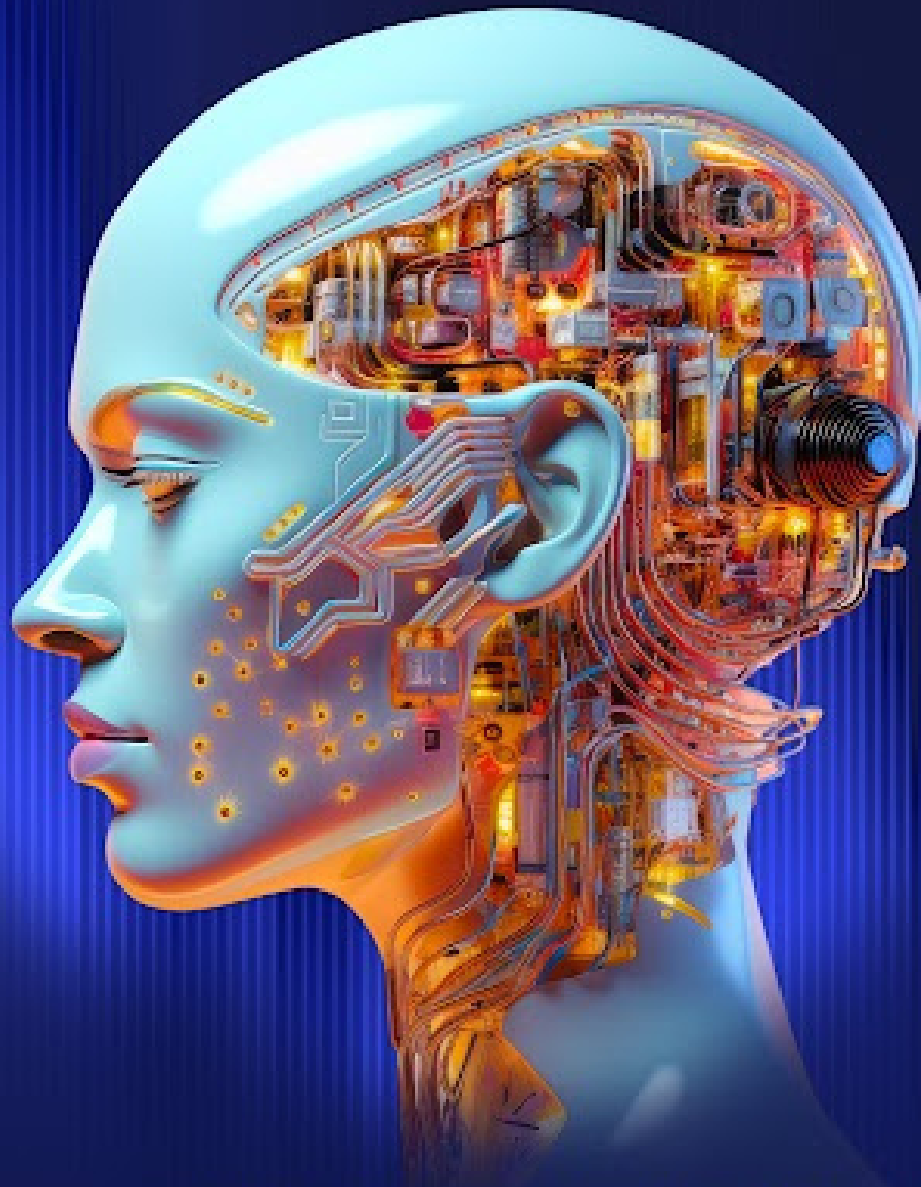


INSIGHT NOTE



GENERATIVE AI

For Long-Term Advancement &
Inclusive Transformation: Empowering
Africa's Future

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EXECUTIVE SUMMARY

This policy insight highlights the **impact of generative Artificial Intelligence (AI)** on various sectors of the African economy and identifies some of the factors limiting the responsible adoption and growth of this technology in Africa. This brief further provides key policy considerations on how Africa can effectively employ the potential of generative AI to drive innovation, productivity, economic growth, and development in the continent. Through infrastructural development, capacity building and regional collaboration, Africa can harness generative AI's transformative power while ensuring its deployment is ethical, inclusive, and aligned with Africa's unique challenges and goals.



KEY FINDINGS AND RECOMMENDATIONS

- Generative AI and other technologies have the potential to automate work activities that absorb 60% to 70% of human time, thus improving the Future of Work (FoW) and workers' productivity in the labour force.
- The introduction of generative AI in agriculture has helped to boost food production and improve food security in Africa.
- Generative AI has also transformed Africa's creative industry. Creative artists in Africa now use Google's TensorFlow machine learning framework to produce African art works at a faster pace.
- Limited internet access and connectivity, as well as the existing digital gender divide, affects the growth and responsible adoption of generative AI in Africa.
- African governments must build capacity by investing in AI research, education, and training programs to cultivate a skilled workforce capable of developing and implementing responsible generative AI solutions.
- Clear ethical guidelines and regulations for the responsible use of generative AI in Africa must be developed to address concerns around privacy, consent, and AI-generated content.

INTRODUCTION

AI has emerged as a transformative force across industries worldwide. The increasing level of advancement of AI has significantly impacted the functionality of societies and economies, thus prompting extensive debates over the advantages and disadvantages of AI for society and humanity as a whole.¹ There have been substantial developments in various sectors of the global economy since the advent of AI. This is evident in an estimated projection, which indicates that AI will provide approximately \$15.7 trillion to global GDP by 2030, with \$6.6 trillion from increased productivity and \$9.1 trillion from consumption effects.²

In 2023, generative AI, an emerging field of AI technology, has garnered substantial attention. It involves the creation of AI models that can generate original content, such as images, text, audio, code, simulations, and videos.³ The of generative AI has ushered in an era of immense transformation in business operations, communication, and research. With the potential to drive innovation, enhance productivity, and create new economic opportunities, this technological advancement not only presents considerable prospects for economic development but has also introduced unprecedented challenges due to its usage by humans.⁴ These challenges include misinformation, fake content creation, violation of privacy rights, cybersecurity threats, and intellectual property concerns that contribute to higher risks for individuals and organisations. Nonetheless, this versatile technological tool has the capacity for long-term advancement and inclusive transformation.

Incorporating generative AI in the African space is pertinent, and nations within the continent have gradually begun to adopt this advanced technology into critical sectors of the economy. However, there are limitations within the African context that affect the adoption and prevent the growth of this technology in the region. This brief highlights the impact of generative AI on various sectors of the African economy including Education, Healthcare, Agriculture, and Manufacturing sectors. It also identifies some of the factors limiting the adoption and growth of this technology and provides key policy considerations on how Africa can effectively harness the potential of generative AI to drive innovation, productivity, economic growth, and development.

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[2] Anand S. R and Gerard V. "Sizing the prize: What's the real value of AI for your business and how can you capitalise?" PWC. 2023

[3] McKinsey & Company. "What is generative AI?" January 19, 2023

[4] Yahaya, M., Umagba, A., Obeta, S, and Maruyama, T. "Critical Evaluation of the Future Role of Artificial Intelligence in Business and Society". *Journal of Artificial Intelligence, Machine Learning and Data Science*, 1(1), pp.1-9. March, 2023

BACKGROUND

The global acceptance of **Generative Artificial Intelligence** can be attributed to its resemblance to human intelligence. This likeness can improve and upgrade the relationship between humans and machines leading to improvements in productivity. Issues about the morality of its application still need to be clarified. For instance, Geoffrey Hinton, also known as the “Godfather of AI”, resigned from Google due to his concerns about the dangers of AI and how it could harm humans.⁵ One of the renowned examples of generative AI tools is ChatGPT, a language-processing chatbot created by OpenAI. It was developed in November 2022, and according to research, it has over 100 million users in just two months.⁶ DALL-E, developed by OpenAI, generates fresh picture material through natural language processing. Google uses the Language Model for Dialogue Applications (LaMDA) to comprehend the context of the conversation and respond in a human-like manner. Google Bard utilises real-time information from the web, giving it an advantage in up-to-date content compared to ChatGPT, which relies on data from 2021 and earlier.⁷ Bing AI combines an existing Bing search engine with an AI chatbot that responds to requests while also conducting searches. Finally, several other generative AI programs, such as You.com, Jasper, Youchat, and Akkio, have separate features yet produce comparable results. However, this program's uniqueness is based on using previous data to build current content.

Therefore, generative AI goes beyond the properties of discriminative AI⁸ due to its ability to produce new data based on previous data. AI's acceptability depends entirely on various factors centred around perspectives and other considerations, such as ethical, structural, and societal factors. Furthermore, how people view the software will determine whether generative AI is widely accepted. It cannot be denied that some live on either side of the pendulum. The optimists contend that the primary purpose of generative AI is to enhance human creativity through technological advancement. The critics of this technology list various reasons not to be overly enthusiastic about it; typically, moral and legal concerns take centre stage when criticising this technology's drawbacks.

Over time, the Future of Work (FOW) has changed, and recently, due to generative AI's unique abilities to modify routine jobs, the tide has swung in favour of integrating it into Africa's workplace. For instance, Periculum, an African-focused AI company, aims to empower African businesses and government agencies to drive economic growth and social impact. The company provides and develops innovative solutions by leveraging generative AI models to produce output, such as text, images, code, music, etc., customised to users' tastes, thus unlocking creative solutions, and driving growth. In Nigeria, fintech start-ups like FairMoney and Carbon successfully use generative AI to conduct credit risk assessments by analysing large amounts of financial data and market trends, equipping these institutions with the capability to make more informed financial decisions.⁹

Another fintech, Flutterwave, has successfully incorporated AI-powered chatbots and virtual assistants into their model construct to optimise customer experiences.¹⁰ According to a forecast conducted by the International Data Corporation (IDC), the Middle East and Africa (MEA) are projected to spend a staggering \$3 billion in 2023 on AI; the expectation is that spending on AI in MEA will increase by a compound growth rate of 29.7% between 2022-2026 with a minimum cap of an estimated \$6.4 billion in 2026. As a result, Africa should further exploit avenues to benefit from the numerous innovations of generative AI.¹¹

[5] BBC News. “AI ‘godfather’ Geoffrey Hinton warns of dangers as he quits Google” May 2, 2023

[6] Dr Paul Marsden, SYZYGY GROUP. “Survey on the Public Perceptions of Generative AI in Germany,” March 23, 2023.

[7] McKinsey & Company. “What is generative AI?” January 19, 2023.

[8] Discriminative AI focuses on finding a decision boundary that separates input data into different classes

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[10] Moyosore Salami. 5 ways generative AI can propel financial services in Africa, June 7, 2023.

THE CAPACITIES OF GENERATIVE AI AND ITS IMPACT ON DIFFERENT SECTORS

Generative AI has a range of potential capacities that make it useful across various sectors and industries. According to McKinsey & Company (2023), generative AI's impact on productivity could add trillions of dollars in value to the global economy.¹² In its latest research, McKinsey & Company estimates that generative AI could contribute an equivalent of \$2.6 trillion to \$4.4 trillion annually to the global economy. With its ability to generate human-like text from extensive datasets, generative AI can aid individuals and communities in making informed decisions. Additionally, it has the potential to boost economic productivity across various sectors of the economy significantly. Some examples of the capacities and impact of generative AI on different sectors of the economy include:

- **Healthcare:** Generative AI can improve healthcare services by providing personalised assistance to doctors and other healthcare professionals. It can be used to develop automated systems that provide medical professionals with personalised advice and guidance.¹³ It can also help answer medical queries, explain treatment options, provide essential health advice, and assist with patient engagement. Hence, with its ability to understand medical terminology and generate personalised responses, generative AI can help improve patient outcomes and reduce the burden on healthcare providers.¹⁴
- **Education/Academics:** Generative AI can help students better understand concepts they are struggling with by providing customised and interactive explanations. It has the potential to act as a virtual tutor or mentor, aiding in personalised learning experiences. Thus, helping students learn more effectively and efficiently.¹⁵
- **E-commerce/Customer Service:** Generative AI has the potential to revolutionise the entire customer operations function, improving customer experience and agent productivity through digital self-service.¹⁶ It has already gained traction in customer service because of its ability to automate interactions with customers using natural language. Generative AI can also provide personalised product recommendations or assist with online shopping. This helps to increase sales, improve customer satisfaction, provide a seamless customer experience, and help businesses save time and resources.¹⁷
- **Information Technology/Cyber Security:** Generative AI has significantly impacted the field of information technology (IT). It has revolutionised how we interact with technology and has made it easier for people to access and use information.¹⁸ **For example, generative AI has introduced fresh opportunities in the field of cybersecurity by enabling the detection and prevention of cyber-attacks.** Moreover, it can identify phishing emails through language analysis, further enhancing online security measures and protecting individuals against scams.¹⁹

[11] International Data Corporation (IDC). "The Middle East & Africa Will See the World's Fastest AI Spending Growth Through 2026, According to Latest Forecast from IDC" April 11, 2023.

[12] Chui, M., Hazan, E., Roberts, R., Singla, A., Smaje, K., Sukharevsky, A., Yee, L. and Zempel, R. "The economic potential of generative AI: The next productivity frontier" McKinsey & Company. June 14, 2023

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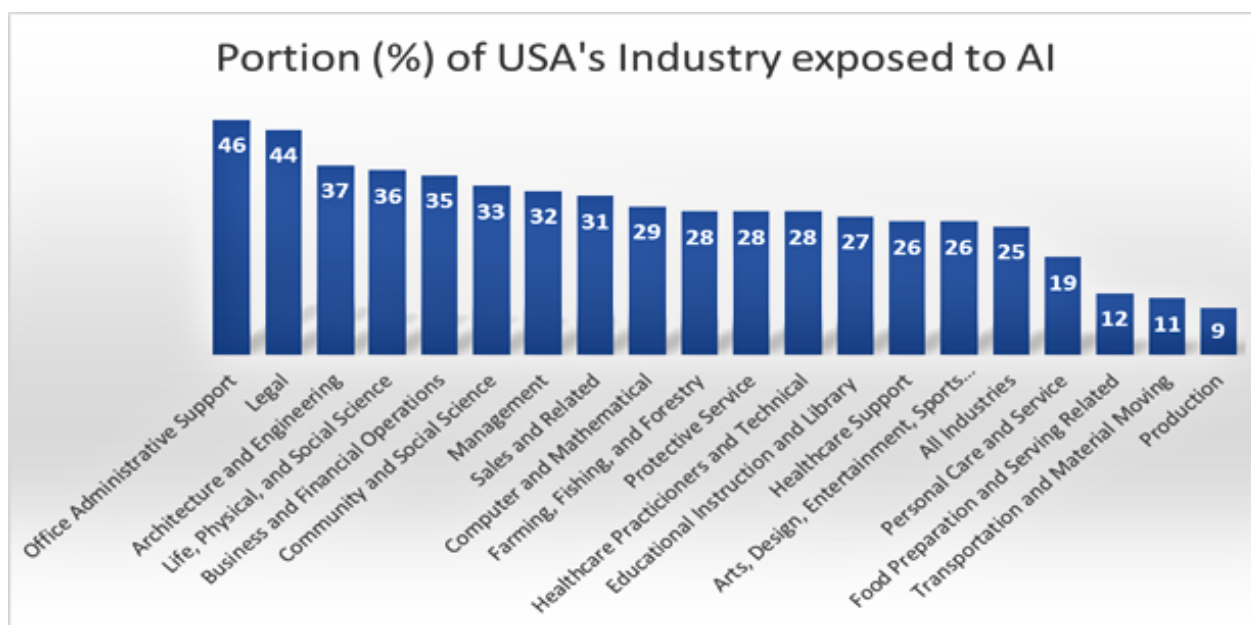
[15] Lund, B. D., & Wang, T. "Chatting about ChatGPT: how may AI and GPT impact academia and libraries?" Library Hi Tech News. February 14, 2023

- **Governance:** Generative AI language models have started to show some impact on governance, particularly in the areas of public engagement, policy development, and information dissemination. Governments and policymakers can use it to engage citizens and gather feedback on various policies and initiatives. Thus, facilitating more inclusive and accessible public participation in governance processes.²⁰

GLOBAL BENEFITS OF GENERATIVE AI ON SOCIO-ECONOMIC GROWTH AND DEVELOPMENT

The use of generative AI could have a significant impact across all industry sectors as it has the potential to change the anatomy of work, augmenting the capabilities of human workers by automating several activities. Generative AI and other technologies can potentially automate work activities that absorb 60 to 70% of human time due to its increased ability to understand natural language.²¹ Thus, this innovation has improved workers' productivity in the labour force, potentially resulting in cost savings to the labour market. The benefits of generative AI cannot be overemphasised; for instance, according to Goldman Sachs, it could increase global annual GDP by an estimated 7% over ten years (approximately \$7 trillion USD over the said time).

Figure 1 shows the proportion of the United States of America (USA) workforce that will benefit from the automation of AI through increased productivity. Office Administrative support will have the highest effect from AI, with a staggering 46% automation dependence, followed by Legal and Architecture and Engineering, with 44% and 37%, respectively.



Source: Author's extract from Goldman Sachs Survey, March 2023.

[16] Sed, M. "How Chat GPT-3 can apply in different sectors". March 18, 2023

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[20] Marcin, F. "The Impact of ChatGPT on the World of E-government and Digital Public Services". April 30, 2023

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Generative AI has been gradually integrated into various global sectors, including healthcare. It enables physicians to offer prompt consultations and quickly generate images from X-rays, resulting in faster response time to patient treatment.²² In 2020, Accenture provided a comprehensive report, forecasting annual savings in the US healthcare sector to be approximately \$150 billion by 2026 due to the adoption of AI technologies.²³ Furthermore, generative AI has boosted automation within the manufacturing industry on items such as image and video synthesis, game development, etc. Significant points of impact are in product design and manufacturing processes. This technology has caused a shift in conventional methods of production procedures, leading to increased efficiency and precision.²⁴ According to Grand View Research, the AI market was worth approximately \$15.4 billion in 2022 and is anticipated to grow at a Compound Annual Growth Rate (CAGR) of 37.5% from 2023 to 2030.²⁵ This is a good representation of the upward trajectory of AI adoption. Hence, Africa should seek these potential benefits by leveraging generative AI to gain total productivity across various sectors of its economy.

ASPECTS OF AFRICA'S ECONOMY EXPOSED TO GENERATIVE AI IMPACT

Generative AI can impact multiple aspects of Africa's economy, just as it does in other regions. It is pivotal to the success of many sectors in the African economy today due to its undeniable usage in the healthcare sector, agriculture, and education sector, among others.²⁶ Hence, generative AI has proved to be a necessary tool for the advancement and growth of the African economy. However, African nations may be concerned that the profitable share from the usage and adoption of generative AI could primarily benefit developed countries, as AI technological solutions are often designed and originate from the Global North. Nonetheless, despite the global reach of the AI supply chain, the benefits of these technologies have not been widely obtained in the African region and are, instead, primarily accrued to the Big Tech companies of the Global North and China.²⁷

While the adoption and effects of AI technologies can vary across different countries and sectors, here are some aspects of Africa's economy that have been impacted by generative AI:

Positive Impact of Generative AI on the African economy

- **Agriculture and Food Security:** The introduction of AI in agriculture has helped boost food production and improve food security in Africa. It is used for soil and crop monitoring, harvesting, pest and disease control, and crop yield forecasting.²⁸ For example, farmers in Tanzania and Kenya use an AI-powered system tool to detect crop diseases. This AI tool is known as the Cassava Disease Detection App.

[22] Bi, Wenya Linda, et al. "Artificial intelligence in cancer imaging: clinical challenges and applications." *CA: a cancer journal for clinicians* 69.2: 127-157. February 5, 2019

[23] Accenture "AI: Healthcare's new nervous system". July 30, 2020.

[24] Scot Wlodarczak. "How Generative AI will transform manufacturing", June 20, 2023.

[25] Grand View Research. "Artificial Intelligence Market Size, Share & Trends Analysis Report By Solution, By Technology (Deep Learning, Machine Learning), By End-use, By Region, And Segment Forecasts, 2023 - 2030". 2023

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It was developed by the International Institute of Tropical Agriculture (IITA) and uses image recognition to identify diseases in cassava plants.²⁹ Hence, farmers can take timely action to mitigate the spread of diseases based on the app's recommendations. Thus, leading to more sustainable farming practices in Africa.

- **Education:** AI has transformed education by facilitating the transition into digital learning, such as grading and assessment reports and tracking. Generative AI has transformed teaching, learning and assessment by influencing digital learning. For example, an African start-up, Tioo, developed an AI-powered platform that provides personalised lesson content and empowers teachers to conduct research. Teachers can generate class activities, notes, and assessment questions on a particular topic for a specific class and age from multiple curricula through the app.³⁰ Hence, it relieves African teachers of unnecessary workload and opens students to globally competitive content.
- **Creative Industries:** The capabilities of the generative AI have an impact on the creatives in Africa due to its functions, such as the ability to produce images, text, and software. This innovation also answers simple prompts faster from various data sources on the internet, leading to a debate on whether AI output should be copyrighted.³¹ Research conducted by computer interaction researchers at Carnegie Mellon University has proved that AI has made a massive impact in Africa. The research conducted by this institution used Google's TensorFlow machine learning framework to train a generative adversarial network (GAN) "African masks dataset". The GAN network uses generators that produce samples and discriminators that differentiate between generated and real-world samples. The work has successfully explored the intersection of African art and AI. This AI model can learn concepts specifically centred around African masks, such as textures, geometry, etc. and then use these concepts to interpret artistic pieces.³²
- **Manufacturing and Supply Chain:** The manufacturing industry has contributed to the surge in generative AI as organisations have recently leveraged resources such as text, video, imaging and much more. According to the International Data Corporation (IDC) survey conducted in 2023, it is estimated that approximately 27% of organisations will invest in generative AI technologies.³³ In Africa, generative AI has facilitated the adoption of automotive programs in the manufacturing industry and has aided the diversity of new product lines for manufacturers.³⁴ According to statistics from the Bureau of Census, Africa's manufacturing sector employs over 33 million people and represents an estimated 17% of Africa's GDP and accounts for 20% of Africa's exports. An increase in the manufacturing of high-value technology has also led to an increase in African countries exporting manufactured goods. In 2019, exports across the continent were estimated to be \$110 billion. These figures are expected to surge due to the influence of generative AI.³⁵

[28] Micheal Kipkorir Songol. "Adoption of Artificial Intelligence in Agriculture in the Developing Nations: A Review". *Journal of Language, Technology & Entrepreneurship in Africa (JOLTE)* Vol.12 No. 2. February 18, 2022.

[29] International Institute of Tropical Agriculture (IITA). "New app diagnoses crop diseases in the field and alerts rural farmers". September 28, 2017

[30] Levi Cee. "How startups can leverage AI to transform education in Africa." July 28, 2023.

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[32] Frank Eleanya. "How Nigerian researcher creates African artworks using AI." January 2, 2019.

[33] Anielle Guedes. "How Generative AI is Impacting Industries". July 6, 2023.

[34] Victoria Nxumalo. "Generative AI: The Next Frontier for Economic Development in Africa." June 12, 2023

[35] Albert Nangara. "How AI can solve Africa's manufacturing value chain." January 5, 2023.

- **Tourism:** The tourism industry has been a significant beneficiary of generative AI, as this technology has spurred an increase in efficiency, decreased costs and improved the general customer experience in the industry. Furthermore, it can successfully pull this off by enhancing automation for iterative processes, providing operations with more structure that gives customers and businesses a more pleasant experience. However, like many other sectors, there are significant concerns about ethics and privacy.³⁶ AI has been used in the tourism industry in Africa for various reasons, such as the implementation of specific customer recommendations, solidifying the quality of engagement and fast response time. With the increasing reliance on generative AI in this industry, it is expected that Africa's income from tourism will significantly rise and surpass the \$1.19 billion generated in 2019.³⁷

Potential Adverse Impact of Generative AI on the African Economy

- **Impact on the Labour Market:** Generative AI could be disruptive in the labour market if not appropriately adopted, as it could potentially be an alternative to human beings.³⁸ Its impact on the labour market can be two-fold. On the one hand, it has created new job opportunities in fields such as natural language processing, artificial intelligence, and machine learning.³⁹ As the demand for these skills increases, there is a growing need for specialists who can work with generative AI technologies. On the other hand, it has also impacted existing jobs. For example, chatbots and virtual assistants are increasingly used to handle customer support queries, thus reducing the need for human customer service representatives. This trend will likely continue as chatbot technology becomes more advanced and capable of handling more complex tasks.⁴⁰
- **Gender Issues and Concerns:** A particular aspect that has not received adequate attention is the impact of automation on job loss for African women. They often occupy the majority of positions involving low-skilled labour and repetitive tasks, making them more susceptible to replacement by automation.⁴¹ The experiences of women tend to be ignored in policy measures developed to address job loss, particularly reskilling programs, which fail to consider the daily realities of women who bear the burden of domestic responsibilities and have limited time to reskill for the digital world.⁴² These issues are exacerbated by a growing digital gender divide within the continent, where, on account of a variety of social factors including deep-set patriarchy, women have poorer access to digital technologies than men.⁴³
- **Over-reliance on Foreign Technology:** The African continent is plagued mainly with subpar technology, which hinders optimal adoption of AI technology. This has posed a barrier for consumers who wish to access AI technology. As Africa strives to generally improve the quality of digital infrastructure and find an optimal balance between the quality of technology and affordable rates, there remains a vast dependence in the continent on foreign technology, which comes at a premium and is rarely customised to meet the needs of African consumers.⁴⁴

[36] GlobalData, *Generative Artificial Intelligence (AI) in Tourism - Analysis of Generative AI in the Tourism Industry, Use Cases, Challenges and Opportunities*, April 28, 2023.

[37] Africa Youth in Tourism, *The impact of AI in the Travel & Tourism Industry*, 2023.

[38] Goldman Sachs, "Generative AI could raise global GDP by 7%" April 5, 2023

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[40] Mok, A., & Zinkula, J. "ChatGPT may be coming for our jobs. Here are the 10 roles that AI is most likely to replace". Business Insider Africa. June 4, 2023

[41] Adams, R. 'AI in Africa: Key Concerns and Policy Considerations for the Future of the Continent'. Policy Brief No. 8. Berlin: APRI. May 30, 2022.

Additionally, with this setup, AI technology companies, primarily located in Europe and the United States of America (USA), would continue to reap greater benefits from AI as the African continent maintains a position of disadvantage due to its overdependence on these countries for the technology in an extractive importation setup.

- **Skills Gap:** The presence of generative in Africa has made it necessary for those wishing to integrate into this industry to acquire the required skills for success in the AI sector. Some of such skills include digital literacy, which remains a challenge in the continent as training options are limited and costly when available. Hence, lack of education and inadequate skills have contributed to the existing skills gap in the region.
- **Disruption of the Traditional Sector:** The creative industry is valued at approximately \$14 billion approximately, and this includes digital channels, artists, musicians, writers, etc.⁴⁵ The industries that rely on traditional hands-on skills to deliver quality services would be disrupted by further deepening with this generative AI technology. This is because generative AI can produce images, software, gaming, etc, faster than humans.⁴⁶

Limitations and Challenges in Adopting Generative AI in Africa

Adopting generative AI in Africa has several limitations and challenges, many of which are shared with other regions but may be more pronounced within the African context. Some of these limitations and challenges include.

- **Internet Access and Infrastructure:** Internet access and connectivity needs vary across Africa. Many regions still need more reliable internet infrastructure. According to the International Telecommunication Union (ITU) statistics of 2022, internet penetration in Africa was around 40%.⁴⁷ This implies that over half of the African population lacks access to internet services, thus hindering the widespread use of generative AI technologies that rely heavily on cloud-based services. In addition, the availability and reliability of electricity vary across African countries. Some regions still have inadequate access to a reliable power supply, making it challenging to run resource-intensive AI models.
- **Cost, Affordability and Entry Barriers:** Accessing cloud-based generative AI services and training large-scale models can be high. This has hindered the adoption of generative AI services for individuals and organisations in Africa with limited financial resources. Furthermore, foreign Big Tech monopolies, like the Amazon Web Services (AWS) facility in Cape Town, which currently dominates the African region, threaten to new domestic market entrants.⁴⁸

[42] Rachel A. "AI in Africa: Key Concerns and Policy Considerations for the Future of the Continent". Africa Policy Research Institute (APRI). May 30, 2022.

[43] Adams, R. 'AI in Africa: Key Concerns and Policy Considerations for the Future of the Continent'. Policy Brief No. 8. Berlin: APRI. May 30, 2022.

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[45] David De Cremer, "How Generative AI Could Disrupt Creative Work". April 13, 2023.

[46] Andrew Rens, *Generative AI and sustainability Creativity*. May 2023.

[47] International Telecommunication Union (ITU). "Internet surge slows, leaving 2.7 billion people offline in 2022". September 16, 2022

[48] Adams, R. 'AI in Africa: Key Concerns and Policy Considerations for the Future of the Continent'. Policy Brief No. 8. Berlin: APRI. May 30, 2022

- **Data Availability and Quality:** Generative AI models require vast amounts of diverse and high-quality data for training. While some datasets exist for popular languages and topics, more representative and localised data for African languages and specific contexts are often needed. Africa is home to over 2,000 languages, making it challenging to develop models that cater to all the linguistic diversity present in the continent.⁴⁹ Most pre-trained models are usually in English and a few other major languages, leaving out more minor African languages and further limiting the technology's domain knowledge acquired through its training data.⁵⁰ As a result, it may need help with highly specialised or niche topics outside its domain. This limitation can make generative AI less useful for users seeking information on African-specific topics.
- **Regulatory and Legal Challenges:** The use of generative AI in sensitive sectors such as healthcare, finance, and governance raise ethical concerns related to privacy, consent, and the responsible use of AI-generated content. The rapid development of generative AI has outpaced regulatory frameworks and legal precedents. Thus, addressing issues related to liability, intellectual property, privacy, and security in the context of generative AI can be complex. In addition, many African countries need more comprehensive policies and regulations governing AI and data usage, leading to uncertainties about AI adoption legal and ethical aspects.

KEY POLICY CONSIDERATIONS FOR THE RESPONSIBLE ADOPTION OF GENERATIVE AI IN AFRICA

As African policymakers consider the best approach to adopting generative AI and other related AI technologies in their countries; emphasis should be placed on building sustainable local AI ecosystems that contribute AI solutions to advance national development priorities and support inclusive and prosperous African societies.⁵¹ The future of generative AI is exciting and full of potential. As natural language processing (NLP) technology continues to evolve, generative AI is expected to become even more sophisticated and capable of understanding and responding to human language more naturally and nuancedly. This could lead to the development of even more advanced chatbots and virtual assistants to handle complex tasks and provide personalised recommendations and advice. It could also become an even more powerful tool for data analysis, predictive modelling, and decision-making as it continues to learn from the vast amounts of data it processes.⁵² Hence, there is a need for African countries to take advantage of this growth and leverage the potential of generative AI through responsible adoption to advance economic growth and development in the continent. To do this, there are some key policy areas for African countries to consider, **which include:**

- **Infrastructure Development (Creating a Progressive Environment for Generative AI to Thrive):** African governments should make every effort to focus policy formations on building and maintaining safe, secure, and inclusive infrastructure to support the local development of generative AI. This focus should include creating policies to advance internet access and maintain good governance and data availability for development.

[49] Tao, C. "AI: Supporting Natural Language Processing (NLP) in Africa". Google. August 16, 2022

[50] Vasylykiv, B. "Limitations and Ethical Considerations of Using ChatGPT". Incoira – European Software Development Company. January 25, 2023

[51] Adams, R. 'AI in Africa: Key Concerns and Policy Considerations for the Future of the Continent'. Policy Brief No. 8. Berlin: APRI. May 30, 2022

[52] Mandelaro, J. 'How will AI chatbots like ChatGPT affect higher education?' News Center. February 27, 2023

To thrive and substantially impact the African economy, generative AI requires an enabling environment, dependent on factors such as technological equipment, adequate resources, and cooperation from both public and private sectors.

- **Building Local Capacity and Skills:** African governments must build capacity by investing in AI research, education, and training programs to cultivate a skilled workforce capable of developing and implementing responsible, generative AI solutions. Investment in Research and Development (R&D) initiatives should target students, researchers, government officials, local tech companies, and professionals across different sectors. Holistic capacity development policies are needed to promote understanding of AI at all levels, with specific policy measures to advance women in STEM and AI-related decision-making positions. Additionally, to address the threat of job loss from automation, African Governments, local tech companies, and intergovernmental organisations can provide programs to re-skill or up-skill the existing workforce. In doing this, more attention and focus should be given to African women to address the structural challenges women face in the digital age and curb the growing digital gender divide that persists in the continent.
- **Community Participation:** African governments should make every effort to involve local communities in decisions around designing and deploying AI systems that may affect them. This will ensure a more inclusive development and adoption of AI solutions. Furthermore, a beneficiary framework can be developed to support dividends for local communities whose data are used in developing AI systems and solutions. This dividend can be used for these local communities' advancement and economic development.
- **Regional Collaboration:** African governments should encourage collaborative efforts between countries in the region to access resources, expertise, and funding for AI research and development in Africa. This would provide a platform for inter-regional data sharing and, thus, support the region's growth and development goals. In addition, regional cooperation could also serve as a policy option for developing common regulatory responses for multinational and foreign tech companies operating in the region.
- **Quality Data Availability:** African governments and local tech companies should encourage and ensure the careful selection of local training data and additional programming. Creating localised datasets and AI models that cater to African languages and cultural contexts can help foster more inclusive and equitable AI design and development in the region.
- **International Assistance:** Gaining international assistance remains a significant opportunity for Africa's growth and development. In supporting the adoption of responsible AI solutions in Africa, donors, intergovernmental organisations, Civil Society Organisations (CSOs), and other funders should support efforts to build inclusive digital infrastructure and develop long-term local capacity in AI governance.

- **Regulatory Framework and Assessments:** African governments and policymakers should develop clear ethical guidelines and regulations for the responsible use of generative AI in the region. Adherence to international standards and best practices in AI development and deployment should be encouraged. In addition, regular assessments of the application of generative AI in Africa should be conducted to assess its economic, social, and ethical impact on the economy and to ensure that they align with the development goals of Africa.

By embracing these recommendations, Africa can harness the transformative power of generative AI while ensuring that its deployment is ethical, inclusive, and aligned with Africa's unique challenges and goals.

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