E u r o E c o n o m i c a

Issue 1(43)/2024 *ISSN: 1582-8859*

Exploring the Role of Artificial Intelligence in Eradicating Poverty and Enhancing Global Security in South Africa: A Regulatory Perspective

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Abstract: This article analyses the potential role of artificial intelligence (AI) in the eradication of poverty and the promotion of global security in the South African context. It investigates whether AI could be utilised to alleviate poverty and enhance global security in various sectors such as healthcare, agriculture, education, disaster management, environmental sustainability and humanitarian assistance. The article further explores the possible benefits of AI in creating new job opportunities, increasing economic growth, improving healthcare, reducing agricultural challenges, enhancing access to education, monitoring and mitigating the impact of climate change and providing aid to refugees and other displaced persons in South Africa. It is also noted that the use of AI is often criticised for algorithmic bias, discrimination challenges, privacy violations and cybersecurity challenges. The article also acknowledges various challenges involved in the regulation of AI without a uniform legal framework and/or without a coordinated approach to AI regulation globally. In this regard, it is submitted that AI should be carefully regulated and employed for the benefit of the people without affecting their human rights and other related rights. Lastly, the article scrutinises the role of AI in combating poverty and enhancing global security so as to expose the potential risks, disadvantages and advantages of AI in South Africa.

Keywords: Artificial intelligence; poverty; global security; regulation

1. Introductory Remarks

Artificial intelligence (AI) is a field of computer systems that focuses on inventing machines or programs that can perform tasks that typically require human intelligence such as acquiring information, decision-making and reaching approximate conclusions (Chitimira, 2020, pp. 150-161; Aly, 2022, pp. 238-256). Thus, AI involves the creation of machines and programmes that can react like human beings. Several types of AI have been invented to address different situations. For instance, disaster warning

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systems, digital financial services, telemedicine and remote healthcare systems (Misra, et al, 2022, pp. 6305-6324; Ahmad, et al, 2021, pp. 125-142). On the other hand, eradicating poverty entails the overall goal of eliminating poverty in designated communities by promoting access to the relevant resources, education, equitable distribution of resources and improving economic opportunities (Awotunde, Adeniyi, Ogundokun & Ayo, 2021, pp. 107-132; Mbuli, 2008, pp. 48-49). Global security is the ultimate state of peace and stability at international level, which can be achieved by means of cooperation among states to address security threats such as terrorism, nuclear proliferation and cyberattacks (Lauer & Lyman, 2015, pp. 1-4).

The role of AI to eradicate poverty and promote global security in South Africa could be significant if regulatory frameworks are developed to shape and control its deployment (Ndubisi & Kanu, 2022, pp. 2-19; Seaman & Furman, 2019, pp. 161-191). AI systems may contribute to the eradication of poverty through facilitating economic growth programmes, creating employment opportunities and increasing access to essential services such as health care services and education facilities (Poole & Mackworth, 2017, pp. 45). On the other hand, AI systems may also be implemented to promote the achievement of global security in South Africa. This can be achieved through addressing various global peace threatening challenges such as political instability, terrorism, border control crime and cyber threats (Purdy & Daugherty, 2016). However, the deployment of AI systems to eradicate poverty and promote global security could give rise to challenges of liability and responsibility in cases where such deployment affects the livelihood of South African communities (Travaly & Muvunyi, 2020, pp. 1-25; Seaman & Furman, 2019, pp. 168). Therefore, it is imperative to analyse how the current regulatory framework is addressing issues relating to liability and accountability for the actions and/or effects of AI systems in South Africa. This is premised on the fact that the development of adequate laws to regulate and control the use of AI systems in South Africa is essential for the promotion of financial innovation and the equitable distribution of AI benefits (Chitimira & Magau, 2021, pp. 2-19; Lauer & Lyman, 2015, pp. 1-4). Currently, there is not statute that expressly provide for the regulation and use of AI systems to eradicate poverty and enhance global security in South Africa. The use and deployment of AI systems is still an evolving paradigm in South Africa (Chitimira & Ncube, 2021, pp. 2-23; Chitimira & Magau, 2021, pp. 8). It is imperative to enact laws and policies that combat the risks associated with AI systems while also promoting innovation and cooperation amongst relevant stakeholders (Mhlanga, 2020, pp. 1-14).

2. Overall Aim

The article evaluates the significance of an adequate regulatory framework to promote the innovative, ethical and equitable use of AI systems to enhance global security and curb poverty in South Africa. This is done to recommend possible measures that could be employed to enhance the regulation and use of AI to eradicate poverty and promote global security in South Africa.

3. Methodology

The doctrinal and qualitative research methodologies are employed in this article. This entails that no empirical research methods are utilised in this article (Snyder, 2019, pp. 333-339; Rajasekar & Verma, 2023, pp. 1-164). An analysis of existing literature is employed to reach plausible conclusions. The article is mainly focused on the deployment of AI systems as a measure to eradicate poverty and promote peace in an ethically acceptable manner. Thereafter, some recommendations to enhance the regulation of AI systems to combat poverty eradication and promote global security are proffered.

4. Definition of Key Terms

For the purpose of this paper, global security refers to conditions that guarantee freedom, peace and safety, equal participation in governance, protection of fundamental rights, access to resources and the basic necessities of life to all persons (Allworth, 2021, pp. 1-75; Masakowski, 2020, pp. 5-180; South African Government, 1996). Eradicating poverty means reducing and eliminating poverty by improving economic opportunities, increasing access to resources and education, and improving socio-political systems (Simon & Khambule, 2022, pp. 926-948). As earlier stated, refers to a field of computer systems that creates machines and/or programs that can perform tasks that are normally require human intelligence, such as visual perception, speech recognition, decision-making, and language translation (Mahomed, 2018, pp. 93-95). Accordingly, the role of adequate regulation by government and/or other relevant authorities in shaping and guiding the development and integration of AI systems in South Africa is analysed.

5. AI and Poverty Eradication in South Africa

The poverty rate in South Africa currently sits at 61.60% while 25% of the population continues to experience food shortages (Statista Research Department, 2023). This entails that more people were pushed into poverty since 2021. The increase in poverty levels between 2021 and 2023 in South Africa could have been caused by the post-corona virus (COVID-19) pandemic effects. This follows that the measures implemented to curb the spread of the COVID-19 pandemic caused severe socio-economic challenges on the livelihood of most people in South Africans (Chitiga, Henseler, Mabugu & Maissonnave, 2022, pp. 1627-1644; Jain, *et al*, 2020, pp 1-44). The COVID-19 pandemic gave rise to economic contraction and recession, increased unemployment rates, food insecurity and increased healthcare costs in South Africa (Simon & Khambule, 2022, pp. 936; Turok & Visagie, 2021, pp. 1-4). These and other factors have a considerable impact on the economic status of many families in South Africa. Therefore, there is a need for imminent measures to circumvent the aftermath of the COVID-19 pandemic in South Africa. Such measures should include the implementation of AI systems to eradicate poverty through AI-driven innovation, skills development, early detection of natural catastrophes and enhancing access to essential services (Simon & Khambule, 2022, pp. 940; Odeku, 2021, pp. 1-4).

5.1. Enhancing Access to Education

AI has the potential to address the key challenges that contribute to poverty in South African communities. AI systems can be deployed to eradicate poverty through the enhancing access to education, revolutionising agriculture and promoting financial inclusion (Mhlanga, 2021, pp. 1-14; Awotunde, Adeniyi, Ogundokun & Ayo, 2021, pp. 115; Mbuli, 2008, pp. 48). There is an interrelation between poverty and the lack of access to formal education. It is submitted that about 39% of the poorest people in the world do not have formal education. This follows that formal education unlocks better opportunities and breaks barriers caused by illiteracy (Ajuruchukwu, & Sanelise, 2016, pp. 516-538; Moyo, 2013, pp. 2104-2113). However, access to higher education is often hindered by high costs which exclude the poor. Consequently, a considerable number of high school leaners fail to advance their education due to these factors. In this regard, AI can be deployed to establish learning programmes that do not require the traditional learning infrastructure (Zembylas, 2023, pp. 25-37; also see Mhlanga, 2020, pp. 1-14). The deployment of AI in the South African education system could enhance the learning process at both basic and tertiary levels. This follows that AI systems can be programmed to identify the specific needs of learners and develop tailor-made learning content to address their needs (Mhlanga, 2024, pp. 1-197; Ajuruchukwu & Sanelise, 2016, pp. 519). Unlike the traditional classroom set-up that relies on a single instructor who is susceptible to human error, AI could efficiently deliver learning material to all learners (Chua & Valencia, 2020, pp. 1-5). The outbreak of the COVID-19 pandemic was an important case in point in this regard. AI systems played a significant role in ensuring accessibility to education through online platforms during the COVID-19 pandemic lockdown (Chua & Valencia, 2020, pp. 3; Bass & Lawrence-Ridell, 2020). Accordingly, the relevant authorities should ensure equitable distribution of AI infrastructure to enhance access to education and skills development in South African communities.

5.2. Enhancing Financial Inclusion

Financial inclusion refers to the access and use of financial services to provide relevant and affordable financial products in an equitable manner (Shipalana, 2019, pp. 1-37; Mohieldin, Iqbal, Rostom and Fu, 2011, pp. 1-55). Access to financial services is often associated with poverty alleviation and sustainability (Wang & He, 2020, pp. 12; Mhlanga, 2021, pp. 49). Nonetheless, expanding the access to financial services to the poor and marginalised remains a challenge in South Africa. This follows the fact that the poor are marginalised since they reside in rural areas and informal settlements where there are no banks and other related financial institutions (Chitimira & Magau, 2021, pp. 6; Chitimira & Ncube, 2020, pp. 337-355; Kadameteme & Twinomurinzi, 2019, pp. 1-8). Accordingly, access to financial services remains a significant barrier to poverty alleviation in this regard. As such, much hope has been placed on the integration of AI to digital financial services to promote financial inclusion in South Africa (Chitimira & Magau, 2021, pp. 8). Financial inclusion is an essential building block towards poverty eradication because it increases one's access to basic financial services and products and other socio-economic necessities (Chitimira, 2020, pp. 155; Shipalana, 2019, pp. 1-38; Mohieldin, Iqbal, Rostom and Fu, 2011, pp. 1-55).

AI plays a significant role in promoting digital financial inclusion. Consequently, AI may promote poverty alleviation by enhancing access to financial services, fostering better risk assessment and

promoting economic empowerment (Matsebula and Yu, 2020, pp. 171-202; Mhlanga & Denhere, 2020, pp. 39-52; Arslanian & Fischer, 2019, pp. 23). AI contributes to financial inclusion through AI-powered digital financial services such as mobile banking and digital payment systems (Chitimira & Torerai, 2021, pp. 1-35; Lumsden, 2018, pp. 1-44). Digital financial services extend financial services to the previously excluded population due to its broad spectrum that does not require traditional banking infrastructure (Chitimira & Torerai, 2021, pp. 15). For instance, digital financial services can be easily accessed through a mobile phone. About 70% of the lowest income population own a mobile phone in most developing countries (World Bank Group, 2016). Moreover, there is an increased number of internet users in the last decade. Since 2014, mobile phones became the primary means to access financial services in South Africa. In this regard, AI-powered digital financial services could play a central role in promoting financial inclusion and enhancing the efforts to eradicate poverty in South Africa (D'Anieri, 2014, pp. 100-300).

In addition, AI-powered chatbots and virtual assistants may also promote financial inclusion by providing personalised financial guidance, timeous responses to financial queries and provision of basic financial education to users to promote financial literacy (Morgan, 2019, pp. 239-258; Gibson, Lupo-Pasini & Buckley, 2015, p. 31). Access to these tools is helpful for marginalised persons that have limited access to physical bank branches or other financial products. AI-powered platforms may increase access to financial services and financial education which may help to curb poverty and enhance sustainability in South Africa (Chitimira & Magau, 2021, pp. 18). Ultimately, the integration of AI to financial services to promote financial inclusion comes with many advantages that were not part of traditional financial services. For example, digital financial services are characterised by less expensive transaction costs, flexible customer due diligence requirements and the reduced need for physical outlets to conclude financial transactions (Wang & He, 2020, pp. 1-18; Morgan, 2019, pp. 243; Arslanian & Fischer, 2019, pp. 25). AI could enhance digital financial inclusion and breaks the barriers that hinders access to financial services, especially for the poor and marginalised communities.

Nonetheless, some challenges may arise from the reliance on AI to enhance financial inclusion in South Africa. Therefore, optimum operation of AI in relation to financial inclusion should utilise the quality and reliable data (Mhlanga, 2020, pp. 1-14; also see Wang & He, 2020, pp. 7-18). The prediction power of AI technologies depends on the availability of vast and quality data (Harkut & Kasat, 2019, pp. 56; Wang & He, 2020, pp. 7). This entails that limited and poor-quality data may result in biased and inaccurate outcomes. This follows that the prediction power of AI algorithms largely depends on the quality of data input to process results. Notably, most financially excluded persons in South Africa reside in the rural and marginalized areas where the collection of reliable data may not be effective (see related comments by Chitimira & Magau, 2021, pp. 9; also see Chitimira & Torerai, 2021, pp. 15). Notwithstanding the barriers caused by inadequate data, AI also raise accountability challenges (Harkut & Kasat, 2019, pp. 39). This exacerbated by the fact that there are no defined responsibility and accountability mechanisms for the harm caused by AI in South Africa (Naidoo *et al*, 2022, pp. 11-16; Townsend et al, 2023, pp. 1-9; Arslanian & Fischer, 2019, pp. 61). It remains unclear regarding who takes accountability for any losses or harm caused by AI. Consequently, financial institutions are reluctant to give full control to AI machines and/or systems to enhance digital financial inclusion. This has impeded the full operational capacity of AI to enhance financial inclusion in South Africa (Larson, 2008, pp. 1-183).

5.3. Enhancing Food Production

Poverty manifests through food insecurity, lack of education, financial exclusion and limited access to essential services such as water, sanitation and healthcare (Mhlanga, 2021, pp. 8; Kakani, *et al*, 2020, pp. 1-12; Kumar, *et al*, 2021, pp. 1-10). These conditions are mostly prevalent in the rural communities where the poor and marginalised reside. It is submitted that agriculture remains the major source of income in most impoverished societies (World Bank Group, 2016; Mhlanga, 2021, pp. 8). Nonetheless, several challenges hindering agriculture and food production in South Africa remain prevalent. Accordingly, it is submitted that the integration of AI in agriculture could improve food production by enhancing efficiency, productivity and sustainability. Although most poor people cannot afford AI-enabled equipment, AI measures could be accessed through mobile phones. AI could become a useful tool to combat hunger and poverty in South Africa. This follows that AI can optimise crop management through analysis of data obtained from soil sensors, satellite imagery and historical crop yields (Sahni, Srivastava & Khan, 2021, pp. 1-10; Camarena, 2020, pp. 2-13). AI could be used to provide insights on accurate planting times, irrigation scheduling, required fertilizer quantities and pest control (Mavani, *et al*, 2022, pp. 134-175). Consequently, farmers are able to make data-driven decisions and maximize crop yields. In addition, AI systems could also be integrated to automate the harvesting process, reduce post-harvest losses and improve the efficiency of the harvesting and sorting procedures (Sahni, Srivastava & Khan, 2021, pp. 6-8; Camarena, 2020, pp. 8-14). The inequitable distribution of resources also contributes to poverty and financial inclusion in South Africa (Mhlanga, 2021, pp. 8; Mubangizi & Mubangizi, 2005, pp. 277-289). In this regard, AI systems may be applied to optimise food supply chains and predict demand patterns. This will ensure that the distribution of food is done in an equitable manner and reduce food shortages, especially for the poor and marginalised communities.

6. The Potential of AI in Enhancing Global Security

Global security entails the protection of the world against war and other threats such as human trafficking and terrorism. Global security is constantly under attack from terrorism, cyberattacks, war and weapons of mass destruction. In the recent years, the proliferation of new technologies such as AI, 3D technologies and unmanned aircrafts is increasingly threaten global security (Rayhan & Rayhan, 2023, pp. 1-9; Russell & Norvig, 2016, pp. 1-175). This follows that there are no international regulations, treaties and/or conventions to govern the use of these technologies to promote global security. AI systems have the potential to enhance national and global security through improved situational awareness, enhanced decision making, better resource allocation and advanced cybersecurity (Bostrom, 2014, pp. 34-300). AI could enable governments and security organisations to allocate resources more efficiently by analyzing data on crime patterns, terrorist activity and other factors that may affect security (Allworth, 2021, pp. 32-75; Masakowski, 2020, pp. 5-190). AI algorithms may also be used to detect and respond to cyber threats by analyzing network traffic, identifying anomalies, and alerting security personnel to potential breaches (Rayhan & Rayhan, 2023, pp. 1-9; Allworth, 2021, pp. 32-75). However, there are ethical and legal concerns about the potential for AI to be used in autonomous weapons systems. Additionally, there are concerns about the potential for AI to be used to manipulate information to negatively influence public opinion. To circumvent these possible challenges, the relevant authorities should adopt robust regulatory measures to govern the integration of AI to enhance the security systems in South Africa and globally.

Unleashing the power and potential of AI systems to promote global security contributes to the discourse of the integration of science and knowledge for the benefit of humanity (D'Anieri, 2014, pp. 100-300). However, there is need for stringent regulatory policies to regulate how AI systems are deployed, operated and maintained to fully harness the potential and possibility of AI in promoting peace and global security. This follows the fact that AI systems continuously evolve and their possible increased reliance in society and warfare (Masakowski, 2021, pp. 7-180; Allworth, 2021, pp. 65-75). Moreover, AI systems have the ability to process vast amounts of data and this could create conflict and disorder if not managed effectively.

7. The Rationale for Adequate Regulatory Frameworks in Integrating AI Systems in South Africa

AI and other emerging technologies have the potential to significantly alleviate socio-economic challenges such as poverty, financial exclusion, climate change and global conflicts (Mhlanga, 2020, pp. 1-14; Wang & He, 2020, pp. 1-15). It is important to ensure that AI systems are deployed in a manner that respects individuals' right to privacy and other fundamental rights such as human dignity and freedom and security of the person (sections 10; 11 & 13 of the Constitution of South Africa, 1996; Mhlanga & Denhere, 2020, pp. 39-52; Arslanian & Fischer, 2019, pp. 23). The development and deployment of AI technologies should be consistent with legal and ethical norms since they have the potential to impact a wide range of areas such as finance and national security (Awotunde, Adeniyi, Ogundokun & Ayo, 2021, pp. 107-132; Mbuli, 2008, pp. 48-49). The use of AI raises complex questions around accountability, liability and responsibility, particularly in cases where AI systems make decisions that have a significant impact on individuals or society as a whole (Awotunde, Adeniyi, Ogundokun & Ayo, 2021, pp. 107-132; Mbuli, 2008, pp. 40-50). South African should adopt an adequate regulatory framework to clarify these issues and ensure that there is accountability for the actions of AI systems, promotion of innovation and equitable distribution of the benefits of such systems.

South Africa should enact AI legislation to address all regulatory aspects of AI and the possible divergences in its application and interpretation (Naidoo, *et al*, 2022, pp. 11-16; Townsend, *et al*, 2023, pp. 1-9). Be that as it may, AI technologies are interconnected with various policy considerations, ethical and human rights principles that may be seriously jeopardized if AI is unregulated. Currently, South Africa does not have any statute that expressly regulates the integration of AI. However, South Africa is guided by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) recommendation on the ethics of AI and the Group of Twenty (G20) AI principles which are drawn from the Organisation for Economic Co-operation and Development (OECD) Recommendation of the Council on AI (Gwagwa, *et al*, 2020, pp. 1-19; Van Norren, 2023, pp. 112-128). The implementation of AI programmes should comply with relevant national legislation. For instance, the financial sector laws should amended to introduce provisions on the integration of AI measures to promote financial inclusion in South Africa. This will ensure that fundamental human rights are protected and there is accountability, responsibility, transparency and fairness when enforcing AI laws

Although AI is not expressly and statutorily regulated in South Africa. Some statutes only deal with some aspects of AI, especially in relation to privacy and data protection. For instance, the Electronic

Communications and Transactions Act 25 of 2002 ("ECTA", see ss 2-5), prohibits unauthorised access to the relevant data and/or the intentional interference, modification or alteration of that data (Chitimira & Ncube, 2021, pp. 1-15). Such prohibition protects the data that is used by AI programmes from any unlawful access by third parties. In this regard, it should be noted that the provisions of the ECTA are only applicable to the handling of data relating to communication and financial transactions. In addition, the Protection of Personal Information Act 4 of 2013 ("POPIA", see ss 2-8), regulates the processing of personal information in South Africa. This entails that the POPIA regulates and promotes the responsible use and protection of personal data when using AI technologies (Chitimira & Ncube, 2021, pp. 18). However, the POPIA does not expressly provide for accountability and responsibility measures in the event of data breaches caused by AI programs. Accordingly, there are flaws and gaps in the regulation of the integration of AI technologies to eradicate poverty and enhance global security in South Africa.

7.1. The Regulation of AI Systems to Protect National and Global Security

Unmanned Aerial Vehicles (UAV), popularly known as drones, have become increasingly popular in the national and global airspace. UAVs are AI powered aircrafts that are not human operated but are piloted remotely. These UAVs should be adequately regulated since they could carry lethal and non-lethal weapons (Allworth, 2021, pp. 45-75; Rayhan & Rayhan, 2023, pp. 1-9). The integration of unmanned vehicles into the airspace has the potential to cause aviation, maritime and border control threats if it is not adequately regulated. The South African Civil Aviation Authority (SA CAA) is responsible for overseeing civil aviation activities to ensure the safety and security of South Africa's aviation space (Masakowski, 2020, pp. 54-180). The role of the SA CAA extends to ensuring the safety of people on the ground and protection of their property from the unmanned and manned aircrafts. The powers and authority of the SA CAA are regulated by the Civil Aviation Act 13 of 2009 (Civil Aviation Act) and the South African Civil Aviation Regulations of 2015 (Civil Aviation Regulations). However, it should be noted that the Civil Aviation Act and the Civil Aviation Regulations do not regulate the use and deployment of military aircraft in the national airspace. The Convention on International Civil Aviation of 1944 (Chicago Convention) provides the international best practices for global aviation and requires its member states to develop domestic laws in line with its provisions. The Chicago Convention was established to promote global aircraft safety, compliance with rules of the air and global coordination of air travel (Masakowski, 2021, pp. 78-180; Allworth, 2021, pp. 57). The Chicago Convention is centered on regulating civilian aviation and it excludes state or military aircraft (Article 3(a)). This regulatory gap in national and international law has threatened global and national security through unregulated military aircraft operations which negatively affect border control boundaries. AI systems are gradually being utilised to strengthen warfare, intelligence and national security systems. Accordingly, it is also essential to regulate the integration and use of AI systems to ensure the legality of aircraft operations in case of an armed conflict. In this regard, inadequate regulation of military aircraft could be a serious cause of conflict considering the pace at which AI powered UAVs continue to occupy the global airspace. The unwarranted use of UAVs could contravene international laws, create national security risks and raise legal concerns on national and international security. AI technologies keep evolving and this calls for new regulatory approaches to circumvent possible threats emanating from the integration and use of AI systems.

7.2. The Challenges of Regulating AI in South Africa

The integration of AI systems in South Africa presents unique regulatory challenges. In this regard, it is submitted that AI systems should be used and implemented in a responsible and transparent manner. AI systems should be utilized in a positive, desirable, or socially acceptable manner. AI should be expressly regulated to govern its use and integration to eradicate poverty and enhance security in South Africa (Eke, Wakunuma & Akintoye, 2023, pp. 1-214). Existing laws and regulations do not adequately address the challenges posed by AI programmes on data privacy, security, basic human rights and security (Naidoo, *et al*, 2022, pp. 11-16). The lack of transparency and accountability measures to govern the implementation of AI systems has remained a huge challenge in South Africa. There is no statute that regulate and apply to aspects of responsibility, accountability and transparency, especially when AI systems are integrated and empowered to make autonomous decisions.

Challenges of regulating AI in South Africa also emanate from the rapid evolution of AI systems, the need to balance technology and social and ethical norms, and the complexities of adapting existing laws to emerging AI systems (Chitimira & Magau, 2021, pp. 4). AI systems often rely on input data which raises concerns about data privacy and security. Personal data should be processed through AI systems to obtain results on measures that can be implemented to promote food security, financial inclusion, education and access to healthcare services. On the other hand, the POPIA (ss 5 & 6) limits the extent to which AI systems may have access to personal data (Chitimira & Ncube, 2021, pp. 18). Accordingly, it is difficult to create a balance between compliance with data protection laws and harnessing the potential of AI systems to obtain unbiased results. AI programmes often operates beyond jurisdictional parameters and across international borders which makes it challenging to effectively regulate AI between different countries. South Africa should coordinate with cross border regulatory bodies and align its relevant laws and regulations with international best practices.

8. Concluding Remarks

As discussed above, AI systems could be utilised to eradicate poverty and enhance global security. Nonetheless, the are various challenges that affects the integration and use of AI systems in South Africa. The establishment of a robust regulatory regime to govern the integration and implementation of AI technologies to eradicate poverty and enhance security is essential to harness the full potential of such technologies in South Africa and other countries (Mhlanga & Denhere, 2020, pp. 39-52; Arslanian & Fischer, 2019, pp. 10-23). AI laws should strike a balance between the implementation of AI innovation and safeguarding ethical considerations, privacy and security. Collaboration among governments, industry stakeholders, and civil society is essential to develop comprehensive regulations is essentially needed harness the advantages of using AI systems to curb poverty and promote global security.

The eradication of poverty in South Africa largely depends on measures to enhance food production, access to education, healthcare services and financial inclusion. South Africa should embrace AI technologies to drive digital financial inclusion; perform data analysis to identify impoverished populations; optimize farming practices to enhance food production; improve disease diagnosis mechanisms; promote skills development through AI-driven educational platforms; and combatting cybercrime (Zembylas, 2023, pp. 25-37; Mhlanga, 2021, pp. 1-12). South Africa should also utilise AI

technologies to bolster global security by combatting cyber threats, terrorism and enhancing border control mechanisms.

South African policy makers should enact an adequate AI statute to effectively address the risks associated with AI and effectively promote innovation and collaboration among stakeholders to enhance global security and eradicating poverty. This statute should have provisions that sufficiently promote transparent, accountable and responsible use of AI systems. In this regard, AI laws should provide robust regulatory frameworks that promote innovation and collaboration to harness AI technologies to eradicate poverty and enhance security (Gibson, Lupo-Pasini & Buckley, 2015, pp. 26-45). AI laws should also promote international cooperation to address the global challenges of poverty and security. Thus, regulatory authorities should have formal arrangements to share data and cross-border collaborations, in joint research and AI development projects. Additionally, countries should seriously consider adopting treaties or conventions that establish and promote the international best practices on the integration and use of AI system globally.

A multi-stakeholder approach that involves governments, civil society, private sector, and international organisations should be adopted to combat the aforesaid flaws and challenges. Sufficient resources and employing persons with the relevant expertise to conduct research, develop, and deploy AI technologies lawfully, ethically and in accordance with human rights principles. Additionally, the relevant authorities should promote capacity building and awareness measures among all stakeholders on the use and reliance on AI systems to combat poverty and enhance global security.

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