DECENTRALISED FINANCE (DEFI) AND FINANCIAL INCLUSION IN UGANDA: AN APPRAISAL OF THE LEGAL FRAMEWORK AND ITS ADEQUACY FOR THE REGULATION OF DECENTRALISED FINANCE

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DECLARATION

I, Kironde Eugene, hereby declare that this research work is my original work and that it has never been presents in any institution for any kind of award. I further reviewed the UCUs polices against plagiarism and I am conscious and confident and well aware about the repercussions and I am certain that I have managed to abide by the rules, regulations and policies

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APPROVAL

I certify that I have supervised and read this study and that in my opinion conforms to acceptable standards of scholarly presentation and is fully adequate in scope and quality as a dissertation in the fulfilment for the award of degree of Bachelors of Laws at Uganda Christian University.

Supervisor: RITA KENKWENZI

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Date: 23rd May 2025

ABSTRACT:

This study examines the potential of Decentralised Finance (DeFi) to enhance financial inclusion in Uganda and it appraises the adequacy of the current legal and regulatory frameworks in governing DeFi systems. DeFi operates in a vacuum in Uganda, with the Bank of Uganda and the key stakeholders having expressed conservative approaches its regulation. Using a doctrinal and comparative research methodology, this dissertation evaluates whether Uganda's key financial laws are compatible with emerging DeFi technologies. It explores the non-legal dimensions such as digital literacy, infrastructural barriers and socio economic divides that influence actively DeFi adoption in Uganda. The study draws on international best practises highlight how countries have responded to the unique challenges posed by Decentralised Finance, key among these which include governance risks, regulatory uncertainty and smart contract vulnerabilities.

The findings reveal that while DeFi holds a key potential in increasing financial access particularly among the unbanked populations, its unregulated state introduces significant risks to consumer protection, accountability and financial stability. Uganda's existing legal regime is ill equipped to address the technical and operations complexities of DeFi, particularly its decentralised governance models like DAOs and smart contracts. The study concluded by recommending the development of a tailored legal and regulatory framework that balances innovation with oversight. Key proposals include the establishment of a regulatory sandbox, institutional capacity building and the legal recognition of DeFI service providers under a reformed digital financial services regime. By addressing both the

opportunities and risks of DeFi, this research contributes to ongoing discussions on how Uganda can safely integrate decentralised finance to promote inclusive finance.

Keywords: Decentralised finance (DeFi), Financial inclusion, Legal framework, Block chain, Regulation, Smart contracts, DAOs

DEDICATION:

I dedicate this dissertation to the Almighty God, whose grace and strength have carried me through this academic journey.

To my beloved parents Mr. and Mrs. Kalibbala for their unconditional love, sacrifices and constant encouragement. To my brother Elton M, thank you for your love and support. This dissertation is as much yours as is mine.

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TABLE OF CONTENTS

LIST OF ACCROYNMYS

DeFi – Decentralised Finance

AML Act – Anti- Money Laundering Act

DLT – Distributed Ledger Technology

FSB – Financial Stability Board

DAOs – Decentralised Autonomous Organisations

CeFi – Centralised Finance

TradiFi – Traditional Finance

CBDC- Central Digital Bank Currency

IFI- International Financial Institutions

GSMA- GSM Association

AML – Anti Money Laundering

SDGs – Sustainable Development Goals

EMDEs- Emerging Markets and Developing Economies

USSD – Unstructured Supplementary Serve Data

NGOs- Non-Governmental Organisations

ICT- Information and Communication Technology

DEXs- Decentralised Exchanges

BBC-British Broadcasting Corporation

FATF –Financial Action Task Force

VASPs- Virtual Assets Providers

CHAPTER ONE

1.0 Introduction

Decentralised Finance is defiant finance[1].However it remains a great opportunity for Uganda to achieve financial inclusion. Approximately 89% of the population has been recorded unbanked[2], thus limiting their access to essential financial services such as savings, credit, and secure transactions. While Uganda has made significant strides in improving financial inclusion through adoption of digital financial innovations like mobile money, traditional banking systems still exclude large segments of the population[3]. A lack of access to formal banking services constrains economic opportunities, increases the cycles of poverty, and excludes millions from the global financial system.

Traditional causes of financial exclusion include structural barriers such as high banking costs, strict identification requirements, lack of financial infrastructure, and regulatory constraints. While governments and financial institutions have pursued policies to reduce these challenges, the pace remains relatively slow, with many people still excluded under the centralized banking eco-system.

Decentralised Finance (DeFi) has emerged as a potential alternative to traditional financial systems by providing borderless, peer-to-peer financial services without intermediaries. Built on block chain technology, DeFi platforms offer various

[1] Albina Hysaj, "Decentralised Finance" , Volume 7 (International Journal of Advanced Natural Sciences and Engineering Researches) (2023) pp.158-162
[2] FSDU; "Report on Banking and The Status of Financial Inclusion In Uganda , Insights from Finscope 2018 survey" (FSDU,2018) < https://fsduganda.or.ug > accessed on 19/05/2025
[3] Terrence Gatsby, "Fintech and Financial Inclusion: Serving the Underbanked in Developed Countries" (October 29th 2024) <https://documents1.worldbank.org/curated/en > accessed on 04/05/2025

financial services, including lending, borrowing, asset management and asset transfers, theoretically making financial services more accessible and cost-effective. However, in Uganda, DeFi exists in an unregulated space, as the Bank of Uganda which is the Central governing authority[4] of financial institutions has warned against the use of cryptocurrencies and DeFi applications, stating that they are not legal tender[5]. The High Court of Uganda, in similar manner held that cryptocurrencies are illegal and unlawful as a payment system to facilitate transactions[6].

Despite these regulatory concerns, DeFi continues to attract public interest in Uganda[7], particularly among young people and tech-savvy individuals looking for alternative investment and financial solutions. However, questions remain about whether DeFi governance models such as Decentralised Autonomous Organizations (DAOs) and governance tokens can effectively promote financial inclusion in Uganda's context. Many DeFi protocols claim to be decentralised[8] but, in practice, are controlled by a small group of developers or governance token holders, raising concerns about transparency, accountability, and security.

This study seeks to critically analyse compatibility of decentralised finance (DeFi) with Uganda's current legal and regulatory framework, with a view to determining their potential to enhance financial inclusion. It examines whether DeFi introduces transformative opportunities or new regulatory risks that could further complicate

[4] Article 161 of the 1995 Constitution of the Republic of Uganda as amended
[5] Ministry of Finance , Planning and Economic Development, "Public Statement on Crypto-currencies By The Minister Of Finance" (Tuesday, October 1, 2019) ,<https://archive.finance.go.ug> accessed on 04/05/2025
[6] Silver Kayondo v Bank Of Uganda, High Court Miscellaneous Cause No. 109 of 2022
[7] Muhamadi Matovu, "How can block chain, quantum computing and machine learning transform Uganda" *Nile Post* (Kampala , Saturday June 8, 2024)
[8] Sirio Aramonte, "DeFi Risks and the decentralisation illusion", (December 2021), BIS Quarterly Review pp.1-16

access to financial services. By appraising the adequacy of Uganda's current financial laws in regulating DeFi systems, the research assess whether DeFi presents as a good compliment to the current financial strategies.

1.1 Background to the study

Uganda has made significant progress in financial inclusion over the past decade, primarily due to mobile money services regulated under the National Payment Systems Act[9]. Mobile money penetration has grown rapidly, providing millions of previously unbanked Ugandans with access to digital transactions.

An independent report by the GSMA, a global organisation unifying mobile money eco system to discover, develop and deliver positive business and societal change reported that as of 2022, 1.35 billion registered mobile money accounts transacted volumes to a tune of $1 trillion annually[10]. This volume is recorded to have jumped by 40% during the COVID-19 pandemic which had effectively created more dependency on digitalised money. However, in as much as a great promise for financial inclusion exists, the traditional banking services remain inaccessible to some people especially those in rural areas.

DeFi has emerged as a block chain-based financial system that operates without traditional banks or regulators, offering services such as peer-to-peer lending, decentralised savings, asset transfer, asset management and digital asset transfers. Unlike Centralized Finance (CeFi), which relies on intermediaries such as banks, DeFi

[9] National Payment Systems Act Cap 59 , Laws of Uganda
[10] GSMA," State of the Industry Report on Mobile Money", (2025) <https://www.gsma.com/sotir/> accessed on 2/04/2025

platforms operate through smart contracts that automatically execute transactions based on predefined rules which saves time and reduces transaction costs[11].

DeFi has been praised for its potential to promote financial inclusion[12] by eliminating intermediaries, reducing transaction costs, reducing interest rates and enabling open-access financial tools. However, despite these promises, DeFi governance structures raise serious concerns about security of user's finances, transparency, and true whether DeFi is truly decentralised. Many DeFi projects are governed by a small group of token holders, developers, or private entities, contradicting the very principles of decentralization that frame many of its advantages[13].

Uganda currently lacks a specific legal framework for DeFi. The Bank of Uganda and key stakeholders have repeatedly stated that cryptocurrencies and DeFi applications are not recognized as legal tender. The absence of regulation raises serious questions about consumer protection, fraud risks, and enforcement mechanisms in case of disputes which are unique to decentralised finance protocols because of numerous risks associated to their use. This research will detail the risks associated with decentralised finance to give perspective on whether these finance protocols are valuable financing alternatives to the traditional finance services.

[11] Meyer, Eva Andrea; Welpe, Isabell M.; and Sandner, Philipp, "Decentralized Finance – A Systematic Literature Review and Research Directions"(ECIS 2022 Research Papers) [2022) 25 pp. 313-326

[12] Onufreiciuc, R & Stănescu, L.-E, "Financial Inclusion Through Decentralized Finance: A Citizen Perspective" Volume 10 No.2 (European Journal of Law and Public Administration) (2023) pp.117-127

[13] Supra note 11

Existing financial laws such as the Financial Institutions Act[14], and the National Payment Systems Act[15] regulate financial transactions but do not account for block chain-based financial services. This regulatory gap creates uncertainty on whether DeFi can legally operate in Uganda, and if so, under what conditions to facilitate their integration into the Ugandan economy. While claims suggest that DeFi is decentralised, governance models such as DAOs, governance tokens, and multi-signature wallets often concentrate decision-making power among a few stakeholders[16]. This research will analyse whether these governance structures can support financial inclusion in Uganda or if they create new obstacles such as security vulnerabilities, lack of accountability, and regulatory uncertainty.

1.2 Statement of the problem

Despite the rapid global emergence of DeFi, it remains legally undefined and unregulated in Uganda's digital economy services framework. As DeFi platforms gain more public interest among tech-savvy and underserved populations seeking an alternative financing service, Uganda's current legal framework that is rooted in centralised finance regulation slowly evolves to meet this increasing demand for digital services.

The Bank of Uganda's (BOU) prohibition of cryptocurrency transactions and the absence of a clear legal framework have created a vacuum thus creating risk for both the consumer and missed opportunities for the country to have widened the

[14] Financial Institutions Act Cap 57 , Laws of Uganda
[15] National Payment Systems Act Cap 59 , Laws of Uganda
[16] Jens-Christian Stoetzer , "Trust-Free Banking Missed the Point – The Effect of Distrust in Banks on the Adoption of decentralised finance" (June 2021) (Twenty-Ninth European Conference on Information Systems ECIS 2021) pp.1-16

financial basket of services. This legal gap raises very critical concerns for Uganda which are; Whether Uganda's existing laws can sufficiently regulate DeFi platforms and whether these laws can protect consumers while advancing innovation forward in the country.

Another underlying question then is whether a new regulatory approach is needed to accommodate the unique features of DeFi such as anonymity, smart contracts and decentralised nature of governance? This dissertation seeks to answer these concerns by analysing the adequacy of Uganda's legal framework in governing DeFi while advancing the state's constitutional mandate of providing financial inclusion for all Ugandans

1.3 Research Questions

1.3.1 Main Objective

To appraise the adequacy of Uganda's legal framework in regulating Decentralised Finance (DeFi) in the context of promoting financial inclusion

1.3.1 Specific Objectives

1. To examine the current financial legal framework in Uganda and its relevance to the emerging DeFi technologies
2. To identify the regulatory gaps, conflicts and ambiguities in the application of existing laws against how DeFi operates.
3. To access the nature of DeFi protocols against the legal framework of Uganda's current existing laws.
4. To analyse international best practises in DeFi regulation and their applicability to Uganda

5. To propose legal and policy reforms that can enable safe , inclusive and effective regulation of DeFi in Uganda

1.4 Research Questions

1. What are the main legal Instruments governing the digital financial services in Uganda and do they accommodate governing of DeFi?
2. What regulatory and institutional gaps exist in Uganda's legal framework concerning DeFi?
3. How does the current legal uncertainty around DeFi affect financial inclusion in Uganda?
4. What lessons can Uganda learn from other jurisdictions in regulating DeFi?
5. What legal reforms are necessary to ensure both consumer protection and innovation in Uganda's DeFi space?

1.5 Significance of the study

This study is also crucial in understanding the governance paradox within DeFi, a financial system that operates outside centralized control but often exhibits governance structures that contradict its foundational principles. The research will contribute to the discourse on financial decentralization by:

1. Providing insights into the true nature of decentralization in DeFi governance models.
2. Evaluating the effectiveness of DeFi in promoting financial inclusion and identifying existing barriers.
3. Offering recommendations on governance improvements to ensure transparency, security, and broader accessibility.

4. Informing policymakers, financial regulators, and stakeholders on how DeFi can be integrated into mainstream financial systems while maintaining its benefits.

1.6 Thematic analysis

This study is use the innovation diffusion theory[17] which has been defines to explain how emerging technologies spread within societies in an effort to understand the adoption of DeFi in Uganda. The legal realism perspective will also be referred to in analysis of the various laws and how these adapt of fail to adapt to the various technologies like DeFi highlighting how innovation and regulation play as key dynamic factors.

1.7 Scope of study

The study will focus on

1. Governance Models in DeFi: Analysing various governance frameworks, including Decentralised Autonomous Organizations (DAOs) and governance token models.
2. Financial Inclusion in Uganda: Examining Decentralised finance`s potential and limitations in reaching unbanked populations, particularly in developing economies.

[17] Alim AL Ayub Ahmed , "The Rise of DeFi: Transforming Traditional Finance with Block chain Innovation" (13th February 2024) <https://www.preprints.org/manuscript/202402.0738/v1> accessed on 03/05/2025.

3. Regulatory Perspectives: Comparing DeFi governance with existing financial regulatory structures internationally to determine overlaps and gaps.
4. Case Studies: Investigating selected DeFi protocols to assess their compatibly with regulatory framework in Uganda and effectiveness in fostering financial inclusion.

The study will not delve into technical aspects of block chain development but will focus on regulatory frameworks and accessibility challenges relating to DeFi.

1.7.1 Definition of terms

1. Decentralised Finance (DeFi): A block chain-based financial ecosystem that operates without traditional financial intermediaries, enabling peer-to-peer transactions through smart contracts.
2. Financial Inclusion: The accessibility of financial services to individuals and businesses, particularly those excluded from traditional banking systems.
3. Decentralised Autonomous Organization (DAO): A governance model in DeFi where decision-making is executed through smart contracts and token-holder voting.
4. Smart Contracts: Self-executing contracts with predefined rules encoded on a block chain that facilitate automated financial transactions.
5. Governance Tokens: Cryptocurrency tokens that grant holders voting rights on DeFi platform decisions.
6. Centralized Finance (CeFi): A financial system where intermediaries such as banks, regulators, and financial institutions control transactions and decision-making.

1.7 DECENTRALISED FINANCE: A LITERATURE REVIEW

Decentralised Finance is defiant finance and represents a transformation in the global financial system by challenging the foundational mode of finance and its regulation. DeFi is developed on block chain technology and smart contracts. It facilitates peer to peer transactions without the need of a trust worthy intermediary such as banks or financial regulators. This model of finance has sprung various debates nationally and globally regarding its rapid evolution, but also it's potential to bridge the divide between the rich and the poor by fostering financial inclusion, especially in the Sub-Saharan Africa where many people remain unbanked.

Uganda still faces a plethora of hindrances to attaining the fullest standard of financial inclusion[18], which this research paper argues is hindered by limited access to banks, a high transaction fees and stringent documentation requirements. While mobile money services have made significant strides in closing this financial divide, a great opportunity for DeFi as a potential to further narrow this access to financial services has been presented by many scholars. This however is limited by the complexity of DeFi which have birthed a number of regulatory concerns by national actors.

This literature review will examine the current literature, policy arguments and academic analysis of regulation of DeFi and financial inclusion with a key focus on Uganda. It will firstly explain the key concepts that frame the body of DeFi and

[18] Nathan Were, "Can Uganda Reduce Financial Exclusion to 5% in 5 years" (CGAP, 27th December 2017) <https://www.cgap.org/blog/can-uganda-reduce-financial-exclusion-to-5-in-5-years> accessed on 04/05/2025

financial inclusion, it will then explain the scholarly perspectives on the way DeFi will transform the financial series sector in Uganda. A glance at regulatory approaches by global and national players will be analysed to evaluate how lack of a clear regulatory stance hinders the goal of financial inclusion. This analysis aims to identify any gaps in scholarly writing and the nature of current regulation which will be the basis for the nature of research undertaken.

The rising interest in DeFi by innovators and the public is because of its promise to reduce a reliance on centralised financial institutions[19]. This stems from a mistrust that sprung up right at the same time as the conception of the idea of using block chain technology to facilitate peer to peer transactions. This has been credited to the year 2008 which saw the decline in trust if traditional financial institutions following the global financial crisis, but more particularly the fall of the investment bank the Lehman Brothers[20].

This signalled a "crisis of trust[21]" as customers of these services resorted to the emerging block chain aided financing. This year also saw the publication of the first white paper on block-chain technology by Satoshi[22] which argued for a defiance against the system of traditional banking and introduction of a more permission less distribution of value on basing on the Distributed Ledger Technology (DLT).

The use of block chain technology has rapidly increased the adoption of peer to peer transactions by decentralised finance protocols through the use of permission less

[19] Supra note 17
[20] Sapienza, P. and L. Zingales, "A Trust Crisis" Volume 12 (Issue 2) (International Review of Finance in International Review of Finance) [2012] pp.123-131
[21] Supra note 16
[22] Satoshi Nakamotto, "Bitcoin: A Peer to Peer Electronic Cash System" (2008) <www.bitcoin.org> accessed on 02/04/2025.

block chain[23]. This literature review will delve extensively into the major aspects of decentralised finance which have been categorised into[24]; the economics of decentralised finance, the technology aspects and a clear understanding of decentralised finance. The review will also answer the question on who decentralised finance can increase financial inclusion.

Decentralised finance has been defined as a block chain finance system that operates without intermediaries, utilising smart contracts to facilitate peer to peer transactions[25]. In contrast DeFi has been defined as an alternative financial system that is built on public block chains like Ethereum, enabling services like lending, borrowing and trading by use of Decentralised apps (dApps)[26]. A clear contradiction is brought to light here in terms of the nature of the building blocks of decentralised finance either being permissioned or permission less. This is an aspect that is explained further as an academic gap in the paper. DeFi is used to generate transparent and accessible financial services globally.

This nature offers great valuable insights to the academic and professional community by stimulating further research, and addresses existing challenges in the protocols. The lot of research around decentralised finance is majorly on two aspects

[23] Wenkai Li, " A survey of DeFi security: Challenges and opportunities" Volume 34 Issue 10 Part B (Journal of King Saud University- Computer and Information Sciences) [November 2022] pp.10378-10404
[24] Supra note 14
[25] Matteo Aquilina , "Cryptocurrencies and decentralised finance: functions and financial stability implications" (April 2025) BIS Papers
[26] Aly, "DeFi v Traditional Finance: Key Differences and Similarities" (defiway ,25/04/2023) <https://defiway.com/defi-and-traditional-finance-a-comparative-guide,> accessed on 06/05/2025

which include; how to enforce regulatory requirements for decentralised finance and the implications of treating stable coins as a global medium of exchange[27].

Decentralised Finance provides financial services through block chain technology, disrupting traditional trading, lending, and investing activities[28]. In as much as the advantages that decentralised financing posits such as the reduced costs of global lending and borrowing, critics argue that the disruption of traditional financial services is still a long way . This is due to the long standing existence of traditional financial services such as banks that have been around since the 1600s making them hard to replace.

Traditional finance is also arguably hard to replace by decentralised finance because of existing governing structures supervised by strong legal bodies[29]. Such hindrances that include a lack of legal oversight and limited user awareness will be discussed as some of the hindrances to the adoption of decentralise financial services. Uganda's banking sector for example is regulated by the central bank of Uganda and its existence is linked to a bedrock of solidly built standards that have ensured preservation of financial institutions in Uganda[30].

Traditional financial intermediaries have a historical significance in facilitating transactions such as lending and borrowing, investment between parties. These, such as banks have a plethora of regulatory compliances to meet statutory checks that they incorporate into delivery of their services to combat money laundering and

[27] Supra note 11
[28] Ibid
[29] Dirk A. Zetzche , Douglas W. Arner and Ross P. Buckley, " Decentralised Finance" (Journal of Financial Regulation) [2020] 6 pp.172-203
[30] Article 161 of the 1995 Constitution of the Republic of Uganda

ensure consumer protection and authentic delivery of their services[31]. It is noteworthy however that even traditional financial institutions are incorporating block chain technology into their operations leading to creation of a centralised digital currency, these are often termed as **CBDCs**, which means Central Digital Bank Currencies. These run block chain technology similar to that of Decentralised cryptocurrencies but remain under government control.

The two financial systems traditional and decentralised finance are at a crossroads. [32] Traditional Finance is entirely bottlenecked with regulatory compliances making it more risk avoidant while decentralised finance which aims to democratise finance operates in a very uncertain regulatory regime especially in developed countries. Decentralised finance has made financial inclusion more of a reality in many developing economies. This is because of easy accessibility where anyone with an internet connection can access these services. Banks and other centralised financing remain significant because of an established regulatory infrastructure.

Through the use and harnessing of block chain technology in decentralised finance a number of advancements especially in protocols that offer services such as loans, asset management, insurance, staking and exchanges have set forward significant advantages of decentralised financing over the traditional one[33]. These include Decentralised Finance`s ability to reduce transactional costs and offer cheaper pricing compared to other intermediaries. Decentralised Finance through its secure

[31] Laura Grassi, Davide Lanfranchi, Alessandro Faes, and Filippo Maria, "Do we still need financial intermediation? The case of decentralised finance – DeFi" Volume 19 Issue 3 (Qualitative Research Accounting and Management) [2022] pp.1176- 6093

[32] Alamsyah, A, Kusuma, G.N.W, Ramadhani, D.P, "A Review on Decentralized Finance Ecosystems" in (Future Internet) [2024] pp. 16-76

[33] Patrick Schueffel , " DeFi : Decentralised Finance – An Introduction and Overview" Volume 9 No. 3 (Journal of Innovation Management) [2021]

crypto asset management and transfer grant users the control and transparency beyond no other over their financial assets[34].

Decentralised Finance is built on top of open-source public block chains. It employs smart contracts to create protocols that replicate existing financial services in a more transparent, interoperable, and open manner[35]. Decentralised Finance is meant to be accessible for everyone, built on openly accessible, public block chains. This approach ensures transparency and reduces the need for traditional intermediaries[36].

Smart contracts are a key component of Decentralised Finance, enabling the automation of financial agreements. These contracts are self-executing, with the terms written directly into code, facilitating trust less interactions between parties unlike traditional banking that requires a trusted third party[37].

Decentralised Finance contrasts with Traditional Finance (TradFi), where intermediaries like banks facilitate transactions among market participants[38]. TradFi emphasizes Know Your Customer (KYC) and Anti-Money Laundering (AML) compliance to mitigate financial crimes and relies on a legal framework for trust and transaction fairness[39]. Decentralised Finance protocols are typically self-executing and perpetuate financial transactions without intermediaries. The governance of

[34] Silvu OJOG , "The Emerging World of Decentralised Finance" Vol. 25 (Informatica Economica) [2021] pp.43-52
[35] Supra note 32
[36] Ibid
[37] Supra note 32
[38] Supra note 15
[39] Basel Committee on Banking Supervision, "Basel III : international regulatory framework for banks" (BIS, 2017) <https://www.bis.org/bcbs/basel3.html> accessed on 06/05/2025

Decentralised Finance serves as an enticing research niche because it influences how these protocols evolve, adapt, and achieve stability in a Decentralised financial ecosystem.

Decentralised Finance users prefer governance models that lead towards decentralization and public participation. A prime feature of Decentralised governance is that decision-making is usually structured to allow for token holders to participate, thereby bringing some democratization and transparency to financial oversight[40]. Decentralised governance structures play an essential role in safeguarding the integrity and independence of Decentralised Finance platforms.
The advent of block chain technology and Decentralised finance therefore, triggers fundamental questions related to the necessity of state intervention when regulation of financial institutions comes into play[41]. The evolution from traditional central regulatory designs into decentralised ones produces a contradiction with the current regulatory frameworks. An obligation arises to the governments and international regulators on regulation of financial systems that run outside the traditional institutional control while assuring stability and protection for the customer.

One of the very extreme issues for Decentralised Finance governance is the part code plays in enforcement and regulation[42]. Decentralised Finance in code are the foundation upon which Decentralised Finance's governance rests[43]. Smart contracts automatically enforce rules and transactions without requiring intermediaries. Lessig's theory of "code as law" takes on a specific significance here, because it

[40] Ibid
[41] Ibid
[42] Lawerence Lessig , *Code 2.0* , (2nd Edition, 2006, Basic Books)
[43] Supra note 18

argues that computer code can actually work as a regulatory instrument, directing behaviour and interaction within a digital ecosystem[44]. This theory thus indicates Decentralised Finance's disruptive nature while underlining the need for sound coding practices to mitigate the actual realization of risk in the cyberspace.

Financial inclusion has been argued to be a catalyst for achieving the 17 Sustainable Development Goals (SDGS) which fosters economic growth and employment alleviating people out of poverty[45]. The Global index Report indicated that the millions of people remain unbanked, citing the lack of money, very far distances from any financial institutions and a lack of proper documentation are cited as the reasons why such people are unbanked[46].

Decentralised Finance financial services are divided into the three dimensions which are usage, accessibility and efficiency[47]. Decentralised financing protocols have only been appreciated recently as more and more people have decided to embrace digital economies. The COVID-19 situation exacerbated the need for consumption of these service. Countries like China were recorded to have 82% of their population consume their first digital services in 2021[48]. This goes on to show the limited use of these services in a number of economies.

[44]Samer Hassan and Primavera De Filippi, "The Expansion of Algorithmic Governance: From Code is Law to Law is Code" in Field Actions Science Reports" Special Issue 17 [2017] pp.88-90
[45]World Bank Group ,"Financial Inclusion" (World Bank Group, Jan 27, 2025) <https://www.worldbank.org/en/topic/financialinclusion > accessed on 08/05/2025
[46]World Bank Group, "The Global Findex Database 2021: Financial Inclusion, Digital Payments and Resilience in the Age of COVID-19"(2023) <https://www.worldbank.org/en/publication/globalfindex/Report> accessed on 08/05/2025.
[47] Sapre, N , " A Practical Guide to Financial Services" Volume 1 (Routledge) (2021) pp. 172-192
[48] Onufreiciuc, R., & Stănescu, L.-E, "Financial inclusion through Decentralised Finance: A Citizen Perspective" in Editura Lumen, Vol. 10(1) (Department of Economics) [2024] pages 117-127

1.7.1 How DeFi can Facilitate Financial Inclusion

Access to credit is a part of any progressive economy because it means that individuals can access money at considerable rates of interest to finance investment and other endeavours. However it should be noted that traditional financing provides very predatory loans that are unfavourable to individuals let alone those that are unbanked[49].

Through uptake of decentralised finance services, consumers are able to access borrowing and lending opportunities cheaply. Decentralised finance has however been criticised as a tech survey niche were individuals who have a better understanding of the different protocols use it[50]. That withstanding, it is an ever growing investment, the combined market capitalisation of tokens as at June 2023 was recorded to amount to $1.3 trillion[51], and this goes to show that the adoption of decentralised finance is eminent.

With decentralised finance , more money can be lent to people if more people keep their money in a particular token , this implies that the rate on a loan accumulates over time , stores assets provide higher interest rates to the holder of tokens[52]. Underserved customers that use decentralised finance may find it easier to access

[49] Deborah Goldstein," Understanding Predatory Lending: Moving Towards a Common Definition and Worable Solutions" (September 1999) <https://www.jchs.harvard.edu/sites/default/files/goldstein> accessed on 05/04/2025

[50] Maria Demertzis and Catarina Martins," Decentralised finance : good technology, bad finance"(Bruegel,5th April 2023) <https://www.bruegel.org/policy-brief/decentralised-finance-good-technology-bad-finance> accessed 6/05/2025

[51] Aina Turillazzi, "Decentralised Finance (DeFi): A Critical Review of Related Risks and Regulation" , (2023) <https://ssrn.com/abstract=4593242> accessed on 03/05/2025

[52] Financial Stability Board, "High Level Recommendations for the Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets" , (Financial Stability Board, 17th July 2023) <https://www.fsb.org/2023/07/high-level-recommendations-for-the-regulation-supervision-and-oversight-of-crypto-asset-activities-and-markets-final-report/> accessed on 19/05/2025

lending compared to traditional credit based lending. Decentralised finance gives borrowers quick access to finance which is competitive. It gives lenders a chance to participate in submitting bids. This implies that lenders can confirm transactions quickly due to the help of current automated contracts saving time and money.

Smart contracts act as middle men in financial transactions on a block chain just like intermediaries such as banks act in traditional finance structures. Crypto backed lending, borrowers on decentralised finance platforms can provide collateral in the form of crypto and access financing from institutional investors. This creates a system of stability and dependability. The underlying counterargument against adoption of these financial services is that the requirement for one to access lending opportunities being that they need collateral of crypto assets doesn't exactly fit into the promise of democratising lending to make these services exclusive to asset ownership and also doesn't have an out of virtual world functionality.

This review however notes a number of gaps in the current legal frameworks of Uganda and the global financial markets. The absence of a clear regulatory framework open users of these services to fraud and consumer harm. Its complexity also limits its adoption and accessibility to the Ugandan population.

Academic literature highlights that DeFi can only be modelled to achieve its potential is an inclusive design, financial literacy programs , a secure technology and a more comprehensive regulation[53]. However Uganda's regulatory environment

[53] Luyao Zhang , "The Future of Finance ; Synthesizing CeFi and DeFi for the Benefit of All" (November 2023) < https://scispace.com/the-future-of-finance-synthesizing-cefi-and-defi- > accessed on 05/05/2025

remains underdeveloped in this regard with existing frameworks failing to adequately capture the nuances of decentralised finance.

Merging trends such as Artificial intelligence in DeFi, cross chain interoperability and collaborative governance through DAOs signal and evolution with a key public interests. These innovations couples with regulator experimentation, offer possible avenues for reconciling the promise of DeFi with a need for more oversight and consumer protection[54].

Therefore there is a very compelling need for legal regime and capacity building in Uganda to create a balanced regulatory environment, this must facilitate innovations while safeguarding the integrity and inclusivity of the financial eco system. This review provides the key analysis into how and what a compatible regulatory framework for DeFi will look like.

1.8 Research Methodology

1.80 Introduction

It is important to firstly describe the key steps in conducting this research before discussing the full detailed analysis of the theoretical aspects that affect this study. This chapter will present the systematic methodological framework employed in examining whether decentralised finance (DeFi) can enhance financial inclusion in Uganda, whether the current regulatory framework in place is adequate to governing

[54] Ibid

decentralised platforms and whether they present more challenges basing on that fact that DeFi remains unregulated in the financial ecosystem.

A clear analysis was through a selection of research papers, journals, white papers to build an understanding of the current legal gap in regulation of decentralised finance. The chapter outlines the research design, approach, data sources, analytical techniques, and ethical considerations that guided the inquiry.

The research will also analyse the key legal instruments that govern the regulatory field in Uganda's digital financial services sector. The research conducts a systematic review of these laws

1.8.1 Research Design

The research adopts a descriptive qualitative, exploratory, and doctrinal legal research design. This design is appropriate for legal studies such as this research paper aimed at examining the application, gaps, and potential reform of existing legal frameworks, particularly in areas where formal regulation is absent such as DeFi in Uganda today. In the research, a careful analysis of journals, white papers, article and websites were researches to gin information about the nature of decentralised finance and its impact to financial inclusion.

1.8.2 Research Approach A hybrid of doctrinal and socio-legal approaches is used:

1. **Doctrinal Approach**

This involves the critical examination of statutory laws, regulations, case law, and scholarly literature to assess Uganda's digital economy financial regulatory

framework in comparison with the nature and the scope of governance that occurs under decentralised finance.

2. **Socio-Legal Approach**

Given the fact that financial inclusion is central to this paper component, the research incorporates socio-economic and behavioural aspects of Ugandans affecting access to DeFi and its adoption into the digital economy, particularly among rural and unbanked populations in Uganda. The research incorporate the use of interviews to a sector of the youth in Uganda through an interview process.

1.8.3 Scope and Coverage

The study examines the natural governance structures that are attributable to DeFi protocols such as DAOs, governance tokens, and smart contracts, comparing them with Uganda's traditional financial regulatory framework particularly those that govern the digital economy. The jurisdictional focus is on Uganda, but relevant international standards and practices are also considered for comparative analysis of the understanding what the international standards are being designed to be by more superior countries. The research uses the institutional theory[55] of analysis in carrying out this research on evaluating the compatibility of DeFi in Uganda.

[55] Lundstrom Martin, "Decentralised Finance in the light of institutional theory" (January 2024) <https://www.researchgate.net/publication/382463626_Decentralised_Finance_in_the_light_of_Institutional_Theory> accessed on 07/05/2025

1.8.4 Data Collection Methods

Primary sources

The key and primary method used in this research involved a review of the relevant financial legal frameworks including the Financial institutions Act, the National Payment Systems Act, the Electronic Transactions Act and the Bank of Uganda directive on the use and issue of crypto-assets. This involved an analysis of these various documents to come up with the underlying proof of the hypothesis of this research paper. These documents were carefully handpicked by the researcher to reflect the unique regulation that is currently existing in Uganda that were analysed comparatively with the nature of decentralised finance and case studies to build an understanding of the need for regulation in the various decentralised finance protocols.

Secondary sources

These included various carefully handpicked academic articles, reports from international organizations and case law which was examined to provide analytical and comparative context to the consequences of unregulated markets for decentralised finance to financial inclusion in Uganda today. The research employed these resources from 2017 to 2025 which the research considers to be a relatively key and important timeline to track the evolution of decentralised finance up until today but to also make a reasoned analysis of the state of regulatory frameworks around the world.

TABLE 1 SHOWS THE DATA SOURCES, METHODOLOGY AND PURPOSE IN THE RESEARCH

Type	Data Source	Method of collection	Purpose in research
Primary source	Ugandan Legislation (e.g. The 1995 constitution of the Republic of Uganda, the Financial Institutions Act, National Payment Systems Act etc.)	Doctrinal Legal Research (statutory review)	To examine whether the current legal framework covers or exclude DeFi elements
Primary source	Judicial Decisions (Silver Kayondo v Bank of Uganda)	Case Law Analysis	To interpret how courts have approached crypto related issues in Uganda
Primary source	Bank of Uganda and the Ministry of Finance	Government archives , press statements	To assess the official regulatory stance on DeFi and cryptocurrency.
Secondary source	Academic Articles and Legal Journals on DeFi and regulation	Literature Review	To identify scholarly insights on DeFi governance , legal gaps and policy development
Secondary source	Reports from FSD Uganda, GSMA, World Bank , Statistica	Documentary analysis	To support arguments on financial inclusion , statistics , digital access and fintech usage
Secondary source	DeFi White papers(e.g Kotani Pay)	Online research Protocol documentation	To understand the legal implications of how DeFi tools operate and are governed.
Secondary source	Comparative international standards and recommendations	Database research (Google Scholar)	To draw comparative insights and evaluate regulatory alternatives for Uganda

1.8.5 Empirical Data.

The study employs a lot of statistics especially since it is a social-legal analysis of financial inclusion in Uganda. These statistics are sourced from various reports and surveys that have been conducted in Uganda to evaluate the key statistics such as population divide, population census, access to the internet etc. which include the following: Reports from FSD Uganda, Uganda Bankers Association, Statista, UNICEF Venture Fund, Fin Scope Surveys and GSMA Mobile Money Reports to effectively analyse the impact of unregulated decentralised finance protocols on financial inclusion in Uganda.

A survey[56] conducted by the researcher is also used in analysis of the non-legal aspects decentralised finance and its influence on financial inclusion in Uganda's financial sector.

A case study of a DeFi platform called Kotani Pay is also incorporated in the research to analyse how DeFi can champion financial inclusion in Uganda.

1.8.6 Data Analysis Techniques

A thematic content analysis was used to identify patterns, arguments, and gaps in the legal and non-legal materials handpicked in the research. Comparisons were drawn between DeFi governance structures and Uganda's existing centralized financial system to make a detailed analysis of whether the two systems of regulation were compatible.

[56] Survey Findings on Non-legal aspects of DeFi in Uganda

The paper also incorporates case studies and interviews to analyse the data that is presented in the paper.

1.8.7 Limitations of the Study

The study is prone to several limitations that may have affected its results. To begin with, there is no distinct legal framework for Decentralised Finance (DeFi) in Uganda currently, hence limiting the doctrinal analysis to existing financial, payment, and digital transaction laws in Uganda. The legal analysis, therefore, included analogical reasoning and statutory interpretation, which may not reflect the specific legal needs for decentralised technologies.

Secondly, the absence of significant judicial authority in Uganda on DeFi or comparable cryptocurrency matters was such that case law analysis was restricted, and use of international jurisprudence was necessitated for comparative insights. Thirdly, the mobile and quickly changing nature of DeFi protocols makes it a challenge to update analysis since technological developments could precede legal analysis.

The study also faced limitations in empirical data collection, particularly the inability to carry out interviews with users, developers, or regulators. Thus, results regarding practical experience and loopholes in enforcement are based on secondary data and theoretical inference. Furthermore, although international case studies were referenced for comparative purposes, the focus jurisdiction was Uganda, hence the findings were generalizable. Lastly, while the research touches upon technical DeFi platform matters, it refrains from technical or coding deep analysis due to its legal doctrinal purpose

1.8.8 Conclusion

The methodological framework integrates doctrinal and socio-legal approaches to assess how lack of a clear legal regulatory framework for decentralise finance in Uganda will impact financial inclusion in Uganda.

1.9 Outline of the Research paper

Chapter 2 introduces the non- legal aspects that are associated with decentralised fiancé. This chapter draws a relation between the non-legal factors and makes an analysis of their contribution to the adoption and uptake of decentralised finance particularly decentralized finance in Uganda. Chapter 3 presents a key address on the legal compatibility of Uganda's existing legal framework with the nature of decentralised finance. In this chapter a critical analysis of whether Uganda's laws are adequate in governing decentralised finance is made which remains an unregulated market. Chapter 4 which is the final chapter empathises the findings of the research and a list of recommendations are given to ensure that Uganda's takes advantage of the ever evolving decentralised finance market.

CHAPTER TWO

NON- LEGAL ASPECTS

2.0 Introduction

In as much as the discussion worldwide on decentralised financing has centred on legal and regulatory aspects, a very vital discussion on the non-legal factors that influence DeFi has been missed. These non-legal aspects encompassing socio-economic conditions, technological infrastructure, culture attitudes, and user behaviour play a key role in determining whether decentralised finance can truly enhance financial inclusion particularly in Uganda.

Background

It would be nugatory to describe the impact of decentralised financing in Uganda without first describing the history of financial services in Uganda. The digital financial services revolution started in the late 2000s with the introduction of mobile money services which provided e-money to customers around Uganda[57]. Currently more than 42% of Ugandans use mobile money services for facilitating transactions daily, transacting to a tune of 520 billion shillings mobile money transactions recorded daily[58].

It will be my argument therefore that DeFi, block chain and smart contracts will gain massively if adopted in Uganda as a payment mechanism offering a greater opportunity for financial inclusion of the Ugandans especially those in rural areas

[57] Ebenezer Asumang " From margins to mainstream: Africa`s Mobile Money (MoMo) story"(B&FT Online, April 8,2025) <https://thebftonline.com/2025/04/08/from-margins-to-mainstream-africas-mobile-money-momo-story/>accessed on 4/04/2025

[58] Paul Murungi, "Ugandans transact Shs 520 b on mobile money per day" *Monitor* (Kampala, 21st September,2023)

divide. The non-legal environment influencing decentralised finance adoption in Uganda are categorised to include technological access, financial literacy, social trust and economic behaviour interact with the decentralised financial landscape.

By analysing these elements this study seeks to offer a more holistic understanding of the opportunities and challenges that decentralised finance presents. In this chapter the researcher will explain all the key non legal aspects relevant to decentralised finance which include social economic factors, technological factors, cultural and behaviour aspects, psychological and ethical considerations, decentralised platform design and accessibility, and economic opportunities presented.

2.1 Social Economic Factors

The social economic landscape of Uganda plays a foundational role in shaping the landscape for decentralised finance to drive financial inclusion. Despite growing interest in digital financing options; widespread poverty, income inequality and limited financial literacy remain major obstacles. A significant portion of Uganda's population lives in rural areas where formal banking services are scarce, and stringent documentation requirements often deter the populace's participation in the manner of traditional financing.

Informal financial inclusion is dependent on the accessibility to banking services for persons in rural areas. 12.8 million adults utilise these services especially informal financial services[59]. These demonstrate the distinction between women and rural

[59]Uganda Bankers Association, "Uganda`s Banking Sector Report": For the Year 2023 <https://ugandabankers.org/research-publications/> accessed on 07/04/2025

residents which have been shown to gradually reduce as of 2023. Accessibility to these services has however been increased as at least more adults can access a community money lender within the same distance that they reside in, these are the same access points for savings groups.

FIGURE 1.0 REPRESENTS THE INFORMAL FINANCIAL INCLUSION IN UGANDA

Source: FinScope 2023

According to a study by the African Economic Research Consortium[60], majority of women are argued to be excluded from traditional banking services daily due to stringent formal requirements, yet these women don't have necessary documentation or any reasonable collateral to acquire loans or borrow money. It

[60] Nicholas Okot and Elizabeth Kasekende, "Digital Finance Policy and its impact on Financial inclusion in Uganda, Working Paper" (African Economic Research Consortium, Working Paper,July 2024), <https://publication.aercafricalibrary.org/items/75d4d4fb-5fa0-4a7b-af82-62d6b40dc5ca> accessed on 19/05/2025

remains a great opportunity for Uganda to adopt DeFi as a payment system which as argued will break these barriers by rapidly expanding the rate of financial inclusion in Uganda especially in the rural areas where access to financial services remains challenging.

Kotani pay, a local company is a good use case study in elucidating the centre argument in this chapter. The integration of block chain in its mobile wallet enables users to convert crypto currency using USSD codes[61] which makes it accessible to users without smart phones to access financing services that are harder to access. Mechanisms such as these are essential in ensuring that the underserved areas especially rural areas in Uganda can also access the disruptive inclusion that decentralised finance has made the case to increase[62].

Unemployment is also a significant contributor to the adoption of decentralised finance. It should be noted that majority of youth make up the highest number of the country's population[63]. The high rates of unemployment have made these resort to the gig economy to finance their search for gainful employment, by offering services such as graphic design, IT skills and content creation to the worldwide client market. This attracts payment in forms such as stable coins or cryptocurrencies[64].

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[61] Venture Fund, "Kotani Pay : Increasing access to financial instruments using block chain and cryptocurrency"(Venture Fund ,June 08,2021) <https://www.unicefventurefund.org/portfolio/kotani-pay-increasing-access-financial-instruments-using-blockchain-and-cryptocurrency. > accessed on 09/05/2025

[62] Abdulhakeem, S. A., & Hu, Q. L, "DeFi (Decentralized Finance) Strives to Increase Financial Inclusion of the Unbanked by Reshaping the World Financial System. Modern Economy" (2021) 12 pp.1-16.

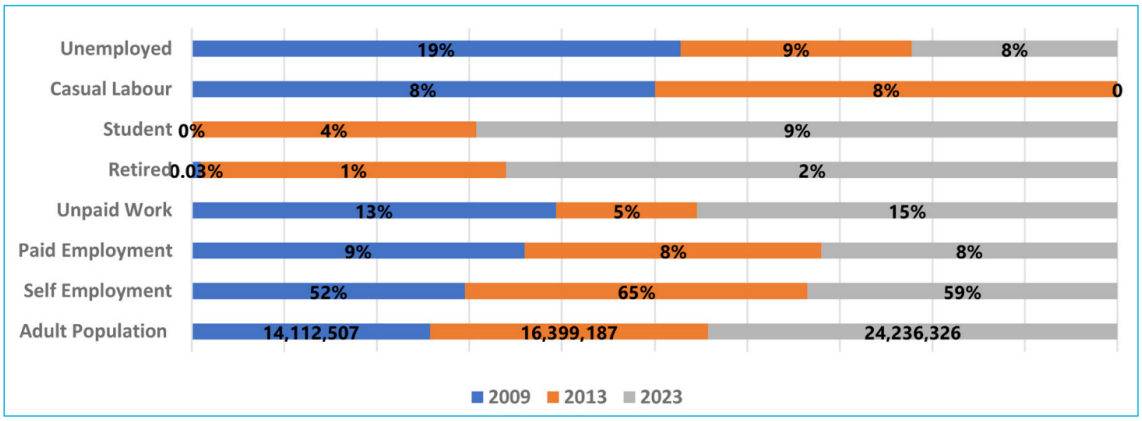
[63] El-Bourainy Mehry , Salah Ashraf , "The Impact of Financial inclusion on Unemployment rate in developing Countries", Issue 11(1), (International Journal of Economics and Financial Issues) [2021] pp.79-93

[64] CCAF , "FinTech Regulation in the Middle East and North Africa, Cambridge Centre for Alternative Finance at the University of Cambridge" (2021) <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/fintech-regulation-in-the-middle-east-and-north-africa/> accessed on 15/04/2025

The use of these payment services reduces taxation from a third party which will reduce losses on maintained fees and delays associated with traditional financing.

However a great decline has been observed in the number of unemployed Ugandans especially the adults. In a survey conducted by FinScope[65], it was established that the proportion of unemployed adults fell from 19 % in 2009 to 9 % in 2013 and further to an 8 % in 2023. While revealing that by 2024 more than 24.2 million Ugandans are employed. However these numbers don't reveal the great fragmentation between the rural and divide since majority of the unemployed Ugandans live in the rural areas. These have lower levels of education and thus less opportunities for meaningful employment.

Figure 2 represents the unemployment status in Uganda



Source: Author's construction using data from the 2023 FinScope survey

2.2 Digital financial literacy

Digital literacy extends beyond knowing how to use a mobile phone. It includes understanding of concepts such as wallets, private keys, smart contracts and

[65] Supra note 59

liquidity pools that are akin to decentralised finance. These are unfamiliar to most Ugandans, even those comfortable with digital banking services and mobile money. Current financial literacy efforts by telecom companies, banks, and NGOs are arguably still insufficient to support Decentralised Finance adoption in Uganda today.

Financial education campaigns, integration of DeFi topics into university curricula, and community level workshops could play a vital role in changing this narrative. Institutions like the Bank of Uganda which is the central authority mandated with oversight over the financial institutions, together with other financial institutions play a key role in this endeavour.

Additionally, many individuals lack the necessary financial education to understand the risks and benefits associated with decentralised financial systems. These social economic realities create both an urgent need for more accessible financial literacy solutions. They also reveal considerable barriers to decentralised finance adoption, raising questions about how decentralised platforms can be effectively integrated into communities traditionally excluded from formal financial systems.

Financial literacy has been defined as the ability to understand and effectively use various financial skills, including personal financial management, budgeting and investing[66]. It has also been defined as the provision of accessible, affordable and relevant products and services to both individuals and businesses[67]. This on a

[66] Jason Fernando, "Financial literacy: What it is, and Why It is So Important To Tech Teens"(Investopedia, June 29,2024)<https://www.investopedia.com/terms/f/financial-literacy.asp> accessed on 07/05/2025

[67] Financial Sector Deepening Uganda, " Financial Inclusion is vital to end Uganda`s poverty" (FSD,6th November 2017) <https://fsduganda.or.ug/> accessed on 05/05/2025

foundational scope means that an individual must clearly understand various financial models and systems.

This begs the question on understanding of what block chain is, cryptocurrencies and decentralised finance concepts in Uganda and how many people understand these aspects of finance. This is to be answered in this research paper through a reference to reports as follows.

According to Statista[68] , the decentralised finance market in Uganda is projected to achieve a revenue of US $ 34.3k in 2025 and this means that the decentralised finance market in Uganda is witnessing a surge in adoption. However according to another report[69] , it is indicated that the increase in adoption of these assets is dependent on the country's increasing mobile phone penetration and tech-savvy population.

This therefore has given a key target user profile of the Ugandan's that use decentralised financing to be majorly those with access to mobile phones and tech savvy people. This eluded to the impact of technological factors as a non-legal factor in this chapter which will be discussed later on in this chapter[70].

Another key social economic aspect that is important in adoption of decentralised finance is the income levels of the end user of decentralised protocols. It will be my

[68] Statista,"DeFi-Uganda"(Statista, July 2024) ,<https://www.statista.com/outlook/fmo/digital-assets/defi/uganda> accessed on 08/05/2025
[69] Ibid
[70]Pearl Leticia Mirembe,"Decentralised Finance (DeFi): A blessing or curse in Uganda`s ever developing economy",(Academia.edu ,2022)<https://www.academia.edu/123788680/Decentralised_Finance_DeFi_A_blessing_or_curse_in_Ugandas_ever_developing_economy> accessed on 16/05/2025

argument that this is a central issue to analyse the adoption of decentralised financing in Uganda.

In order to understand whether Ugandans are financially capable of investing and using decentralised financing we must investigate what the average Ugandan earns as a living wage. This can be defined as the amount of money that one needs to have a decent life, which ensures access to nutritious food, a healthy housing, adequate health services and all the basic needs on has to have for human existence.

A key definitive story is told as per Uganda's gross domestic product per capita. According to the Ministry of finance[71] , the GDP per capita was recorded at $ 1,146 which is approximately one million shillings for each and every citizen.

2.3 Technological infrastructure and accessibility factors

Decentralised finance protocols rely heavily on digital connectivity, smart phones, and reliable power supply. While the Uganda Communications Commission reports an internet penetration rate of 43%[72], actual access is often limited to mobile phones with basic data plans. Rural areas, in particular, experience frequent power shortages and low smartphone penetration. Many users still rely on USSD based mobile money services, which are incompatible with Decentralised finance platforms requiring app or browser access. Therefore, meaningful adoption of Decentralised finance requires bridging these infrastructural gaps.

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[71] Tom Brian Angurini "Size of economy now at Shs 205 trillion, govt says", *Daily Monitor*,(Kampala , 15th December,2024)

[72] Uganda Communications Commission, "Ugandans Consume More Data But Spend Less , Says Report" (Uganda Communications Commission, August,17,2023)<https://www.ucc.co.ug/ugandans-consume-more-data-but-spend-less-says-report/ >accessed on 03/05/2025

The Ugandan government through its Digital Uganda Vision remains cognisant of the fact that there is an increased need for digitisation of the country over the years. This however has unmasked the wide gap that still subsists between men and women, urban and rural dwellers still which has increased[73]. The internet usage by individuals is also still relatively low and below the required 20 % to enable citizen of Uganda meet their economic growth and development[74].

This shortage has been argued to mainly stem from a lack of knowledge by individuals about the internet but also lack of the smart phone devices needed to establish internet connectively as per the 2022 After Access survey as a factor majorly contributed to by the lack of higher levels of education and incomes by Uganda's especially those in rural areas[75].

It should also be noted that the income levels of the citizens is also a key important aspect related to digitisation of the country programs and services. This is basing on the fact that Uganda relatively still suffers a low level of income per capita of which incomes remain greatly unevenly distrusted across the populace.

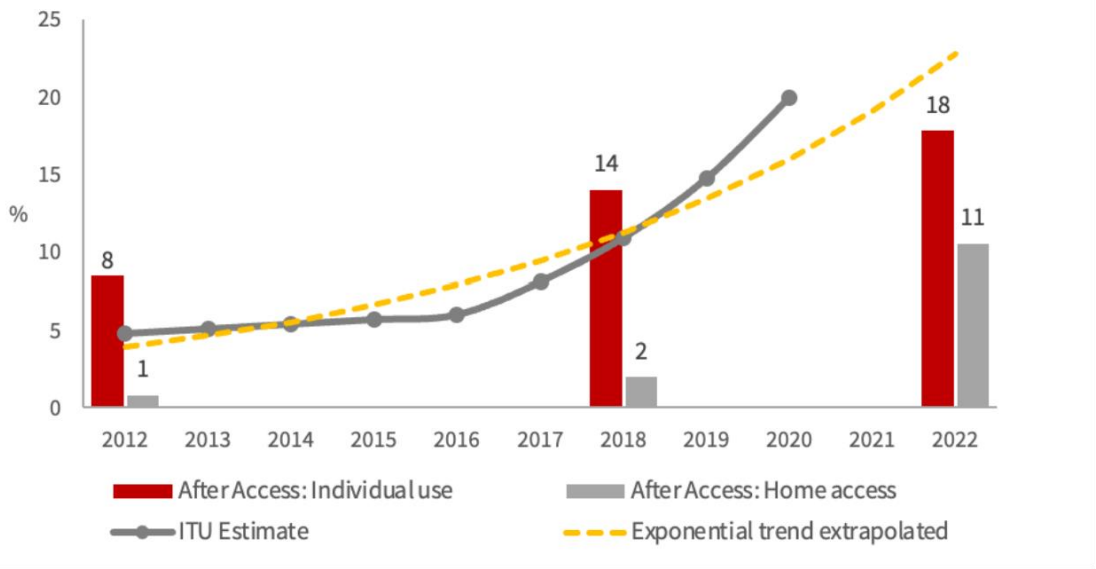
Research according to the Research ICT Africa indicates in regard to the penetration of smart phone devices in Uganda as increasing from 7 % in 2012 to an 8 % in 2018 and 13 % in 2022 indicating that there remains a steady increase in the number of people that own smart phones, a mobile phone is a key sensational engine for the growth of digital financial services especially decentralised financial tools like

[73] Andrew Partidge and Ali Ndiwalana, "Internet usage trends in Uganda" (Research ICT Africa, Febuary 7th 2023) <http://researchictafrica.net/research/after-access-2022-internet-usage-trends-in-uganda/> accessed on 18/05/2025
[74] Ibid
[75] Ibid

cryptocurrencies. This implies that the steady increase in the ownership of smart phones indicates a slower rate of the adoption of these services.

Beyond the social economic constraints, technological access and infrastructures are pivotal in determine the success of decentralised initiatives. This section will examine how such factors as internet penetration, device ownership and digital literacy impact decentralised usage among Uganda's population.

Figure 3 represents the Internet usage in Uganda



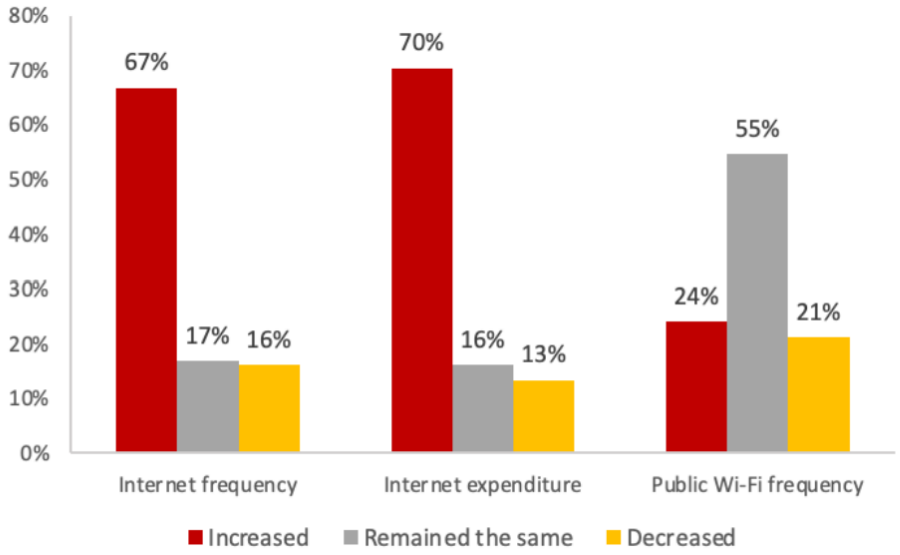
Data sources: (Research ICT Africa, 2012, 2018, 2022a; World Bank, 2022)

This figure indicates that majorly of Ugandans as by 2022 didn't use the internet, amidst the increase from 2018, this remains a very low user rate of the internet in Uganda which provides access to the potential investors of such financial services.

Closely related to the penetration of internet into the Ugandan economy remains a key important aspect of the expenditure incurred in access the same. It was observed by the survey that internet access has become increasingly expensive for

the average Uganda indicating an increase in the number of people spending more to access internet as indicated in the figure below.

Figure 4 represents the penetration of internet in Uganda



(Source: Research ICT Africa 2022)

It is important also in the analysis of the adoption of decentralised finance initiatives that an understanding of whether the Ugandan market is technologically positioned to have the use of DeFi adopted. To answer this question an investigation into three major areas come to play that is the level of internet penetration in Uganda because DeFi functions on a linked ledger which the user will only access online. This means that the user has to have a generally dependent internet connection.

With a population of 49.25 million Ugandans, the internet penetration is at 27.0 % basing on the fact that it has a registered 13.30 million internet users this is as

reported by DataReportal in 2024[76]. Uganda has a high mobile penetration rate having access to smart phones, this enables them to access digital services easily. However even with this great penetration a great challenge remains for the rural user that doesn't have access to a smart phone to easily access digital services.

It should be further noted that majority of Uganda's live in rural areas with a %age of 72.9% and a recorded 27.1 % live in the urban areas. This means that more internet access is to the people in the urban areas in Uganda which indicates a low internet penetration. This has implications for adoption of decentralised finance initiatives, being that few Uganda's will be able to access them making them a privilege good, this will make worse the financial inequality between those that live in the urban areas versus those that live in rural Uganda.

The other lens through which to view this pillar for Uganda is to ask how many people have access to a digital device. According to the 2024 National Housing and Population Census recorded in 2024, 43% of Ugandans own mobile phones, this is close to 13.6 million people[77]. This is relatively very low and an indication that few Uganda's have access to the very key tools that are needed in the use of decentralised finance.

The use of self-executing contracts in automating payments is a game changer for famers around the world but Uganda particularly being an agro-based nation would benefit majorly from this development. The role of these smart contracts is to insure agriculture, green bonds and provide traceability to the farmer of his produce. The insurance of a farmers agricultural produce is based on block chain technology which

[76]Simon Kemp, "Digital 2024: Uganda"(DataReportal,23rd February 2024)<https://datareportal.com/reports/digital-2024-uganda> accessed on 02/04/2025
[77] Ivan Mugisha,"43 Percent of Ugandans Own Mobile Phones"(*Nile Post* , 7th October 2024)

uses weather incidents to draft smart contracts, these linked to mobile wallets with accessible data provide by sensors in the gardens. This data facilities payouts in the cases of weather disasters such as droughts or flooding[78].

However amidst these technological actors, data privacy and cybersecurity remain key concerns in the adoption of decentralised finance as a payment system. This is because of a low rate of digital literacy which makes citizens prone to scams and attempts from fraudsters. This is a threat to the facilitation of these initiatives in Uganda because it leads to mistrust from the majority of the rural population that firstly doesn't have an understanding of the digital services but has found traditional financing as the better trusted system. This robs them of the advantages of peer to peer traditions such as lending and borrowing at lesser costs.

While technology provides the tools, cultural attitudes and behavioural patterns significantly influence whether individuals are willing to embrace decentralised financial platforms. Understanding local perceptions of trust, risk, and community financial practices is crucial to assessing DeFi's real world impact.

2.4 Cultural factors

Cultural norms and financial behaviour in a country like Uganda play a great role in shaping DeFi adoption. Financial culture can be found in communal schemes such as Savings and Credit Cooperative Organisations (SACCOs). These models rely on face-to-face interactions and interpersonal trust. DeFi protocols, often perceived as

[78]The Food and Agriculture Organisation of the United Nations and the International Telecommunication Union Bangkok , "E-Agriculture in Action :Block chain For Agriculture opportunities and Challenges" ,(The Food and Agriculture Organisation of the United Nations and the International Telecommunication Union ,2019) <https://koreascience.kr/article/JAKO202204859378337.view?orgId=anpor&hide=breadcrumb,journalinfo> accessed on 19/05/2025

impersonal and risky, may conflict with these traditions. Furthermore, widespread fraud involving mobile money theft and schemes has led to public scepticism towards digital finance. Effective DeFi platforms in Uganda must integrate features that foster trust, transparency, and community involvement.

The key cultural factor in regard to decentralise finance is the rural-urban cultural divide in Uganda. As noted above, the majority of the Ugandan population lives within rural areas, while the urban areas such as Kampala are home to a number of tech hubs that are diving the rapid fintech innovations in Uganda. This is due to factors like wealth distribution and education backgrounds that facilitate many tech savvy Ugandans to set up their innovations in the urban centres.

In contrast the rural led projects mostly develop as funded or Non-Government Organisation projects rather than developer led designs of systems and interfaces which means that not quite often that the local perspective of the communities will be demonstrates in the solutions that are designed by the developers of financial systems. This will therefore create a very different cultural response from the rural dwellers. Older generations are also mostly in rural areas and are more resistant to digital finance and often prefer tangible assets such as livestock which is believed to be more financially secure.

There is also considerably still low trust in the decentralised finance payment system in Uganda as most people are suspicious about it. This arises from a multitude of reasons but the majority lay in the lack of financial literacy which slows down the integration of users into the service because of unawareness of the risks and rewards associated with decentralised finance. This has reduced any adoption of the use of

these services coupled with the fact that it is still not recognised in Uganda as legally trusted financial solution or method pf payment.

One of the largest concerns in Decentralised Finance is the lack of accountability because Decentralised Finance protocols are unregulated, making it more likely for fraud to occur in transactions carried out. The risky nature of Decentralised Finance investment would subject Ugandans to financial losses which thus reduces its uptake. Without regulations in place, users are still vulnerable to financial scams, including Ponzi schemes.

2.5 Gender and Financial Inclusion

Women in Uganda suffer a great number of systemic obstacles among which include lower mobile phone ownership, limited digital skills, and restrictive gender norms in society[79]. However, their strong participation in group savings schemes avails to a large extent a great opportunity in regard to openness to inclusive digital finance models. DeFi platforms targeting women's economic activities like agriculture, informal trade, and household enterprises could significantly enhance financial inclusion in this respect. Design processes of decentralised protocols should involve women's cooperatives and community leaders to ensure relevance and uptake of digital financial services.

In a survey conducted by the African Economic Research Consortium indicated that, women indicated that they were a more reliable user of digital financial services compared to men, arguing that this was attributed to a growing understanding of these services among women groups[80]. The informants in the research made the

[79] Supra note 60
[80] Supra note 18

argument that the provision of digital financial literacy is more appropriate for women as a basing for the uptake of the services.

A number of hindrances were highlighted to attribute to the growing reasons why women in Uganda are secluded away from access to these services , the informants submitted that social norms of men being the more dominant controllers in the household hinder women from actively benefiting from digital financial literacy services this therefore reveals analytics to the effect that such communities that possess such tendencies often have more stratifications among men and women in the understanding of the different aspects of financial inclusion , particularly digitally.

Accessibility to phones is also a huge hindrance to women because it's often the mane that have the ownership of these in their households. This makes it harder for uptake of these services digitally because they don't have the required documentation nor do they have the smart phones that are required for establishing of a connection onto the block chain protocols over the internet.

Further the research indicated that the high levels of stratification are exacerbated by low levels of savings among women of low household incomes who ultimately have low access to financial resources because of low levels of education which make it a hindrance to access these financial services. In context to this paper, this research stands very vital and important to the adoption and uptake of decentralised finance by women especially those in rural areas, and presents a challenge to achieving of financial inclusion by the same

2.6 Rural versus urban divide

A great promise avails for attainable financial inclusion for rural areas because of the stimulated access to these services through an improved technological innovations and improved quality of connectivity in the country. Innovations in technological have reduced the cost of delivery of financial services to rural areas that are unable to access the traditional banking system.

An example is given by the key researcher's in their paper [81]of the period peripheral to the advent of mobile money in 2009 which provided a seamless transaction platform irrespective of the location of parties involved. Informants in this research observed that the high costs of banking services and the elimination of transport cost have encouraged the uptake of Digital financial services in rural areas. This is therefore argued as a potential area for the scaling of these services because of the fact that there are available avenues for great development for the necessary financial inclusion needed in many areas in Uganda as argued above.

2.7 Conclusion

This chapter has greatly explores the non-legal dimensions surrounding the key subject of this study , shedding light onto the socio-economic, political ,cultural , technological infrastructure that influence its development and practical application. These aspects provide critical context for a deep understanding of the broader environment in which the legal issues of a robust regulatory framework arise. By a clear examination of the motivations, challenges and behaviours of various stakeholders beyond the legal framework, it becomes very clear that a pure analysis would provide an incomplete analysis of the underlying dynamics associated

[81] Supra note 20

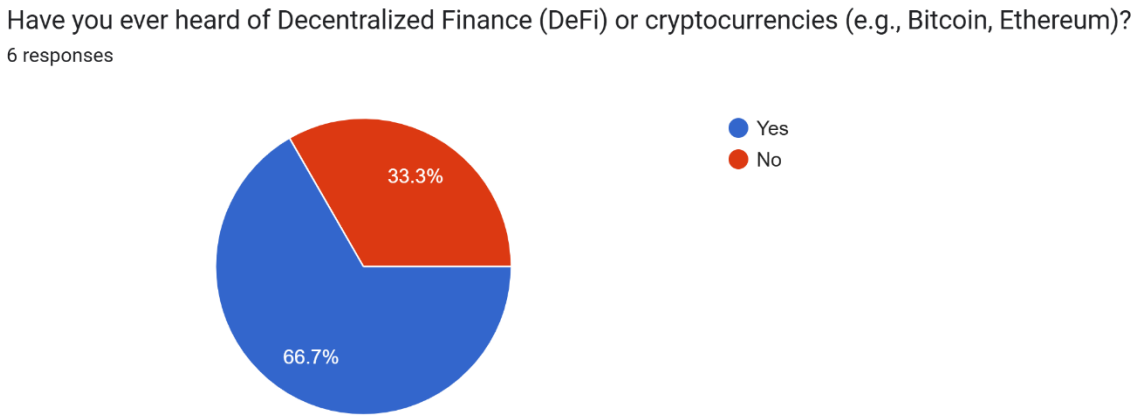
to the topic at hand. This understanding will inform the subsequent legal analysis ensuing a substantive evaluation of the topic in the next chapters.

Survey Findings on Non-legal aspects of DeFi in Uganda

To complement the legal analysis in this study, a short survey was conducted to explore the non-legal aspects affecting the adoption and understating of Decentralised Finance in Uganda. The survey targeted a diverse demographic including university students, self-employed individuals and professionals with the majority of respondents failing within the 18-34 age range. Most participants have attained at least a diploma or a bachelor's degree, and were digitally connects, having access to smartphones, laptops, mobile data and stable internet.

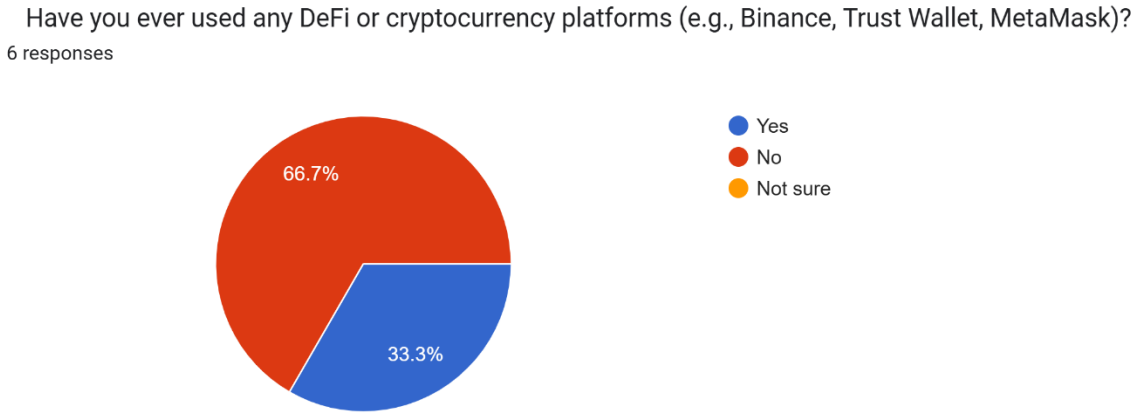
A significant majority of the respondent indicated that they had heard of DeFi or cryptocurrencies such as Bitcoin and Ethereum.

Figure 1: Awareness of DeFi or cryptocurrency



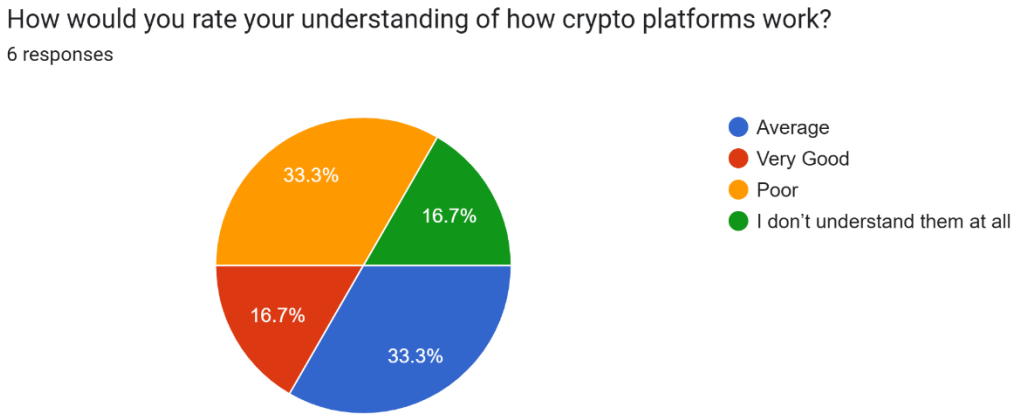
However, actual usage was less common. Those who has used DeFi platforms mentioned services like Binance, Meta Mask and trust Wallet. Motivations for use included earning passive invoice, avoiding high bank charges, peer influence and general distrust in traditional financial institutions.

Figure 2: Usage of DeFi or Cryptocurrency platforms



The data suggest a high level of access among responders, which is promising for DeFis expansion. However the digital access doesn't necessarily translate into these correspondents understanding the ecosystems. Respondents self-assess knowledge of how DeFi platforms work ranged widely from very good to poor with some indicating that they didn't understand DeFi at all. Most had attended formal seminars related to digital finance and cryptocurrency.

Figure 3: Bar chart indicating the understating of crypto platforms

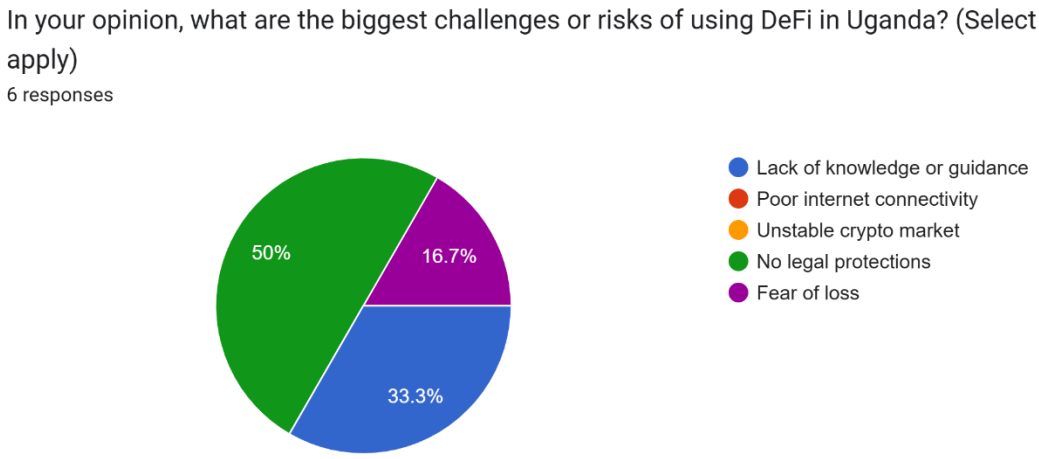


Perceived challenges and Risks

The participant's identified key challenges facing DeFi in Uganda and these included

1. A lack of knowledge or guidance
2. Absence of legal protections
3. Prevalence of misinformation and scams
4. Low financial literacy

Figure 4: represents the challenges and risks of using DeFi according to the responders

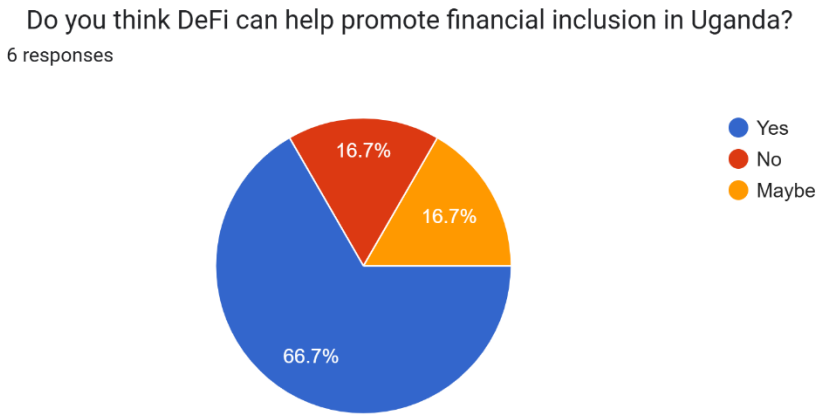


Some of the respondents expressed distrust toward DeFi platforms, while a few explicitly described them as scams.

DeFi and financial inclusion

Despite concerns, majority of the respondents believed that DeFi has the potential to promote financial inclusion in Uganda. Others were unsure, citing the need for stronger understating, infrastructure and trust-building mechanisms.

Figure 5: Represents the belief that DeFi can promote financial inclusion in Uganda



The respondents overwhelmingly recommended that non- legal interventions to promote safe and productive DeFi use in Uganda including:

1. Public education and awareness campaigns
2. Financial literacy training
3. Community sensitisation efforts

A few of them held negative positions about DeFi, suggesting that regulations should ban such platforms.

Key conclusion from survey

The survey highlights a significant knowledge gap around DeFi in Uganda even among educated persons that are digitally connected individuals. While DeFi holds promise as an inclusive financial tool, its impact will remain limited unless complemented by deliberate non-legal efforts in education, awareness and user protection. These

findings underscore the importance of coupling regulatory development with robust community engagement and financial initiatives.

CHAPTER 3

LEGAL ASPECTS OF DECENTRALISED FINANCING

3.0 Introduction

This chapter explores whether Uganda's current legal and institutional framework supports, tolerates, or is in conflict with the governance and nature or regulation of decentralised finance (DeFi). It critiques whether is the legislation foresees non-centralized financial ecosystems characterized by anonymity by facilitating peer to peer transactions, a question on whether the laws can effectively regulate decentralised protocols, and the consequences of the existing regulatory vacuum. It also juxtaposes the foundations of DeFi with Uganda's laws for financial and tech regulation to determine contradictions, overlaps, or areas of regulation lacuna.

This research will address the key question here is whether what Uganda has is enough and there is no need for new legislation to have the central regulator adopt decentralised finance protocols as legal tender in Uganda.

3.1 Overview of Uganda's Financial Legal Framework

3.1.1 Constitutional and Institutional Mandate of Bank of Uganda

The Bank of Uganda has the mandate under **Article 162**[82] per clause 1(b) to regulate the currency system in the interest of economic progress of Uganda. This means that the Bank of Uganda in respect to decentralised finance is the key regulator financial regulator in Uganda.

[82] The 1995 constitution of the Republic of Uganda as amended

The government of Uganda has a mandate under **Objective 9**[83] to encourage private initiatives and self-reliance in order to achieve development across all sectors of the economy. This therefore places the mandate of having in place a robust legal framework that responds to the rapid development needs of the digital economy in Uganda key among which include the growth of decentralised financial markets.

To argue that the current legal framework wasn't designed with decentralised financial protocols in mind is in my view too generalist[84] as there are a number of laws that reveal an attempt by the legislator to encompass various models of financial services, this therefore will require an analysis of the various laws that make up Uganda's financial sector legal armoury

The Ugandan financial sector is governed by a combination of banking, payment, anti-money laundering, digital communications, and cybercrime legislation. The most relevant acts are:

The Financial Institutions Act, Cap 57 (amended), the National Payment Systems Act, Cap 59, The Anti-Money Laundering Act Cap 118, the Computer Misuse Act Cap 96, the Electronic Transactions Act Cap 99.

These laws reflect the financial landscape which is established upon institutional regulation, state oversight, and centralized governance of each and every financial activity in the web of digital economy services. None of these regulatory frameworks have autonomous protocols, non-custodial wallets, or decentralised smart contract systems in mind explicitly.

[83] Ibid
[84] Silver Kayondo v Bank of Uganda High Court Miscellaneous Cause No. 109 of 2022

3.2 Compatibility of Key Statutes with Decentralised Finance

3.2.1The Financial Institutions Act Cap 57

The financial institutions act under its long title is embedded its function which is to provide for the regulation, control and discipline of financial institutions by Bank of Uganda.

This Act governs banking and licensing of financial institutions in Uganda setting minimum requirements for an institution to be licensed.

Section 2[85] defines a financial institution to mean a company that is licenced to carry on and conduct financial institution business in Uganda and includes a commercial bank, merchant bank, mortgage bank, post office savings bank, credit institution, building society, an acceptance house, a discount house, a finance house an Islamic financial institution or any institution which by regulations is classified as a financial institution by the Bank of Uganda.

The act clearly categorises the above institutions as a financial institutions within the meaning of the law. Many of the currently available DeFi projects are currently running as DAOs which are institutions that operate virtually and are built on code and block chain technology[86]. This research argues that these can be interpreted comparatively to financial institutions in the sense that they are all involved in the business of offering financial services.

[85] Financial institutions Act Cap 57 , Laws of Uganda
[86] Ellen Naudts, " The Future of DAOs in Finance; in need of legal status" in ECB Occasional Paper Series [2023] No.331

Decentralised financial exchanges in as much as not mentioned in the legal framework, are capable of carrying on financial institution business as classified in the law.

This enactment provides that financial institutions carrying on financial institution business, corporate entities subject to the control and supervision of the Bank of Uganda. This means that the act envisages a more centralised system of governance and supervision of financial institutions by the Bank of Uganda, a key feature however of decentralised finance model is that they are built upon peer to peer block chain that records each transaction on the block[87]. This structure doesn't facilitate any third party yet the financial institutions act. It presumes the existence of a corporate entity with physical offices, identifiable staff and direct regulatory responsibility and yet decentralised exchanges are not designed this way.

Similarly the financial institutions act doesn't envisage the use of smart contracts in the execution of transactions in decentralised finance. These are used in DeFi protocols as an instruction manual embedded into code that creates a self-executing a contract[88]. Such innovation contracts are not highlighted and neither are they envisages by the legislators in this statute.

The key gap presented in this statute because the legal personality or central control arrangements do not exist in the construct of DeFi platforms. Smart contracts cannot be stringently controlled or licensed in the traditional way as traditional financial

[87] Felix Adebayo Bakare, "Block chain and Decentralised Finance : Disrupting Traditional Banking and Financial systems Volume 23(03) (World Journal of Advanced Research and Reviews) [2024] pp.3075–3089
[88] Ibid

systems have been governed. This means that there needs to be a more facilitating piece of legislation for decentralised finance.

3.2.2 The National Payment Systems Act, Cap 59

This legislation on the contrary provides a very progressive enactment of the laws governing the digital economy in the view of this research paper. It highlights key strengths and limitations which will be discussed in this chapter extensively to elaborate the current legal frameworks stance on the use of decentralised finance as a payment system.

An analysis of the long title to this act provides that it was enacted to regulate payment systems. The Act pursuant to **Section 1**[89] is applicable to operators of payments systems, payment service providers and issuers of a payment system.

A payment system is defined as a system used to effect a transaction through the transfer of monetary value, and includes the institutions, payment instruments, persons, rules, procedures, standards and technologies that make such a transfer possible[90].

This definition alludes to an arrangement by a payment services operator to ensure that funds are transferred between customers. The Act however envisages a requirement that these are licenced by the bank of Uganda which doesn't fit the scope of decentralised finance , which servers broader eco-system financially that can ease payments , lending and borrowing , decentralised exchanges and stable coins and synthetic assets.

[89] National Payment Systems Act Cap 59 , Laws of Uganda
[90] Ibid

The Act mandates the supervision of these payment systems by the Bank of Uganda[91] to ensure their safety and efficiency to ensure consumer protection of the public users. This paper doesn't try to present decentralised finance as a payment system, however uses the framework of this legislation to make a comparison on the current legal viewpoint of the financial service.

Centralized nature of the National Payment System

Under **Section 11**[92], the Act envisages that an operator of a payment system shall develop the corresponding payment system rules that govern the payment system with the approval of the Bank of Uganda. The operator is also mandated to submit any amendments to the rules of the payment system to the Bank of Uganda[93]. This signifies a centralized ideology of control and supervision of payment systems under the current legal framework for the governing of the digital economy.

The authority of the Bank of Uganda is expanded in this act to ensure that strict compliance is met by the operators of payment systems. The Bank of Uganda has the authority pursuant to **Section 12**[94] of the statute to have the senior management and directors of a payment systems provider removed in the event that their affairs are conducted in a manner that is detrimental to the operations of the payment system.

[91] Section 4 of the National Payment Systems Act Cap 59 , Laws of Uganda
[92] National Payment systems Act Cap 59 , Laws of Uganda
[93] Section 11(4) of the National Payment Systems Act Cap 59, Laws of Uganda
[94] Ibid

The Bank of Uganda can also revoke or suspend the licence of a payment services provider in the event that **Section 13**[95] paragraph *(a) to (h)* haven't been complied with under the legal framework envisaged in the statute.

Electronic money issuance and electronic transfer under the Act

Electronic money is defined under **Section 2**[96] of the act to mean a monetary value that is represented by a claim on the issuer which is issued upon the receipt of funds in an amount not less in value than the monetary value received. This means that there is an exchange of money to the extent of monetary value recorded electronically by the payment systems operator.

Section 47[97] envisages that electronic money can only be issued where an equivalent of the same is deposited in a trust account or a special account opened as per Section 49 and 51. This implies that a third party, the trusted bank is involved in such a transaction. The key conflict here is that decentralised finance transactions are peer to peer directed and thus don't envisage a third transaction. This means that the National Payment Systems act doesn't envisage the nature of decentralised finance protocols.

This piece of key legislation in the digital framework enacts licensing of payment system operators, e-money issuers, and sandbox players into context in the structure of Uganda's governance of the digital economies. However, it emphasizes central record-keeping and supervisory arrangements that are alien concepts to the way decentralised finance protocols were designed by the innovators and the building

[95] National Payment Systems Act Cap 59 , Laws of Uganda
[96] Ibid
[97] Ibid

blocks of the block chain system. This therefore makes this statute merely incompatible with regulating decentralised finance.

However flexible the Act is presented to suit decentralised finance, it does not envisage a peer-to-peer financial payments on decentralised exchanges or stable coins built on the block chain technology. There need not be any central operator for DeFi platforms like Uniswap or Aave to get licensed as a financial institution business in Uganda. Therefore key regulatory gaps are presented here which are the point of analysis of this research paper.

3.2.3 The Anti-Money Laundering Act Cap 118

The major purpose as to why the Anti Money Laundering Act was enacted is to provide for the prohibition and prevention of money laundering as elucidated in its long title. This legislation stands tall as a key cornerstone of the financial legal framework but also particularly the combating of financial crime through its enforcement authority which is the Financial Intelligence Authority (FIA) which is mandated to investigate, prosecute, regulate and supervise authorities of the Government of Uganda in relation to money laundering[98].

The decentralised finance eco-system is prone to financial crimes such as money laundering and related consumer protection risks. This is so because of its nature of anonymity between parties and the transactions that they carry on. The design of the governance model ensures that a peer to peer transaction is recorded onto the

[98] Section 1 of the Anti- Money Laundering Act Cap 118 , Laws of Uganda

DLT which secures the information of this transaction on a block chain that is only accessible to the parties to the transaction.

Accountable person[99]'s key among these which include financial institutions are mandated to maintain a record of their clients and prohibited from keeping accounts which are anonymous or bear fictitious or incorrect names[100]. This however if analysed comparatively with decentralised finance is essentially a prohibition of the finance protocol. This is because of the lack of a centralised authority to monitor the transactions that parties have with each other which makes this regulation unsuitable for governing decentralised finance in Uganda.

Due diligence of customers of accountable persons is a mandate that these financial institutions have under the AML Act.[101] The identity, client's capacity, a proxy relationship all are part of the list of verifiable particulars that must be acquired by the any financial service provider before confirming a truncation. This is at all conflict with the state of crypto-currency based applications which seek to protect anonymity of the user by using a secure block chain technology enabled platforms. In as much as the legislation presents a core solution to financial safety, it doesn't fit regulating the decentralised finance market because of the conflict in the model of design of both systems i.e. traditional finance and decentralise finance.

An accountable person is also mandated to account for each and every transaction that exceeds one thousand currency points under the AML Act[102]. Decentralised

[99] Accountable persons are defined under the AML Act under the second schedule to the Act. In relation to this research part 7 defines a financial institution as an accountable person under the law.
[100] Section 6 Anti Money Laundering Act Cap 118 , Laws of Uganda
[101] Section 6 Anti Money Laundering Act Cap 118 , Laws of Uganda
[102] Section 8 Anti Money Laundering Act Cap 118, Laws of Uganda

finance is designed to ensure that transactions are recorded inter-party in a block chain. This means that only the parties that have carried out the transaction can be able to access the record of transactions in this chain and rather not the financial institution or an accountable person as per the act. This regulation therefore presents the foresight of a robust centralised financial system compared to the nature of a decentralised eco-system that requires anonymity.

It is therefore clear that the Anti Money Laundering Act was enacted with a centralised financial framework in mind and rather not DeFi which embodies a number of characteristics that are foreign to the regulation of the digital economy of Uganda. It is therefore my submission that this law isn't an adequate legal framework for regulating decentralised finance.

3.2.4 Electronic Transactions Act, Cap 99

The long title to the electronic transactions act is to the effect that the act was enacted to provide for the use, security, facilitation and regulation of the electronic communication and transactions carried out. This act is also a central piece in the governance of the digital economy because it puts at the centre the control, supervision and regulation of electronic transactions.

An electronic transaction[103] is defined to mean the sale or purchase of goods between businesses , households , individuals , governments and other public or private organizations , conducted over computer mediated networks. This definition means that the use of computer powered networks facilitates the exchange of goods and services between people. This type of transaction shared a similarity to the decentralised transaction that takes place between parties over the block chain.

[103] Section 2 of the Electronic Transactions Act Cap 99, Laws of Uganda

This act therefore in this regard can be interpreted in my submission to include decentralised finance.

This act goes on to meet the key objectives explained in this research paper as aspects that if adopted will arguably improve the digital economy in Uganda. **Section 4**[104] is to the effect that the act was enacted to ensure that the development of electronic transactions that are responsive to the needs of the users and consumers. This implies that the legislation in its enforcement is geared to the improvement of how the digital economy responds to one another.

This key achievement will be relevant in building responsive decentralised protocols for Uganda's decentralised eco-system. The underlying limitation of this act is that it doesn't envisage the key nature of decentralised financial protocols which are smart contracts and also the need to recognize digital contracts. There is no through explanation by the law on how these can be designed and managed by the contracting parties, this is a situation all too similar to decentralised finance.

There is no reference to DAOs or smart contracts in this law which opens up questions pertaining to the liability for smart contracts, enforceability of smart contracts, and jurisdiction of disputes which regulatory questions remain unanswered. It is however important to note that electronic transactions conducted by virtual of crypto assets such as payment tokens, crypto-linked exchange traded products are covered by the act[105].

[104] Ibid
[105] CIPESA, "Policy Brief ;Cryptocurrency and Regulation In Uganda" (CIPESA,2023) <https://cipesa.org/2023/11/cryptocurrency-in-uganda-should-it-be-regulated-how/> accessed on 19/05/2025

3.2.5 The Computer Misuse Act, Cap 96

This law provides for an enactment on the safety and security of electronic transactions and information systems; as well as the prevention of unlawful access, abuse or misuse of information systems including computers[106]. **Section 5**[107], for instance, provides that what amounts to 'authorized access', covers access by a person to any program or data held in a computer, by virtual of entitlement or consent.

The regulatory risks involved in the use of crypto assets include unauthorized use of such platforms by persons who are not part of the peer network within a block chain. In such respects, addressing such unauthorized access, clearly falls within the provisions of this Act and can be categorically interpreted to regulate decentralised finance.

3.3 Institutional Capacity and Readiness

3.3.1 Bank of Uganda

The bank derives its mandate from the constitution[108] and it carries the responsibility of a supervisory role in matters concerning financial institutions. These matters are inclusive of registration and licensing of the various key institutions in Uganda.

The Bank of Uganda has made its stance on the institutional readiness on the adoption of decentralised finance models in our digital economy. The central bank has expressed a conservative approach with regulating cryptocurrencies and other

[106] Ibid
[107] Computer Misuse Act Cap 96 , Laws of Uganda
[108] Article 162 ;The 1995 Constitution of the Republic of Uganda as amended

decentralist finance schemes. The institution warned against utilizing crypto, yet lacks a legal framework to enter the realm of DeFi.

This was through a conjoined statement made with the Ministry of Finance[109] (government) to the effect that the practice of holding and trading in cryptocurrencies in Uganda was an unregulated activity.

The corresponding policy position was made that the government didn't recognize cryptocurrencies as legal tender and that the government had not licensed any organization to sell cryptocurrencies. This still remains the policy framework by the key stakeholders concerning the trade using cryptocurrencies for Uganda to this day.

However the Bank of Uganda has remained in a key position of constant consultation on the adoption of the digital currency in Uganda[110]. This is through its consultation paper on digital currency, where the central bank digital currency of Uganda is being developed against a policy position by the bank. The bank envisages more financial inclusion, how this currency can be added to Uganda's currency and also whether there are any regulatory changes in the legal regime needed. This means that the central bank is ready to adopt these financial protocols however the major question answered in this research paper is that Uganda doesn't have the appropriate governing legislation to regulate decentralised finance protocols.

Ugandan institutions are therefore reactive rather than proactive and have an uncoordinated regulatory strategy on DeFi. This analysis shows that Uganda's legal

[109] Supra note 5

[110] Alice Namuli Blazevic, "Bank of Uganda`s Consultative paper on Digital currency: A Move Towards Financial Inclusion and Efficiency" (Katende , Ssempebwa Advocates ,11 November 2024) <https://www.kats.co.ug/bank-of-ugandas-consultation-paper-on-digital-currency-a-move-towards-financial-inclusion-and-efficiency/> accessed on 17/05/2025

system does not currently enable or envision decentralised financial protocols. Instead, it is a system founded on traditional finance and centralized control by the Bank of Uganda.

3.4 An analysis of the case of Silver Kayondo V Bank of Uganda[111]

Introduction

In Uganda's jurisdiction, only one outstanding case has been litigated in pursuit of understanding the policy and regulatory stance of the country towards decentralised finance. The case offers a detailed insight into the current regulatory approach to govern digital assets especially by the key financial regulator which is the Bank of Uganda (BOU).

Facts of the case

The applicant filed the suit for judicial review against a decision of the applicant seeking for the declarations of court in regard to the following matters. The applicant sought that the court declares that crypto assets and cryptocurrencies are legitimate digital assets traceable in the digital economy and can be cashed out via mobile money and other payment systems in the settlement of Uganda schillings. The applicant also sought for an order of certiorari quashing the circular by the respondent barring all the entities licenced under the National Payment Systems Act 2020 from facilitating transactions under it.

The applicant sought a declaration from the court that the respondents actions of issuing the circular reference number NPSD 306 dated 29th April 2022 without

[111] High Court of Uganda at Kampala Miscellaneous Cause No. 109 of 2022

consultation of industry players , licensees was procedurally wrong , discriminatory , arbitrary , irrational , unfair , unjust and unlawful. That an order be issued that the respondent pay the damages for loss occasioned by the knock-on effects stemming from disruptions of the market as a result of the respondents arbitrary, irrational , unfair , unjust and unlawful circular.

The central question in this case was whether the respondent's circular issued on the 29th April 2022 is tainted with illegality, irrationality and procedural impropriety?

The respondent argued that the lack of regulation of the asset class being cryptocurrency should be treated as lawful because of the fact that it wasn't expressly forbidden r no stature clearly spells out that it is illegal. Upon this basis that applicant argued that the respondent didn't have any authority to issue that circular since this asset class wasn't even in its preview and hence was outside the scope of the regulation around this asset class.

That the decision was irrational because of the applicant's purported ban of the transactions with licenced mobile money providers thus exposing the crypto assets to unregulated and unlicensed operators. The applicant therefore argued that the fact that the respondent didn't preserve time enough to ensure that the it carried out consultations with the stakeholders involved in the trade of crypto assets which would have presented a better picture on the ground. This he argues made the rush decision by the respondent irrational.

It was also the submission of counsel for the applicant that the respondent acted with procedural impropriety because they attempted to legislate the position on trading cryptocurrencies in Uganda yet there is no legal framework in Uganda's laws that outlaws these as financial assets.

In answering this, Justice Sekaana Musa emphasised that the essence of judicial review is to ensure that courts keep public authorities within the proper confines of law and legality. That this power can be used to declare any decision made by these bodies either constitutional or unconstitutional within the constitution of Uganda.

The judge proceeded to make several declarations that are key to understanding the gist of the case. The case reflects that there is a regulatory gap in Uganda's digital financial system, this is because while cryptocurrencies are not banned, there is no clear framework for recognising or regulating these asset classes. This is because in place of any regulatory instrument is only a circular from the central bank of Uganda to the effect that the state doesn't recognise cryptocurrencies as legal tender which places the traders in a gap because in such as they are free to use cryptocurrencies it remains at their own risk. This is also the gist of this research paper.

Conclusion

This case is also important because it gives a glance between the two forces of regulation and innovation especially in the digital financial economy. This is because while the respondent presents valid arguments for consumer protection as a necessity for financial services it also presents a rather rigid approach on adopting the fast evolving eco-system of block chain technology for financial inclusion in Uganda. This is also very dangerous to the countries financial stability basing on the fact that majority of the users of these platforms are youth who are tech-savvy and have a huge interest in these protocols. This means that if these services are left unregulated, many Uganda's youth are left to suffer risks associated with trading this asset class.

3.5 Legal analysis of DeFi Characteristics

3.5.1 Defining DeFi and its Key Characteristics

Decentralised finance refers to a cluster of digital, financial services without intermediaries built on top of public block chains which seek to remove central points of failure in financial systems, broaden financial inclusion, ensure open access to financial data, encourage permission less innovation, reduce intermediation and create new business opportunities[112].

The most significant features of DeFi are: decentralization (no central control),smart contracts (self-executing agreements),tokenization of assets, permission less access to financial services and interoperability .These characteristics raise legal questions regarding Uganda's current financial regulatory framework based on centralization, licensing, and regulation.

Currently the trading volume of decentralised exchanges is recorded at $32.2 billion, the largest of these being Uniswap V3 Pancake Swap V3 and Ocra[113]. Few of these however around the world have acquired approval from the state centralised governing body[114]. This means that such secondary markets remain unregulated around the world which is a key regulatory gap discussed in this paper.

The reason behind an interest in the regulation of financial services is because they are often complex services to regulate. This is explained by the financial crisis.

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[112] Chen, Y, & Bellavitis, C, "Block chain Disruption and Decentralized Finance: The Rise of Decentralized Business Models" Volume 13 (Journal of Business Venturing Insight) [2020] , e00151

[113] Coingecko, Top Decentralised Exchanges Ranked by 24H Trading Volume" (Coingecko,30/04/2025) <https://www.coingecko.com/en/exchanges/decentralized> accessed on 05/04/2025

[114] Kristin N. Johnson, "Decentralized Finance: Regulating Cryptocurrency Exchanges" Vol.62 (William & Mary Law Review) [2021] pp. 1911-2001

Regulation by the international financial institutions and key market participants in the regulatory market around financial services made stringent measures to safeguard the financial market.

It is this regulation that natured decentralised finance as already described in this research although against the backdrop of a lack of clear understanding of their nature and the structure of these financial services many people have continued be attracted to them[115]. This rage by innovators desired to replace the stringent conditions the traditional finance institutions modelled onto their customers. Thus a need for alternative financial products that would facilitate peer to peer transactions on a distributed ledger shared digitally.

Because of this great advancement in finance, central banks have also expressed interest in development of a CBDC. Such in point is the Bank of Uganda which has authored a consultation paper on a digital currency where it aims to consult stakeholders on how this asset class can be introduced in Uganda's digital economy[116].

The key principle behind regulation of any financial market is to ensure that the consumer is protected against predatory market players such as Ponzi schemes and fraud fuelled by greed. The key argument that I will make here therefore is that in as much as this is the norm from the regulators perspective, there remains a hoovering question of whether the current legal regime has an adequate

[115] Rory Van Loo, " Making Innovation More Competitive ; The Case of Fintech" (UCLA Law Review 232) [2018] pp. 232-279
[116] Supra note 110

enforcement framework to regulate a peer to peer transaction, but also how to regulate fluid intermediaries in the context of the digital economy.[117]

Therefore will current digital financial regulation of Uganda remain relevant in the face of decentralised finance protocols or will the centralised traditional finance industry design its services to mirror decentralised infrastructure or will it fall to near oblivion? This question remains unanswered in current research on decentralised finance.

3.5.2 Concept of Algorithmic Incompleteness

The key argument for the adoption of DeFi is that it is decentralised meaning that it runs autonomously and its components cannot be altered by anyone that doesn't have the public and private key accessible only to the owners of the assets[118]. However it is important to note that this is merely a façade and decentralisation is illusionary matter. This is because of a concept called "algorithm incompleteness" which means that it is ideally not possible to write code that spells out each and every possibility in the actions undertake in the cycle of transactions undertaken.[119]

This incompleteness is remedied by the use of centralised governance mechanisms which include the use of holders of governance tokens who vote on proposals that determine the key prioritises being faced by a DeFi platform[120]. This centralisation however opens up the users of these services to risks that are un remedied if huge losses occur as a result of fraud or theft.

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[117] Supra note 114
[118] Supra note 10
[119] Ibid
[120] Walch Angela, "Deconstructing `Decentralisation` : Exploring the Core Claim of Crypto Systems" , (Oxford University Press) [2019] pp.1-36

Another feature that puts users to risk is the fact that some DeFi block chains favour a more concentration of power onto the hands of large coin holders which means that they need to be more incentivised in order not to misuse that authority and commit fraud.

In order to assess the legal implications particular to decentralised exchanges, it is my submission that one needs to make a multifaceted analysis of a number of issues. These include the legal framework of Uganda today and the role of towards both primary and secondary markets.

A primary market is defined as a source of new securities[121]. It involves a distributor who distributes their debt securities or equity in a public or private offering[122]. While a secondary market transaction is defined as a market in which the securities created are traded afterward among investors[123]. It involves the participants trading already distributed securities or equity to other players in the market. An understanding of these markets is very relevant to understanding regulation of decentralised protocols because they take shape in majority of the transactions that are initiated and operated on decentralised finance exchanges.

The building blocks of decentralised finance protocols is block chain technology[124] this has been noted as a viable removal of the third party out of the cycle of finance products which has been argued as an achievement to eliminate the regulator from these volumes of transactions. Though this possess serious questions concerning

[121] James Chen, Primary Market: Definition , Types, Examples , and Secondary" (Investopedia , May 10th 2025)<https://www.investopedia.com/terms/p/primarymarket.asp> accessed on 06/04/2025

[122] Leslie Kramer, Primary vs. Secondary Capital Markets: What's the Difference" (Investopedia , January 01,2025) <https://www.investopedia.com/ask/answers/012615/whats-difference-between-primary-and-secondary-capital-markets.asp> accessed on 19/05/2025

[123] Supra note 121

[124] Supra note 22

consumer protection. In his paper Satoshi Nakamoto[125] argues that the nature of peer to peer distribution of finance is a better alternative to the traditional finance which as expressed in this chapter has been critiqued greatly amidst the great volumes of users that have adopted it.

The need to understand that the regulator must have a sound understanding of the foundations of the creation of most of the decentralised protocols if he is to ably keep an oversight over the centralised finance exchanges in the secondary market or peer to peer transactions.

3.6 Legal implications of Decentralised Exchanges

3.6.1 Nature and Types of Decentralised Exchanges and Uganda's Licencing Requirements

A decentralised exchange refers to a peer to peer platform that facilitates crypto currency trading without a centralised intermediary[126].The recent development of crypto exchanges from permissioned to permission less is a key component to understanding the much needed regulation in decentralised exchanges in Uganda.

The innovators of crypto exchanges designed then earlier against on block chain technology on the promise, that there would be a peer to peer transaction[127].All seemed to be good and true until the various cracks in the governance structure has become a great concern for the regulators perspective. This is because in as much as the illusion of this decentralised nature of running the protocols was preached by

[125] Ibid
[126] Coinbase, "What is a DEX?" (Coinbase,2020) < https://www.coinbase.com/learn/crypto-basics/what-is-a-dex> accessed on 03/05/2025
[127] Supra note 115

the developers , the crippling of capitalist tendencies were not too far away from also disrupting these protocols thus a metamorphosis of the lack of transparency in the running of these protocols[128].

The mounting crisis the block chain community was faced with lead to an adoption of the commercial and financial services firms into the design of these protocols. It is no secret that these were motivated by profit and thus a shift from permission less to permissioned of the protocols[129]. This hunger for profits mirrors a hypocrisy in the once defiant anti-exploitative innovators.

It should be noted that currently many of the crypto exchanges now operate as profit oriented business which collect a hefty fee to facilitate trading and transfer of value to the users and profits to the entrepreneurs that run the platforms[130] , this therefore creates a legal issue, because if any enterprise that is driven by such aspirations isn't keenly regulated by the regulator, then the consumer of such products is indeed doomed.

Consumer Protection and Security Risks

Hackers stole more than $ 4 billion in crypto currencies from centralised exchanges in between 2011 and 2017[131] , this has gone on to increase in recent years. In 2024

[128] Supra note 120
[129] Supra note 12
[130] Nathan Reiff, "What Are Centralized Cryptocurrency Exchanges?" (INVESTOPEDIA ,June 25, 2019), https://www.investopedia.com/tech/what-are-centralized-cryptocurrency-ex changes accessed on 06/05/2025.
[131] Deniz Kahramaner, "The Future of Crypto Trading: Decentralized Exchanges", (MEDIUM, Jan. 4, 2018), <https://denizkahramaner.medium.com/the-future-of-crypto-tradingdecentralized-exchanges> accessed on 19/05/2025

users of various decentralised protocols lost up to US$1.5 billion due to hackers and scammers[132].

This justifies the need for regulation. Dentralised exchanges face huge external risk which is a point of weakness because they are suitable to insider trading, scams, shutdowns and withdrawal latencies[133].

Another illusion that is created by decentralised finance protocols is that it transparent. Research argues that because of the fact that such centralised exchanges obligate the user to pay fees, but also that the transactions that are permitted are inclusive of execution and settlement of trades off-chain will erodes transparency in the exchange. This is because of the fact that not all transactions will be displayed on the entire block chain or even authenticated by the same network[134].

This creates the perfect disguise for off the book fees and exposure of user's capital to uncompetitive pricing. This is because with an absence of the pricing index the trader may not be aware of the price at which a trade was executed or whether it was traded at the same price as the other currencies on other markets. This is what constitutes trading in trust less manner in regard to crypto currency exchanges[135].

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[132] Jabulani Sikhakhane , "Decentralised Finance is booming and so are the Security Risks" (The Conversation, May 8th , 2025) <https://news.gatech.edu/news/2025/05/08/decentralized-finance-booming-so-are-security-risks> accessed on 05/05/2025

[133] Todd Henderson & Max Raskin, "A Regulatory Classification of Digital Assets: Toward an Operational Howey Test for Cryptocurrencies, ICOs, and Other Digital Assets" (Columbia Business Law Review) [2025] pp.444-492

[134] Jake Frankenfield, "Off-Chain Transactions : Definition, Advantages vs On-Chain", (INVESTOPEDIA , August 24, 2024), <https://www.investopedia.com/terms/o/offchain-transactions-cryptocurrency> accessed on 04/05/2025

[135] Ledger "What Is a Dex: Decentralized Exchanges Explained", (LEDGER, Oct. 9, 2020), <https:// www.ledger.com/academy/crypto/what-is-a-dex-decentralized-exchanges-explained> accessed on 09/04/2025

Decentralised finance therefore is a form of intermediation in crypto markets which erodes the illusion of a complete transparent eco-system. Therefore centralisation of DeFi is inevitable. There is a need for centralisation of power in running operations and taking strategic decisions in governing decentralised finance[136]. This will ultimately reduce the plethora of risks that arise because of DeFi`s nature.

An advantage that decentralised finance has over centralised finance systems is that it is accessible to the user by providing the opportunity to perform trade execution and settlement in the same transaction[137]. However if a regulatory and legal approach must be examined the risks associated with these exchanges must be analysed to give such approaches and the regulator perspective.

3.6.2 Smart Contracts and Legal Gaps

The development of the Bitcoin block chain didn't factor in the integration and functioning of the decentralised exchanges, this led to the introduction of the Ethereum block chain which aids the peer to peer functionality[138]. This block chain also allows for the running of computer programs on the block called smart contracts. These are the operating blocks of transactions because they create interaction between the user and the program to execute trading of the tokenised assets.

The interaction is made between various smart contracts and the user which through a decentralised exchange facilitated to transact at transparent pricing using the

[136] Supra note 18
[137] Campbell R. Harvey, " The Evolution of Decentralised Exchange: Risks , Benefits , and Oversight" (Wharton Initiative on Financial Policy and Regulation White Paper ,October 16, 2024)
[138] Buterin, V, "A Next-Generation Smart Contract and Decentralized Application Platform". (Ethereum White Paper ,2014)

Automated Market which makes public the price which is embedded into the smart contract[139].

3.6.2 Legal Risks in Decentralised Finance Exchanges

There are a number of risks associated with decentralised exchanges that put Uganda's current financial laws can be used to analyse whether Uganda's laws can effectively govern DeFi. These include the following,

The public nature of decentralised finance and public nature of block chain which is very susceptible to hackers. Due to this public nature, a dangerous vulnerability is exposed about decentralised exchanges because the code upon which these exchanges are built is easily accessed publically thus the profit hungry hacker can steal users funds off their account[140]. Thus the question of consumer protection is brought into perspective especially with the current laws of Uganda, the question to be asked is how our legislation can curb such a major loophole except not for establishing new models for legislation to fit into this particular problem.

The permission less nature of most block chain protocols is also an inherent risk to the end user and thus a legal issue. A permission less block chain is one where the agent operating it doesn't need a special permission to interact with it[141]. The challenge created with this however is that any individual can create an identity in order to interact with the block chain without centralised control from a central entity. This thus can led to issue of lack of liability[142] for the end user if financial

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[139] Supra note 21
[140] Hasbrouck, J, "Securities Trading: Principles and Procedures". (November 21, 2022) <https://pages.stern.nyu.edu/~jhasbrou/STPP/STPPindex.html> accessed on 08/05/2025.
[141] The Investopedia Team, "Permissioned Block chain: Definition, Examples, vs Permission less" (Investopedia, July 25th , 2024) <https://www.investopedia.com/terms/p/permissioned-blockchains.asp > accessed 04/05/2025
[142] Supra note 21

loss happens because they are the sole manager of their accounts , thus there is no repercussions and recovery of one's money lost.

In 2024, a new scam burst on the surface of Uganda's digital finance users of the OneCoin[143] cryptocurrency that promised to raise many Uganda's out of poverty especially the youth. This coin was founded by a Bulgarian businesswoman Ruja Ignatova , the Crypto queen , as was famously dubbed in a BBC podcast after she went around the world selling a false hopes to thousands of people . This was yet another Ponzi scheme that robbed many Uganda's of their incomes. This means that unregulated DeFi platforms remains a great risk to Ugandans that are misled into the rush of fake cryptocurrencies.

3.7 **Comparative Approaches**

3.7.1 The international regulatory stance on decentralised finance

The rapid growth of the decentralised market has put forward a set of fast paced regulatory approaches by different countries and the international community for a clear control for decentralised markets[144]. A number of advancements have been made by counties towards this goal which include countries like El Salvador which made the decision to make Bitcoin legal tender in the country and the use of these services by the growing number of people in the Sub Saharan Africa.

[143] Marion Douet, "How Uganda became a hotbed for cryptocurrency scams" (Le Monde, January 21, 2024)<https://www.lemonde.fr/en/le-monde-africa/article/2024/01/21/how-uganda-became-a-hotbed-for-cryptocurrency-scams_6452092_124.html> accessed on 08/04/2025

[144] Pepito Emelie , "A qualitative review of the international financial institutions regulation of decentralised finance" (December 2024)

The introduction of the EUs Market in Crypto Assets Regulation[145], the International Monetary Fund's publication on Effective Elements of Crypto Regulation[146] and Singapore's Payment Service Act[147] all present the future of a clear international regulatory framework. This is so because majorly of these players have a major role played in shaping the global perspectives on finance regulation and active participation in the global financial landscape.

The fast paced approach to regulation of the virtual assets market is well underway and has been long overdue basing on the continued attraction of these assets to the public[148]. With a number of countries and institutions around the world consulting and negotiating with key stake holders there is a clear pathway for more tailored regulatory approaches to the every growing market.

3.7.2 International Institutional Recommendations

The Financial Stability Board

The Financial Stability Board (FSB) whose mandate is to ensure there is global financial stability by coordinating national financial authorities and international standard-setting bodies to develop and implement effective regulatory , supervisory and other financial sector policies in its report[149] has key recommendations for a

[145] Eimear O`Brien and Christina Wu, "The EU's Markets in Crypto-Assets MiCA Regulation — a status update" (Hogan Lovells , 20th February 2025) <https://www.hoganlovells.com/en/publications/the-eus-markets-in-crypto-assets-mica-regulation-a-status-update> accessed on 03/03/2025

[146] International Monetary Fund "IMF policy Paper , Elements of Effective Policies For Crypto Assets"(IMF, February 2023)< http://www.imf.org/external/pp/ppindex.aspx > accessed on 06/05/2025

[147] Payment Services Act 2019 (No. 2 of 2019) (Republic of Singapore)

[148] PwC, " Global Crypto Regulation Report 2023" (PWC, December 2022(updated) <https://www.pwc.com/gx/en/new-ventures/cryptocurrency-assets> accessed on 19/05/2025

[149] Financial Stability Board, "High Level Recommendations for the Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets" , (Financial Stability Board, 17th July 2023)

global digital economy that is increasingly vulnerable to profit hungry innovators in the decentralised finance sector. This is a against the backdrop that crypto assets and altogether the decentralised finance sector is fast evolving and becoming a threat to the global financial stability because of the ever increasing risk to the user of decentralised finance platforms.

The FSB consequently has come up with recommendations for national and international regulation of the crypto-based markets that this research paper presents as a tangible solution to the regulatory gap created in Uganda's current legal framework. These include the following

1. Empowering Regulators with Authority and Resources

The FSB recommends that national authorities must possess and make use of the sufficient legal authority, technical expertise, and operational capacity to regulate crypto-assets effectively within in their understanding of the digital economy[150].

This includes the power to authorize, monitor, and take enforcement actions against crypto-asset issuers and service providers operating within the countries jurisdiction. This recommendation emphasizes methods by the authority of approval of these firms to be enacted in national law. Thus meaning no crypto firm should be allowed to operate in a jurisdiction unless it meets the local legal requirements.

This is a similar approach to the regulation of traditional finance institutions which global standard setters argue must mirror the regulation of the ever evolving crypto-

<https://www.fsb.org/2023/07/high-level-recommendations-for-the-regulation-supervision-and-oversight-of-crypto-asset-activities-and-markets-final-report/> accessed on 19/05/2025

[150] Recommendation 1 : High Level Recommendations for the Regulation, Supervision and Oversight of Crypto-asset Activities and Markets

market[151]. Furthermore, the FSB suggests that legislation must empower regulators to deal with native crypto firms that try to evade rules by operating from complacent legal jurisdictions. This requires a robust network of cross border enforcement tools and restricting market access to non-compliant foreign providers.

This recommendation reflects the principle that enforcement is only as effective as the power authorizing it, a weaker institution will make compliance and regulatory enforcement a bit easier to bypass. As crypto markets often operate outside traditional regulatory frameworks, empowering authorities to act decisively is a prerequisite for maintaining market integrity and investor confidence.

2. Enacting a Functional and Risk-Based Regulatory Frameworks

The second recommendation lays emphasis on the importance of applying a functional approach to regulation which meets the necessary regulatory, supervisory and oversight activities and markets that are applicable to the decentralised finance ecosystem[152]. This means that activities should be regulated based on the risks they pose to the consumers, not the technology they adopt in the process of creation of these decentralised finance platforms. The FSB terms this the "*same activity, same risk and same regulation strategy*" implemented across the digital services economy.

The FSB in this recommendation advises the national authorities to make an assessment of whether the existing national frameworks meet the risk regulatory

[151] Supra note 148

[152] Recommendation 2 : High Level Recommendations for the Regulation, Supervision and Oversight of Crypto-asset Activities and Markets

scope of crypto-asset activities. This approach prevents regulatory arbitrage, where similar services receive different levels of oversight merely because they use new technologies. Authorities are encouraged to tailor rules to the size, complexity, and potential impact of a native crypto firm.

This framework is especially important in dealing with decentralised finance (DeFi), where traditional notions of intermediaries are opaque in their nature. It also enables regulators to expand their oversight to emerging areas that may fall outside existing laws, promoting a robust stance toward evolving risks to financial stability of the consumers of these services.

3. Strengthening Domestic and International Cooperation

Given the global nature of crypto-asset markets, the FSB calls for greater cross-border and cross-sector cooperation between the authorities that run and regulate these markets[153]. This includes sharing information on risks interstate (between state parities), regulatory approaches, and supervised entities. Enhanced cooperation can prevent jurisdictional fragmentation and ensure consistent oversight across markets.

This recommendation is important because many crypto entities operate globally without a clear home regulator. The FSB argues that coordinated international frameworks, possibly underpinned by memoranda of understanding or ad-hoc agreements, are vital to addressing cross-border losses and risks and ensure enforcement challenges if these networks, the current existing networks are used to effectively fill this regulatory gap.

[153] Recommendation 3 : High Level Recommendations for the Regulation, Supervision and Oversight of Crypto-asset Activities and Markets

The FSB argues that these states must also through their authorities make sure that they collaborate with these relevant authorities when they host crypto-asset issuer and service providers with the global reach , taking into account the risks associated with leaving these issuers unregulated.

4. Requiring Strong Governance Standards

Crypto-asset issuers and service providers must have sound governance structures[154]. The FSB argues that these regulatory frameworks must mirror the various risk, size and complexity of the financial risk posed by the activity of these players in the market.

This includes well-defined roles and responsibilities, accountability mechanisms, and procedures for handling conflicts of interest. Even in cases where decentralization obscures leadership structures, governance standards must still apply.

This recommendation is particularly relevant given the failure of several high-profile crypto firms due to poor internal controls and opaque decision-making. A robust governance framework helps mitigate internal mismanagement, fraud, and operational risks, ultimately protecting consumers and market stability. It will also help firms that want to use complex protocols that hide away the entity to stay compliant with the standard solidly founded national legal framework.

[154] Recommendation 4: : High Level Recommendations for the Regulation, Supervision and Oversight of Crypto-asset Activities and Markets

5. Comprehensive Risk Management Practices

The FSB urges authorities to mandate that crypto firms implement risk management systems that are as rigorous as those in traditional finance[155]. This includes identifying and mitigating risks such as leverage, liquidity mismatches, cyber threats, and operational vulnerabilities. Firms should also prepare contingency plans and ensure business continuity in times of crisis.

Importantly, crypto firms that custody user assets must have clear protocols for protecting those assets, including transparency about ownership rights and segregation of customer funds. This reduces the risk of asset misappropriation and enhances user trust in the system.

6. Improved Data Collection and Reporting Systems

Accurate and timely data is critical for effective oversight[156]. The FSB recommends that firms develop systems to collect, store, and report data in a secure and consistent manner. Regulators should have full access to this data, allowing for real-time assessment of systemic risks.

By standardizing data practices, authorities can more effectively monitor market trends and vulnerabilities. This is especially important in crypto markets, where information asymmetry is high and transaction anonymity can obscure systemic threats.

[155] Recommendation 5 Ibid
[156] Recommendation 6 Ibid

7. Mandatory Disclosures to Users and Stakeholders

Transparency is a cornerstone of market integrity[157]. Crypto firms should be required to disclose detailed information about their operations, financial condition, risks, and governance. Disclosures should be tailored to the needs of users, investors, and other stakeholders to ensure informed decision-making.

Additionally, firms must provide clear communication about custody terms, potential insolvency risks, and underlying technologies, including cybersecurity vulnerabilities. This empowers consumers and enhances accountability in the industry.

8. Monitoring Interconnections to Prevent Systemic Spill overs

Authorities must keep track of how different parts of the crypto ecosystem interact and how these links may affect the broader financial system[158]. This includes assessing ties between crypto firms and traditional financial institutions. Where necessary, regulators should act to contain systemic risk.

This recommendation acknowledges that crypto markets do not exist in isolation. Events in the crypto world such as the collapse of a large stable coin can have ripple effects on the wider financial system, particularly where banks or funds hold crypto exposures.

9. Oversight of Firms with Multiple Interconnected Functions

Crypto service providers that combine multiple roles such as custody, trading, and lending pose unique risks due to conflicts of interest and the concentration of power

[157] Recommendation 7 ibid
[158] Recommendation 8 ibid

in administering these protocols [159]. The FSB recommends that these firms be subject to special regulatory scrutiny under the law. Where needed, authorities should consider legally separating such functions into various vehicles.

This mirrors similar safeguards in traditional finance, such as separating commercial and investment banking to protect depositors from fraudulent firms. Properly regulating such multi-functional firms ensures that no single entity yields excessive influence or becomes a systemic threat.

The FSB's high-level recommendations present a robust framework for mitigating the financial stability risks posed by crypto-assets while fostering responsible innovation. By promoting international consistency, functional regulation, and effective oversight, these recommendations aim to bridge the gap between traditional financial regulation and the dynamic crypto landscape. As crypto markets evolve, the implementation of these recommendations will be instrumental in shaping a safer and more transparent global financial system.

Financial Action Task Force (FATF)

Global standard settlers have also increasingly advocated for more comprehensive regulation of digital assets in the global economy. Another such institution is the Financial Action Task Force (FATF) which has the mandate to set standards and promote most effective implementation of relevant legal , regulatory and operational measure to combat money laundering , terrorist financing and the proliferation financing[160].

[159] Recommendation 9 : Ibid

[160] FATF, "Mandate of the FATF" (FATF,12th April 2019)<https://www.fatf-gafi.org> accessed on 1/05/2025

The FATF has taken a centre stage on the regulatory recommendations for the governance of the decentralised finance markets. In its publication[161] it views the services of the digital economy such as decentralised finance in the view of virtual assets and virtual asset service providers. It argues that decentralised markets have to be subject to regulation because of the decentralisation illusion, this is validated by their position that there is a concentration of power among holders of governance tokens.

The FATF recommends that a serious risk assessment and mitigation strategy is undertake of money laundering and terrorist financing risks that are associated with decentralised protocols. This is because of the anonymity of such transactions which makes it harder for the regulatory authority to track these transactions.

It also recommended a robust standard for Know your customer (KYC) compliance by virtual assets providers (VASPs) which will ensure customer due diligence is undertake on each and every user of digital finance services.

[161] FATF, "Virtual Assets; Targeted Update on Implementation of the FATF standards on virtual assets and Virtual service providers" , (FATF, June 2023) < https://www.fatf-gafi.org/en/publications/Fatfrecommendations/targeted-update-virtual-assets-vasps-2024.html > accessed on 19/05/2025

3.8 KOTANI PAY CASE STUDY

3.8.1 Introduction

This research in addition to the legal doctrinal research used a case study of a DeFi platform operating in Uganda. The main focus of this dissertation was to examine whether Uganda's current legal framework is adequate for regulating DeFi in the context of promoting financial inclusion. The study identifies Kotani Pay, which is a Kenyan based platform that connects underscored populations particularly those that don't have access to the internet. This platform extends financial services modelled on block chain technology[162]. Kotani Pay illustrates how DeFi finance can be tailored to the realities of the Ugandan consumer of such services. Therefore the dissertation uses this study to explore the current legal and regulatory systems which are equipped to facilitate similar platforms in the digital economy and DeFi and the promotion of financial inclusion.

3.8.2 What is Kotani Pay?

This is a technology establishment that was designed to reduce the unbanked population in Africa. This is by designing features that enable their user to DeFi platforms by using their USSD[163]. The platform leverages USSD technology to connect feature phone users and low-end smartphones to the block chain networks. This eliminates the need for a robust internet network or a smart phone which are not

[162] Venture Fund, "Kotani Pay: Increasing access to financial solutions for the underbanked and unbanked" (Venture Fund, September 02,2022)<https://www.unicefventurefund.org/story/kotani-pay-increasing-access-financial-solutions-underbanked-and-unbanked> (2022)> accessed 02/05/2025

[163] Ibid

entirely accessible to persons in rural areas. These are two significant problems in the adoption of decentralised finance as explained in the chapters above.

3.8.3 Legal and Regulatory implications for Uganda.

The model that Kotani Pay was built on presents a number of challenges in light of Uganda's current financial and regulatory framework. This is due to the fact that this platform provides financial services, it therefore needs to be examined under this legal regime.

The National Payment Systems Act provides for the issuance of electronic money and regulation of payment systems in Uganda. However it doesn't provide for the DeFi which impliedly means that Kotani Pay operates in a legal vacuum. Similarly the Financial institutions Act is mandated with the licensing and regulation of financial institutions in Uganda, these however don't include DeFi finance services which Kotani Pay is. This is because it operates a decentralised wallet and cryptocurrencies.

Therefore Uganda lacks the foundational legal structure that is necessary for a decentralised finance platform like Kotani Pay to legally operate. This therefore portrays the fact that Uganda's legal framework is insufficient to cater for the legal issues that will arise out of DeFi and its evolving innovation and disruption of financial services.

3.8.4 Lessons from Kotani Pay for Uganda's Regulatory stakeholders.

There is a great potential for financial inclusion using DeFi platforms such as Kotani Pay which are addressing a number of the core hindrances cited in this paper as a limitation to Uganda achieving its goal of financial inclusion.

Kotani is a Kenyan based DeFi platform that is currently serving Ugandan clients. This is a fundamental lesson to encourage the development of a regulatory sandbox[164] that will allow such other DeFi platforms to operate in a controlled environment and its results can enable the BOU and key stakeholders to assess the risks that could arise from adoption decentralised finance.

As was argued by the FSB, the regulatory approach to DeFi platforms must developed to regulate the financial product and rather not the financial institution provider. A regulatory approach that will intrinsically regulate such services will provide a greater purpose developed legal framework.

Kotani Pay has the potential of addressing the financial divide through its use of USSD to deliver a vast array of financial services[165]. Its innovation of accessibility of DeFi services using USSD challenges the underlying notion that DeFi can only be for tech-savvy people with smart phones.

However Uganda's regulatory framework remains inadequate to accommodate such technological advancement thus hindering innovation. Nonetheless, Kotani Pay provides a model for how DeFi can be designed and regulated through sandboxing such innovations, and enacting appropriate legislation. The study therefore reemphasises my argument in this research paper.

3.8.5 Conclusion

Uganda's legal framework does not currently acknowledge or anticipate decentralised finance. DeFi protocols disrupt the centralized structure upon which

[164]Kotani Pay : "Super chain" (Superchain Eco ,2025) <https://www.superchain.eco/projects/kotanipay> accessed on 9/05/2025

[165] Kotani Pay , "Product Documentation : USSD" <https://docs.kotanipay.com/docs/kotani-pay-ussd> accessed on 10/5/2025

current financial services industry was built upon relies. This congruence of regulation and markets presents substantive risk and potential lost opportunity. To capture the potential value of DeFi and sidestep threats, Uganda must make its financial laws compatible with decentralised structures, establish technology-agnostic standards, and apply agile, adaptive regulation.

CHAPTER FOUR: SUMMARY OF FINDINGS, CONCLUSIONS AND RECCOMMENDATIONS

4.0 Introduction

The purpose of this research paper was to question the adequacy of Uganda's current legal framework in regulating Decentralised Finance (DeFi) in the context of promoting financial inclusion. This study aimed to analyse the effect of a lack of a clear regulatory framework and what its effect would have as a major road block hindering the growth of financial inclusion in Uganda.

This chapter will cover the key findings of this research, draw from them significant conclusions and actionable recommendations that in view to this research need to be implemented by Uganda in order to achieve financial inclusion using decentralised financing.

4.1 SUMMARY OF FINDINGS

The summary of findings will be presented here in light of the research objectives and questions that were the point of investigation in the research paper.

4.1.0 Incompatibility of Uganda's Legal Framework with DeFi

It was a major finding that the current legal financial system in Uganda is not compatible with the regulation of decentralised finance. This is because the existing laws in Uganda's digital economy presume a more centralised approach to regulating of financial institutions. This was released through a structures analysis of these laws and the nature of their enactment. These laws include the Financial Institutions Act, the National Payment Systems Act , the Anti Money Laundering Act e.g.

The research discovered that because of this regulatory approach there remains a great conflict between the two models of finance. This is because decentralised

finance doesn't share the unique features of centralisation but rather is a huge contrast to the current financial framework. This is because decentralised finance models are built on DLT which is modelled on block-chain technology. This implies that transactions on the decentralised finance platforms are peer to peer in contrast to traditional finance services which require a trusted intermediary to facilitate transactions between parties[166].

Decentralised core features such as smart contracts, Decentralised Autonomous organisations and anonymity are not addressed in these legal frameworks. This therefore implies that the current legal framework of Uganda's financial services isn't compatible with the nature of decentralised finance. An unregulated market therefore possess a threat to Uganda's goals of financial inclusion.

4.1.1 Lack of Legal Recognition and Consumer Protection

Another major finding of the research paper is that decentralised finance remains unenforceable in Uganda amidst the growing desire and public for the transaction and use of these finance models. This is because as a result of the BOUs circular on the legal status of cryptocurrency in Uganda which implies that these services are unregulated. The research found however that the decentralised market in Uganda is growing consistently and is currently valued at USD 14.35 billion as of 2023[167] which implies that stakeholders in the Ugandans decentralised market are players in a risky market.

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[166] Supra 144

[167] Fortune Business Insights, "Decentralized Finance Market Size, Growth Report 2024-2032"(Fortune Business Insights , May 05,2025) <https://www.fortunebusinessinsights.com/decentralized-finance-technology-market-107823>accessed on 19th /05/2025

This is a large hindrance to the use of decentralised finance as a mechanism to achieve financial inclusion rendering its lack of enforceability in Uganda. The research discovered that users of decentralised finance are exposed to risks from hackers, loss of funds with no finance protection from the Central bank of Uganda.

4.2 CONCLUSIONS

The major conclusion made in this paper is that Uganda's current legal and institutional frameworks are insufficient and inadequate to regulate and support the regulation of decentralised finance. A failure to have the decentralised finance market regulated as analysed in this paper is a hindrance to financial innovation and financial inclusion for the underserved population of Uganda.

An unregulated decentralised finance market also exposes the stakeholders and users to unregulated risk that could cripple the economy in events of losses and fraudulent transactions by the creators of decentralised finance exchanges, that take advantage of naïve and uninformed users in Uganda.

4.3 RECOMMENDATIONS

This research paper recommends a number of key policy proposals that can be undertaken by the Bank of Uganda to ensure that the damages that an unregulated decentralised finance market posits onto the users in Uganda. These include the following;

4.3.1 Development of a comprehensive Legal framework for Decentralised Finance

As highlighted in this research paper, Uganda currently doesn't have a comprehensive law in place that can effectively govern this ever evolving financial

market. An enactment of a conducive law by the Parliament[168] should be priority agenda in order to ensure that regulation of the market is in place to protect users from the number of risks that DeFi exposes them to. The law ought to clearly define the unique characteristics of DeFi.

4.3.2 Creation of a regulatory Sandbox

This paper recommends that the Bank of Uganda should build a robust regulatory sandbox which will be used to test DeFi applications under their close supervision. A regulatory sandbox is a regulatory approach typically summarised in writing and published, that allows live, time-bound testing of innovations under a regulators oversight[169].

This will effectively enable a proper legal regulatory hindsight to a market that presents a peer to peer transaction model instead of a centralised financial model.

4.3.3 Build Institutional Capacity

The Bank of Uganda should also ensure that the key stakeholders are trained about DeFi. These include the policy makers, stakeholders in the DeFi market, the judiciary and members of Parliament. This is to enable a clearer understanding of the nature of DeFi, the risks it poses and the advantages that an economy like Uganda can benefit from by adopting them as an asset class in its financial economy. This is particularly through improved financial inclusion in Uganda today through the use of DeFi as a gateway to the underserved people in Uganda.

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[168] Article 79 of the 1995 Constitution of the Republic of Uganda as amended

[169] United Nations Secretary Generals Special Advocate for Inclusive Finance for Development, "Briefing on regulatory sandboxes" (UNSGA, June 3, 2018) <https://www.unsgsa.org/sites/default/files/resources-files/2020-09/UNSGSA >accessed on 09/04/2025

4.4 **Conclusion**

This dissertation set out to examine the adequacy of Uganda existing legal and institutional framework in addressing the rise and the adoption of DeFi as a gateway to improving financial inclusion for the underserved population in Uganda. The analysis has shown that Uganda possess a foundational legal structure for regulating majorly traditional financial services, it however doesn't envision legislation suitable to the characteristics of decentralisation of finance namely anonymity, non-custodial control, smart contracts and decentralised autonomous organisations.

The statutes that govern Uganda's financial sector are rather inadequate to regulate decentralised finance which has been analysed to be at odds with the peer to peer trust less and borderless nature of DeFi protocols. Furthermore the Bank of Uganda's response to the growing interest in DeFi has only curtailed the Ugandan user into a regulatory vacuum basing on the fact that they transact in an unclear legal framework and are prone to financial risks.

Uganda must act innovatively and proactively to curb the underlying risks associated with DeFi and this will broaden the country's financial services industry for financial inclusion. This will also protect and safeguard consumers of DeFi services. A warning that decentralised finance market is not enough, the Bank of Uganda has to ensure that it pioneers a more effective regulatory governance of these services.

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APPENDICES

Appendix A: Survey Questionnaire; Exploring Non-Legal Aspects of DeFi in Uganda

1. What is your age range?
2. What is your gender?
3. What is your current occupation?
4. What is the highest level of education you have completed?
5. Have you ever heard of Decentralised Finance (DeFi) or cryptocurrencies (e.g., Bitcoin, Ethereum)?
6. Have you ever used any DeFi or cryptocurrency platforms (e.g., Binance, Trust Wallet, MetaMask)?
7. If yes, which platforms or services have you used?
8. Why did you decide to use (or consider using) DeFi or cryptocurrencies? (Select all that apply)
9. Do you have regular access to the following? (Select all that apply)
10. How would you rate your understanding of how crypto platforms work?
11. Have you ever attended a seminar, webinar, or training about digital finance or crypto?
12. Do you feel confident managing your own finances and making investment decisions?
13. In your opinion, what are the biggest challenges or risks of using DeFi in Uganda? (Select all that apply)
14. Do you think DeFi can help promote financial inclusion in Uganda?
15. Have you or someone close to you ever benefited financially from using crypto platforms?
16. Would you recommend DeFi or crypto platforms to others in your community? Why or why not?
17. In your view, what should be done (non-legally) to increase safe and productive use of DeFi in Uganda?

Appendix B: Kotani USSD solution to improve financial inclusion

Below is a simple illustration of how we are empowering feature phone users with our USSD solution

Source Kotani Pay website: https://docs.kotanipay.com/docs/kotani-pay-ussd