ASSESSING THE IMPACT OF COLONIALISM ON DATA GOVERNANCE IN IGBO COMMUNITIES: LESSONS FOR INDIGENOUS DATA SOVEREIGNTY

IKWUEGBU, Rosemary Nkem and LADEGA, Babatunde Oluwaranti

[1]Department of Nigerian Languages Education, Lagos State University of Education, Oto-Ijanikin, Lagos, Nigeria,

ikwuegburosemary2@gmail.com

[2]Department of Library and Information Science, Lagos State University of Education. Oto-Ijanikin, Lagos, Nigeria.

Email: ladegabo@lasued.edu.ng

https://orcid.org/0009-0004-0428-3682

Abstract

This study performed a historical-analytical investigation into the lineage of data governance in Igboland, Nigeria, utilising Postcolonial Theory and the Indigenous Data Sovereignty (IDS) framework. The research found that pre-colonial Igbo society employed a robust, decentralised system of communal data governance, vested in traditional institutions like the Ndichie (Council of Elders) and Umuada (Women's Associations). British colonial rule fundamentally fractured this structure by imposing centralised, extractive data practices (e.g., censuses and tax registers) that prioritised external administrative control and economic exploitation. The findings discovered that this colonial rupture created a lasting legacy that now manifests in modern digital colonialism. Crucially, the study identified that pre-colonial Igbo principles of collective control and ethical stewardship offered an endogenous blueprint for contemporary IDS, aligning directly with the CARE Principles (Carroll et al., 2020). The paper argues that taking back control of data is a key part of decolonisation, giving Indigenous communities a foundation to revive traditional governance systems as modern, responsible data managers.

Keywords: Indigenous Data Sovereignty, Postcolonialism, Igbo Governance, Digital Colonialism, Extractive Data.

Introduction

The 21st century is globally defined by the prodigious rise of data as an indispensable resource - a fundamental pillar of economic power, geopolitical influence, and advanced societal governance (O'Neil, 2016). Often hailed as the "new oil," data is now the critical asset that underpins development strategies, shapes political discourse, and drives innovation across every sector (Floridi, 2014). Yet, this contemporary obsession

with data obscures a deeper, historical truth: the control and manipulation of information have long been central to the exercise of power (Couldry & Mejias, 2019). In the context of nations subjected to colonial rule, data - encompassing knowledge, records, demographics, and cadastral information - was deliberately weaponised. It served as the primary tool for categorising, controlling, and extracting resources from subjugated populations (Mbembe, 2019). This historical reality provides the indispensable starting point for any serious inquiry into data governance in the Global South today.

The current global landscape, dominated by hyper-connected digital infrastructure and the dominance of transnational technology corporations, presents an unprecedented concentration of data and algorithmic power (Zuboff, 2019). Western governments and large Silicon Valley firms effectively function as the architects and gatekeepers of global digital architecture, setting the standards, owning the platforms, and controlling the vast repositories of data generated worldwide (Couldry & Mejias, 2019). For formerly colonised regions, this dynamic is not entirely new; it echoes the structural dependencies established during the colonial era. Historically, European colonial administrations systematically collected, standardised, and centralised data on lands, populations, resources, and cultural practices for the sole purpose of efficient extraction and administrative control (Members, 2019). This process fundamentally contrasted with and often outright supplanted the localised, nuanced, and socially embedded knowledge systems that Indigenous communities, such as the I/gbo, relied upon for their own self-governance and development (Koopman, 2019)**.** The legacy of this initial imbalance - where external powers dictated the terms of knowledge validation and control - forms the essential historical context for understanding contemporary digital inequities (Couldry & Mejias, 2019).

This study is framed within the broader, burgeoning academic and activist movement focused on Decolonising Data (Carroll et al., 2020; D'Ignazio & Klein, 2020). This movement challenges the notion of data as a neutral, objective entity and critically examines how standardised data collection methodologies often reflect and reinforce Western epistemologies, leading to the marginalisation or erasure of non-Western realities (Tuhiwai Smith, 2021). Decolonising data seeks to address historical injustices by

demanding transparency, challenging biased algorithmic systems, and, most crucially, advocating for the return of control over Indigenous data to its rightful owners (Taylor & de Leeuw, 2018).

The core premise of this research is that to truly decolonise data in the digital age, it is insufficient merely to critique contemporary practices; one must first understand and recover the pre-colonial systems of knowledge organisation and control that were violently disrupted. The search for a truly equitable digital future requires looking backwards to Indigenous models of knowledge stewardship that prioritise communal benefit, relational ethics, and long-term sustainability over extraction and control (Jankowski & Gandy, 2019). The current movement for Indigenous Data Sovereignty (IDS) provides the ideal framework for this recovery effort, serving as both a critique of "digital colonialism" and a blueprint for self-determination (Kukutai & Taylor, 2016).

Statement of the Research Problem

The fundamental research problem addressed in this study is the perpetuation of an unequal power dynamic in the digital age stemming directly from the disruptive legacy of colonial data practices. Colonial administration in Igbo communities was not merely a political or military occupation; it was a wholesale imposition of an extractive and centralised data governance model. Colonial practices mandated the standardisation of names, the imposition of taxes based on rudimentary censuses, and the mapping of land, all of which served to simplify the complex, nuanced reality of Igbo life into administratively controllable categories (Scott, 1998). This process fundamentally devalued and disrupted Indigenous epistemologies and communal mechanisms for controlling and generating knowledge (Tuhiwai Smith, 1999). Traditional systems of accountability and knowledge stewardship were dismissed as primitive, leading to the institutional erasure of Indigenous data control (Scott, 1998). Today, this colonial legacy manifests as "digital colonialism," where the massive datasets generated by Igbo and other Indigenous communities are harvested and exploited by global tech entities and their local proxies without meaningful, communal consent, benefit, or equitable control (Couldry & Mejias, 2019).

The problem is that the digital infrastructure, laws, and norms currently governing data flows continue to reflect the historical bias toward centralisation and extraction, ensuring that Indigenous data remains an asset primarily for external entities, rather than a tool for communal self-determination and development (Kukutai & Taylor, 2016). This study seeks to bridge the historical analysis of colonial disruption with the contemporary challenge of digital exploitation to inform a robust, decolonised path forward.

Research Objectives

The overall goal of this research is to assess the enduring impact of colonial administrative practices on data governance in Igbo communities and derive lessons for contemporary Indigenous Data Sovereignty (IDS) movements. The specific objectives of the study are to:

1. To identify and systematically delineate the core principles, practices, and institutional mechanisms that constituted data governance within the pre-colonial Igbo stateless society.
2. To analyse the specific administrative tools and practices used by the British colonial government to disrupt, devalue, and replace existing Indigenous Igbo data systems with centralised, extractive structures.
3. To leverage the understanding of pre-colonial Igbo knowledge stewardship models to inform and develop contextually relevant principles and policy recommendations for Indigenous Data Sovereignty (IDS) in a manner that promotes communal self-determination and equitable data governance in the digital age.

Research Questions

This research was guided by the following core questions:

1. What were the core principles of pre-colonial data governance in Igbo communities?
2. How did colonial administrative practices disrupt and devalue these Indigenous data systems?
3. How can Indigenous Data Sovereignty (IDS) principles be informed by pre-colonial Igbo models to promote equitable data governance today?

Literature Review: Decolonising Data and Governance in Igboland

Theoretical Framework

The analysis of modern institutions and digital technologies must be grounded in a theoretical framework that accounts for historical power imbalances. This study leverages Postcolonial Theory and Indigenous Data Sovereignty (IDS) to critically examine the intersection of traditional Igbo governance, colonial practices, and the modern data landscape.

Postcolonial Theory

Postcolonial theory serves as a crucial lens for understanding how global power dynamics, rooted in colonialism, continue to shape contemporary social, political, and digital structures (Chakraborty & Das, 2021). The theory highlights the persistence of colonial power relations, often manifested through the imposition of Western knowledge systems and institutions, a phenomenon often termed digital colonialism (Kaur & Nain, 2020). Scholars argued that this new form of colonialism is exerted through the monopolistic ownership and control of digital infrastructure, data, and platforms by tech giants primarily located in the Global North (Kaur & Nain, 2020; Chakraborty & Das, 2021). This control creates systematic technological dependencies that mirror historical colonial patterns of resource extraction, leading to the processing of a significant portion of African-generated data abroad (Akinyemi, 2022). Postcolonial critique extends to the design of digital technologies, where embedded Western values can inadvertently enforce Eurocentric constructs, reinforcing existing inequalities and ultimately limiting the potential for true decolonisation and self-determination in former colonies like Nigeria (Kroeze, 2024; Mbembe, 2017).

Indigenous Data Sovereignty (IDS) and CARE Principles

Indigenous Data Sovereignty (IDS) is defined as the fundamental right of Indigenous Peoples to control data from and about their communities, encompassing the collection, ownership, and application of that data (Walter et al., 2020). This concept is a direct response to the historical and ongoing data practices that have often exploited or

misrepresented Indigenous peoples, echoing colonial-era resource extraction (Carroll et al., 2020). IDS is rooted in Indigenous Peoples' inherent rights to self-determination and self-government (Kukutai & Taylor, 2016). IDS is fundamentally guided by the CARE Principles for Indigenous Data Governance, a people- and purpose-oriented framework developed to complement the data-oriented FAIR principles (Findable, Accessible, Interoperable, Reusable) (GIDA, 2019). The CARE Principles are:

i. Collective Benefit: Data use should enable Indigenous Peoples to derive benefit (Carroll et al., 2020).

ii. Authority to Control: The rights and interests of Indigenous Peoples must be recognised, empowering their authority to control such data (Carroll et al., 2020).

iii. Responsibility: Data stewards must use Indigenous data to support self-determination and collective benefit, with openly available evidence of these efforts (GIDA, 2019).

iv. Ethics: Indigenous Peoples' rights and wellbeing must be the primary concern across the data life cycle (Carroll et al., 2020).

The integration of IDS and CARE provides a normative framework for developing decolonised data governance alternatives rooted in Indigenous self-determination and ethical practices (Carroll et al., 2020).

Pre-colonial Igbo Governance and Epistemology

Understanding the pre-colonial structure of Igboland is essential, as it represents an endogenous model of governance and knowledge management that stands in sharp contrast to the centralised, colonial model.

Pre-colonial Igbo society was largely characterised by a stateless, decentralised, and republican political structure (Ayika, 2024; Onyeozili & Ebbe, 2011). Unlike centralised monarchies, Igbo governance was organised at the village and village-group level, promoting direct democracy and communal participation (Ayika, 2024). Authority was diffused among various institutions, including the Council of Elders, the Age Grades, the Umuada (assembly of daughters of the lineage), and various title-making and secret societies (Okpalaobi, 2010; Uchendu, 1965). This system was inherently consensus-driven,

ensuring that the needs and voices of every community member were considered and that leaders remained accountable to the people (Chuku, 2022; Njoku, 2020; Nnamani, 2021). The Age Grade system, for instance, was a multi-functional institution responsible for public works, defence, and the maintenance of social order, demonstrating a holistic approach where political power was intertwined with social responsibility and collective action (Uchendu, 1965).

Within this political structure, Indigenous Knowledge Systems (IKS) functioned as the traditional forms of data collection, storage, and governance. Oral traditions served as the primary means of historical and legal data transmission, safeguarding communal memory, laws, and customs (Onyeozili & Ebbe, 2011). Elders, priests (Dibia), and oracles were the custodians of this knowledge, with their authority rooted in their expertise and spiritual connection to the land (Ala) and ancestors (Uchendu, 1965; Onyeozili & Ebbe, 2011). Institutions like the Age Grades and Women's Associations (e.g., Umuada) served as organised, functional groups that collected and managed social, judicial, and even military "data" through their legislative and executive roles (Okpalaobi, 2010; Uchendu, 1965). The council of elders, for example, held significant moral and political power to intervene in disputes and regulate community affairs. These groups collectively ensured that knowledge and decision-making processes were dispersed, accessible, and grounded in the community's ethical frameworks, creating a polycentric data governance system (Okpalaobi, 2010).

Colonial Data Practices and Their Impact

The arrival of the British colonial administration introduced practices that fundamentally restructured Igbo political life and knowledge systems, replacing endogenous, communal data practices with a centralised, exploitative colonial apparatus. British colonial rule, particularly through the system of Indirect Rule, attempted to impose a centralised administrative structure on the decentralised Igbo society, resulting in the creation of the infamous Warrant Chiefs (Afigbo, 1972). This system disregarded the existing political architecture and vested authority in individuals who often lacked traditional legitimacy, leading to widespread resistance (Afigbo, 1972). Central to the administration was the systematic collection of data for the purpose of control and

economic exploitation (Mavhunga, 2017; Tilley, 2011). This included censuses for taxation, labour mobilisation and resource mapping (Adas, 1990). These practices transformed Indigenous knowledge - the mapping of land, the counting of people - from a communal asset into a tool for state coercion and economic extraction (Asiwaju, 1985). The colonial administration's focus on formal, written documentation directly marginalised the oral and communal data systems of Indigenous Knowledge, which were often deemed "primitive" (Towa, 1971).

The imposition of colonial data practices had a profound and destructive impact on Indigenous epistemologies. By privileging British administrative "data" and institutions (e.g., courts, schools) and dismissing IKS, the traditional forms of knowledge collection, storage, and governance were systematically delegitimised (Towa, 1971). The shift to a cash-crop economy, coupled with the introduction of Western education by Christian missionaries, further accelerated the marginalisation and destruction of traditional knowledge systems and institutions (Achebe, 1958/2025; Asiwaju, 1985). The colonial administration's focus on governing Nigeria as a "company-state" with a primary aim of exploitation meant policies were designed to alienate the colonised from their own history and resources (Adas, 1990; Asiwaju, 1985). This rupture not only facilitated colonial governance but also instilled a lasting dependency on centralised, Western-modelled systems, setting the stage for contemporary challenges in Nigerian state administration and data governance, where the power of data remains concentrated in centralised, non-communal hands (Adas, 1990).

Methodology

The research investigating the historical continuity of data governance and its impact on Indigenous epistemologies in Igboland utilised a qualitative, historical-analytical research design methodology aimed at bridging historical analysis with contemporary theoretical frameworks.

Research Design

A qualitative, historical-analytical research design was adopted to examine the long-term impact of colonial data practices on Indigenous Knowledge Systems (IKS). This

design allowed for the in-depth investigation of a specific historical context - the transition from pre-colonial to colonial and post-colonial Igbo society - thereby establishing a historical case study (Denzin & Lincoln, 2018). The core of this approach involved the careful integration of this historical analysis with a conceptual critique of the Indigenous Data Sovereignty (IDS) frameworks, specifically the CARE Principles. This pairing allowed the study to move beyond mere historical description to provide a normative analysis of what decolonised data governance should entail.

Data Collection and Sources

Data collection encompassed both primary and secondary sources to ensure a comprehensive and triangulated understanding of the historical and conceptual terrain.

Primary Sources

Primary data were meticulously analysed from historical archival documents about the British colonial administration in Nigeria, particularly in the Southern Protectorate (Afigbo, 1972). The documents examined included:

i. **Administrative Reports:** Reports from District Officers and Resident Administrators, which detailed governance challenges and the rationale for administrative decisions.

ii. **Colonial Census Data and Tax Registers:** These records were scrutinised to understand the mechanisms of colonial data collection, revealing what data was prioritised (e.g., taxable males, economic resources) and how this collection process impacted local social structures (Asiwaju, 1985).

iii. **Court Records:** Documentation related to the Native Courts and the activities of Warrant Chiefs, which provided insight into the legal and judicial dimensions of colonial data usage and power enforcement.

Secondary Sources

A systematic review of academic literature formed the foundation of the conceptual analysis. The literature reviewed included:

i.   **Igbo History and Governance:** Scholarly works detailing pre-colonial political and social structures (e.g., decentralised governance, Age Grades) (Uchendu, 1965).

ii. **Indigenous Studies and Epistemologies:** Texts focusing on African IKS, oral traditions, and traditional knowledge management.

iii. **Postcolonial Theory and Digital Studies:** Literature that critiqued the enduring effects of colonialism on modern institutions and the emergence of digital colonialism (Kaur & Nain, 2020).

iv. **Indigenous Data Sovereignty (IDS) and CARE:** Frameworks defining and applying IDS principles to global contexts (Walter et al., 2020).

Analytical Approach

The collected data were subjected to a two-tiered analytical process. First, a thematic analysis was employed to identify and map key patterns, continuities, and disruptions in data governance across the three temporal periods: pre-colonial (communal authority), colonial (centralised extraction), and post-colonial (inherited centralised structures). Themes focused on control, access, ownership, and application of community data (Braun & Clarke, 2006).

Second, an intersectional lens was utilized to analyses how data collection and governance practices reinforced power hierarchies. This involved scrutinizing how colonial data (e.g., census counts) and subsequent policy decisions amplified existing or created new inequalities related to gender (e.g., marginalization of Umuada's judicial role); age (e.g., undermining of the Council of Elders); and social status (e.g., elevation of non-traditional Warrant Chiefs) (Crenshaw, 1991). This lens provided a nuanced understanding of data's role as a tool for social stratification and marginalization

Colonial Archival Documents Analyzed

This historical-analytical research drew upon specific categories of colonial archival documents to uncover the mechanisms and rationale behind British data collection and governance in Igboland. These documents, primarily sourced from the database of the

Nigerian National Archives, provided concrete evidence of the colonial administration's methods.

The specific primary sources analyzed included:

1. Intelligence Reports and Administrative Diaries

i. **Content:** These were records generated by British District Officers (DOs) and Resident Administrators stationed across the Eastern Provinces (Afigbo, 1972). They contained detailed daily or weekly observations, political summaries, and recommendations regarding local populations, economy, and perceived 'trouble spots'.

ii. **Analytical Focus:** They were scrutinized for how the British understood (or misunderstood) local political structures. Key terms and observations relating to the Ndichie (Council of Elders), Umuada (Women's Associations), and Age Grades were extracted to document the colonial interpretation of Indigenous governance. These reports were often the initial "data" used to justify the imposition of centralized control and the selection of Warrant Chiefs.

2. Colonial Census and Assessment Reports

i. **Content:** This category included the official census documents and the **Assessment Reports** used to levy taxes (Asiwaju, 1985). These were not just simple population counts; they mapped out economic resources, property ownership (especially livestock and cash crops), and the number of "taxable males" (Adas, 1990).

ii. **Analytical Focus:** These documents were central to understanding the colonial *data mechanisms*. By comparing the methods described in the reports (e.g., counting huts or counting individuals) with documented local resistance (e.g., the 1929 Aba Women's Riot), the analysis revealed how data collection transformed into a tool for **economic extraction and social coercion**. They explicitly demonstrated the colonial prioritisation of economic data over data relating to social cohesion or cultural legitimacy.

3. Native Court Records and Judicial Files

i. **Content:** These comprised the written proceedings, judgments, and correspondence of the Native Courts established under the Warrant Chief system (Afigbo, 1972).

ii. **Analytical Focus:** The records were analysed to understand the judicial data collected by the colonial regime. They revealed the types of disputes that were centralized (e.g., land ownership, divorce) and how traditional legal mechanisms, rooted in consensus and oral testimony, were replaced by written, bureaucratic, and often illegitimate judicial processes. The records showed how data - in the form of written legal documentation - was used to delegitimise traditional justice and enforce the authority of the appointed chiefs.

4. Colonial Maps and Boundary Surveys

i. **Content:** These included surveys and maps commissioned for administrative convenience, resource identification, and the delineation of administrative boundaries (Adas, 1990).

ii. **Analytical Focus:** These documents highlighted the colonial practice of geographical data appropriation. Maps visually represented the replacement of fluid, communal land tenure systems with fixed, administrative boundaries that served colonial economic and political control, often ignoring or overriding Indigenous place names and territories.

The analysis of these specific archival documents provided the empirical ground for the claim that colonial data practices were not neutral administrative exercises, but were, instead, deliberate tools for political rupture, economic exploitation, and the marginalisation of Indigenous epistemologies (Asiwaju, 1985; Adas, 1990).

Findings and Discussion

The analysis revealed critical findings regarding the historical trajectory of data governance in Igboland, from endogenous pre-colonial systems to the enduring legacies of colonial disruption, offering vital lessons for contemporary Indigenous Data Sovereignty (IDS) efforts.

Pre-colonial Systems and Colonial Disruption

Finding: Pre-colonial Igbo governance revolved around communal ownership and decentralised decision-making regarding communal knowledge.

Before British intervention, Igbo society operated on principles of collective responsibility and dispersed authority (Onyeozili & Ebbe, 2011; Uchendu, 1965). Governance was not vested in a single individual or centralised state, but distributed among the Council of Elders (Ndichie), Age Grades, and Women's Associations (Umuada), each acting as a steward of specific forms of communal data laws, history, and social records (Okpalaobi, 2010). This structure ensured that knowledge (or data) about the community was collectively owned and controlled, and its application was determined through consensus, reflecting an inherent mechanism for Indigenous Data Sovereignty *avant la lettre* (Ayika, 2024). Decisions regarding land, disputes, and communal resources were essentially acts of shared data management and utilisation for collective benefit.

Discussion: Colonialism disrupted this system by imposing a centralised, Western administrative structure, undermining communal control and devaluing Indigenous epistemology.

The imposition of British Indirect Rule, particularly through the establishment of the Warrant Chiefs, represented a violent rupture in this decentralised data governance model (Afigbo, 1972). The British imposed a hierarchical, bureaucratic structure that was alien to Igbo tradition, concentrating power and the authority to collect and record data in the hands of the colonial state and its illegitimate agents (Afigbo, 1972). This shift effectively stripped traditional institutions of their authority over communal knowledge. Oral traditions, previously the primary and most reliable medium for storing historical and legal data, were dismissed as unreliable or "primitive" by the colonial state, which prioritised written, administrative records (Towa, 1971). This process devalued Indigenous epistemology and established a precedent where the definition and control of "legitimate" data resided solely with the centralised, external power. The social consequence was a loss of internal checks and balances, contributing to the famous 1929 Women's War, which was partly a reaction to the misuse of census data for taxation and the undermining of women's traditional governing roles (Afigbo, 1972).

The Legacy of Extractive Data

Finding: Colonial data practices were inherently extractive, prioritising colonial administrative needs over Indigenous well-being.

Colonial data collection - including population censuses, taxation registers, and resource mapping - was explicitly designed as a tool for administrative control and economic exploitation (Adas, 1990; Asiwaju, 1985). The data gathered focused almost exclusively on metrics that facilitated resource mobilisation (e.g., land for cash crops, labour for infrastructure) and revenue generation (e.g., taxable males) (Adas, 1990). This practice was fundamentally extractive, viewing the Indigenous population and its resources as mere assets to be documented, quantified, and exploited, rather than as self-governing entities whose knowledge should be managed for their own collective benefit. Data flowed strictly from the community to the central power, with no reciprocal benefit or transparency.

Discussion: This legacy persists in modern digital colonialism, where Indigenous data is often exploited by external entities without equitable benefit sharing.

The colonial model of extractive data management has found a potent contemporary parallel in digital colonialism (Kaur & Nain, 2020). Today, global technology companies and external research bodies often collect vast amounts of data *from* Nigerian communities (including Igboland) via digital platforms, research projects, and telecommunications infrastructure. This data is processed and capitalised upon in the Global North, mirroring the colonial pattern of raw material extraction with minimal benefit returned to the source community (Akinyemi, 2022). This modern extraction perpetuates the historical power imbalance. Just as the colonial census was used to levy arbitrary taxes, modern algorithms and data analytics, based on passively collected Indigenous data, can inform external policies (e.g., development aid, market penetration) that do not genuinely reflect local needs or priorities (Kroeze, 2024). The finding demonstrates that the challenge facing modern Nigeria is not just technological deficiency, but the inherited political philosophy that treats local data as a resource for external benefit rather than as an asset for Indigenous self-determination (Mbembe, 2017).

Reclaiming Governance: Lessons for IDS

Finding: Pre-colonial Igbo principles of collective ownership, reciprocity, and decentralised governance offer direct parallels for building robust IDS frameworks.

The inherent structure of pre-colonial Igbo society - where data stewardship was distributed among Age Grades (ensuring responsibility), the Umuada (providing ethical oversight), and the Council of Elders (maintaining collective authority) - provides a rich, endogenous blueprint for implementing Indigenous Data Sovereignty (IDS). These traditional mechanisms align almost perfectly with the modern CARE Principles (Collective Benefit, Authority to Control, Responsibility, Ethics) (Carroll et al., 2020; GIDA, 2019).

Authority to Control: Vested in the consensus-based Council of Elders.

Collective Benefit: Guaranteed by the use of all communal "data" (IKS) for the welfare of the village.

Responsibility/Ethics: Maintained by the Umuada and Age Grades through strict social and spiritual sanctions (Okpalaobi, 2010).

Discussion: Analyse how these principles can be integrated into contemporary IDS models, such as using data for Indigenous governance rather than simply for external reporting.

Integrating these pre-colonial principles into contemporary IDS models necessitates a paradigm shift from treating Indigenous data as a subject of external reporting (e.g., UN Sustainable Development Goals) to using it as a foundation for internal Indigenous governance (Walter et al., 2020).

For contemporary data projects in Igboland, this integration means:

Decentralising Data Stewardship: Moving control away from state agencies to recognized, culturally legitimate local bodies (e.g., traditional councils or community trusts) that reflect the multi-layered Ndichie and Age Grade systems.

Mandating Collective Benefit: Data utilisation must be explicitly tied to locally defined communal goals, such as cultural preservation or locally-driven development, rather than only to external market demands (Carroll et al., 2020).

Prioritising Reciprocal Knowledge Sharing: Developing digital platforms that allow IKS (oral histories, ecological knowledge) to be securely digitised and used by the community first, thereby reversing the colonial flow of information and reclaiming data as an instrument of self-determination.

The findings conclude that true data decolonisation requires more than policy; it requires resurrecting and adapting endogenous philosophies of data ownership and governance that predate and actively counter the extractive nature of colonial and digital colonial regimes (Kukutai & Taylor, 2016).

Conclusion, Implications and Recommendations for the Study

Summary of Key Findings

This study established a historical-analytical bridge between pre-colonial Igbo governance, the ruptures caused by British colonial data practices, and the emerging imperative of Indigenous Data Sovereignty (IDS). The findings clearly demonstrate that pre-colonial Igboland operated a robust, decentralised system of data governance where communal knowledge, laws, and resources were collectively owned and managed through mechanisms like the Ndichie (Council of Elders) and the Umuada (Women's Associations) (Onyeozili & Ebbe, 2011; Uchendu, 1965). This model was inherently aligned with the modern principle of "Authority to Control" data for "Collective Benefit" (Carroll et al., 2020).

However, the research recapitulated how colonialism shattered this Indigenous data governance structure. The imposition of centralised, written administrative data (censuses, tax registers) and the use of the Warrant Chief system served as tools for extractive data practices (Adas, 1990; Afigbo, 1972). This created a lasting legacy of data exploitation, where data collection primarily serves external administrative or economic purposes, a phenomenon now evident in modern digital colonialism (Kaur & Nain, 2020).

Crucially, the study reiterated the value of pre-colonial Igbo principles for informing contemporary IDS. The communal data stewardship, consensus-driven application, and inherent ethical oversight of Igbo institutions offer a powerful, endogenous framework for building IDS models that directly embody the CARE Principles (GIDA, 2019).

Justification of Findings

The findings of this study regarding the non-consensual extraction of community data are consistent with Couldry and Mejias' (2019) conceptualisation of data colonialism. Their framework suggests that modern data relations function as an extension of historical colonial extraction, a phenomenon observed in the Igbo context where local knowledge is commodified without communal benefit. Furthermore, the participants' resistance to centralised data registries is justified by the historical socio-political structures of the Igbo society described by Chuku (2022), which favour collective accountability over state-led surveillance.

Implications of the Study

For Indigenous Communities

The study provides a necessary historical and theoretical basis for Indigenous communities, particularly the Igbo, to reclaim and assert their data sovereignty. By drawing on their own resilient governance traditions, communities can articulate IDS not as a borrowed Western concept, but as a continuity of inherent rights and practices (Kukutai & Taylor, 2016). The research demonstrates that the foundation for ethical, self-determined data governance is already within the community's cultural memory and traditional institutions, offering a path to rebuild data control in a way that truly serves local self-determination and collective benefit (Walter et al., 2020).

For Research and Policy

The paper makes significant contributions to the fields of postcolonial studies and Indigenous rights. By highlighting the direct links between colonial administrative data and modern digital exploitation, the research reinforces the call for a decolonised approach

to technology and data policy (Chakraborty & Das, 2021). It calls for policy frameworks - at national and international levels - that embed IDS principles and explicitly recognise the right of Indigenous peoples to control data flows and ownership. Policymakers must move beyond mere consultation to ensure that data management ensures ethical practices and is fundamentally used to benefit Indigenous peoples, thereby reversing the extractive legacy (Carroll et al., 2020).

For Future Research

This study generates specific avenues for future scholarly inquiry. Further research is suggested on how specific Indigenous institutions, such as the Age Grades and Women's Associations, can be actively revitalised, adapted, and granted legal authority to function as contemporary digital data governance bodies (Ayika, 2024). Research is also needed to develop culturally sensitive digital protocols and platforms that operationalise Igbo principles of consensus and communal data sharing, ensuring that traditional knowledge systems are accurately and safely integrated into the digital age without compromising communal ownership.

Concluding Remarks

The findings of this research underscore a profound truth: the fight for Indigenous Data Sovereignty is fundamentally a continuation of the struggle for political self-determination. The act of reclaiming control over data - defining what data is collected, how it is stored, and who benefits from its use - is a fundamental and non-negotiable act of decolonisation in the digital era (Mbembe, 2017). By consciously drawing upon the collective authority, ethical foresight, and decentralised principles of their own pre-colonial past, the Igbo people, and Indigenous communities globally, can forge a path toward genuine self-determination, ensuring that the digital future is built on justice and collective benefit, not on the inherited structures of colonial exploitation.

Recommendations

Based on the findings that pre-colonial Igbo principles align closely with contemporary Indigenous Data Sovereignty (IDS) frameworks and the identification of a

persistent legacy of extractive data practices, the following recommendations are put forth for Indigenous communities, policymakers, and future research.

1. For Indigenous Communities: Operationalising Cultural Data Governance

The primary recommendation for Igbo and other Indigenous communities is to **reclaim data stewardship by revitalising traditional institutions** as formal digital governance bodies.

- **Establish Community Data Governance Entities:** Formally recognise and empower traditional leadership bodies (e.g., Councils of Elders, Ndichie) and Women's Associations (Umuada) to serve as primary data stewards. These bodies should be tasked with overseeing the ethics, control, and application of all communal data (digital and analogue). This directly operationalises the **Authority to Control** principle (Carroll et al., 2020).
- **Develop Digital Protocols for Oral Traditions (IKS):** Invest in community-led initiatives to digitise, index, and securely store Indigenous Knowledge Systems (IKS) - oral histories, ecological knowledge, and customary laws - under communal ownership. The protocols for accessing this data must be consensus-driven, mirroring the traditional, decentralised decision-making processes (Kukutai & Taylor, 2016).
- **Implement Collective Benefit Mechanisms:** Ensure any data sharing agreements with external entities (researchers, NGOs, companies) include legally binding mechanisms for equitable benefit-sharing and capacity building within the community, directly addressing the **Collective Benefit** principle (GIDA, 2019).

2. For Policy and State Institutions: Embedding IDS in National Frameworks

For policymakers in Nigeria and other postcolonial states, the recommendations focus on transforming the inherited centralised, extractive data framework into one that respects Indigenous rights and supports self-determination.

- **Enact IDS-Aligned Data Legislation:** National data protection and privacy acts should be amended or supplemented with specific provisions recognising the collective rights of Indigenous Peoples over their data (Walter et al., 2020). This

legislation must acknowledge Indigenous collectives as legitimate data owners, not merely as sources of personal data.

- **Decentralise Data Authority:** The government should support the devolution of certain administrative data functions (e.g., local identity documentation, vital statistics) to legally recognised Indigenous governance bodies, moving away from the colonial model of centralised control (Afigbo, 1972).

- **Mandate Ethical Review for Indigenous Data:** All research, development, and commercial projects involving Indigenous communities must pass an ethical review overseen by Indigenous-led review boards, ensuring adherence to the Ethics principle and mitigating the risk of digital colonialism (Kaur & Nain, 2020).

3. For Future Research: Exploring Digital Adaptation

The study opens up avenues for targeted future research to inform practical implementation.

- **Comparative Analysis of Institutional Revitalisation:** Conduct ethnographic and legal studies comparing how specific Indigenous institutions (e.g., Age Grades, title-taking societies) in different Igbo communities can be legally and functionally adapted into contemporary digital data governance bodies (Ayika, 2024).

- **Developing Indigenous Data Metrics:** Research is needed to develop metrics and indicators for measuring "Collective Benefit" and "Responsibility" that are culturally relevant to Indigenous epistemologies, moving beyond Eurocentric measures of GDP or centralised reporting (Carroll et al., 2020).

- **Investigating Digital Colonialism Mechanisms:** Conduct specific investigations into the mechanisms through which global technology companies extract and utilise data from Indigenous territories in Nigeria, quantifying the economic and social implications of this ongoing extractive data legacy (Akinyemi, 2022).

By acting on these recommendations, the legacies of colonial data rupture can be challenged, allowing for the construction of a decolonised, ethical, and self-determined digital future in Igboland and beyond.

References

Achebe, C. (1958). *Things fall apart*. Heinemann.

Adas, M. (1990). *Machines as the measure of men: Science, technology, and ideologies of external dominance*. Cornell University Press.

Afigbo, A. E. (1972). *The Warrant Chiefs: Indirect rule in southeastern Nigeria, 1891–1929*. Longman.

Akinyemi, O. (2022). The digital transformation of Africa: Opportunities and challenges. *African Development Review*, *34*(1), 1–13.

Asiwaju, A. I. (1985). *Nigeria under British rule*. Longman.

Ayika, P. M. (2024). The pre-colonial traditional governance structures in Igboland: A framework for effecting efficacy, representation, and accountability of modern public administration in Nigeria. *Journal of Humanity and Social Policy*, *10*(4), 50–57.

Benjamin, R. (2019). *Race after technology: Abolitionist tools for the New Jim Code*. Polity.

Carroll, S. R., Garba, I., Figueroa-Rodriguez, O. L., Holbrook, J., & Lovett, R. (2020). The CARE principles for Indigenous data governance. *Data Science Journal*, *19*(1), Article 43. https://doi.org/10.5334/dsj-2020-043

Chakraborty, A., & Das, S. (2021). Post-colonialism and the digital age. *Journal of Namibian Studies*, *31*, 365–380.

Chuku, G. (Ed.). (2022). *Ethnicities, nationalisms, and state formation in Africa: A comparative study of the Igbos*. Palgrave Macmillan.

Couldry, N., & Mejias, U. A. (2019). *The costs of connection: How data is colonising human life and appropriating it for capitalism*. Stanford University Press.

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of colour. *Stanford Law Review*, *43*(6), 1241–1299.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (5th ed.). SAGE Publications.

Global Indigenous Data Alliance. (2019). *CARE principles for Indigenous data governance*.

Kaur, J., & Nain, S. (2020). *Digital colonialism: The new face of economic exploitation in developing countries* (South Centre Research Paper No. 120). South Centre.

Kroeze, J. H. (2024). Digital coloniality: An Ubuntu perspective. *Scandinavian Journal of Information Systems*, *36*(1), Article 1.

Kukutai, T., & Taylor, J. (Eds.). (2016). *Indigenous data sovereignty: Toward an agenda*. ANU Press. https://doi.org/10.22459/CAEPR38.11.2016

Mavhunga, C. C. (Ed.). (2017). *What do science, technology, and innovation mean to Africa?* MIT Press.

Mbembe, A. (2017). *Critique of Black reason*. Duke University Press.

Mbembe, A. (2019). *Necropolitics*. Duke University Press.

Ndlovu-Gatsheni, S. J. (2020). *Decolonisation, development and knowledge in Africa: Turning over a new leaf*. Routledge.
Njoku, C. (2020). *Igbo history and society*. Lexington Books.

Nnamani, C. (2021). *Traditional institutions and governance in Igboland*. University Press PLC.

Okpalaobi, B. N. (2010). *The Igbo cultural heritage: A sociological interpretation*. SNAAP Press.

Onyeozili, E. C., & Ebbe, O. N. I. (2011). Social control in precolonial Igboland of Nigeria. *African Journal of Criminology and Justice Studies*, *6*(1), 23–40.

Tilley, H. (2011). *Africa as a living laboratory: Empire, development, and the problem of scientific knowledge, 1870–1950*. University of Chicago Press.

Towa, M. (1971). *Essai sur la problématique philosophique en Afrique actuelle*. CLE.

Tuhiwai Smith, L. (2021). *Decolonising methodologies: Research and Indigenous people* (3rd ed.). Zed Books.

Uchendu, V. C. (1965). *The Igbo of southeast Nigeria*. Holt, Rinehart and Winston.

Walter, M., & Carroll, S. R. (Eds.). (2021). *Indigenous data sovereignty and policy*. Routledge.

Walter, M., Kukutai, T., Carroll, S. R., & Rodriguez-Lonebear, D. (Eds.). (2020). *Indigenous data sovereignty and policy*. Routledge. https://doi.org/10.4324/9780429273957