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ADOPTING THE METAVERSE TECHNOLOGY IN ENHANCING THE NIGERIAN ECONOMY: LEGAL AND REGULATORY ISSUES

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The rapid growth of the metaverse which is a virtual space that integrates augmented reality, virtual reality, and blockchain technologies brought immense economic opportunities and challenges across the world. While developed nations increasingly position to leverage these opportunities, developing countries like Nigeria may face unique obstacles in utilising the metaverse technology. It is in this regard, that this study examines the legal and regulatory issues as it concerns the economic challenges posed by the metaverse in Nigeria's economy, indicating how regulatory gaps, infrastructure limitations, and inadequate legal frameworks can serve to impact economic participation in the growth of virtual spaces. Concerning this, the study will employ the use of doctrinal methods of study, relying on primary and secondary sources of research materials. The data obtained from these sources were analysed using a descriptive and analytical method of study. The study found that the concept of metaverse has gained global recognition, and it could aid in the development of the Nigerian economy. The study further found that several legal and social issues may arise in utilising the metaverse concept in the Nigerian economy. Given the review of current legislation on virtual assets, decentralized finance, and immersive digital interactions, these challenges include data privacy, digital property rights, taxation, consumer protection, and cybersecurity. Hence, the study, therefore, concludes and recommends that there is a need for Nigeria to implement a decent regulatory approach, considering both rights and interests when operating its economy through metaverse technology and economically maximizing the opportunities the metaverse technology presents to Nigeria.

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1. INTRODUCTION

Nigeria as a nation is facing a major downturn economically[1]. The current economic state of Nigeria has become a thing of national and international concern lately due to a high level of depreciation that is seen economically[2]. Studies and records, both past and present, show that Nigeria is in a challenging economic state[3]. It is recorded in the most recent years that the Nigerian economy is being plagued with a high level of inflation, so much depreciation of currency values, as well as dishearteningly slow economic growth[4]. As of 2022, the inflation in the Nigerian economic space was placed at 18.8%. Rapid as it may be, inflation rose to 24.5% in 2023. In 2024, the inflation, to the shock of many economic analysts, rose to 31.6%, and now it is even more shocking that the economic state continues to take an unprogressive path[5]. All financial projections that suggested the economic growth to 3.2% have remained unrealizable.[6]The Nigerian Naira has depreciated, remaining in the position it has taken in the most recent years as the dollar, Euro, and other currencies, including Cepha, continue to increase in value and exchange rate.

Instrumental to the economic activities and advancement of this age is the introduction of metaverse technology[7]. Metaverse is a technological initiative that culminated in creating a hive-like space that serves as a meeting point of the physical and the virtual, all using technological

[1] LH Lee and others, 'All One Needs to Know about Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda' (2021) 6(4) Virtual Ecosystem 45-58.
[2] PA Aidonojie and others, 'The Role of Digital and Scientific Technology in Complimenting Global Legal Framework Towards Clean Energy Transition' (2024) 15(3) The Journal of Sustainable Development, Law and Policy 314-343.
[3] PA Aidonojie and others, 'Menace of Internet Fraud on Nigeria Youth: Lesson from the Indonesia Experience' (2024) 3(2) Journal Mengkaji Indonesia 1-16
[4] C Huckfeldt, 'Understanding the Scarring Effect of Recessions' (2022) 112(4) American Economic Review 1273-1310
[5] PA Aidonojie and others, 'International Laws Regulating Human Rights in Business Operations in Uganda: Issues and Challenges' (2024) 23(2) Fenomena 131-144
[6] J Knox, 'The Metaverse, or the Serious Business of Tech Frontiers' (2022) 4 Postdigital Science and Education 207
[7] Ibid

devices such as computer-powered virtual reality, mixed reality, and augmented reality[8]. It has come to make the world a global village, which makes the interaction between the physical world and the virtual world a possibility[9]. Metaverse, described as the next iteration of the internet, has a great influence globally, and, in the wake of events, its influence is undoubtedly growing fast. Its influences span through to different areas of life, which include but are not limited to the following, sports, games, finances, businesses, education, science, and Law. Metaverse comes to create for the world a hitherto impossible environment; a blend of life that affords the experiences of both the physical and virtual world[10].

Metaverse will, among other things, aid the economic of growth among developing nations[11]. The implication therefore is that the present economic state of Nigeria can be helped by the Metaverse[12]. Metaverse has thus far improved the economy of so many developed countries such as the United States of America, Russia, Japan, Saudi Arabia, etc by creating a thriving environment for the growth of their respective economy[13]. This includes the introduction of virtual platforms and businesses such as games, sports, contracts, estate investments, cryptocurrencies, etc.[14]. Companies, organisations, the government, and individuals alike are resorting to this in developed nations the effect is felt in their economy[15]. In this regard, it suffices to state that it is recommended Nigeria to grow

[8] PA Aidonojie and others, 'The Prospect, Legal, and Medical Issues in Integrating AI in Medical Practice in Uganda' (2024) 6(2) Kampala International University Law Journal 189
[9] PA Aidonojie and others, 'Legal Issues Concerning of Data Security and Privacy in Automated Income Tax Systems in Nigeria' (2024) 8(1) Hang Tuah Law Journal 14, doi: 10.30649/htlj.v8i1.223
[10] Ibid
[11] PA Aidonojie and others, 'Potential and Legal Challenges of Metaverse for Environmental Awareness and Sustainable Practice in Nigeria: A Comparative Study with Singapore' (2024) 5(1) Administrative and Environmental Law Review 37-64
[12] O Gurov and VE Lepsky, 'Panel Discussion 'The Processes of Reality Creation: Metaverses of Visionaries and Projects of Its Embodiment' (2022) 17(2) Artificial Societies 31-53
[13] Zh Lv and others, 'BlockNet: Beyond reliable spatial Digital Twins to Parallel Metaverse' (2022) 3(5) Patterns 17
[14] TO Oloko, 'The Implications of Emerging Technologies on Intellectual Property Rights in Nigeria: Blockchain and Biometrics in Perspective' (2024) 6(2) Kampala International University Law Journal 1
[15] Ibid

her economy by investing and adhering to how Metaverse technology works to benefit maximally from it. Its importance for economic growth therefore is diverse and seizing the opportunity will give so much to talk about our economy in the near future[16].

However, Metaverse technology is not without challenges, especially in countries like Nigeria[17]. It should be noted that Nigerian society like every other civilized nation is governed by law and what the law does not provide for may not be suitable in Nigeria. It is in this light, that Metaverse technology is likely to face some legal issues as it is obvious that Nigeria is yet to come up with a sound and comprehensive legal framework for this purpose[18]. Hence, the aim and objective of this study is to examine the legal and regulatory issues of economic activities in the metaverse technology using Nigeria as a Case Study. Furthermore, to also examine how the metaverse concept aligns with SDGs as a panacea in enhancing the Nigeria economy

2. LITERATURE REVIEW

Nigeria's economy remains very complex. It has dynamic structural challenges that make it difficult for the economy to grow and develop. Nigeria, which is the largest economy in Africa in terms of GDP, still grapples with the problems of inflation, unemployment, and over-dependence on oil revenues[19]. Furthermore, the high naira depreciation, growing public debts, and infrastructural deficits stand as barriers to diversifying the economy[20]. Reforms in the sectors of agriculture, manufacturing, and technology have shown promise but at a very slow

[16] Ibid
[17] Ibid
[18] IA Aigbe and NE Osarumwense, 'A Review of Company's Constitution, Content and Its Alterations under CAMA 2020' (2024) 6(2) Kampala International University Law Journal 84.
[19] J Zou and H Xiaowei, 'Risks of Social Interaction Order in Metaverse and Legal Responses' (2024) 72(8) RISTI 721-739
[20] OG Gucluturk, 'The Role of the Law in Metaverse Regulation' in FS Esen, H Tinmaz and M Singh (eds), *Metaverse. Studies in Big Data* (Springer, 2023) 56, doi: 10.1007/978-981-99-4641-9_18

pace, leaving a substantial population wallowing in poverty[21]. The economic backdrop in Nigeria is, hence, worth charting the course into such innovative possibilities as the metaverse, which could open up new economic opportunities for people and businesses in Nigeria. The term "metaverse" was introduced to the world of literature by Neal Stephenson in 1992 through a science fiction novel, Snow Crash, which described a 3D virtual reality that can be accessed from afar through advanced technology[22]. The main character, Hiro, trades between these devices and uses personal terminals built from several miniature holographic projectors to project the imagery of virtual reality[23]. This fictional reality transformed a real-world site of pursuit by technological trends that began to blur the boundaries between physical and digital realms. Now, neither confined to imagination nor fiction, the metaverse is progressively emerging as a digital ecosystem that promises to transform the way people relate in society, do business, and socialize[24].

The metaverse is a virtual world where users will primarily lead their lives digitally; doing things and transactions, whether or not they are directly related to the physical world[25]. This multitude of virtual environments is linked beyond ordinary online activities into newer immersive experiences fueled by such technologies as virtual reality (VR), augmented reality (AR), artificial intelligence (AI), and improved blockchain technology. As Nemitz Paul (2018) indicates, the metaverse replaces isolated digital platforms by providing an integrated ecosystem within which users can experience and participate in varied virtual

[21] PA Aidonojie and others, 'Potential and Legal Challenges of Metaverse for Environmental Awareness and Sustainable Practice in Nigeria: A Comparative Study with Singapore' (2024) 5(1) Administrative and Environmental Law Review 37, doi: 10.25041/aelr.v5i1.3230

[22] PA Aidonojie, 'Challenges concerning the Legal Framework of an Automated Personal Income Tax in Edo State, Nigeria' (2024) 12(1) Jurnal Hukum Replik 83, dx.doi.org/10.31000/jhr.v12i1.7717

[23] PA Aidonojie and others, 'The Legality, Prospect, and Challenges of adopting Automated Personal Income Tax by States in Nigeria: A Facile Study of Edo State' (2022) 14(2) Cogito Multidisciplinary Journal 149

[24] Wen-xi Wang and others, 'A Survey of Metaverse Technology' (2022) 44(4) Chinese Journal of Engineering 744, doi: 10.13374/j.issn2095-9389.2022.01.15.003

[25] PA Aidonojie and others, 'Effectiveness of the Administration of Justice in Nigeria under the Development of Digital Technologies' (2023) 4(1) Journal of Digital Technologies and Law 1105, doi: 10.21202/jdtl.2023.48

activities[26]. The metaverse has transformed the economic activities of individuals in a new dimension enabling them to conduct trade, attend virtual events, explore digital museums, and take an active part in virtual entertainment[27]. They represent activities otherwise conducted in the real world but, in this instance, reside only and totally within a virtual environment. For example: in a virtual marketplace, users can buy or sell their virtual goods. The users are even allowed to enjoy concerts in a virtual amphitheater or explore an artistic exhibit in a non-existing but highly imaginative gallery[28]. Such a duality of an existence where one can live within and without getting time in both real and digital worlds shows the metamorphosis of a parallel economy with enormous space for growth and innovation.

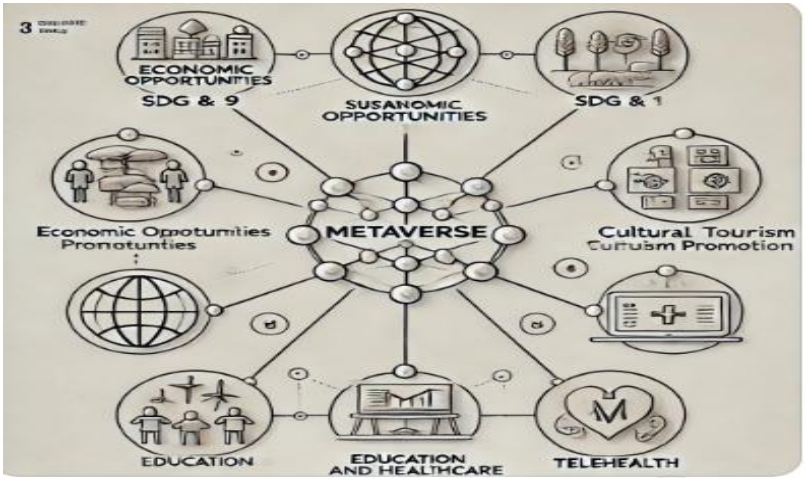

Figure 1: Diagrammatic representation of the opportunities offered by metaverse technology

[26] Ibid

[27] PA Aidonojie and others, 'Illegality of Income Tax Evasion in Edo State: Adopting an Automated Income Tax System as a Panacea' (2023) 16(1) Jurnal Legalitas 56

[28] IO Haruna and others, 'Prospects and Issues Concerning the Regulatory Regime of E-Payment System in Nigeria' (2024) 2(2) Journal of Digital Technologies and Law 372, doi: 10.21202/jdtl.2024.19

The diagram was designed by the authors, and it depicts a conceptual framework for the role of the metaverse in generating various socio-economic and developmental opportunities. Placed at the center of the diagram is the "Metaverse," representing a digital ecosystem that connects various domains such as economic opportunities, education, healthcare, cultural tourism, and telehealth. The interconnected nodes elaborate on how metaverse integration supports the Sustainable Development Goals (SDGs) in particular, SDG 1 (No Poverty) and SDG 9 (Industry, Innovation, and Infrastructure)[29]. Thus, the metaverse enables digital economic activity, leading to new job opportunities and business models for financial inclusion and innovation-driven economic growth. Besides telehealth and education, the metaverse is also important in promoting access to vital services for underserved areas where conventional infrastructure barely exists. Cultural tourism is promoted within the metaverse itself, thus also acting toward the preservation and demonstration of cultural heritage via immersive digital experiences[30]. This image succinctly encapsulates a view on how the metaverse can also become a transformative tool in curbing socio-economic issues, generating inclusivity, and propagating sustainable divestments across all other sectors.

The economic prowess of the metaverse has become a center of attraction for many multinational corporations who intend to venture into the new business frontier. For example, Nike has purchased the virtual shoe company RTFKT Studios so that it could create and sell virtual footwear within the metaverse, and Adidas, darling of the Non-Fungible Tokens (NFTs) project, has teamed up to add dimension to its already prolific digital space[31]. Emerging start-ups like Flox and Virtway Events are exploring the metaverse through the provision of platforms for

[29] OO Obisesan and others, 'The Incorporation of Artificial Intelligence in Legal Practice in Uganda: Prospects and Socio-Economic Issues' (2024) 6(2) Kampala International University Law Journal 163

[30] LO Oyeniran, 'An Appraisal of Contemporary Issues in Trade Disputes Resolution in Nigeria' (2024) 6(1) Kampala International University Law Journal 166

[31] PA Aidonojie and others, 'The Legal Issues Concerning the Operation of Fin-Tech in Nigeria' (2023) 30(2) Jurnal Media Hukum 78

immersive virtual conferences and events[32]. In this regard, given the potential of the metaverse technology it suffices to state that the metaverse technology serve as a Lilly way for Nigeria to diversify and vary its economy and improve on the income stream through digital technology and innovative sectors[33]. Hence, it is required that Nigeria invests in metaverse digital technology that could aid in positioning Nigeria as a country that is a hub of innovation and economically reliant[34]. Furthermore, investing in the metaverse technology also has the potential of more job creation through increase of local entrepreneurs in exploring new global trends, and attracting foreign investment[35].

However, it must be noted that this study focuses on adopting the concept of metaverse as a sustainable development goal plan for enhancing the Nigerian economy. It suffices to state that several authors have also made a meaningful contribution to this area of study as it concerns the development and relevance of the metaverse technology. Hence, it will be relevant to consider some of these scholarly views and the extent their study will be relevant to this study[36].

In the study of Vig et al.[37], they examine the ethical, legal, and social challenges posed by the Metaverse towards its transformation stage, redefining scope across industries and other sectors. Some of the legal challenges identified include issues of data protection, ownership rights,

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[32] PA Aidonojie and others, 'The challenges and relevance of technology in the administration of justice and human security in Nigeria: Amidst the Covid-19 pandemic' (2021) 13(3) Cogito Multidisciplinary Journal 149-170

[33]Z Zheng and others, 'An Overview on Smart Contracts: Challenges, Advances, and Platforms' (2020) 105 Future Generation Computer Systems 475.

[34] PA Aidonojie and others, 'An Empirical Study of the Relevance and Legal Challenges of an E-contract of Agreement in Nigeria' (2020) 12(3) Cogito Multidisciplinary Research Journal 181-199

[35] PA Aidonojie and others, 'The Prospect, challenges, and Legal Issues of Digital Banking in Nigeria' (2022) 14(3) Cogito Multidisciplinary Journal 186 – 209.

[36] YE Achan and NU Saqib, 'Privacy concerns can explain unwillingness to download and use contact tracing apps when COVID-19 concerns are high' (2021) 119 Computers in Human Behavior 106718, doi: 10.1016/j.chb.2021.106718

[37] S Vig, S Dwivedi and D Reenu, 'Navigating the Ethical, Social and Legal Implications of Metaverse' in *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kamand, India* 1

cybersecurity, and consumer protection. The research demonstrates the urgent requirement of establishing updated legal frameworks to attend to these challenges that may affect the reliance on the metaverse concept. The researchers also argue that there needs to be a comprehensive study of pre-existing legal schemes for integrating virtual reality applications throughout sectors while minimizing their risks. This analysis emphasizes the duality of the Metaverse; it is a source of economic development stride and also poses several regulatory challenges. Additionally, Zatarain et al.[38] analyze the Metaverse as a virtual extension of smart cities, probing its abilities to improve urban efficiency and sustainability through new technologies such as AI and IoT. Nevertheless, the Metaverse still raises ethical, social, and cultural issues such as the alteration in human interactions and the quality of life in urban areas. The highlight of their research leads to the consideration of urban policymakers creating room for opportunity and implication by including such technology in the urban agenda. It proposes the judicious use of the Metaverse's ability vis-a-vis its disruptive nature concerning societal norms and urban governance.

While looking into the legal aspect, studies such as Kostenko et al.[39] and Yılmaz[40] call for innovative regulations that will be specifically related to all the current issues of the Metaverse. It refers to the proposal for an electronic jurisdiction model, as well as the "Metaverse Grand Charter of Laws," to justify the gaps that digital law has in regulating virtual environments. This is similarly reflected in the argument of Yılmaz, who focuses on how the characteristics of the Metaverse complicate the application of national legal systems and accentuate significant matters like international cooperation and accessing international regulatory bodies. These studies, therefore, present urgent calls for adaptive legal and

[38] JMN Zatarain and others, 'The Metaverse and the Law: Aspects of A New Technological Regulation' (2022) 61 Revista Direito, Estado E Sociedade 5, doi: 10.17808/des.61.1922

[39] O Kostenko and others, 'Genesis of Legal Regulation Web and the Model of the Electronic Jurisdiction of the Metaverse' (2022) 6(2) Bratislava Law Review 21, doi: 10.46282/blr.2022.6.2.316

[40] HKE Yılmaz, 'Legal Issues of the Metaverse: A Public International Law Perspective' (2022) 27 Law and Justice Review 29-58.

regulatory mechanisms to respond to a very complex and dynamic future with an emphasis on global collaboration and harmonization.

Concerning the above, it suffices to state that the above study has examined and discussed the concept of metaverse digital technology as it concerns its development, digitalize science, and the legal framework. Furthermore, some of the studies also emphasize the relevance of the concept of metaverse and its disadvantages. Hence, it suffices to state that while these studies tend to capture important and relevant details on the concept of the metaverse concept; however, none of these studies examine how the concept of metaverse could aid in enhancing the Nigerian economy given the sustainable development goals. Hence, the need to examine the metaverse technology in enhancing the Nigerian economy, furthermore to also address the legal and regulatory issues of the metaverse technology.

3. THE METAVERSE: A SUSTAINABLE DEVELOPMENT GOAL PLAN FOR ENHANCING THE NIGERIAN ECONOMY

The metaverse concept provides Nigeria with an economic boost and offers a pathway toward the Sustainable Development Goals in the metaverse. Indeed, the digital space of the metaverse aligns with the SDG 9 goal of building resilient infrastructure, promoting inclusive and sustainable industry, and encouraging innovation[41]. This will be made possible with the building of virtual worlds and the possibilities for digital economies and commerce in the creating a new course for economic diversification, unearthing new opportunities for business and entrepreneurship in this increasingly digitizing world much so forced that now needed by Nigeria in the wake of its need to change from an oil-dependent economy to one well uplifted in performance and diversified[42]. With strong virtual economies, the metaverse also enables users to buy,

[41] L Un-Kon, 'Tourism Using Virtual Reality: Media Richness and Information System Successes' (2022) 14(7) Sustainability 39, doi: 10.3390/su14073975

[42] UE Oloworaran, 'An Evaluation of the Legal Framework for Resolving Disputes in the Digital Ecosystem in Nigeria' (2023) 5(2) Kampala International University Law Journal 50

sell, and trade in digital assets that boost local and international trade. This is by SDG 8, which emphasizes promoting sustained, inclusive, and sustainable economic growth, employment, and decent work for all. Nigerian virtual markets can reach out to international audiences, while virtual meetings and shared workspaces bring down operating costs for companies and better efficiency[43]. These developments could, in turn, empower Nigeria's small and medium enterprises (SMEs) to operate on a larger scale and increase their market access globally.

Figure 2: Showing the synergy and link of the Metaverse digital technology with SDG

The above diagram was designed by the authors and it depicts the fusion of the metaverse into various segments of socio-economic development underpinning the main connectivity with the United Nations' Sustainable Development Goals (SDGs). The term "Metaverse" is the center of the image, demonstrating the digital ecosystem flourishing with innovation as economic opportunities, developing cultural tourism,

[43] PA Aidonojie and others, 'Exploring Legal and Cyber-tech Solutions in Curtailing Issues and Challenges on Femicide' (2024) XVI(2) Cogito Multidisciplinary Research Journal 72

virtual markets, health care, and education. The heart of such combinations through bright colors and connecting nodes indicates that the metaverse is dynamic and multidisciplinary, reaffirming in providing potential to facilitate global sustainability efforts. Setting aside the previous, the inclusion of SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 12 (Responsible Consumption and Production) indicates that metaverse infrastructure could help achieve inclusive growth with financial inclusion and knowledge dissemination. Digital health services and virtual marketplaces further emphasize how they transform accessibility to healthcare and economic participation, especially in remote and underserved areas. This diagram presentation highlights that the metaverse is a robust engine of innovation across the digital divide and contributes to a more interconnected, sustainable global society.

Furthermore, the metaverse digital technology also presents a remarkable adoption of the engagement site, through digital content-making, in the promotion of Nigerian culture and heritage, thereby contributing to the achievement of the 11th SDG that deals with making cities inclusive, safe, resilient, and sustainable[44]. Nigerian artists, musicians, and filmmakers can now easily showcase their talents to all corners of the world through virtual concerts, galleries, and immersive storytelling. Added to this is virtual tourism which enables one to experience much of Nigeria's famous landmarks and rich culture holistically, promising to attract global visitors and encourage visitors to have a feel of and value the country's rich history and traditions. Also, it suffices to state that the metaverse being an answer to SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being), has virtual classrooms and skills improvement programs supported through the most expensive broadband connectivity to many remote areas and underserved communities[45]. It is also great in terms of learning opportunities created and bringing such opportunities closer to marginalized population groups.

[44] PA Aidonojie and others, 'Legal and Socio-economic Issues in Adopting Robotic Lawyers in the Nigerian Legal System' (2024) 4(1) Journal of Human Rights, Culture and Legal System 56, doi: 10.53955/jhcls.v4i1.115
[45] Ibid

In health, it closes the gap between people at the end of remote locations from accessing good healthcare services through virtual consults and mental health support. Such metaverse-based solutions allow Nigeria to grapple with some of its most pressing social challenges while accelerating its advancement toward sustainable development.

4. REGULATORY FRAMEWORK CONCERNING THE OPERATION OF THE METAVERSE TECHNOLOGY

In Nigeria, there is an existing legal framework for the regulation of digital technology. Although, this law aimed at promoting innovation and safeguarding the nation from potential technological threats. However, with the Metaverse emerging as a significant innovation, several pertinent challenges have arisen. Hence, the evaluation of the adequacy of laws in addressing the regulation of Metaverse operations in Nigeria.

The first law is the Constitution the 1999 constitution of the Federal Republic of Nigeria (As Amended) which Hans Kelson will call the ground norm[46]. A quick yet proper glance at Nigeria's constitution reveals that there are no specific provisions in the constitution that address Metaverse operations in Nigeria. However, a few sections could be relevant to the topic of discourse. Section 4 of the Constitution being creating and empowering section constitution grants to the legislature the power to enact laws to ensure peace and good governance in the country. Also, telecommunications provided for in an exclusive legislative list item 46 of the Second Schedule Part 1 of the Constitution of the Federal Republic of Nigeria 1999(As Amended). It is pertinent to state that the constitution cannot be said to have provided for Metaverse technology *stricta senso*.

Another important law to consider as far as this topic is concerned is the Companies and Allied Matters Act, 2020 (As Amended). Businesses intending to participate in the Nigerian economy and operate within the

[46] Hans Kelsen, *Pure Theory of Law* (Max Knight tr, University of California Press 1967)

Metaverse must adhere to the provisions of the Companies and Allied Matter Act (CAMA) 2020, very important. The Companies and Allied Matter Act Under Part B Section 21 provides for various types of business organizations including Companies Limited by Share, Companies Limited by Guarantee, and Unlimited Companies. The Act specifically addresses the incorporation and regulation of companies in Nigeria. Additionally, sections 21, 22, 26, and 27 of the Companies and Allied Matter Act stipulate the procedure for incorporating a company in Nigeria. This notwithstanding, despite the copious provisions detailing the guidelines for incorporating and regulating companies, the Companies and Allied Matters Act, 2020 does not specifically address the unique challenges presented by businesses operating within the Metaverse. Some of these challenges include;

i. The Metaverse operates globally, and businesses within it can engage in cross-border transactions seamlessly. This raises questions about international tax regulations, trade agreements, and jurisdictional disputes, which the Companies and Allied Matters Act does not delve into in detail.
ii. The Metaverse often involves the use of cryptocurrencies and digital payment systems, raising issues related to financial regulations not being fully addressed by the Companies and Allied Matters Act, 2020.

Suffice to state that Section 240(2) of the Companies and Allied Matters Act, 2020 (As Amended), which provides for electronic meetings only, limits it to a private company. Section 240(1) of the Act directs that all company meetings should be held in Nigeria. However, it is interesting to know that Section 240(2) of the Companies and Allied Matters has been amended by the Business Facilitation (Miscellaneous Provisions) Act, 2022. The Business Facilitation Act amended Section 240(2) of the Companies and Allied Matters Act by deleting the word private thereby rendering the provision of Section 240(2) applicable to all companies as against just private companies. The implication of this is that all companies, whether private or public, can now hold their meetings electronically or virtually, provided that they hold the meetings in line with the provisions of their respective company articles.

Also, it should be appreciated that by Section 101, the Companies and Allied Matters Act, 2020 introduced what is known as electronic signature to adapt to the new trend of things. Section 93(2) and (3) of the Evidence Act, 2011(Amended) and Section 17 of Cybercrimes (Prohibition and Prevention) Act, 2015 are both supportive of this because both sections of the Acts recognized electronic signature and to that extent, documents that carry electronic signatures are admissible in court.

Cryptocurrency regulation in the Metaverse and Nigeria operates by legal and regulatory frameworks, led by the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC). The monetary and price stability functions of the CBN, as enshrined in Section 2(d) of the CBN Act of 2007, include regulation of financial transactions relating to digital currencies. Likewise, Section 51 of the Banks and Other Financial Institutions Act (BOFIA) 2020 mandates the CBN to regulate and supervise financial institutions, thereby strengthening its position in the directive issued in 2021 whereby CBN prohibited banks and other financial institutions from facilitating transactions in cryptocurrencies, given the threats of money laundering, terrorist financing, and financial instability. CBN issued this directive through Circular BSD/DIR/PUB/014/001. In contradistinction, Nigeria established the E-Naira under the CBDC Regulatory Framework 2022, which provides a state-controlled alternative to decentralized cryptocurrencies. These instances indicate a careful experimentation of Nigeria in cryptocurrency integration into its financial system, especially in the Metaverse with its focus on decentralized transactions.

In contrast, SEC regulations on Digital Assets and Crypto-based Offerings 2022 predictably see cryptocurrency regulation in Nigeria's Metaverse economy somewhat structured. The entire regulation is based on Investment and Securities Act (ISA) 2007, Section 13, empowering the SEC over investments and securities, which also define digital assets as securities. The SEC regulations additionally provide that digital asset offerings and exchanges are to be registered and be subject to AML and KYC requirements to ensure that crypto transactions taking place within the Metaverse observe laws for the protection of investors. In addition to that, SEC guidelines further classify them into Virtual Asset Service Providers (VASPs), digital asset custodians, and token issuers to ensure oversight to avoid cases of fraud and illicit financial activities. However,

the overlap between the CBN's restrictions and the SEC's regulations create confusion and uncertainty for enterprises and people alike within Nigeria's Metaverse economy, and there is an urgent need for more coherent legislative collaboration between the two so that innovation can thrive and security be ensured.

Admittedly this is a great improvement on the former position of the law and will no doubt go a long way in aiding the practice of Metaverse technology in Nigeria. This notwithstanding, it is sad to state that the position remains that the Companies and Allied Matters Act is not *strictu senso* a legal framework for the Metaverse technology. Its provisions are not sufficient to cover the entire operation of metaverse technology in the Nigerian economy. Also, the National Information Technology Development Agency Act provides for regulating Information Technology practices in Nigeria. By Section 6 of the NITDA Act enacted in 2007, the agency is heavily empowered to develop guidelines for electronic governance and monitor electronic data interchange across various sectors, which did not contemplate and extend to activities on the emerging Metaverse. More so, a thorough, critical, and analytical interpretation of Section 6 of the NITDA Act suggests that data protection within Metaverse operations could fall under the purview of this Act. It must be noted that the Cybercrime Act enacted in 2015 established a comprehensive legal and regulatory framework aimed at prohibiting, preventing, detecting, prosecuting, and penalizing cybercrimes. Cybercrime Act of Nigeria is primarily designed to address cybercrimes and related issues, rather than serving as the primary legislative framework for regulating and preventing personal data processing and circumvention. Cybercrimes Act lacks comprehensive provisions for regulating digital transactions or digital business operations in the metaverse. It is worth mentioning however that Section 17 of the Cybercrimes (Prohibition and Prevention) Act recognizes electronic signatures on legally admissible documents. No doubt this will be of help to the practice of metaverse technology in Nigeria but it is deficient in all wise.

Like every other law discussed above, the Evidence Act is not in any way a legal framework for Metaverse technology strictly senso. However, Section 93(2) and (3) and also Section 84 of the Evidence Act, 2011 which recognizes electronic signature and electronic evidence respectively as well as their admissibility in the court of law will be of support to the practice

of metaverse technology in Nigeria. This is because Metaverse technology is wholly a virtual initiative that may necessitate the signing of contracts and documents electronically as well as the transmission of computer-generated documents which could be used as evidence in a court of law or in alternative dispute resolutions. This notwithstanding, it is pertinent to state that the search for an adequate and comprehensive legal framework for Metaverse technology does not end here as the search must continue because this is full of deficiencies that render it handicapped in regulating Metaverse practice in Nigeria. Furthermore, other relevant laws that could apply in regulating economic activities in the metaverse concept in Nigeria include; The Federal Competition and Consumer Protection Act (FCCPA) and the Standards Organization of Nigeria (SON) Act 2015 are two pieces of Nigerian legislation that greatly shape the metaverse's operation within the economy of Nigeria. FCCPA ensures fair competition and denies monopolistic practices while protecting consumers involved in virtual transactions, acquisition of digital assets, and services rendered in the metaverse. It creates a regulatory framework for consumer protection against fraud and misleading advertisements as well as with regard to matters related to data privacy. Again, the SON Act 2015 stipulates the quality standards that digital products, hardware, and technologies will be subjected to in relation to safety and operational requirements for use within the infrastructure of the metaverse. Both statutes, therefore, going hand in hand, enable a safe, competitive, and consumer-friendly environment for Nigeria's emerging metaverse economy..

5. LEGISLATIVE GAPS AND CHALLENGES OF ECONOMIC ACTIVITIES IN THE METAVERSE TECHNOLOGY

Given that the metaverse technology is a trending digital technology that was not envisaged by the Nigerian legal framework, several individuals and business operators within the Nigerian economy tend to encounter

several legal and socio-economic challenges[47], which are identified and hereunder explained.

The first legal challenge of Metaverse technology in Nigeria is the inadequate Legal Framework. Several research works and studies including this have revealed that Nigeria does not have adequate legal frameworks for the practice of Metaverse technology within its space[48]. This will be a strong bar to the operation of the Metaverse technology in Nigeria not only in economic activities but in every area in which it ought to be applied[49]. Another challenge is data privacy and protection[50]. This is also a very significant legal and socio-economic challenge that will hinder the operations of Metaverse technology in Nigeria. It is pertinent to state that this flows from the first challenge which is the lack of adequate legal frameworks that permit, regulate, and guide the practice of metaverse technology in Nigeria. The issue of the right to privacy is a critical issue within the Nigerian framework as enshrined in Chapter IV of the 1999 Constitution of the Federal Republic of Nigeria as a fundamental right of every Nigerian citizen. From experience, if adequate legal frameworks are not established to regulate metaverse technology, it could infringe on fundamental rights of Nigerian and thereby result in exploitation. as well as their government[51]. By its very nature and operation, Metaverse requires and collects several personal details such as fingerprint, voice records, face recognition etc.[52]. In his opinion, David Reid of Liverpool said that the amount of data that Metaverse technology will collect is greater than that collected by the internet[53].

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[47] PA Aidonojie and others, 'The Prospect and Legal Issues of Income Tax in the Nigerian Metaverse' (2024) 6(1) Trunojoyo Law Review (TLR) 17, doi: 10.21107/tlr.v6i1.23874

[48] BC Cheong, 'Avatars in the Metaverse: potential legal issues and remedies' (2022) 3 Int. Cybersecur. Law Rev. 467–494

[49] K Bavana, 'Privacy in the Metaverse' (2022) 2(3) Jus Corpus Law J. 1–11

[50]Ibid

[51] KE Ukhurebor and PA Aidonojie, 'The Influence of Climate Change on Food Innovation Technology: Review on Topical. Developments and Legal Framework' (2021) 10(1) Agriculture & Food Security 1-14, doi: 10.1186/s40066-021-00327-4

[52] Ibid

[53] D Reid, 'Who is Going to Police the 'Metaverse'?' (www.hope.ac.uk, 11 April 2021) accessed 19 January 2022

It is in light of this that concern arises because chances are very high that criminals can access this information on Metaverse platforms to the detriment of users. Abdulsattar Jaber, a renowned professor at Iraq's Middle Technical University rightly predicted at the early stage of Metaverse, that Metaverse technology will pose a lot of challenges in the area of data privacy and security[54]. Additionally, there are internet fraud and cybersecurity challenges that come with the practice and operation of Metaverse technology. The issue of Internet Fraud and cybersecurity has over the years become an issue of both national and international concern. As technology advances so do criminals become sophisticated to take their activities online and commit all manner of criminalities. It is disheartening to know that Metaverse technology is not in any way immune from this. Admittedly the proponent of Metaverse technology might have contemplated it but Metaverse is at high risk of being hijacked by the perpetrators of Internet fraud. This, therefore, is a challenge that is of both legal and socio-economic consideration within the Nigerian ecosystem as far as the practice of Metaverse technology is concerned.

Also, a long-standing question asked by rights and commentators which has culminated into a major challenge that Metaverse technology will interface is securing the rights of consumers in the digital metaverse[55]. If the practice of Metaverse technology is going appreciatively last then the rights of consumers or users must be contemplated and protected[56]. But the question that is yet to receive adequate answer globally is how is this right going to be protected in the face of the heavy requirement of personal data that Metaverse technology is characterized with? This is a challenge that the proponents of Metaverse might have not contemplated but if the Metaverse technology will thrive in Nigeria within the economic ecosystem among other areas then adequate provisions must be made toward this, especially in light of the fact in the global market consumers are treated as kings. Furthermore, there will be a challenge in the area of

[54] AJ Tanya, 'Security Risks of the Metaverse World' (2022) 16(13) International Journal of Interactive Mobile Technologies, doi: 10.3991/ijim.v16i13.33187
[55] M Zhou and others, 'Ownership in the Virtual World and the Implications for Long-Term User Innovation Success' (2018) 78 Technovation 56–65.
[56] Ibid

taxing virtual assets. Countries like Nigeria are characterized by taxes on any and everything, how will the Nigerian government tax the virtual products that are marketed at the metaverse technology? This is deepened by the ancient understanding that law is Territorial in application. To this end questions such as whether Metaverse is a virtual space a territory where the Nigerian tax law will be applicable. This is a difficult question to answer as answering this law requires the visitation of the extant law and possibly amending it. That notwithstanding, how will the tax be collected? This is both a legal and socio-economical issue and a challenge that the Metaverse technology comes with.

In Nigeria's case, the issue of inconsistent power supply that the country is known for poses another challenge to the adoption and operation of Metaverse technology. This is given the fact that Metaverse is virtual and it requires that its users are always readily available online which is not possible without a consistent power supply. This a grassroots challenge that is however easy to solve if the Nigerian government wants to incorporate this novel system to advance itself. More so, several Nigerians will face the challenge of internet access in rural and remote areas. There are places in Nigeria that are void of network and these places are in their numbers. This will hinder many Nigerians from participating in this global platform. Lastly, the issue of the high level of digital literacy cannot be left out of this discussion. This is regarding the fact that operating Metaverse technology requires digital skills and knowledge. An average Nigerian is struggling with basic digital literacy so it will be a great challenge for such people to key into Metaverse technology which requires good technical and digital skills and knowledge. This challenge cannot be overemphasized as the need to glare all over.

6. RECOMMENDATION

In this regard, to solve specific legal, regulatory, and socio-economic challenges of the Metaverse adoption in Nigeria, the following recommendations are proposed:

The emergence of the metaverse, a decentralized digital immersive space, presents new opportunities and regulatory challenges. For Nigeria to harness the economic potential of the metaverse fully, legislative intervention would have to come in the form of new laws or amendments to existing ones. Current laws on digital trade, intellectual property, telecommunications, and virtual interactions were not enacted with the metaverse in mind. For example, considerations would have to be made for virtual property rights, transactions via avatars, enforcement of some contracts or smart contracts, and cross-border jurisdictional disputes. Such legislative interventions would include an amendment to the Cybercrimes (Prohibition, Prevention, etc.) Act, the Nigerian Communications Act, and the National Information Technology Development Agency (NITDA) Act to incorporate provisions relating to the metaverse. These would regulate ownership, liability, taxation, and dispute resolution mechanisms in virtual space, which would allow Nigerian startups and businesses to innovate within a legally secure environment.

Privacy and cybersecurity remain a crucial matter in the metaverse adoption. Massive data generation and subsequent real-time interactions make the users prone to identity theft, data breaches, surveillance, and virtual impersonation. Hence, there is a need for Nigeria to strengthen its legal and institutional framework on data protection and cybersecurity. This must entail a revision and enforcement of the Nigerian Data Protection Act 2023, so that more robust safeguards may be provided to the processing of personal data within immersive virtual environments. In addition, there must be restructuring of a National Cybersecurity Policy and Strategy to address specific threats emanating from deepfake fraud in the Metaverse, phishing within virtual economies, and unauthorized biometric data collection. From there, adequate investments should be channelled into cyber infrastructure: AI-powered threat detection and blockchain-based identity systems will well serve the purpose. Collaboration between the Nigerian Cyber Security Agency, private tech companies, and law enforcement shall greatly strengthen the nation's readiness to pre-empt, track, and respond to cyber threats coming from north of the metaverse.

Furthermore, with economic transactions and social interactions entering the metaverse, consumer protection must be elevated to the standards of digital reality. It is incumbent on the Federal Competition and Consumer Protection Commission (FCCPC) to put in place an exclusive complaints portal for issues concerning the metaverse. This portal would permit users to lodge complaints relating to fraud, product misrepresentation, deceptive online advertising, and breach of terms in virtual contracts. New laws and ethical standards for fair trading, digital advertising, and terms of use agreements must be drafted by the regulatory body for the metaverse. So that virtual enterprises are held accountable, an enforcement voice will be used to register and certify them under a central digital market mechanism controlled by the FCCPC. Other remedial mechanisms for user grievances would be set in place to engender user confidence in an environment conducive to safe commercial activity in the virtual world, including arbitration rules and digital ombudsman services. Also, it suffices to state that power instability forms the major infrastructural limitation for full scale metaverse development in Nigeria. Metaverse requires high-speed Internet, data centers, and long hours of usage of devices that need stable power. Thus, the Nigerian government and investors must consider renewable power sources like solar, wind, and biomass for powering the digital hubs and rural tech centres. Developing Nigeria's renewable energy base will solve the never-ending power outage problem while simultaneously supporting sustainability and climate goals. PPPs can be engaged in putting in place off-grid solar systems, especially in neglected areas, so that access to the metaverse economy can be equitably shared. The reduction of fossil fuel based energy usage and the promotion of green technology will enable Nigeria to build a digital ecosystem resilient to the troubles of today and future-ready.

It is apt to state that if the metaverse must significantly impact the Nigerian economy, it has to be accessible to the general population. This would call for an extensive digital literacy program spearheaded for students, workers, entrepreneurs, and even rural dwellers. Such initiatives can be offered within schools, community centers, universities, or even through mobile learning platforms. The skillsets to be taught include, but are not limited to, some core skills like virtual cooperation, digital asset creation, some basics regarding blockchain, and even online security. Government

agencies such as NITDA, alongside International Technology Corporation, will pave the way for free certification and experiential courses. With the provision of inclusive access to these programs for women, young people, and persons with disabilities, opportunities in the metaverse economy will be democratized, thereby narrowing the risk of a digital divide. A digitally literate population can more easily

7. CONCLUSION

Metaverse technology could potentially make a huge impact on an economy like Nigeria's from encouraging digital innovation, virtual trading, and new business opportunities. However, according to the study, there are a number of legal and regulatory hurdles that would have to be taken care of to have the transformation fully realized. Problems such as data privacy, cybersecurity, digital property rights, taxation, and consumer protection are of really quite significant concern that could affect the ability for Nigeria to fully integrate the metaverse into the overall economic fabric. In addition, even infrastructure issues such as insufficient digital connectivity and unreliability in power supply are other challenges inhibiting the ability to take it widely.

Moreover, the metaverse is gaining global recognition and is potentially an important avenue for Nigeria's economy. The lack of certainty in the regulatory framework poses uncertainty and may discourage investors and companies from participating in the virtual economy. Additionally, the study emphasizes that Nigeria must harmonize its legal framework with global digital trends to remain competitive in an increasingly hybrid digital space. Legal and regulatory concerns will lead to how much benefit Nigeria is going to accrue from the metaverse in the economic sense.