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DATA FOR POLICY PROCEEDINGS PAPER

Artificial intelligence, digital colonialism, and the implications for Africa's future development

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Abstract

In the mid to late 19th century, much of Africa was under colonial rule, with the colonisers exercising power over the labour and territory of Africa. However, as much as Africa has predominantly gained independence from traditional colonial rule, another form of colonial rule still dominates the African landscape. This similitude of these different forms of colonialism is found in the power dominance exhibited by Western technological corporations, just like the traditional colonialists. In this digital age, digital colonialism manifests in Africa through the control and ownership of critical digital infrastructure by foreign entities, leading to unequal data flow and asymmetrical power dynamics. This usually occurs under the guise of foreign corporations providing technological assistance to the continent.

By drawing references from the African continent, this article examines the manifestations of digital colonialism and the factors that aid its occurrence on the continent. It further explores the manifestations of digital colonialism in technologies such as Artificial Intelligence (AI) while analysing the occurrence of data exploitation on the continent and the need for African ownership in cultivating the digital future of the African continent. The paper also recognises the benefits linked to the use of AI and makes a cautious approach toward the deployment of AI tools in Africa. It then concludes by recommending the implementation of laws, regulations, and policies that guarantee the inclusiveness, transparency, and ethical values of new technologies, with strategies toward achieving a decolonised digital future on the African continent.

Policy Significance Statement

This research highlights the pressing need for policy actions to address digital colonialism in Africa. It reveals Africa's reliance on Western-developed technologies with "little regulation or critical scrutiny," or without consideration of the perspectives, values, and interests of the African society (Birhane, 2020a). This dependency results in losing control over digital infrastructure and data (Knowledge Commons Brasil, 2019), and neglects these technologies' purpose, relevance, ethical considerations, and societal impact.

It also illustrates that to safeguard Africa's digital sovereignty and economic interests, policymakers must prioritise setting ethical standards and implementing regulations that ensure transparency and inclusiveness in technology development and deployment and securing Africa's interests in the digital era through active participation in global discussions on digital ethics and governance.

1. Definition of terms

In order to provide clarity and context for the discussion ahead, this section aims to define and elucidate key terms that form the foundation of the paper's discourse. By establishing clear definitions of concepts

such as artificial intelligence (AI), digital colonialism, neocolonialism, and data exploitation, readers will gain a solid understanding of the terminology essential for comprehending the subsequent analysis and arguments presented in the paper.

1.1. Artificial intelligence

AI is a "wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence" (Built In, n.d.). With AI, machines can build on human capabilities and perform tasks such as problem-solving, decision-making, and learning from data (Built In, n.d.).

1.2. Digital colonialism

Digital colonialism is "the decentralised extraction and control of data from citizens with or without their explicit consent through communication networks developed and owned by Western tech companies" (Marker et al., 2019). It has also been referred to as "the use of digital technology for political, economic, and social domination of another nation or territory" (Longreads, 2021).

1.3. Neocolonialism

Neocolonialism can be described as "the subtle propagation of socio-economic and political activity by former colonial rulers aimed at reinforcing capitalism, neo-liberal globalization, and cultural subjugation of their former colonies" (Internet Encyclopedia of Philosophy, 2021).

1.4. Data exploitation

Data exploitation is the illegal use of an individual's private data (ScienceDirect Topics, 2023).

2. The manifestation of digital colonialism in Africa

This section delves into the manifestations of digital colonialism in Africa, shedding light on the various ways in which colonial legacies continue to shape the continent's digital landscape. By examining both the explicit and implicit forms of digital colonialism, this section aims to uncover the multifaceted challenges that hinder Africa's full participation in the digital revolution. Specifically, it explores how the use of AI serves as a vehicle for perpetuating colonial dynamics, manifesting in practices such as algorithmic oppression, dispossession, and exploitation. In addition, it investigates the underlying factors that contribute to the proliferation of digital colonialism, including systemic inequalities and global power dynamics.

2.1 Manifestations of digital colonialism

One way digital colonialism manifests in Africa is through the control and ownership of critical digital infrastructure by foreign entities (Coleman, 2019). This can be seen with the dominance of foreign digital platforms and services in African markets, with African consumers relying heavily on these foreign platforms. By controlling the digital ecosystem, foreign entities or big technology corporations gain direct power over the continent's political, economic, social, and cultural domains (Kwet, 2018). Although digital infrastructures are essential for developing the continent's digital landscape when controlled by external actors, they can be easily exploited and used for "imperial control at the architecture level of the digital ecosystem" (Kwet, 2018) and can affect local businesses and innovation (Kwet, 2018).

Another manifestation of digital colonialism is the unequal data flow. The monopoly of foreign multinational tech companies on the continent allows them free reign to collect vast amounts of data from African users through their platforms and services (African Business, 2023). This means that data from digital platforms and services, social media, search engines, and mobile applications—often requiring users

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to provide personal information and preferences—are extracted, collected, and stored. For instance, by providing free access to the internet or subsidised data plans for developing economies, Facebook's Free Basics program allows it to "harvest huge amounts of metadata about users" (Solon, 2017) and their online activities while subjecting the user to consumption of mostly western content and preferences (Solon, 2017). These data often leave the continent, where they are monetised without significant benefit to Africa, while further increasing the economic imbalances. The Cambridge Analytica (CA) Scandal (Cadwalladr and Graham-Harrison, 2018), where users' data from Facebook were used for political profiling and election targeting also demonstrates how data can be misused for economic and political benefits.

2.2 Manifestations through the use of AI

AI represents a powerful and transformative technology with the potential to drive innovation and development across various sectors (Gruetzemacher and Whittlestone, 2022). In the context of Africa, AI is increasingly being integrated into industries and institutions (Ade-Ibijola and Okonkwo, 2023). Its problem-solving, data analysis, and automation capabilities make it a potent tool for driving innovation and development in Africa and a signal towards more technologically advanced solutions on the continent.

Just as physical spaces can be used as sites of extraction and exploitation, digital spaces can also be used similarly; as sites of digital-territorial coloniality (Mohamed et al., 2020). AI coloniality can therefore be seen in the form of "state-of-the-art algorithms" and "AI solutions" to social problems, which leave Africa dependent on Western infrastructure while local products are neglected (Birhane, 2020).

Among the manifestations of digital colonialism through the use of AI is algorithmic oppression. Algorithmic oppression includes the integration of biases embedded in AI codes, allowing for instances of some societal harm evidenced in AI predictive systems (Mohamed et al., 2020; Birhane, 2020). The accuracy of these tools can be questioned, especially considering that they are dealing with datasets they were not trained on. For instance, when facial recognition systems fail to detect Black faces and perpetuate gender stereotypes (Buolamwini and Gebru, 2018), hate speech detection algorithms identify African languages as toxic (Sap et al., 2019), thereby entrenching the historical injustice of colonialism in AI tools and amplifying social biases.

In addition, there is algorithmic exploitation when powerful foreign actors use algorithmic tools to take advantage—exert control, extract value, and maintain dominance—of a less powerful people, region, or community through unfair or unethical means for the asymmetrical benefit of the actors in the digital space (Gomberg-Muñoz, 2018). This is well illustrated in African cities with ride-hailing platforms like Uber. Although algorithms determine the pricing and driver allocation, such can lead to pricing disparities and driver exploitation, with drivers earning less in certain regions due to algorithmic pricing decisions. There have been such accusations on the continent that ride-hailing companies exploit drivers by imposing unfavourable terms and conditions, made possible through algorithmic control over the platform (Arubayi, 2022).

In addition, there is outsourcing labour to the economically disadvantaged in the AI industry. Western industries take advantage of the absence of effective labour regulations and the economic inequalities on the continent to organise their production in ways and places that reduce manufacturing costs while enhancing corporate profit (APRI, 2022). Such is the reported case of Sama (Sama AI Platform, n.d.), an AI data annotation platform based in California that outsources for big techs like Facebook. Reports state that it had around 200 Kenyans working as content moderators, watching graphic footage and removing illegal content while being some of the company's lowest-paid employees in the world, with some earning as little as $1.50 an hour (Augustine, 2023). The situation has, however, been reviewed following the investigations and court actions (TIME, 2022). Furthermore, some content moderators for Open AI's ChatGPT in Nairobi, Kenya, also decried the exploitative and psychological trauma of watching gruesome content and suffering low pay and abrupt dismissals (Rowe, 2023).

In the same vein, there is the practice of beta testing, where tech companies invest in various experiments to test early versions of software systems to identify issues in their usage in settings with real users. In the testing of predictive systems, these organisations, in clearly exploitative situations, use countries outside of their own as testing grounds (Beta Testing, 2023). It could also occur as a form of

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ethics dumping to marginalised and vulnerable populations or to low and middle-income countries in situations which often align "with the old fault lines of colonialism"(Schroeder et al., 2018). An example is the decision of CA to beta test and develop algorithmic tools for the 2017 Kenyan and 2015 Nigerian elections, with the intention to later deploy these tools in US and UK elections (Nyanbola, 2018).

Equally, there is the instance of algorithmic dispossession seen with Africa's under-representation and side-lining in discussions related to growing the digital economy, therefore entrenching the centralisation of power among the digital colonisers (Thatcher et al., 2016). This continues to leave Africa as an economic dependent on the country that supplies most of its AI software (Pathways for Prosperity Commission, 2018). The import of this is seen in reviewing the global landscape of AI ethics guidelines (Global Landscape of Artificial Intelligence Ethics Guideline, 2019; Jobin et al., 2019), revealing the power imbalance and under-representation of Africa and other economically developing regions in the AI ethics debate. This shows that the continent's participation in global policymaking does not reflect its current digital dynamism, with millions becoming connected, e-commerce growing rapidly, and new solutions being created. Therefore, as Africa's digital dynamism grows, its participation in global digital policy must increase (Diplo Resource, 2022).

2.3 Factors that aid the manifestations of digital colonialism

Digital colonialism manifests in several ways across the continent. Some of the factors that aid its manifestations in Africa are discussed below.

First, there is a lack of adequate digital infrastructure on the continent. Studies (SAIIA, 2023) show that compared to some other regions, the state of technological development in Africa is still nascent, and this has encouraged many African nations to rely heavily on foreign technology and expertise for their digital infrastructure. This digital dependence makes Africa vulnerable to external influence and limits the ability to set a digital agenda. For instance, most of the "technology, equipment, and systems that link the African people and their communities with their data, products, and services" are owned by Western technology companies (Kwet, 2019a). Consequently, these "external actors could thus wield significant control over data, platforms, and technologies, leaving African nations vulnerable to manipulation, exploitation, and digital colonialism" (SAIIA, 2023).

Second, there is a lack of comprehensive and up to date regulatory frameworks for the digital sector in many African countries. The absence of robust national frameworks allows external entities to exploit regulatory gaps and exert control. Furthermore, as the reliance on data expanded in the digital age, "extensive data protection laws and regulations also emerged to ensure ethical use of that data" (Quach et al., 2022). However, of the 54 countries on the African continent (Worldometer, n.d.), only 36 countries currently have data protection laws (Privacy Lens, 2023).

In addition, while some African countries have non-efficient regulatory bodies, others have no regulatory body whatsoever. Specifically, out of the 36 African countries with data protection laws, only 26 have data protection authorities (Privacy Lens, 2023).

Furthermore, the economic disparity, lack of necessary digital skills, and inadequate public knowledge limit the control of the African nation (CSEA Africa, 2023) while empowering external actors to use their power and resources to exploit untapped data on the continent.

3. Data exploitation and the future development of Africa

This section examines the critical issue of data exploitation and its implications for the future development of Africa. By shining a spotlight on the role of big technology companies in consolidating dominance over crucial aspects of the tech ecosystem, the section aims to elucidate the power dynamics at play in Africa's digital landscape. Furthermore, it explores the far-reaching consequences of data exploitation on African economies, including the exacerbation of economic imbalances and the perpetuation of a digital wealth transfer that undermines local prosperity. Moreover, it delves into the multifaceted challenges posed by data exploitation, ranging from potential reliance on external actors to the stifling of local innovation and

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threats to national sovereignty. Through the analysis in this section, the paper seeks to underscore the urgent need for proactive measures to safeguard Africa's data sovereignty and promote equitable development in the digital age.

3.1 The role of big technology companies

Multinational tech corporations, often called Big Tech, play a significant role in Africa's digital landscape (AFD, n.d.). They are involved in various aspects of technology, including internet services, cloud computing, and digital platforms. Their influence has several implications for the continent.

Big Tech companies have invested in expanding internet access in Africa, which has helped improve connectivity in underserved areas. However, their involvement also means they hold substantial power over digital access and infrastructure. Through online behavioural tracking technology, the activities of web and app users on the internet can be easily monitored (Arora and Arora, 2018), and through their data on multiple platforms, a digital profile can be created to produce content personalised to each user (van Rijmenam, 2013). One can therefore state that big techs are able to build dominance over critical functions in the tech ecosystem; through "surveillance in the form of Big Data," "exercise of control over the flow of information (such as the distribution of news and streaming services), social activities (like social networking and cultural exchange), and a plethora of other political, social, and economic and military functions mediated by their technologies" (Kwet, 2019b).

Another major implication of Big Tech's presence on the African continent is the control and monetisation of data (Elmi, 2020). Often driven by the intent to make profits, Big Tech corporations use "proprietary software, corporate clouds, and centralised Internet services to spy on users, process their data, and spit back manufactured services to subjects of their data fiefdoms" (Kwet, 2019b). As a continent with more than 1.25 billion people (World Atlas, 2018), the African market represents a data repository for Western tech companies. The vast amounts of data processed and collected from African users are usually exported out of the continent and sold to data brokers, who collect the data with the aim of conducting targeted advertising or storing the data for predictive analytics (Melendez and Pasternack, 2019). Now, advertisers no longer must make assumptions about consumers' behaviour (Reczek et al., 2016) and can target consumers with extreme precision based on hyper-personalised data (Matsakis, 2018). All these raise concerns about the privacy rights of users, data security, and data ownership.

Furthermore, the dominance of big tech platforms influences technology adoption and consumer behaviour on the continent. Their dominance drives African businesses and individuals to rely heavily on foreign-owned platforms while stifling local innovation and entrepreneurship. In this way, tech companies are able to extract user data from different sources. For instance, Google, through its many tools, Google Search, Google Maps, Location Services, and Google Mail, is able to collect data from users all over, while African and other developing regions are unable to develop products to compete with these foreign corporations (Matsakis, 2018; Kwet, 2019b).

In summary, the role of Big Tech companies in Africa's digital landscape is significant and multifaceted. Although they contribute to improving connectivity and access, their influence on data, privacy, and technology adoption raises important questions about digital sovereignty and the need for an African agency to shape the continent's digital future. What gives the highlighted consequences of big tech true power or dominance is that the extraction of data on the continent involves countries, many of whom have "limited infrastructures, limited data protection laws, and limited competition, combined with social, political, and economic power imbalances and decades of resource pillaging" (Coleman, 2019).

3.2 Implications of data exploitation on the future development of African economies

The implications of data exploitation on the future development of African economies are multifaceted. One key concern revolves around the economic value generated from users' data. Companies like "Facebook and Google use these data as a means of selling access to individuals to third-party corporations" (Wagner, 2018). As external entities monetise these data, profits often flow out of Africa, contributing to a digital wealth transfer that exacerbates economic imbalances within the continent.

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In addition to converting users' data to usable information and selling for immense profit (Coleman, 2019), these data can also be used to infer personal information about users without the users directly giving out the information (Ng and Kent, 2018). This creeps into a person's private life and goes against the basic tenets of the users' right to privacy. The implication of this on an entire continent is far-reaching as one cannot then imagine the exploits of big techs like Google with access to data of over 1.17 billion global users (Richter, 2013).

Moreover, when Africa relies heavily on international technology companies for digital infrastructure and services, the risk of economic reliance on these external actors becomes significant (Solomon and van Klyton, 2020). Decisions affecting local communities can be tied to the interests of foreign entities, potentially influencing and manipulating the economic destiny of African nations. For instance, Huawei's role in Kenya's 4G network installation (Huawei, 2018), while offering short-term benefits, raises long-term concerns about foreign influence (Belt and Road Portal, n.d.).

Data exploitation can also stifle local innovation and entrepreneurship. When foreign entities dominate digital markets and collect extensive data, local businesses face barriers to entry and competition. Limited opportunities hinder the growth of home-grown technology companies, as foreign actors possess resources, expertise, and networks that can be challenging to match. This dominance can create an uneven playing field, discouraging fair competition, and hindering the development of a vibrant technology ecosystem.

The presence and control of external actors in Africa's digital space may challenge national sovereignty and regional decision-making. Data sovereignty issues (Akinyetun, 2023) arise when external entities control sensitive data, necessitating the implementation of laws to restrict data transfer in some African countries. Although it is conceded that mandatory localisation of data does not necessarily imply benefits, it presents its own challenges as an extension of the government's surveillance capabilities. However, the data transfer restriction can also be used as an instrument to enhance data sovereignty protection. With reference to data localisation, one finds that data transfer is restricted in countries like South Africa and Kenya, and allowed only under specific circumstances. For instance, data collected is not to be transferred outside Kenya without proof that the jurisdiction to which the data are to be transferred has adequate data protection safeguards or that the data subject's consent has been obtained (One Trust Data Guidance, 2024).

In summary, the implications of data exploitation on Africa's future development encompass economic imbalances, potential reliance on external actors, stifling of local innovation, and challenges to national sovereignty. These multifaceted consequences highlight the need for a comprehensive and strategic approach to navigate the evolving digital landscape in Africa.

4. Need for African ownership in cultivating the digital future of the African continent

In this section, the paper explores the imperative for African ownership in shaping the digital future of the continent. By examining key initiatives and responses from African nations, such as Nigeria's Digital Economy Policy and Strategy and Kenya's Huduma platform, the paper highlights the strides being made towards cultivating local ownership and agency in the digital sphere. Furthermore, it delves into the multifaceted approaches to fostering African ownership, including fostering local innovation, safeguarding digital sovereignty, bridging the digital divide, promoting local digital infrastructure development, and encouraging education and research. Through this comprehensive analysis, the paper aims to underscore the importance of empowering African stakeholders to actively participate in and shape the digital transformation of their respective countries and the continent as a whole.

4.1 Overview of some African initiatives and responses

In attempts to consolidate the digital sovereignty efforts in Africa, some countries have recognised the importance of asserting ownership and agency in the digital sphere, and are undertaking some initiatives and responses to shape their digital future.

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Nigeria has taken a significant step in its economic evolution with the launch of its Digital Economy Policy and Strategy (Nigerian Economic Summit Group, n.d.). This strategic framework is designed to harness the power of digital technologies to diversify the nation's economy. It centres its focus on critical areas such as digital skills development, the promotion of e-commerce, and the creation of a supportive regulatory environment (Nigerian Economic Summit Group, n.d.).

Across the continent, Kenya has set a precedent with its Huduma platform (Huduma Kenya, n.d.), which reduces bureaucratic obstacles, enhances administrative efficiency, and allows easy access to governmental services for the citizens (JKUAT Repository Home, n.d.).

In South Africa, there is the data protection law, the Protection of Personal Information Act (POPIA) (POPIA, n.d.) which protects the individuals' privacy rights of citizens.

Meanwhile, Rwanda's dedication to fostering an innovation ecosystem is evident through initiatives like the Kigali Innovation City (n.d.) and the Rwanda Coding Academy (n.d.). These efforts are instrumental in cultivating a skilled tech workforce and driving the growth of the digital sector.

On a continental scale, the African Union has launched a Digital Transformation Strategy (African Union, n.d.), signalling a collective commitment to accelerate Africa's digital evolution. This strategy encompasses endeavours to harmonise digital policies across African nations and promote the development of crucial digital infrastructure (African Union, n.d.).

These examples demonstrate that African nations and organisations are actively working to assert their agency in the digital sphere. By implementing policies, fostering innovation, and investing in digital infrastructure, they aim to shape their own digital futures and maximise the benefits of the digital age for their citizens and economies.

4.2 Towards cultivating local ownership in shaping Africa's future

The preceding sections of this article have highlighted the multifaceted implications of external actors exerting control over Africa's digital infrastructure. From economic dependency to concerns over sovereignty and cultural homogenisation, it is evident that the stakes are high regarding Africa's digital future. In light of these challenges, this section emphasises the imperative of African ownership in shaping the continent's digital destiny.

4.2.1. Fostering local innovation

One of the foremost reasons for advocating African agencies in the digital sphere is the necessity to foster local innovation. As discussed earlier, dependence on foreign technology can stifle indigenous creativity and entrepreneurship. To overcome this hurdle, African nations must prioritise the development of homegrown technological solutions and startups. For instance, the "Made in Rwanda" initiative, where the Rwandan government actively promotes the production of locally made technology products (Xinhuanet, n.d.), including smartphones, to reduce dependency on foreign imports and boost the nation's technological self-reliance and export rate, is a good starting place to foster local innovation.

4.2.2. Safeguarding digital sovereignty

African countries must safeguard digital sovereignty to prevent undue external influence and control. This involves enacting policies and regulations that protect sensitive data, encourage data localisation, and ensure that digital infrastructure projects align with national interests. For instance, the Nigerian and South African Data Protection Laws (POPIA, n.d.) exemplify efforts to safeguard data sovereignty by imposing strict data protection measures and requiring companies to store data locally.

4.2.3. Bridging the digital divide

To bridge the digital divide disproportionately affecting marginalised communities, African governments must proactively expand internet access and digital literacy across the continent. This is an economic imperative and a means of ensuring social equity. This was part of the Kenyan National Broadband

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Strategy (Digital Impact Exchange, n.d.), which aims to provide affordable broadband access to underserved regions, thereby reducing the digital divide and fostering inclusivity.

4.2.4. Promoting local digital infrastructure development

While international partnerships can accelerate digital infrastructure development, African nations must play a central role in shaping their digital landscapes. This approach would promote solutions tailored to the African context, driving sustainable growth and fostering a culture of technological advancement from within. In addition, collaborations with external actors should be equitable, transparent, and aligned with national development goals. In this regard, Ethiopia's decision to liberalise its telecommunications sector and encourage foreign investment while retaining a significant stake in the Ethio Telecom company is a strategic move towards promoting local infrastructure development while benefiting from international expertise (Reuters, 2023).

4.2.5. Encouraging education and research

African nations should invest in education and research to build a strong foundation in digital technologies. This involves developing curricula emphasising digital skills, supporting research institutions, and nurturing a culture of innovation.

In conclusion, while acknowledging the complex socio-economic landscape and the macroeconomic factors within the continent, promoting local ownership still remains a catalyst for cultivating an environment for local innovation and safeguarding sovereignty.

Granted that local ownership alone does not guarantee ethical data practices, it however, provides a foundation for accountable governance, regulation, and implementation of policies that prioritise data protection, privacy rights, and responsible use within the continent.

Flowing from the above, the need for African agency and ownership in shaping the continent's digital future cannot be overstated. African nations can assert their place in the global digital landscape by fostering local innovation, safeguarding digital sovereignty, bridging the digital divide, promoting local infrastructure development, and encouraging education and research. In doing so, they can harness the transformative power of technology to drive sustainable development, economic growth, and social progress while retaining control over their digital destinies.

5. Africa's road towards a decolonised digital future

This last section of the paper envisions Africa's road to a decolonised digital future. Through a series of recommendations and conclusions, it explores the multifaceted approach necessary to reduce digital colonialism and foster local agency, innovation, and digital skills development across the continent.

5.1. Recommendations

Reducing digital colonialism in Africa and fostering a decolonised digital future demands a comprehensive strategy that spans regulatory, educational, and economic dimensions.

5.1.1. Reducing digital colonialism

A. Digital sovereignty policies: African nations should develop and implement policies prioritising digital sovereignty. In using data localisation to ensure control over data, flexible data localisation measures that balance sovereignty with practical considerations should be encouraged. For instance, adopting policies that allow for the storage of sensitive data within the country while permitting cross-border data flows for non-sensitive information. These digital sovereignty policies should also be regularly evaluated based on feedback from stakeholders and evolving technological trends.
B. Data protection and privacy laws: Strengthening and enforcing data protection and privacy laws can safeguard user data and reduce external actors' exploitation of African data. The laws should

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also require robust data protection measures, encryption standards, and transparency in data handling practices.

C. Promoting open-source technologies: Encouraging the use of open-source technologies can reduce dependency on proprietary software and increase local control over digital tools.
D. Investing in digital infrastructure: Continued investments in expanding digital infrastructure, including high-speed internet access and data centres, are essential to reduce connectivity disparities. Furthermore, African Governments can create a conducive environment for these local data centres through tax incentives, infrastructure support, and partnerships with private sector entities.
E. Supporting local content: Governments and organisations can incentivise the creation and consumption of local digital content, including applications, services, and educational materials.
F. Balanced trade agreements: African nations should negotiate trade agreements that protect their digital interests and ensure that they benefit from digital transactions and data flows.

5.1.2. Fostering local innovation and digital skills development

A. Education and training programs: Developing comprehensive digital education and training programs at all levels of education can equip African youth with the skills needed to participate in the digital economy. These capacity-building initiatives would also aid in developing local expertise in data management and infrastructure development.
B. Innovation hubs and incubators: Governments and private sector stakeholders can establish and support innovation hubs and incubators to nurture local tech startups and entrepreneurs.
C. Access to funding: Access to venture capital and funding mechanisms for tech startups and innovation projects should be expanded to encourage local innovation.
D. Digital literacy programs: Initiatives to improve digital literacy among the general population are essential for ensuring everyone can benefit from digital technologies.
E. Collaboration between governments, businesses, and international partners: These efforts would help to bridge the gap in technical capabilities and address operational challenges. In addition, collaboration with multinational tech companies can be mutually beneficial, provided that agreements prioritise knowledge transfer, skills development, and technology localisation.
F. Research and development: Investing in research and development institutions and initiatives can drive innovation and technological advancement in critical areas.

In summary, reducing digital colonialism and fostering a decolonised digital future in Africa requires a combination of regulatory, educational, and economic strategies. By prioritising digital sovereignty, investing in digital infrastructure, and promoting local innovation and skills development, African nations can assert greater control over their digital destiny and unlock the full potential of the digital age for their societies and economies.

5.2 Conclusion

Despite some progress that has seen an increase in the number of African countries that have at least one form of data protection law from 12 to 28 between 2012 and 2021, and now 36 (Privacy Lens, 2023), many African countries still lack comprehensive and enforceable policies specifically designed to define and protect African digital sovereignty. It must be noted that weak data protection laws and enforcement mechanisms pose a challenge in safeguarding digital sovereignty and also expose African citizens' personal data to misuse and unauthorised access by external actors. Although individual state-level policies focusing on improving access have been more achievable, with only five African countries that did not have any digital strategy in 2021, the development of frameworks for digital rights has been less successful, despite the increasing presence of local and continental digital rights groups (SAIIA, 2023).

In conclusion, Africa's decolonised digital future requires a concerted effort to address digital colonialism's negative impacts, promote local agency, and harness digital technology opportunities.

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The path may be challenging, but it is essential, and with concerted effort, Africa can navigate towards a future where digital technologies serve as tools for empowerment and advancement rather than mechanisms of exploitation and marginalisation.

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