Tami Koroye / Int.J.Afr.Stud. 3(1) (2023) 51-56
https://doi.org/10.51483/IJAFRS.3.1.2023.51-56
ISSN: 2710-4680

SvedbergOpen
DISSEMINATION OF KNOWLEDGE

International Journal of African Studies

Publisher's Home Page: https: / / www.svedbergopen.com /

Research Paper Open Access

Analyzing Africa's Economic Challenges: Assessing the Suitability of Cryptocurrency as a Solution Through Occam's Razor Test

Tami Koroye[1*]

[1]PhD Candidate, School of Law, Faculty of Management, Law and Social Sciences, University of Bradford, Richmond Rd, United Kingdom. E-mail: Tkoroye@bradford.ac.uk

Article Info

Volume 3, Issue 1, June 2023
Received : 13 February 2023
Accepted : 18 May 2023
Published : 05 June 2023
doi: 10.51483/IJAFRS.3.1.2023.51-56

Abstract

The African continent faces a myriad of economic challenges, including limited access to financial services, currency instability, and barriers to cross-border trade. Cryptocurrencies, with their innovative features and decentralized nature, have emerged as a potential solution to these problems. However, their applicability and effectiveness in the African context need to be scrutinized through the lens of Occam's razor. This article delves into the exploration of the potential of cryptocurrencies in addressing African economic challenges by applying the principle of Occam's razor. Occam's razor, a fundamental tenet of modern science, advocates for simplicity and economy of assumptions in problem-solving. By analyzing the complex landscape of African economies, marked by diverse challenges and opportunities, this article aims to uncover the role of cryptocurrencies in addressing these issues.

Keywords: *Financial inclusivity, Cryptocurrencies, African Countries, Financial development*

1. Introduction

Undoubtedly, the African continent grapples with a wide range of economic hurdles, encompassing high poverty rates, limited financial access, currency instability, inadequate infrastructure, unemployment, income inequality, and trade and investment barriers.[1] These challenges vary across countries and regions, reflecting the complex economic landscape of the continent. Additionally, Africa also faces challenges related to corruption, governance, political instability, and insufficient economic diversification. Addressing these challenges requires comprehensive strategies and interventions to promote inclusive and sustainable economic growth and development.

The push for mass adoption of cryptocurrencies, particularly in Africa, has gained momentum in recent years. Proponents of crypto mass adoption, often referred to as "crypto maxis," believe that digital currencies have the potential to revolutionize financial systems and drive economic growth across the continent. One notable example is the

[1] Horman Chitonge. (2015). *Economic Growth and Development in Africa: Understanding Trends and Prospects*, Routledge; Kwadwo Konadu-Agyemang and Kwamina Panford, "21st Century African Development: Crises and Challenges. An Overview', in Kwadwo Konadu-Agyemang and Martin K Panford (2006). *Africa's Development in the Twenty-first Century: Pertinent Socio-economic and Development Issues*, Ashgate Publishing.

* *Corresponding author:Tami Koroye, PhD Candidate, School of Law, Faculty of Management, Law and Social Sciences, University of Bradford, Richmond Rd, United Kingdom. E-mail: Tkoroye@bradford.ac.uk*

Central African Republic (CAR), which adopted Bitcoin as legal tender in 2022.[2] This move reflects a growing acceptance and recognition of cryptocurrencies as viable means of payment and store of value and demonstrates the willingness of some African nations to embrace digital currencies as part of their economic strategies. On this foundation, a strand of the crypto-maxis envisages a future where adoption may accelerate, leading to become a regional or even a common currency across the African Union.[3]

Inarguably, cryptocurrencies have the potential to bridge this gap by providing a means for individuals to participate in the global financial system without the need for traditional intermediaries. Using digital wallets and mobile devices, cryptocurrencies enable storage, transfer, and receipt of funds securely and conveniently. Cryptocurrencies inarguably provide advantages for efficient cross-border transactions in Africa.[4] They overcome challenges posed by diverse economies and fragmented financial systems by enabling faster and cheaper transactions, eliminating intermediaries, and reducing costs. Additionally, blockchain technology enhances transparency, reduces corruption, and ensures accountability in the African economic landscape.[5]

However, when applying the principle of Occam's razor, which advocates for simplicity as the optimal solution, it becomes essential to critically examine whether cryptocurrencies truly provide a straightforward and practical remedy for Africa's complex economic landscape. Named after the medieval philosopher and theologian William of Ockham,[6] who advocated for its use as a guiding principle in reasoning, Occam's razor, in this paper, serves as a framework to evaluate the viability of cryptocurrencies in addressing Africa's economic challenges. The principle posits that the simplest explanation or solution is often the most accurate and effective. Occam's razor guides decision-making by favoring simplicity and selecting the most efficient option among possibilities. It emphasizes avoiding unnecessary complexity when evaluating hypotheses or explanations. The principle highlights that a quality explanation should account for observed data while minimizing unnecessary assumptions.[7]

This study adopts the Occam's razor principle to examine the viability of cryptocurrencies as a straightforward and practical solution to Africa's economic challenges. While advocates of widespread adoption highlight the potential benefits of digital currencies, it is crucial to critically evaluate whether these advantages outweigh the inherent complexities associated with this technology. This research considers four factors which shape the feasibility and efficacy of cryptocurrencies in addressing Africa's economic landscape in this regard: the existing infrastructure, educational barriers, regulatory environments, and economic disparities. By conducting an in-depth analysis of the simplicity and effectiveness of cryptocurrencies as a potential solution, this study aims to provide scholarly insights into their potential to navigate the intricacies of Africa's economic context and contribute to sustainable development.

2. Methodology

The methodology employed in this study is a qualitative research approach that incorporates a comprehensive analysis of existing literature and empirical evidence regarding African economic challenges and the potential of cryptocurrencies as a solution. To address the research question of decoding the cryptocurrency enigma through the lens of Occam's razor, a systematic review of scholarly articles, reports, and relevant documents was conducted. This review focused on understanding the economic challenges faced by African countries, including financial exclusion, currency instability, limited trade integration, and the potential role of cryptocurrencies in addressing these challenges.

Furthermore, an examination of the principles of Occam's razor was undertaken to evaluate the simplicity and effectiveness of cryptocurrencies as a solution to African economic challenges. This involved analyzing the core tenets of Occam's razor, such as minimizing complexity and avoiding unnecessary assumptions, and applying them to the context of cryptocurrency adoption in Africa.

---

2 Ryan Browne. (2022). Central African Republic Becomes Second Country to Adopt Bitcoin as Legal Tender, (CNBC, 2022) < https://www.cnbc.com/2022/04/28/central-african-republic-adopts-bitcoin-as-legal- tender.html>

3 Bright Simons. (2022). African Governments are Turning to Cryptocurrencies but can they Team up?. Brookings, https:// www.brookings.edu/articles/african-governments-are-turning-to-cryptocurrencies-but-can-they- team-up/

4 *ibid*.

5 Isabelle Adam. and Mihaly Fazekas. (2021). Are Emerging Technologies Helping Win the Fight Against Corruption? A Review of the State of Evidence. *Information Economics and Policy*, 57, 1.

6 (Also spelled Occam) Dorothy Walsh (1979). Occam's Razor: A Principle of Intellectual Elegance. *American Philosophical Quarterly*, 16, 241, also *see* W.M. Thorburn (1918). The Myth of Occam's Razor. *Mind*, 27, 345.

7 Don L. Anderson. (2002). Occam's Razor: Simplicity, Complexity, and Global Geodynamics. Proceedings of the American Philosophical Society, 146, 56.

By synthesizing information from various sources and employing Occam's Razor as a guiding framework, this study aims to shed light on the potential of cryptocurrencies to address African economic challenges. Through a qualitative analysis of the literature, this research aims to unveil the complexities and simplicities inherent in the adoption and utilization of cryptocurrencies in the African context, ultimately contributing to a deeper understanding of the cryptocurrency enigma in relation to African economic challenges.

3. Argument

The economic challenges faced by the African continent are multifaceted and require innovative solutions that can effectively address the root causes of these issues. Limited access to financial services, including banking and credit, hampers economic growth and financial inclusion for millions of Africans.[8] Moreover, currency instability, characterized by volatile exchange rates and inflation, creates uncertainty, and hinders trade and investment opportunities. Cryptocurrencies have garnered attention as a potential solution to these challenges. Their decentralized nature, facilitated by blockchain technology, offers the promise of financial inclusion, efficient cross-border transactions, and increased transparency. The concept of financial inclusion is central to the potential of cryptocurrencies in Africa. Many individuals on the continent lack access to basic financial services, such as bank accounts and credit facilities. Access to financial services remains a significant challenge for many Africans.

While the advantages of cryptocurrencies are evident, their applicability and effectiveness in the African context must be thoroughly evaluated. Factors such as technological infrastructure, digital literacy, regulatory frameworks, and security concerns need to be considered. By evaluating their applicability through the lens of Occam's razor, this section critically examines whether cryptocurrencies offer a simpler and more effective solution compared to traditional financial systems. Four key areas are explored: poverty rates, existing infrastructure, education, and regulatory environments.

3.1. Poverty Rates

When assessing the potential of cryptocurrencies to address poverty in Africa, it is important to consider the market values of prominent cryptocurrencies such as Bitcoin (BTC), Ethereum (ETH), and BNB (BNB), which may initially appear promising for poverty alleviation.[9] However, a deeper examination is necessary to determine whether cryptocurrencies can genuinely simplify the complex economic challenges faced by individuals in Africa living below the poverty line of $1.90 per day.[10] Cryptocurrencies, characterized by their decentralized and inclusive nature, have the capacity to extend financial services to the unbanked population and empower those with limited access to traditional financial systems. When evaluating the potential of cryptocurrencies to address the poverty rate in Africa, we must consider which may initially seem promising for poverty alleviation.[11]

In Sub-Saharan Africa, where approximately 66% of the adult population lacks access to formal financial services, cryptocurrencies have been identified as a potential solution for the unbanked. However, it is pertinent to critically assess whether the current value of cryptocurrencies aligns with the economic realities of impoverished individuals in Africa. The intricate technological infrastructure and fluctuating prices of cryptocurrencies introduce complexity that may hinder their ability to effectively address the challenges faced by those living in poverty. Additionally, the widespread adoption and usage of cryptocurrencies may be unrealistic in a region where a significant portion of the population struggles with extreme poverty.

While countries like Nigeria, Kenya, and South Africa have witnessed notable crypto transactions valued in millions of dollars,[12] it is important to acknowledge that most Africans, particularly those facing economic disadvantages, encounter difficulties in accessing and utilizing cryptocurrencies. Despite the availability of cryptocurrencies in different denominations, economic disparities and failing currency systems in Africa present barriers for individuals to acquire

---

[8] Tough Chinoda. and Forget Mingiri Kapingura. (2023). The Impact of Digital Financial Inclusion and Bank Competition on Bank Stability in Sub-Saharan Africa. *Economies*, 11, 1.

[9] The current values of popular cryptocurrencies and their current values such as Bitcoin (BTC) at $31,689, Ethereum (ETH) at $1,850, BNB (BNB) at $262.40, gotten from CoinMarket Cap. For further reading and update on value, see: CoinMarketCap, 'Today's Cryptocurrency Prices by Markeet Cap,' (Coinmarketcap, 2023) < https://coinmarketcap.com/ >

[10] World Bank Group, 'Sub-Saharan Africa', (World Bank, 2020) < https://databankfiles.worldbank.org/public/ddpext_download/poverty/33EF03BB-9722-4AE2-ABC7- AA2972D68AFE/Global_POVEQ_SSA.pdf >

[11] https://poverty-unpacked.org/2022/06/30/crypto-what-can-it-do-for-those-in-poverty/

[12] Chainalysis. (2022). The 2022 Geography of Cryptocurrency Report. < https://go.chainalysis.com/geography-of-crypto-2022-report.html >

and engage with globally recognized and verified digital currencies. The simple reality is that the average African, constrained by limited wealth and resources, faces challenges in meaningfully participating in cryptocurrency activities.

Although Africa exhibits potential as a burgeoning crypto market, it is imperative to examine whether the current landscape effectively addresses the issue of poverty. Does the existing crypto infrastructure bridge the gap between the privileged few benefiting from crypto transactions and the masses grappling with economic hardships? Does the growth of cryptocurrencies in Africa contribute to a more equitable distribution of wealth, or does it further exacerbate existing inequalities? These questions underscore the need for a comprehensive assessment of the implications and feasibility of cryptocurrencies in addressing poverty in Africa.

3.2. Digital Infrastructure

The success of cryptocurrencies in Africa hinges on the availability and reliability of internet connectivity, as well as widespread access to mobile phones. Despite notable progress in these areas, challenges persist regarding internet affordability and reliability, which could impede the adoption of cryptocurrencies. In Sub-Saharan Africa, around 40% of the adult population currently has access to mobile internet services, highlighting the significance of these factors in shaping the landscape for cryptocurrency usage.[13] This indicates a substantial increase in connectivity, offering a platform for potential cryptocurrency adoption. It is important to acknowledge that an additional 44% of individuals in Africa reside in areas covered by mobile broadband networks but have yet to adopt mobile internet services.[14] This disparity in usage underscores the significance of addressing factors such as affordability and digital literacy to fully leverage the impact of mobile connectivity on economic progress and development in the region.

In response to challenges, innovative solutions like Machankura's Bitcoin USSD service are emerging to cater to Africans with feature phones lacking internet capabilities.[15] These initiatives showcase the adaptability and resilience of the cryptocurrency ecosystem in addressing diverse technological constraints and user needs. However, assessing the viability of cryptocurrencies in Africa necessitates an examination of the existing infrastructure's capacity for widespread adoption. Despite progress, limited internet connectivity in rural areas and the digital divide within the population remain significant challenges. Efforts to bridge the usage gap and enhance affordability and accessibility of internet connectivity can enable cryptocurrencies to simplify financial transactions and empower individuals across Africa. Nonetheless, ensuring the presence of suitable infrastructure is essential to support seamless and secure utilization of cryptocurrencies, particularly in regions with limited internet connectivity and mobile phone penetration.

3.3. Education and Awareness

The level of financial literacy and knowledge regarding cryptocurrencies among the African population is a crucial consideration. Assessing the accessibility of educational resources, awareness campaigns, and initiatives aimed at fostering understanding and responsible usage of cryptocurrencies is essential for successful adoption. Education plays a pivotal role in the adoption and comprehension of cryptocurrencies, particularly in regions like sub-Saharan Africa with high rates of educational exclusion. Promoting awareness and providing education on the structure, risks, and advantages of cryptocurrencies is vital to ensure responsible usage and active engagement in the cryptocurrency ecosystem.

Sub-Saharan Africa faces substantial education challenges, as evidenced by the highest rates of education exclusion worldwide, according to data from the UNESCO Institute for Statistics (UIS).[16] These statistics underscore the urgent need for educational initiatives that bridge the knowledge gap and promote financial literacy, including comprehension of cryptocurrencies. While technical expertise in the underlying technology may not be essential for cryptocurrency usage, a fundamental understanding of the associated risks and benefits remains crucial. Users should be aware of security measures such as private key management and avoiding scams. Additionally, familiarity with blockchain technology and transaction processes can enhance users' confidence and trust in cryptocurrencies.

To evaluate the compliance of cryptocurrencies in Africa with Occam's razor's simplicity test regarding education, several factors require consideration such as the availability of educational resources tailored to the African context

---

[13] GSMA. (2022). The Mobile Economy Sub-Sharan Africa 2022. < https://www.gsma.com/mobileeconomy/wp-content/uploads/2022/10/The-Mobile-Economy-Sub-Saharan- Africa-2022.pdf>

[14] *ibid*.

[15] Kodzilla. (2022). A Look at South Africa's Machankura – The First Bitcoin USSD Service in Africa. *BitcoinKe*. < https://bitcoinke.io/2022/08/a-look-at-machankura-a-bitcoin-ussd-service-in-africa/ >

[16] UNESCO. (2022). Out of School Numbers are Growing in Sub-Saharan Africa. UNESCO. < https://www.unesco.org/gem-report/en/2022-out-school>

holds significant importance. Another important factor to consider are user-friendly interfaces and platforms which can simplify the user experience, particularly for individuals with limited technical knowledge. Similar to the transformative impact of platforms like M-Pesa[17] in revolutionizing mobile money in Africa through their intuitive interfaces,[18] cryptocurrency platforms should strive to provide straightforward and user-friendly interfaces that minimize complexity.

3.4. Regulatory Environment

Regulating cryptocurrencies remains a challenge for governments worldwide, including those in Africa. Striking the right balance between minimizing risks such as fraud, money laundering, and consumer protection, while also fostering innovation, is a complex task. In sub-Saharan Africa, the regulatory landscape for cryptocurrencies varies. Only one-quarter of countries have established formal regulations, indicating a relatively low level of regulatory clarity and oversight.[19] Furthermore, two-thirds of countries have implemented some restrictions on cryptocurrencies, indicating a cautious approach towards their adoption and use.[20]

The current regulatory landscape, which includes bans on cryptocurrencies in some countries like Nigeria, Cameroon, and the Republic of Congo, in no way, simplify the mass adoption of cryptocurrencies as postulated by crypto-maxis. It is worth noting that one of the key features of cryptocurrencies is their ability to operate in a peer-to-peer (P2P) manner, bypassing traditional financial systems and government scrutiny.[21] However, this raises concerns about whether circumventing regulations and oversight aligns with the principles of simplicity and transparency that Occam's razor emphasizes.

The traditional financial industry is subject to extensive regulation, primarily aimed at safeguarding consumers and maintaining overall economic stability. Regulatory policies are implemented to mitigate potential risks and prevent the adverse consequences that can arise from the collapse of traditional financial systems.[22] When applying the Occam's razor principle to the context of cryptocurrencies in Africa, it becomes pertinent to critically evaluate whether the absence of regulatory oversight offers a simpler and more effective solution for addressing financial exclusion challenges on the continent.

4. Conclusion

In conclusion, when evaluating cryptocurrencies through the lens of Occam's razor, considering the key factors of poverty, education, regulation, and infrastructure, it becomes evident that cryptocurrencies do not conclusively pass the test of simplicity in solving the financial problems of Africans, particularly in terms of mass adoption. While cryptocurrencies offer innovative features and potential solutions to address financial exclusion, their effectiveness is hindered by several challenges. The high poverty rates in Africa, coupled with the volatility and affordability concerns of cryptocurrencies, make widespread adoption difficult for most of the population. Limited access to quality education and digital literacy further complicates the usage of cryptocurrencies, as understanding their intricacies and associated risks requires a certain level of knowledge and skill.

Moreover, the varying regulatory environments across African countries, ranging from formal regulations to restrictions and bans, create uncertainty and hinder the growth of crypto ecosystems.

Additionally, while progress has been made in terms of internet connectivity and mobile phone penetration, challenges in infrastructure, particularly in rural and remote areas, limit the accessibility and usability of cryptocurrencies. These

---

[17] Introduced in 2007, M-Pesa is a mobile-based electronic money transfer service that allows users to store value on their mobile phones. Operating on a platform of digital currency, it offers versatile functionality, including peer-to-peer transfers, payments for goods and services, and cash conversion. *See* Judith Owigar, 'How M-Pesa is Changing Everyday Life in Kenya,' (Urbanet, 2017) < https://www.urbanet.info/mpesa-kenya- how-it-is-changing-everyday-life/ >

[18] Isaac Mbiti and David N.Weil. (2016). Mobile Banking the Impact of M-Pesa in Kenya. *African Successes*, 3, 247. *See also*, Professor Njuguna Ndung'u (2017). *Practitioner's Insight: M-Pesa, a Success Story of Digital Financial Inclusion*. Oxford. < https://www.geg.ox.ac.uk/sites/default/files/M-Pesa%20-%20a%20success%20story%20of%20digital%20financial%20inclusion%20-%20Njuguna%20Ndung%E2%80%99u.pdf >

[19] Thomson Reuters. (2022). Cryptocurrency Regulations by Country. https://www.thomsonreuters.com/en-us/posts/wp-content/uploads/sites/20/2022/04/Cryptos-Report- Compendium-2022.pdf; *See also*: Carey Olsen. (2022). *Blockchain and Cryptocurrency Regulation*, Fourth Edition. < https://www.careyolsen.com/sites/default/files/CO_Blockchain-and-Cryptocurrency- Regulation-2022-4th-Edition_11-21_0.pdf >

[20] *ibid*.

[21] ESRB. (2023). *Crypto-Assets and Decentralized Finance*. <https://www.esrb.europa.eu/pub/pdf/reports/esrb.cryptoassetsanddecentralisedfinance202305~9792140acd.en.pdf >

[22] Samuel G. Hanson., Anil K. Kashyap. and Jeremy C. Stein. (2011). A Macroprudential Approach to Financial Regulation. *Journal of Economic Perspectives*, 25, 3.

challenges collectively highlight the complexity of the crypto landscape in Africa, indicating that cryptocurrencies are not yet able to provide a simple and straightforward solution to the continent's financial problems, especially in terms of mass adoption.

However, it is important to note that the cryptocurrency space is evolving rapidly, and future advancements in technology, infrastructure, education, and regulations may address these challenges over time. Continued efforts to bridge the digital divide, improve financial literacy, establish supportive regulatory frameworks, and enhance infrastructure can pave the way for a more simplified and effective utilization of cryptocurrencies in the future. In conclusion, while cryptocurrencies possess bountiful advantages, they currently fall short of conclusively passing the Occam's razor test of simplicity in solving the financial problems of Africans, particularly for mass adoption. Further developments and comprehensive efforts are necessary to address the underlying challenges and unlock the full potential of cryptocurrencies as a tool for financial inclusion and empowerment in Africa.

Cite this article as: Tami Koroye (2023). Analyzing Africa's Economic Challenges: Assessing the Suitability of Cryptocurrency as a Solution Through Occam's Razor Test. *International Journal of African Studies,* 3(1), 51-56. doi: 10.51483/IJAFRS.3.1.2023.51-56.