisory Authority (FINMA) regulates digital assets and grants licenses to Cryptocurrency Exchanges which are registered as a Swiss AG (public limited company) or a GMBH Company (limited liability company).[47] It also regulates initial coin offerings(ICO) in Switzerland.[48] The Swiss Federal Tax Administration subjects cryptocurrency to wealth, income, and capital gain tax as it perceives it to be an asset or property.[49]



[45] 'A distributed ledger is a database that is consensually shared and synchronized across multiple sites, institutions, or geographies, accessible by multiple people.' -< https://www.investopedia.com/terms/d/distributed-ledgers.asp>

[46] Applying IFRS –Accounting by holders of crypto-assets, October 2021 < https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/ifrs/ey-apply-ifrs-crypto-assets-update-october2021.pdf?download >

[47] 'An Overview of the cryptocurrency regulations in Switzerland.'< https://cointelegraph.com/cryptocurrency-regulation-for-beginners/an-overview-of-the-cryptocurrency-regulations-in-switzerland >

[48]FINMA, 'Guidelines for enquiries regarding the regulatory framework for Initial Coin Offerings(ICO)',2018. <https://www.finma.ch/en/~/media/finma/dokumente/dokumentencenter/myfinma/1bewilligung/fintech/wegleitung-ico.pdf?la=en>

[49] 'Global Legal Insights, Block chain and Cryptocurrency Laws and Regulations in 2022-Switzerland' < https://www.globallegalinsights.com/practice-areas/block chain-laws-and-regulations/Switzerland>

The International Monetary Fund (IMF) in response to the adoption of Bitcoin as a legal tender in the Central African Republic highlighted that the adoption comes with risks surrounding financial stability, financial integrity and consumer protection.[50]

Kenya has been ranked fifth as the country with the highest number of bitcoin holders per capita.[51] It is estimated that Kenyans hold Kenyan Shillings one hundred sixty-three billion (163,000,000,000.00) bitcoins which translates to 2.3% of the Gross Domestic Product.[52] Despite the high rankings in the adoption of cryptocurrencies in Kenya, there is a divided attitude towards cryptocurrencies by the National Treasury and the Central Bank of Kenya in conjunction with the Capital Markets Authority. Moreover, there is still no regulatory framework for cryptocurrencies. This uncertainty on the regulation and position of cryptocurrencies poses several risks to the protection of national security and the consumers with assets in cryptocurrency. However, in 2018, Joe Mucheru, the Cabinet Secretary for the ministry of Information Communication Technology (ICT) took a different stance from the CBK stating that Kenya should at least take a chance on Cryptocurrency as well as Block chain Technology.[53]

3.1. LEGAL FRAMEWORK

3.1.1. Data Protection Act no. 24 of 2019 of Kenya.

The Data Protection Act (DPA) came into force in 2019. The Act was enacted to provide guidelines on the processing of personal data, outline the rights of data subjects and the rights and obligations of data processors and data controllers. The Act has borrowed deeply from the European Union General Data Protection Regulation (GDPR).[54] A report by Dr

[50] Central African Republic Adopts Bitcoin as Legal Currency, 29April 2022 < https://www.theeastafrican.co.ke/tea/business/central-african-republic-adopts-bitcoin-as-legal-currency-3798272>

[51] Brian N, 'Citibank Warn Over Risk of Kenya Bitcoins' Business Daily, 14 January 2018. <https://www.businessdailyafrica.com/news/Cit-warns-over-risk-of-Kenya-Bitcoins/539546-4263658-format-xhtml-rxcrr3z/index.html>

[52]Brian N, 'Citibank Warn Over Risk of Kenya Bitcoins' Business Daily, 14 January 2018. <https://www.businessdailyafrica.com/news/Cit-warns-over-risk-of-Kenya-Bitcoins/539546-4263658-format-xhtml-rxcrr3z/index.html

[53] Saruni M, 'Central Bank of Kenya and Cabinet Secretary Joe Mucheru Differ Over Bitcoin', 16 January 2018. < https://techweez.com/2018/01/16/bitcoin-cbk-joe-mucheru/>

[54] Eva K, 'Kenya: Block chain Comparative Guide', 15 September 2020. < https://www.mondaq.com/Guides/Results/14/111/all/Kenya-Block chain-Guide>

Michele Finck highlighted that there exists tension between block chain technology and the GDPR.[55] First, block chain technology impedes the data subject's right to erasure and the right to be forgotten .[56] Article 17(1) GDPR provides that a data subject has the "right to be forgotten." This may be done through one demanding the erasure of his data upon withdrawing consent for the initial processing of his personal data or by objecting to the processing of the data. Block chain technology is designed to store transactional data and public keys which are pseudonymized identifiers of block chain users.[57] The GDPR categorizes public keys as personal data where they may be linked to certain data users.[58] Second, it is difficult to identify a data controller in block chain technology, especially in a publicly controlled block chain.[59] Third, block chain technology continues growing as new data is keyed in and the data is replicated on many computers. This is against the principle of data minimization and purpose limitation.[60] The data minimization principle is a foundational concept in data protection and privacy frameworks, emphasizing the collection and retention of only the minimum amount of personal data necessary for a specific purpose.[61] It is a fundamental aspect of privacy by design and default.

---

[55] Dr. Michele F, 'Block chain and the General Data Protection Regulation: Can Distributed Ledgers be squared with European Data Protection Law?', July 2019. < https://www.europarl.europa.eu/RegData/etudes/STUD/2019/634445/EPRS_STU(2019)634445_EN.pdf>

[56] Dr. Michele F, 'Block chain and the General Data Protection Regulation: Can Distributed Ledgers be squared with European Data Protection Law?', July 2019. < https://www.europarl.europa.eu/RegData/etudes/STUD/2019/634445/EPRS_STU(2019)634445_EN.pdf>

[57] Dr. Markus K, Michael K., Katja Van & Christian R, 'The Tension between GDPR and the rise of Block chain Technologies.', January 2019. < https://cms.law/en/media/international/files/publications/publications/the-tension-between-gdpr-and-the-rise-of-block chain-technologies>

[58] Dr. Michele F, 'Block chain and the General Data Protection Regulation: Can Distributed Ledgers be squared with European Data Protection Law?', July 2019. < https://www.europarl.europa.eu/RegData/etudes/STUD/2019/634445/EPRS_STU(2019)634445_EN.pdf>

[59] Dr Michele F, 'Block chain and the General Data Protection Regulation: Can Distributed Ledgers be squared with European Data Protection Law?', July 2019. < https://www.europarl.europa.eu/RegData/etudes/STUD/2019/634445/EPRS_STU(2019)634445_EN.pdf>

[60] Dr Michele F, 'Block chain and the General Data Protection Regulation: Can Distributed Ledgers be squared with European Data Protection Law?', July 2019. < https://www.europarl.europa.eu/RegData/etudes/STUD/2019/634445/EPRS_STU(2019)634445_EN.pdf>

[61] <https://www.edps.europa.eu/data-protection/data-protection/glossary/d_en#:~:text=The%20principle%20of%20%E2%80%9Cdata%20minimisation,necessary%20to%20fulfil%20that%20purpose. > on 19th February 2024.

Applying the Act, Section 40 outlines the 'right to rectification' and 'erasure' of data belonging to a data subject that is inaccurate, incomplete, misleading, irrelevant or data obtained unlawfully. However, due to the difficulties faced in erasing or updating data from the Distributed Ledger, a data subject may have to contend with their transactional data and public keys being non–erasable.

Further, Regulation 18[62] as read with section 39(2) of the Act obligates a data controller or a data processor to retain data for a reasonable time and an intended purpose. Where the retention period has lapsed, such data is to be erased or deleted. As earlier discussed, block chain technology fails to heed the principle of data minimization and purpose limitation. Lastly, the Act as highlighted under section 43 as read with Regulations 35 and 36[63] provides that in the event of a breach of personal data either the data processor or data controller would be obliged to notify the Data Commissioner. However, it is difficult to pinpoint a data controller or data processor in the decentralized Distributed ledger upon whom such obligation would fall.[64]

In conclusion, Block chain technology which is the bedrock of many cryptocurrencies lacks technical specificities and governance designs to reconcile with the Data Protection Act 2019.

3.1.2. The National Payment Systems Act no.39 of 2011

The National Payment Systems Act was enacted to regulate and monitor payment systems and payment service providers.[65]In 2014, the National Payment Systems Regulations 2014 were made law. The Act, as well as the Regulations, fall within the mandate of the CBK. Some suggestions have been made to regulate cryptocurrencies under this Act. Under the Act, a 'payment system' means any system or arrangement that facilitates the payment or circulation of money between payers and beneficiaries, including all means and procedures associated with the system.[66]Further, a ' payment instrument' has been defined to mean any

[62] Data Protection (General) Regulations 2021.
[63] Data Protection (General) Regulations 2021.
[64] Eva K, 'Kenya: Block chain Comparative Guide', 15 September 2020. < https://www.mondaq.com/Guides/Results/14/111/all/Kenya-Block chain-Guide>
[65] Preamble, National Payment Systems Act 2011.
[66] Section 2, National Payment Systems Act 2011.

tangible or intangible means by which money, goods or services can be received or paid for.[67] Lastly, a ' payment service provider' means an individual or organization that enables the transmission, storage or processing of payments via electronic systems or provides other related services.[68]

In 2018, Michael Kimani, the then chairman of the Block chain Association of Kenya opined that the National Payment Systems Act would be trite law in authorizing cryptocurrency use.[69]This would be effected by authorizing and supervising payment service providers that issue Bitcoin. In this regard, a digital platform such as Bitpesa that uses block chain technology thus enabling its users to make payment globally,[70] would be a regulated digital payment service provider issuing Bitcoin and other cryptocurrencies.

The Act authorizes the Central Bank of Kenya to oversee and regulate the payment systems and payment service providers. If it deems a payment instrument to be widely used and this may affect the payment systems, it may issue a Gazette notice to designate such a payment system. [71] However, cryptocurrencies have not been designated as a payment system as the 2015 notice by CBK against cryptocurrencies is still effective.

3.1.3. The Computer Misuse and Cybercrimes Act No.5 of 2018

Kenya has experienced a spike in crypto-related crimes in the past few years. The Kenya Directorate of Criminal Investigations (DCI) arrested 2 Kenyatta University students for the crime of hacking credit cards belonging to foreigners and using the stolen money to purchase Bitcoin and later converting it into Kenyan currency.[72] In the first quarter of 2022, Kenyan investors lost approximately $10 million (1.18 billion) to a cryptocurrency Ponzi

[67] Section 2, National Payment Systems Act 2011.
[68] Section 2, National Payment Systems Act 2011.
[69] Michael K, 'Opinion; How the Central Bank of Kenya plans to regulate Bitcoin and Cryptocurrencies', (2018) < https://kenyanwallstreet.com/opinion-how-the-central-bank-of-kenya-plans-to-regulate-bitcoin-cryptocurrencies/>
[70] <https://www.gbgplc.com/en/blog/bitpesa-evolution-of-payments-in-africa/> on 1st December 2023
[71] Section 6(1)(a), National Payment Systems Act 2011.
[72] Sulan Q, 'Kenyan Authorities arrest student hackers converting stolen money to Bitcoin.' 17 June 2022. < https://techcabal.com/2022/06/17/kenyan-authorities-arrest-student-hackers-converting-stolen-money-to-bitcoin/>

scheme dubbed Bitstream Circle.[73] The scheme offered a five to ten per cent (5-10%) daily profit of the invested money as well as mentors to Kenyan investors who would advise the appropriate time to trade.[74] However, on 13th March 2022, the company went silent citing that it was undergoing maintenance to upgrade its system only for the site to eventually disappear from the internet.[75]

The Act was enacted to criminalize computer systems-related crimes and to take preventive measures for the commission of cybercrimes. The Act defines block chain technology to mean a digitized, decentralized public ledger of all cryptocurrency transactions.[76]Concerning Block chain technology, the Act creates the National Computer Cybercrimes Committee which is obliged to advise the Government on such technologies.[77]At the time of this research, the committee had not issued any directives on block chain technology or cryptocurrencies. It would be prudent if the Committee would be the first of its kind to issue guidelines on this.

3.2 INSTITUTIONAL FRAMEWORK

3.2.1. The National Treasury

The National Treasury is structured to undertake overall oversight of the financial sector. It derives its powers from Article 225 of the Constitution of Kenya, 2010. In 2018, the Finance and National Planning Committee gave Henry Rotich, the Cabinet Secretary of the National Treasury and Planning Ministry two weeks to inquire into the current state of

[73] Vincent A, 'Kenyans Lose billions to crypto frauds.' 11 June 2022. < https://nation.africa/kenya/news/kenyans-lose-billions-to-crypto-frauds-3844990>
[74] Vincent A, 'Kenyans Lose billions to crypto frauds.' 11 June 2022. < https://nation.africa/kenya/news/kenyans-lose-billions-to-crypto-frauds-3844990>
[75] Vincent A, 'Kenyans Lose billions to crypto frauds.' 11 June 2022. < https://nation.africa/kenya/news/kenyans-lose-billions-to-crypto-frauds-3844990>
[76] Section 2, Computer Misuse and Cybercrimes Act 2018.
[77] June O, 'Review on the new Computer Misuse and Cybercrimes Act- Kenya', 24 May 2018. < https://techweez.com/2018/05/24/computer-misuse-cybercrimes-act/>

cryptocurrency and advise on how to proceed with the regulation of cryptocurrencies.[78] This comes after the first East African Bitcoin ATM was installed in Westlands, Nairobi in June to enable users to purchase Cryptocurrencies using the US Dollar and the Kenyan Shilling. Additionally, a restaurant in Nyeri, Betty's place was accepting Bitcoin as a form of payment.[79]

In 2019, a report on Distributed Ledger and Artificial Intelligence Launched chaired by Professor Bitange Ndemo recommended the CBK create a digital fiat currency thus creating a system that is trusted and stable.[80] Digital currency, also known as Central Bank Digital Currency (CBDC) or Digital Fiat Currency (DFC), is the electronic representation of government-regulated fiat money. Fiat money is currency declared legal tender by a government without physical backing such as gold reserves, relying on trust.[81] Digital currencies, issued and regulated by central authorities like governments or central banks, exist in electronic form, enabling more efficient and secure transactions, cost reduction, and potential improvements in financial inclusion. Further, the task force recommended the drafting of a digital asset framework that will enable the raising of funds through Initial Coin Offerings (ICOs) and the use of block chain in agriculture, the health sector and reporting of counterfeit goods.[82]

In conclusion, the National Treasury's approach to block chain technology is optimistic drawing from the Task Force report. However, the report is silent on the position of cryptocurrencies in Kenya. This creates uncertainty on cryptocurrency transactions in the country.

[78] Nelly K, 'Parliament gives Finance Ministry two weeks to decide legality of cryptocurrency', 4 July 2018. < https://kenyanwallstreet.com/cs-rotich-to-addresses-parliament-on-bitcoins/>
[79] Nelly K, 'Parliament gives Finance Ministry two weeks to decide legality of cryptocurrency', 4 July 2018. < https://kenyanwallstreet.com/cs-rotich-to-addresses-parliament-on-bitcoins/>
[80] David O, 'Task force report recommends use of cryptocurrency in Kenya' 25 July 2019. < https://africa.cgtn.com/2019/07/25/task-force-report-recommends-use-of-cryptocurrency-in-kenya/>
[81] Ministry of Information, Communication and Technology, 'Emerging Digital Technologies for Kenya Exploration & Analysis', July 2019, p79.
[82] Daniel M, 'Kenyan Taskforce calls for state to regulate AI and Block chain' 2 August 2019. < https://ventureburn.com/2019/08/kenya-report-block chain-ai/>

3.2.2. The Central Bank of Kenya

The Central Bank of Kenya (CBK) has been tasked with formulating monetary policy in a bid to maintain price stability and the issuance of currency. The CBK has its constitutional underpinning under article 231 of the Constitution of Kenya, 2010. The CBK is further empowered to regulate, supervise and license financial institutions under the Central Bank Act.[83] The case of *Lipisha Consortium limited v Safaricom limited*[84] was the precursor to the issuance of the notice warning the public against dealing in cryptocurrencies. Safaricom limited suspended its MPESA services to Lipisha Consortium to the detriment of its third party(Bitpesa). Safaricom limited suspended its services as Bitpesa was dealing in Bitcoin without authorization from the CBK. Aggrieved by this suspension, Lipisha Consortium filed a suit in the High Court against Safaricom ltd seeking conservatory orders. Justice J.L Onguto held that Safaricom Limited was justified to suspend its MPESA services to Lipisha Consortium and Bitpesa as the business they were involved in amounted to unauthorized money remittance under regulation 2 of the Money Remittance Regulation 2013.[85]

The former CBK Governor, Patrick Njoroge speaking during World Consumer Rights Celebration Day 2022 upheld the stance he took in 2015 stating that financial institutions involved in cryptocurrencies risk their licenses being revoked. Further, he said the CBK will permit cryptocurrency transactions once that sector is controlled and measures are set up.[86]

The Central Bank of Kenya published and called for views from the public on a digital fiat currency intended to act as legal tender in February 2022.[87] The publication of the discussion paper on Central Bank Digital Currency (CBDC) was triggered by many factors. However, the relevant factor for this study was the increased use of private virtual

[83] Central Bank of Kenya Act no.15 of 1966, Revised Edition 2018, (2014)
[84] (2015) eKLR.
[85] Regulation 2, The Money Remittance Regulation 2013.
[86] Antony K, 'Kenya's Central Bank warns of risks in cryptos', 22 March 2022. < https://www.theeastafrican.co.ke/tea/business/kenya-s-central-bank-warns-of-risks-in-cryptos-3756272#:~:text=Awaiting%20regulation-,Since%202018%2C%20Kenya's%20central%20bank%20has%20been%20issuing%20circulars%20to,place%20to%20protect%20the%20public>
[87] Central Bank of Kenya, 'Discussion Paper on Central Bank Digital Currency', February 2022. < https://www.centralbank.go.ke/2022/02/10/discussion-paper-on-central-bank-digital-currency/>

currencies.[88] The CBDCs are seen as avenues for enhanced cross-border transactions, promotion of innovations, and financial stability to mention but a few.[89] Unlike cryptocurrencies, CBDCs would offer consumer protection as they stem from a central authority thus offering a more trustworthy payment service.[90] In conclusion, the CBK is adamant in rejecting the use of cryptocurrencies up until they are regulated. Who then is to regulate cryptocurrencies if not the CBK?

3.2.3. The Capital Markets Authority

The Capital Markets Authority (CMA) is tasked with ensuring effective and efficient capital markets. This is effected through the supervision, licensing and monitoring of intermediaries such as the Nairobi Securities Exchange, stock brokers, and authorized securities dealers. The Authority which was established in 1989 is empowered by the Capital Markets Act.[91] The CMA regulates the issuance of capital market instruments in primary markets as well as their trading in secondary markets.[92]

In January 2019, the CMA warned the public against the trading of Kenicoin's initial coin offering (ICO) offered by Wiseman Talent Ventures at its exchange *www.kenicoinexchange.com*. Kenicoin, a cryptocurrency, was being issued at kshs 100 at the Initial Coin Offering (ICO) with returns of ten per cent monthly (10%). The Chief Executive CMA, Paul Muthaura cited that Kenicoin had not been approved by the CMA. Further, the information on the number of coins sold and the funds raised by Wiseman Talent Ventures during interviews and that on the website *www.kenicoinexchange.com* differed.[93] Following this caution, Safaricom limited withdrew its pay bill number utilized

[88] Central Bank of Kenya, 'Discussion Paper on Central Bank Digital Currency', February 2022. < https://www.centralbank.go.ke/2022/02/10/discussion-paper-on-central-bank-digital-currency/>
[89] Central Bank of Kenya, 'Discussion Paper on Central Bank Digital Currency', February 2022. < https://www.centralbank.go.ke/2022/02/10/discussion-paper-on-central-bank-digital-currency/>
[90] Central Bank of Kenya, 'Discussion Paper on Central Bank Digital Currency', February 2022. < https://www.centralbank.go.ke/2022/02/10/discussion-paper-on-central-bank-digital-currency/>
[91] Capital Markets Act, (cap 485)
[92] Kevin R, 'Regulations and Market Practice (Kenya)', 1 May 2016. < https://www.cma.or.ke/index.php/cert?download=291:regulations-and-markets-practice-kenya-edition-1>
[93] Capital Markets Authority, 'CMA warns against Kenicoin Initial Coin Offering and trading', 3 January 2019. < https://www.cma.or.ke/index.php?option=com_content&view=section&id=273:moi-mombasa&catid=17&Itemid=236>

in the deposit of the cash for the purchase of Kenicoin to the detriment of Wiseman Talent Ventures. Aggrieved by this, Wiseman Talent Ventures instituted a suit, *Wiseman Talent Ventures v Capital Markets Authority*[94] to deter the CMA from interfering with the offering and trading of Kenicoin. Wiseman Talent Ventures contended that Kenicoin was a cryptocurrency that was not in the ambit of the CMA. The CMA on the other hand argued that the plaintiff was illegally engaging in the trading of cryptocurrency having been registered as a Talent Mentorship program. Further, the nature of raising capital for Kenicoin fell within the scope of the CMA that was not approved by the Authority. The presiding judge, M.W Mwangi relying on the principle set out in *Giella v Cassman Brown Co. ltd (1973),* an application must show a prima facie case with a probability of success; ruled that the plaintiff failed to establish a prima facie case to grant interlocutory reliefs. This it did by failing to provide sufficient evidence demonstrating the nature and scope of its business in cryptocurrency- the start-up funds for the business and the structure of the business (list of members, financiers or promoters, physical and contact addresses). Further, the court held that the CMA could continue with its inquiry, investigation and regulation of Kenicoin as a security pending the publication of a framework for the regulation of Initial Coin Offerings. The court relied on the Howey Test that classified cryptocurrency as a security if it attained the threshold of being an 'investment contract.'[95] The 'Howey' test has been applied to determine if crypt-assets are securities in the U.S and there are 4 ingredients to consider; a) Is there an investment for money? (b) Is there an expectation of profits from the investment? (c) Is the investment of money in a common enterprise? (d) Are there Profits that come from the efforts of a Promoter or 3rd Party? [96]

In its 2021 Capital Markets Soundness Report, the CMA highlighted that there was a growing interest in trading cryptocurrencies with the potential of destabilizing capital flow thus the Authority urged the state to put in place macro policies and consider issuing Central Bank Digital Currencies.[97]

---

[94] (2019) eKLR.

[95] Securities Exchange Commission(SEC) v W.J Howey CO.328 US 293(1946)

[96] Securities Exchange Commission(SEC) v W.J Howey CO.328 US 293(1946)

[97] Capital Markets Authority, 'The Capital Markets Soundness Report(CMSR)', volume XXI Quarter IV (Oct- Dec 2021) p22

From an analysis of the CMA, cryptocurrencies are inadequately regulated with the Kenyan Courts borrowing from other states in making their judgements as was in the Wiseman Talent Ventures case.

3.3. CONCLUSION

The International Monetary Fund(IMF) has urged states to impose regulations on cryptocurrencies that are comprehensive, consistent and coordinated.[98] The IMF further called for a regulative framework on cryptocurrencies citing the following reasons. First, for consumer protection; cryptocurrency users might fall prey to cyber-attacks in the form of hacks. Additionally, in the event an Exchange declares bankruptcy, the users would lack compensation. Second, to safeguard market integrity, cryptocurrencies being decentralized implies that no one controls the number of cryptocurrencies one may hold. This exposes the market to manipulation through 'pump-and dump schemes' and 'rug pulls.' In a pump-and-dump scheme, organizers artificially inflate the price of a cryptocurrency through misleading or false statements to encourage others to buy it. Once the price has been pumped up to a desirable level, the organizers sell off their holdings at a profit, causing the price to plummet (dump). This leaves other investors, who were lured into buying during the pump phase, with losses as the value crashes.[99] In a rug pull, cryptocurrency developers or project creators abandon a project after attracting investments or liquidity into a decentralized platform or a cryptocurrency token. They typically withdraw or "pull" the funds (liquidity) from the project, leaving investors with worthless or significantly devalued tokens and no means to recover their investments.[100] Third, for financial stability, cryptocurrencies are highly volatile and thus a risky investment. In 2022 the Financial

[98] Tobias A, Dong H & Aditya N, 'Global Crypto regulation should be comprehensive, consistent and coordinated.', 9 December 2021. < https://www.imf.org/en/Blogs/Sections/2021/12/09/blog120921-global-crypto-regulation-should-be-comprehensive-consistent-coordinated>

[99] Rajeev D, 'Pump-and-Dump: Definition, How the Scheme is Illegal, and Types' 13TH January 2022,-< https://www.investopedia.com/terms/p/pumpanddump.asp#:~:text=Pump%2Dand%2Ddump%20is%20an,%2D%20and%20small%2Dcap%20stocks.> on 14th February 2024

[100] Nina S, ' What is a Rug Pull?' 9th March 2023, -< https://www.bankrate.com/investing/what-is-a-rug-pull/#:~:text=A%20rug%20pull%20is%20a,victim%20off%2Dbalance%20and%20scrambling.> on 23rd February 23, 2024

Stability Board (FSB)[101] an international body established in 2009 that monitors and makes recommendations about the global financial system, warned of the looming danger of financial stability risks due to the high adoption of cryptocurrencies without regulation.[102]

This chapter has looked at cryptocurrency as a digital asset, the legal framework and institutional framework on the regulation of cryptocurrency as a digital asset. While the legal framework is still not defined, this chapter also seeks to cover the need for Kenya to put in place comprehensive, consistent and coordinated regulatory frameworks for cryptocurrencies. This will ensure that the protection of the ever growing consumer population is guaranteed.

[101] '< https://www.fsb.org/> on 22nd November 2023.

[102] 'FSB warns of emerging risks from crypto-assets to global financial stability', 16 February 2022. < https://www.fsb.org/2022/02/fsb-warns-of-emerging-risks-from-crypto-assets-to-global-financial-stability/#:~:text=FSB%20warns%20of%20emerging%20risks%20from%20crypto%2Dassets%20to%20global%20financial%20stability,16%20February%202022&text=Crypto%2Dasset%20markets%20are%20fast,with%20the%20traditional%20financial%20system>

4. ANALYSIS OF FINDINGS.

4.1. Crypto currency Classification and Accounting.

As discussed earlier, the classification of crypto currencies as intangible assets is still under debate. According to the International Financial Reporting Standards Interpretation Committee (IFRIC), crypto currencies meeting specific criteria are to be accounted for under IAS 38, Intangible assets. This classification is contingent upon the crypto currency's ability to be separated and sold separately by the holder and not being entitled to a fixed determinable number of currency units. The IFRIC's criteria provide a structured approach to classifying crypto currencies, emphasizing their characteristics and tradability.[103]

4.2. Regulation in Switzerland.

As has been discussed, Switzerland is seen as the pioneer of an exemplary regulatory framework on digital asset, especially cryptocurrency. The Financial Market Supervisory Authority (FINMA) plays a central role, overseeing digital assets, granting licenses to crypto currency exchanges, and ensuring crypto currencies are subject to wealth, income, and capital gains taxes.[104]

Switzerland's framework reflects a global trend: integrating crypto currencies into existing financial systems while promoting legitimacy, security, and proper taxation of crypto currency activities. The phrase "Financial Market Supervisory Authority (FINMA)" refers to the regulatory body in Switzerland responsible for overseeing financial markets, including digital assets. This section focuses on Switzerland because it serves as a prominent example of a country with a progressive regulatory approach towards crypto currencies. By analyzing Switzerland's framework, this study can gain insights into potential models for integrating crypto currencies into established financial systems.

4.3. Concerns from International Bodies

[103] 'Accounting for cryptocurrencies' (ACCA Global) https://www.accaglobal.com/gb/en/student/exam-support-resources/professional-exams-study-resources/strategic-business-reporting/technical-articles/cryptocurrencies.html accessed 17 January 2024

[104] 'Swiss Financial Market Supervisory Authority FINMA' (FINMA) https://www.finma.ch/en accessed 17 January 2024.

This paper has also discussed apprehensions made by the International Monetary Fund (IMF) regarding the Central African Republic's decision to legalize Bitcoin, underlining potential threats to financial stability, integrity, and consumer safety.[105] These concerns underscore the importance of implementing thorough and synchronized regulations to mitigate the possible risks tied to the broad acceptance of cryptocurrencies.

Such regulations would need to encompass a broad spectrum of considerations, for example, anti-money laundering measures and mechanisms for consumer protection. Moreover, they would need to strike a delicate balance between fostering innovation in the burgeoning cryptocurrency sector and safeguarding the stability and integrity of the broader financial system.

Furthermore, the concerns raised by the IMF also prompt reflection on the need for international cooperation and coordination in addressing the challenges posed by cryptocurrencies. Given the borderless nature of digital currencies and their potential to transcend regulatory jurisdictions, a harmonized approach among nations and regulatory bodies becomes imperative. Collaboration on standards, information sharing, and regulatory best practices can help mitigate the risks associated with cryptocurrencies while supporting their potential benefits, such as financial inclusion and innovation in payment systems.

4.4 Kenya's Position and Regulatory Uncertainty

Kenya presents a fascinating case study. Despite a reportedly high number of Bitcoin holders per capita, national authorities hold divided views on cryptocurrencies. This lack of a clear regulatory framework creates potential risks for national security and consumer protection.[106]

[105] Leah Wakarima, Bitcoin adoption by the Central African Republic raises economic concern- IMF, 5 May 2022, < https://kenyanwallstreet.com/bitcoin-adoption-by-car-raises-concern-imf/> on 19 January 2024

[106] 'Legal framework for data protection' (European Commission) https://anti-fraud.ec.europa.eu/olaf-and-you/data-protection/legal-framework-data-protection_en accessed 17 January 2024

The differing stances of the Central Bank of Kenya (CBK) and the Capital Markets Authority (CMA) on the regulation of cryptocurrency as a digital asset present unique opportunities for comprehensive regulatory frameworks to emerge. This diversity in viewpoints allows for a thorough examination of the potential benefits of cryptocurrency regulation. Firstly, clear and balanced regulations would provide a solid foundation for businesses operating within the cryptocurrency space, fostering an environment conducive to growth and innovation. With established guidelines, businesses can confidently navigate the market, leading to increased investment and job creation in the burgeoning crypto sector.

Secondly, robust regulations would offer vital protections for consumers, mitigating the risks of scams and fraudulent activities prevalent in unregulated markets. By enhancing consumer confidence, regulatory measures can encourage wider adoption of cryptocurrencies, expanding access to digital financial services while safeguarding the interests of users. Lastly, effective regulation would address national security concerns associated with the anonymity of cryptocurrencies. By implementing measures to combat illicit activities such as money laundering and terrorist financing, regulatory authorities can uphold the integrity of the financial system and protect the nation's security interests.

Overall, a proactive approach to cryptocurrency regulation presents an opportunity to harness the potential benefits of digital assets while mitigating associated risks, ultimately contributing to a more secure and vibrant financial ecosystem in Kenya.

4.4.1 Legal Framework and Data Protection

As seen earlier, the Data Protection Act of 2019 is discussed in relation to block chain technology, pointing out tensions with GDPR regarding the right to erasure, challenges in identifying data controllers, and issues with data minimization and purpose limitation.[107]

The legal framework, as outlined in the Data Protection Act 2019, faces challenges in reconciling block chain technology with data protection principles, especially in terms of erasure and identification of responsible parties.

[107] Data Protection Act,2019.

4.4.2 Other Relevant Acts

The dissertation mentions the National Payment Systems Act, the Computer Misuse and Cybercrimes Act, and their potential roles in regulating crypto currencies.

The inclusion of these laws suggests that crypto currency activities may fall under multiple regulatory frameworks, creating a complex landscape.

4.5 Theoretical Framework for Regulating Crypto currencies

This section delves into the theoretical framework for regulating crypto currencies, drawing upon the work of Omri Marian. His essay emphasizes several key considerations; -

i. Consumer Protection.
   Implementing regulations aimed at safeguarding consumers from fraudulent practices and scams prevalent in the cryptocurrency market. By establishing clear guidelines and enforcing transparency standards, regulators can empower consumers to make informed decisions, fostering trust and confidence in digital asset transactions.
ii. Financial Stability.
   Regulatory frameworks can help mitigate potential risks posed by cryptocurrencies to the stability of the broader financial system. By monitoring and addressing systemic vulnerabilities, regulators can reduce the likelihood of market disruptions and enhance overall financial resilience, thus safeguarding the interests of investors and stakeholders.
iii. Prevention of Illegal Activities.
   Effective regulation can address concerns regarding the misuse of cryptocurrencies for illicit purposes such as money laundering, terrorist financing, and other criminal activities. Through robust enforcement mechanisms and compliance measures, regulators can uphold the integrity of the financial system and mitigate risks to national security, contributing to a safer and more secure environment for financial transactions.
iv. Fostering Innovation.
   Regulatory frameworks should aim to strike a balance between fostering innovation and ensuring market integrity within the cryptocurrency space. By providing clarity and

regulatory certainty, regulators can encourage responsible innovation while deterring illicit or harmful activities. This approach not only stimulates technological advancements but also promotes healthy competition and market development, ultimately benefiting both consumers and industry participants.

The theoretical framework proposes a multi-faceted strategy that amalgamates various approaches to address the challenges and opportunities presented by cryptocurrencies:

Legal Solutions: Implementing clear and robust laws and regulations specific to cryptocurrency activities offers numerous benefits. By establishing a transparent regulatory framework, authorities can provide clarity to market participants, fostering trust and confidence in the digital asset ecosystem. Moreover, well-defined regulations enable effective enforcement mechanisms, deterring illicit activities and safeguarding the interests of consumers and investors. Legal solutions also create a conducive environment for innovation and investment, driving growth and development in the cryptocurrency sector.

Technological Solutions: Leveraging technological tools to monitor and track cryptocurrency transactions enhances regulatory oversight and enforcement capabilities. Advanced analytics, block chain analysis, and artificial intelligence can be employed to detect suspicious activities, such as money laundering and fraud, in real-time. By leveraging cutting-edge technologies, regulators can enhance the integrity and security of the cryptocurrency market, thereby bolstering investor protection and market confidence. Additionally, technological solutions facilitate greater transparency and accountability, promoting a more efficient and trustworthy digital financial ecosystem.

International Cooperation: Collaborating with other nations to develop consistent global regulations is essential for addressing the cross-border nature of cryptocurrencies. International cooperation enables the harmonization of regulatory standards and practices, reducing regulatory arbitrage and fostering a level playing field for market participants worldwide. By sharing information, best practices, and resources, countries can enhance their collective ability to combat illicit activities and ensure the stability and integrity of the

global financial system. Moreover, international cooperation promotes innovation and knowledge-sharing, driving continuous improvement in regulatory frameworks and practices across jurisdictions.

4.5.1 Limitations and Future Research Directions

While this study offers valuable insights into Kenya's current crypto currency regulatory landscape, acknowledging its limitations can refine our understanding and guide future research efforts.

i. Rapidly Evolving Landscape**.**

Crypto currency regulations and attitudes are known to be fluid, changing quickly. This study offers a current snapshot, but future developments may render some findings outdated. To address this, ongoing monitoring by researchers and policymakers of the regulatory landscape is crucial. Regularly updated reports and analyses can help maintain an accurate picture of evolving regulations.

ii. International Context.

Crypto currencies operate globally. Examining how Kenya's framework aligns or diverges from internationally established standards and best practices would offer a broader perspective. Future research could explore how other nations address similar challenges and what successful strategies they've implemented. This comparative analysis can inform Kenya's approach to crafting a robust regulatory framework.

iii. Limited Scope.

This study focuses on key institutional positions, which are essential but represent only one part of the picture. Further research could delve deeper to include; -

a) Public and Industry Perspectives**:** Understanding public sentiment towards crypto currencies and industry concerns regarding regulations would provide a more holistic view.

b) User Experiences: Investigating user experiences within the Kenyan crypto currency space could reveal potential issues or areas where regulations can better serve user needs. These broader analyses can help identify potential blind spots and inform a more inclusive regulatory approach.

iv. Future-Proofing the Framework:

The paper rightly emphasizes the need for a clear, comprehensive, and coordinated regulatory framework. Future research could explore potential scenarios and challenges that future technological advancements or market fluctuations might pose. This foresight can help build a more forward-looking and adaptable regulatory framework.

By acknowledging these limitations and implementing these mitigating factors, future research can provide a more robust and nuanced understanding of the regulatory challenges and opportunities surrounding crypto currencies in Kenya. This can ultimately inform the development of a sustainable and effective regulatory framework that fosters innovation while safeguarding users and financial stability.

4.6. Digital Assets Inheritance in Kenya.

The paper has highlighted the inheritance regime in Kenya and also the justification of property rights within the Kenya legal system. The absence of explicit provisions addressing digital assets within Kenya's inheritance laws presents significant challenges in managing these assets upon the demise of an individual. Digital assets encompass a wide range of items, including cryptocurrencies, digital currencies, online accounts, digital media, intellectual property, and more. Despite their increasing prevalence, traditional legal frameworks often struggle to accommodate these assets adequately, including Kenya.

One primary challenge lies in identifying and cataloging digital assets. Unlike physical assets, which can be easily identified and located, digital assets may exist solely in virtual spaces, stored across various platforms and devices. Executors and beneficiaries may encounter difficulties in pinpointing all relevant digital assets, potentially leading to incomplete inheritance arrangements.

Valuing digital assets poses another challenge. Their worth may fluctuate rapidly, and traditional valuation methods may not accurately capture their market value. Moreover, the intangible nature of many digital assets complicates their valuation further, as they may lack clear market comparables or historical pricing data.

Distributing digital assets also presents hurdles within the current legal framework. Without explicit guidance on how to transfer digital assets to beneficiaries, executors may face legal

uncertainties and practical obstacles. Issues such as access restrictions, encryption, and terms of service agreements can impede the smooth transfer of digital assets to intended heirs.

To address these challenges, lawmakers in Kenya may need to update the laws of succession to encompass digital assets explicitly. This could involve clarifying the definition of digital assets, establishing protocols for their identification and valuation, and devising mechanisms for their orderly distribution. Additionally, promoting awareness among individuals about the importance of including digital assets in their estate planning can help mitigate potential complications for their heirs.

In the absence of legislative reforms, individuals can take proactive steps to manage their digital assets effectively. This may involve creating a comprehensive inventory of digital assets, documenting access credentials and instructions for their transfer, and consulting legal and financial professionals to incorporate digital assets into their estate plans.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the key findings of this research. Through a comprehensive analysis of Kenyan law, cyber security risks, and best practices in digital asset inheritance, this paper successfully achieved all of its outlined objectives. The following sections will detail the specific findings related to each objective set out.

5.1. Specific Findings on Kenya's Legal and Regulatory Framework

This section details the specific findings related to the first research objective

a) Classification of Digital Assets

The International Financial Reporting Standards Interpretation Committee (IFRIC) classifies cryptocurrencies as crypto-assets with specific characteristics, falling under IAS 38 (Intangible Assets) if they meet certain criteria.
However, there's no clear indication of how Kenyan law classifies digital assets like cryptocurrency. This ambiguity creates uncertainty for inheritance planning and potential tax implications.

b) Regulatory Landscape

Unlike Kenya, Switzerland offers a clear example of a country with a well-defined regulatory framework for digital assets. Their Financial Market Supervisory Authority (FINMA) licenses cryptocurrency exchanges and subjects cryptocurrencies to wealth, income, and capital gains taxes.
In contrast, Kenya lacks a comprehensive regulatory framework for digital assets. This absence of clear regulations creates uncertainty for stakeholders, including potential risks to national security and consumer protection within the cryptocurrency space.

c) International Concerns

The International Monetary Fund (IMF) has expressed concerns about the potential risks associated with widespread cryptocurrency adoption, such as; -
Financial stability: Cryptocurrencies' volatility could disrupt Kenya's financial system.

Financial integrity: Cryptocurrencies can be used for money laundering or other illegal activities.

Consumer protection: Users might be vulnerable to scams or fraudulent practices within the unregulated cryptocurrency market.

d) Analysis of Existing Kenyan Laws

The Data Protection Act (2019) might pose challenges for block chain technology due to potential conflicts with the General Data Protection Regulation (GDPR) principles.

The GDPR emphasizes data minimization and purpose limitation, which can be difficult to achieve with block chain's distributed ledger system where data deletion or modification might be complex.

The National Payment Systems Act (2011) doesn't currently recognize cryptocurrencies as a payment system. While there have been suggestions for regulating them under this Act, the 2015 Central Bank of Kenya (CBK) notice discouraging the use of virtual currencies remains in effect. This creates confusion and hinders potential innovation in the digital asset space.

The Computer Misuse and Cybercrimes Act (2018) aim to address cybercrime but lacks specific guidelines regarding block chain and cryptocurrencies. This lack of clarity could make it difficult to address cyber security threats specific to digital asset inheritance.

Overall, these findings highlight the need for a clearer and more comprehensive legal and regulatory framework for digital assets in Kenya. This is crucial for addressing potential risks, protecting consumers, and fostering responsible innovation within the Kenyan digital asset landscape.

5.2.Identifying the cybersecurity risks associated with the inheritance of digital assets in Kenya.

Key Findings

a) Loss of Access Credentials

Inheriting digital assets heavily relies on accessing the deceased's private keys or login credentials. Poor password management, lack of clear communication about inheritance plans, or physical loss of storage devices can lead to permanent inaccessibility of these assets.

b) Vulnerability to Hacking and Social Engineering

Digital assets are prime targets for cybercriminals. Inheriting digital assets without proper security measures can expose them to hacking attempts, phishing scams, or social engineering tactics designed to steal private keys or access passwords.

c) Insider Threats

Even with clear inheritance instructions, there's a risk of insiders with knowledge of the deceased's digital assets attempting to steal or misappropriate them. This could include family members, caregivers, or individuals with prior access to the deceased's digital accounts.

d) Immature Regulatory Environment

The lack of clear regulations surrounding digital assets in Kenya creates uncertainty. This ambiguity can make it difficult to determine legal ownership and inheritance rights, potentially leading to disputes or exploitation by malicious actors.

e) Scams and Ponzi Schemes

Kenya has witnessed crypto-related scams, including Ponzi schemes that target unsuspecting individuals. Inheriting digital assets without proper knowledge or guidance can make beneficiaries vulnerable to falling prey to such schemes.

These findings highlight the importance of cybersecurity awareness and proactive measures when dealing with digital asset inheritance in Kenya.

The legal and regulatory uncertainties identified in Section 5.1 contribute to these cyber security risks. The lack of clear guidelines makes it challenging to establish secure inheritance plans and protect digital assets from theft or fraud.

5.3. Strategies to Minimize Cybersecurity Risks

Building on the established legal and regulatory landscape (addressed in Section 5.1), this section explores strategies to minimize cybersecurity risks associated with inheriting digital assets in Kenya.

Key Findings

a) Lack of Awareness

Many Kenyans might be unaware of the cybersecurity risks surrounding digital assets and how to integrate them into estate plans.

b) Storage Risks

Inheriting digital assets like cryptocurrency requires secure storage solutions. Traditional wills might not adequately address private keys or login credentials.

c) Phishing Attacks

Heirs unfamiliar with digital asset management might be susceptible to phishing scams impersonating legitimate platforms.

d) Insider Threats

Family members or caregivers assisting with digital asset inheritance could pose security risks through accidental or malicious actions.

e) Technological Obsolescence

Constantly evolving technologies might render access methods obsolete over time.

Mitigation Strategies

By acknowledging these risks, various strategies can be employed to minimize them:

a) Education and Awareness**:**

By promoting public education on cybersecurity best practices for digital assets and inheritance, individuals can become more informed and empowered to protect their assets. Increased awareness can help prevent common pitfalls and vulnerabilities, enhancing overall digital asset security.

b) Secure Storage Solutions:

Encouraging the adoption of secure storage methods such as hardware wallets or multi-signature accounts enhances the protection of digital assets against unauthorized access and cyber threats. These solutions offer robust security features, safeguarding assets from potential breaches or hacks.

c) Clear and Detailed Estate Plans:

Incorporating clear instructions on accessing and managing digital assets within estate plans ensures smooth and efficient asset transfer in the event of incapacity or death. Clarity in estate planning helps prevent confusion or disputes among beneficiaries, ensuring the seamless transfer of digital assets according to the owner's wishes.

d) Digital Asset Inventory:

Creating a comprehensive digital asset inventory that lists all owned digital assets, access credentials, and storage locations facilitates efficient asset management and inheritance planning. A detailed inventory enables owners and beneficiaries to accurately account for all digital assets, reducing the risk of oversight or loss.

e) Contingency Planning:

Formulating contingency plans to address scenarios such as primary inheritor incapacity or death provides resilience and continuity in asset management. By proactively anticipating potential disruptions, individuals can implement measures to ensure the uninterrupted management and transfer of digital assets, preserving their value and integrity**.**

By implementing these strategies, Kenyans can significantly reduce cybersecurity risks associated with inheriting digital assets.

5.4.Evaluating Current Strategies and Proposing Recommendations

This section analyzes the effectiveness of existing estate planning and inheritance practices in Kenya regarding digital assets.

Findings

a) Limited Awareness

Many Kenyans might be unaware of the need to include digital assets in their estate plans. Traditional estate planning instruments like wills may not adequately address digital assets due to a lack of understanding about passwords, private keys, or how to access these assets.

b) Legal Uncertainties

The unclear legal status of digital assets in Kenya creates challenges. Inheriting digital assets becomes difficult when ownership or access rights are ambiguous in the absence of clear legal frameworks.

c) Technological Challenges

Technical complexities associated with digital assets can pose obstacles. Executors or beneficiaries might lack the technical knowledge to locate, access, or manage inherited digital assets.

Overall, current estate planning and inheritance strategies in Kenya are largely inadequate for handling digital assets effectively.

5.5.Provide Recommendations for a Comprehensive Framework

Building upon the identified limitations, this section proposes recommendations for developing a comprehensive framework for estate planning and inheritance of digital assets in Kenya.

a) Public Education and Awareness

Campaigns and initiatives can raise public awareness about the importance of including digital assets in estate plans. This could involve collaborating with government agencies, financial institutions, and industry experts to educate Kenyans about digital asset management and inheritance.

b) Legal Clarity

Kenya's legal framework requires updating to establish precise definitions and regulations governing digital assets. This process could encompass several essential steps: firstly, integrating digital assets into the legal system by defining their classifications. Secondly, formulating guidelines concerning the inheritance and ownership of digital assets to ensure orderly transfer and management; and thirdly, addressing legal challenges posed by existing laws, such as the Data Protection Act, particularly in relation to block chain technology.

By undertaking these measures, Kenya can create a more robust regulatory environment that fosters innovation, protects consumers, and promotes the responsible use of digital assets in its evolving economy.

c) Standardized Practices

Developing standardized practices for handling digital assets in estate planning can enhance efficiency and transparency. This could entail several key actions: firstly, promoting the adoption of digital asset management tools to ensure secure storage and controlled access; secondly, establishing clear communication protocols between executors and beneficiaries

regarding the inheritance of digital assets; and thirdly, offering guidance on the valuation of digital assets for estate tax purposes. By implementing these measures, estate planning processes can be streamlined, ensuring that digital assets are managed and transferred in a consistent and equitable manner, ultimately benefiting both heirs and executors.

d) Collaboration

Collaboration between stakeholders is pivotal for effective management of digital assets. This collaboration may include government agencies partnering with financial institutions and technology providers to co-create secure and user-friendly solutions tailored for digital asset inheritance. Additionally, legal professionals can enhance their expertise by staying updated on the latest developments and best practices for handling digital assets within estate planning, ensuring comprehensive and informed guidance for their clients. Through such collaborative efforts, stakeholders can collectively address challenges and capitalize on opportunities in the evolving landscape of digital asset management, ultimately benefiting both individuals and the broader community.

By implementing these recommendations, Kenya can establish a comprehensive framework that facilitates secure and efficient inheritance of digital assets, protecting the rights of both bequeathers and beneficiaries.

5.6.CONCLUSION

This research has explored the multifaceted challenges surrounding the inheritance of digital assets, particularly cryptocurrencies, in Kenya. It examined the uncertain legal and regulatory landscape, the inherent cybersecurity risks, and proposed strategies to mitigate them.

Kenya's current framework presents a picture of divided attitudes among key institutions, with existing laws like the Data Protection Act and National Payment Systems Act struggling to reconcile with the unique characteristics of block chain technology. These uncertainties create hurdles for secure and efficient digital asset inheritance.

Recommendations for policymakers emphasize the need for a clear and comprehensive regulatory framework specifically addressing digital asset inheritance. This framework should be formulated through collaboration between relevant bodies like the National Treasury, Central Bank of Kenya, and the Capital Markets Authority, ensuring consistency and inclusivity. Engaging stakeholders, including industry experts and the public, throughout the process will help address diverse perspectives and foster a sense of ownership.

The research also identified significant cybersecurity risks associated with digital asset inheritance in Kenya. These include hacking, fraud, and vulnerabilities inherent to block chain technology itself. Cases of crypto-related crimes and challenges in identifying data controllers highlight the urgency of addressing these risks. Recommendations focus on strengthening public awareness and education regarding cybersecurity best practices, developing robust regulations to combat cybercrimes targeting digital asset inheritance, and investing in advanced cybersecurity tools tailored to this evolving landscape.

Looking towards the future, this research underscores the importance of continuous exploration in several key areas. First, further research should delve into the ongoing development of the legal landscape for digital asset inheritance, analyzing the effectiveness of new regulations and their impact on stakeholders. Second, exploring the international dimensions of cryptocurrency regulation is crucial to assess how Kenya's approach aligns with or diverges from global standards. Finally, investigating the socio-economic implications of digital asset inheritance and its potential role in wealth distribution and financial inclusion can offer valuable insights for policymakers.

In conclusion, navigating the complexities of digital asset inheritance in Kenya requires a concerted effort from policymakers, industry players and researchers. By acknowledging the dynamic nature of the cryptocurrency landscape, adopting a proactive approach, and staying attuned to global developments, Kenya can ensure a secure and equitable future for the inheritance of digital assets. This research has shed light on the challenges and opportunities at hand, paving the way for further exploration and the development of effective solutions.

BIBLIOGRAPHY

Reports

1. Capital Markets Authority, 'The Capital Markets Soundness Report(CMSR)', volume XXI Quarter IV (Oct- Dec 2021)
2. Ministry of Information, Communication and Technology, 'Emerging Digital Technologies for Kenya Exploration & Analysis', July 2019

Guidelines or policies

1. Capital Markets Authority, CMA Warns Against Kenicoin Initial Coin Offering and Trading.
2. Central Bank of Kenya, Discussion Paper on Central Bank Digital Currency (February 2022)
3. Swiss Financial Market Supervisory Authority(FINMA), Guidelines for Enquiries Regarding the Regulatory Framework for Initial Coin Offering(ICO) (2018)
4. Central Bank of Kenya, Public Notice on Virtual Currencies such as Bitcoin (December 2015)
5. Central Bank of Kenya, 'Press Release: Caution to the Public on Virtual Currencies such as Bitcoin' (2018)

Newspaper Articles

1. Reuters, Central African Republic adopts Bitcoin as an official currency (28 April 2022)
2. Brian Ngugi, Citibank Warn Over Risk of Kenya Bitcoins (14 January 2018) Business Daily.
3. Vincent Achuka, Kenyans lose Billions to Crypto frauds (11 June 2022) Nation Africa
4. Vincent O,' Kenya's capital markets regulator puts Crypto assets under close watch', 16 February 2022, The East African

Journal Articles

1. Omri M,' A Conceptual Framework for the Regulation of Cryptocurrencies'
2. Stuart D, 'An Introduction to Smart Contracts and Their Potential and Inherent Limitations'

3. Schlager, E and Ostrom, E, ‘Property-Rights Regimes and Natural Resources: A Conceptual Analysis.’
4. Fairfield, J, ‘Owned: Property, Privacy, and the New Digital Serfdom’
5. Aven, T, ‘Risk assessment and risk management: Review of recent advances on their foundation’ (2016)
6. Gordon, L A and Loeb, M P, ‘The economics of information security investment’ (2002)
7. Baldwin, R, Cave, M, and Lodge, M, Understanding Regulation: Theory, Strategy, and Practice.
8. Block chain Laws and Regulations in Kenya, Global Law Insight- International Legal Business Solutions, 2021
9. James Gathii, ‘Bitcoin and other virtual currencies from a Kenyan legal perspective’
10. Geral D., Muthoni I., & Kalule B., ‘Unscrambling Block chain: Regulatory Frameworks in Cryptocurrency’, Bowmans.
11. Patrick O, ‘Digital Assets: A Comparative Analysis of the Legal and Regulatory Frameworks in Kenya and South Africa’ International Journal of Innovative Research and Development, 2019
12. Evanson M & Ann N, ‘Digital Asset Inheritance in Kenya: Legal and Regulatory Challenges’ African Journal of Corporate Governance, 2021
13. Mercy M & Alice O, ‘Block chain and Estate Planning in Kenya: The Legal Framework for Inheritance of Digital Assets’ Journal of Internet Banking and Commerce, 2020
14. Diana N & Sarah K, ‘Estate Planning for Cryptocurrency: A Comparative Analysis of the Legal and Regulatory Frameworks in Kenya and the United States’ Journal of Economics and Finance, 2020
15. Evanson M & Anne N, ‘Digital Asset Inheritance in Kenya: Legal and Regulatory Challenges’ African Journal of Corporate Governance, 2021
16. Jason T, ‘Securing the Future: Cybersecurity and Digital Inheritance’ Journal of Accountancy, 2019
17. Sarah-Jane M & Mathew D, ‘Digital Asset Inheritance Planning: An Exploration of Security Risks and Solutions’ International Journal of Business and Information, 2020
18. John R,’ Cybersecurity Risk in the Context of Digital Asset Inheritance: An Overview’ Journal of Wealth Management, 2021

19. Max P & Guido M, 'Cryptocurrency Inheritance and Cybersecurity: Challenges and Best Practices' Journal of Digital Banking, 2021
20. Laura M & Lisa V,' Digital Inheritance and Cybersecurity: The Risks and Challenges of Estate Planning in a Digital Age' Journal of Financial Planning, 2022

Internet Sources

1. Saruni Maina, Central Bank of Kenya and Cabinet Secretary Joe Mucheru differ over Bitcoin(16 January 2018) < https://techweez.com/2018/01/16/bitcoin-cbk-joe-mucheru/>
2. Eva Kimani, Kenya: Block chain comparative guide (15 September 2020) < https://www.mondaq.com/Guides/Results/14/111/all/Kenya-Blockchain-Guide>
3. Dr Michele Finck, Block chain and the General Data Protection General Regulation: Can Distributed Ledgers be squared with European Data Protection Law (July 2019) < https://www.europarl.europa.eu/RegData/etudes/STUD/2019/634445/EPRS_STU(2019)634445_EN.pdf>
4. Dr Markus Kaulartz, Michael K, Katja Van & Christian Runte, The Tension between GDPR and the rise of Block chain technologies (January 2019) < https://cms.law/en/media/international/files/publications/publications/the-tension-between-gdpr-and-the-rise-of-blockchain-technologies>
5. . Michael Kimani, Opinion: How the Central Bank of Kenya plans to regulate Bitcoin and Cryptocurrencies(2018) < https://kenyanwallstreet.com/opinion-how-the-central-bank-of-kenya-plans-to-regulate-bitcoin-cryptocurrencies/>
6. Sulan Quadri, Kenyan Authorities arrest student hackers converting stolen money to Bitcoin (17 June 2022) < https://techcabal.com/2022/06/17/kenyan-authorities-arrest-student-hackers-converting-stolen-money-to-bitcoin/>
7. June Okal, Review on the new Computer Misuse and Cybercrimes Act- Kenya (24 May 2018) < https://techweez.com/2018/05/24/computer-misuse-cybercrimes-act/>
8. Nelly Kinya, Parliament gives Finance Ministry two weeks to decide legality of cryptocurrency (4 July 2018) < https://kenyanwallstreet.com/cs-rotich-to-addresses-parliament-on-bitcoins/>

9. David Ochieng Mbewa, Taskforce report recommends the use of cryptocurrency in Kenya (25 July 2019) < https://africa.cgtn.com/2019/07/25/task-force-report-recommends-use-of-cryptocurrency-in-kenya/>
10. Daniel Mpala, Kenyan Task force calls for the state to regulate AI and Block chain (2 August 2019) < https://ventureburn.com/2019/08/kenya-report-blockchain-ai/>
11. Antony Kitimo, Kenya's Central Bank warns of risks in cryptos(22 March 2022) < https://www.theeastafrican.co.ke/tea/business/kenya-s-central-bank-warns-of-risks-in-cryptos-3756272#:~:text=Awaiting%20regulation-,Since%202018%2C%20Kenya's%20central%20bank%20has%20been%20issuing%20circulars%20to,place%20to%20protect%20the%20public>
12. Kevin Rothwell, Regulations and Market Practice(Kenya) (1 May 2016) < https://www.cma.or.ke/index.php/cert?download=291:regulations-and-markets-practice-kenya-edition-1>
13. Tobias Adrian, Dong He & Aditya Narain, Global crypto regulation should be comprehensive, consistent and coordinated (9 September 2021) < https://www.imf.org/en/Blogs/Articles/2021/12/09/blog120921-global-crypto-regulation-should-be-comprehensive-consistent-coordinated>
14. Rajeev Dhir, 'Pump-and-Dump: Definition, How the Scheme is Illegal, and Types' 13TH January 2022,-< https://www.investopedia.com/terms/p/pumpanddump.asp#:~:text=Pump%2Dand%2Ddump%20is%20an,%2D%20and%20small%2Dcap%20stocks.>
15. Nina Semczuk, ' What is a Rug Pull?' 9th March 2023, -< https://www.bankrate.com/investing/what-is-a-rug-pull/#:~:text=A%20rug%20pull%20is%20a,victim%20off%2Dbalance%20and%20scrambling.>
16. 'FSB warns of emerging risks from crypto-assets to global financial stability', 16 February 2022. < https://www.fsb.org/2022/02/fsb-warns-of-emerging-risks-from-crypto-assets-to-global-financial-stability/#:~:text=FSB%20warns%20of%20emerging%20risks%20from%20crypto%2Dassets%20to%20global%20financial%20stability,16%20February%202022&text=Crypto%2Dasset%20markets%20are%20fast,with%20the%20traditional%20financial%20system>

17. Evelyne Mwangi, 'Legal Outlook: Digital Assets Inheritance in Kenya and How You Can Navigate the Process.' < https://bitcoinke.io/2022/03/digital-assets-inheritance-in-kenya/> 27 March 2022
18. What is Cyber Security? < https://www.itgovernance.co.uk/what-is-cybersecurity>
19. 'These are the biggest global risks we face in 2024 and beyond' (World Economic Forum) https://www.weforum.org/agenda/2024/01/global-risks-report-2024/
20. 'Legal framework for data protection' (European Commission)< https://anti-fraud.ec.europa.eu/olaf-and-you/data-protection/legal-framework-data-protection_en >
21. Accounting for cryptocurrencies' (ACCA Global) https://www.accaglobal.com/gb/en/student/exam-support-resources/professional-exams-study-resources/strategic-business-reporting/technical-articles/cryptocurrencies.html
22. 'Swiss Financial Market Supervisory Authority FINMA' (FINMA) https://www.finma.ch/en