ARTIFICIAL INTELLIGENCE, SOCIAL INCLUSION, AND REPRESENTATION IN GENERAL ELECTIONS IN LESOTHO: CHALLENGES, PROSPECTS AND A FRAMEWORK FOR IMPLEMENTATION

Henry Ababio and Wole Olatokun
National University of Lesotho
Roma, Lesotho

Abstract
The integration of Artificial Intelligence (AI) into Lesotho's electoral processes holds potential for enhancing social inclusion and representation. Despite the country's homogeneous ethnic makeup, its demographic diversity and socio-economic disparities present challenges to equitable political participation. This paper explores AI technologies like machine learning and natural language processing in addressing voter identification, fraud prevention, fostering social inclusion and representation and information dissemination in Lesotho's elections. Case studies from Kenya, South Africa, Nigeria, and Ghana demonstrate AI's practical benefits, such as improved voter registration accuracy and enhanced electoral security. However, challenges such as the digital divide, data privacy concerns, algorithmic bias, and the need for transparency must be addressed to ensure AI fosters, rather than hinders, social inclusion. The paper proposes a financial framework to support AI adoption, emphasizing targeted investments in technological infrastructure and capacity building. Recommendations are offered for policymakers and electoral authorities on the strategic implementation of AI to achieve these goals.

Introduction

Lesotho, a small, landlocked country in Southern Africa, has a complex political landscape shaped by its unique history and diverse demographics. It gained independence from British rule in 1966 at which time the monarchy lost its executive power and was relegated to a constitutional monarchy (Monyane, 2009). Lesotho has experienced significant political upheaval, including periods of military rule, coups, and electoral disputes in the aftermath of independence. Despite these challenges, the nation has continually strived to establish a stable and democratic political system in the form of the first-past-the-post (FPTP) system to the mixed member proportional (MMP) system (Matlosa, 2008). Even though Lesotho is a country that has high literacy rate of 82 per cent (World Bank Open Data) and mainly a homogeneous ethnic group called the Basotho (singular *Mosotho*), which is Bantu-speaking, the country exhibits certain unusual demographic characteristics and myriad challenges

that have starved it off from achieving political stability and sustained economic growth (Institute for Peace and Security Studies, 2019). This situation is accountable for, by the mainly agrarian population of Lesotho, underpinned by high levels of inequality, poverty as well as a 33 per cent unemployment rate among the Youth (Institute for Peace and Security Studies, 2019). According to the (Institute for Peace and Security Studies), Lesotho is a lower-middle income and landlocked country, hence, susceptible to domestic pressures which are exacerbated by economic and political challenges experienced by South Africa, her big Sister. Consequently, this political risk determines economic performance in the country. The corollary of the socio-economic inequality is inevitably, different socio-economic classes with varying levels of access to information and technology, which further complicates the political environment. In such a context, ensuring social inclusion and representation in elections is crucial for fostering a truly democratic society.

Social inclusion and representation are fundamental to the integrity and legitimacy of elections. They ensure that all segments of society, particularly marginalized and underrepresented groups, have a voice in the political process. In Lesotho, as in many other countries, achieving meaningful social inclusion in elections is challenging. Factors such as geographical isolation, unequal access to information, and socio-

economic disparities can impede the participation of certain groups. Addressing these challenges is essential for strengthening democracy and promoting equitable development. The primary objective of this paper is to explore the challenges and prospects of integrating artificial intelligence (AI) into the electoral process in Lesotho and to design a relevant financial framework for adoption. Specifically, it aims to identify the potential benefits and risks associated with the use of AI in elections, discuss the current state of social inclusion and representation in Lesotho's electoral system and propose a financial framework to support the implementation of AI technologies in the electoral process.
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Review of Literature
Definition and Scope of AI
Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and learn. AI encompasses a variety of technologies, including machine learning, natural language processing, and computer vision, which enable machines to perform tasks that typically require human intelligence (Russell & Norvig, 2020). AI can analyze large datasets, recognize patterns, and make decisions with minimal human intervention, making it a valuable tool in many fields, including electoral processes.

Importance of Social Inclusion and Representation in the Context of Democratic Elections
Social inclusion and representation are

foundational principles of democratic governance. They ensure that all individuals, irrespective of their socio-economic status, ethnicity, or geographical location, have the opportunity to participate in the political process and have their voices heard. In the context of Lesotho, addressing issues of social inclusion and representation is vital for strengthening democratic institutions and fostering a more equitable society.

Social Inclusion

Social inclusion refers to the process of ensuring that all individuals, particularly those from marginalized or disadvantaged groups, have equal access to societal opportunities and resources. In the electoral context, this means creating mechanisms that allow all eligible voters to participate in elections, regardless of their socio-economic background, geographic location, or other barriers (Fraser, 2009). For Lesotho, social inclusion in elections can be particularly challenging due to factors such as rural isolation, unequal access to technology, and economic disparities. To promote social inclusion, electoral authorities in Lesotho need to address these barriers by implementing targeted outreach programs and providing accessible information about the electoral process. AI technologies can assist in this regard by identifying areas with low voter turnout or limited access to information and designing interventions to address these gaps. For instance, AI-driven analysis of voter data can help pinpoint districts where additional voter education and

registration efforts are needed. By addressing these disparities, Lesotho can ensure that all citizens have an equal opportunity to participate in the democratic process.

Representation

Representation is a core democratic principle that ensures diverse groups are represented in political decisions and governance structures. Effective representation requires that electoral systems and processes reflect the interests and needs of all segments of society (Pitkin, 1967). To wit, Lesotho's socio-economic condition which is accentuated by poverty, unemployment and inequality has translated struggling over state power into an intractably unmitigated warfare among the political elites, thus, engendering inadequate representation for the bulk of the masses (Institute for Peace and Security Studies, 2019). For all intents and purposes, ensuring comprehensive representation is crucial for achieving fair and effective governance, which unfortunately, has deteriorated since 2012 (www.uneca.org; Monyane, 2009). To enhance representation, Lesotho's electoral system must be designed to reflect the social milieu of the population (Adams and Asante, 2019a). This includes creating electoral districts that represent various geographical areas fairly and ensuring that marginalized groups have a voice in the political process. AI technologies can support these efforts by analyzing demographic data to design electoral boundaries that ensure equitable representation. Additionally, AI can assist in

monitoring the representation of different groups within political parties and candidate lists, ensuring that all voices are considered in the electoral process.

Case Studies of AI introduction into the electoral process

The integration of artificial intelligence (AI) into electoral processes has been explored in various countries around the world. These case studies provide valuable insights into the potential benefits and challenges associated with AI in elections. By examining examples from the following African countries, we can draw lessons applicable to Lesotho's electoral system:

1. Kenya

Kenya's 2017 general elections saw the use of AI and digital technologies to improve the electoral process. The Independent Electoral and Boundaries Commission (IEBC) employed biometric voter registration systems to capture and verify voters' identities using fingerprint and facial recognition technologies (Gikandi, 2018). AI algorithms were utilized to analyze biometric data and detect potential cases of fraud or discrepancies. The use of AI in Kenya's elections also extended to the analysis of social media and digital content. AI tools monitored online platforms for election-related misinformation and hate speech, helping to ensure a fair and transparent electoral environment (Muthoni, 2020). Kenya's experience with AI in elections underscores the benefits of biometric verification and

digital monitoring tools. For Lesotho, similar technologies could enhance voter identification and help address issues related to misinformation and electoral fraud.

2. South Africa

South Africa has explored the use of AI in electoral processes through initiatives such as the Electoral Commission of South Africa's (IEC) data analytics projects. AI-driven analytics have been employed to analyze voter behavior and trends, providing insights that inform electoral strategies and improve voter outreach efforts (Nduku, 2019). AI technologies have equally been used to streamline election management tasks, such as processing and verifying election results. Machine learning algorithms assist in detecting anomalies in voting data, ensuring the accuracy and transparency of the counting process (Mokoena, 2020). South Africa's use of AI highlights its potential to improve election management and voter outreach. Lesotho could benefit from adopting similar data analytics and result verification technologies to enhance the efficiency and accuracy of its electoral processes.

3. Nigeria

In Nigeria's elections, AI technologies have become increasingly significant in improving various aspects of the electoral process, with a focus on addressing challenges related to voter management, election security, and fraud detection. The Independent National Electoral Commission (INEC) has employed biometric voter

registration systems that capture and verify voter identities using fingerprint and facial recognition technologies, significantly reducing cases of voter impersonation and multiple registrations (Nwachukwu, 2021). Tunmibi and Olatokun (2023) noted that INEC introduced the Direct Data Capture Machines (DDCM) for voter registration in the 2007, 2011, 2015, 2019, and 2023 elections to combat multiple registrations and voting. For the 2015 elections, INEC procured more advanced ICTs, ensuring that two fingerprints were captured during voter registration (Tunmibi & Olatokun, 2023). Additionally, the commission introduced the Smart Card Reader (SCR), which facilitates voter accreditation, facial recognition for voter identification, PVC validation, and fingerprint authentication. This process prevents double accreditation, as the Voter Identification Number (VIN) is stored in the SCR following PVC accreditation (Tunmibi & Olatokun, 2023).

Also, AI-powered analytics are used to monitor and manage election results, with machine learning algorithms analyzing large volumes of data to detect anomalies and ensure the accuracy of vote counting (Onyema, 2020). Furthermore, AI tools are employed to combat misinformation and manage social media content related to elections, aiming to prevent the spread of false information and hate speech that could influence voter behavior (Akinwale, 2021). These AI applications contribute to a more transparent and secure electoral process, addressing some of the longstanding challenges faced in Nigerian elections. Similar AI processes may be used for Lesotho to enhance the voter registration and to prevent misinformation and hate speech which is fast becoming an integral aspect of Lesotho general electioneering campaigns.

4. **Ghana**

In to the bargain, facial recognition technology was used during Ghana's 2016 general election to verify voters and prevent impersonation (Adams and Asante, 2019b). Expatiating further, biometric digital registration kits **and** polling-station level biometric voter verification systems were successfully rolled out in the same year across the entire country during the Ghana's 2020 general elections (EU Election Observer Mission Ghana 2020 Final Report,2020).

Lessons for Lesotho

Among others, the following are some of the lessons that Lesotho could learn from the experience of countries as presented above:

1. Enhancing voter accessibility: AI technologies can significantly improve voter accessibility by enabling online voting and efficient voter registration systems. For Lesotho, implementing similar technologies could address challenges related to geographical isolation and limited access to polling stations. Online voter registration and e-voting systems could make it easier for citizens in remote areas to participate in elections.

2. Improving voter identification and fraud prevention: The use of biometric systems in Nigeria and Kenya as well as data analytics in South Africa illustrates the effectiveness of AI in enhancing voter identification and preventing fraud. Lesotho could benefit from adopting biometric voter registration systems and AI-driven fraud detection tools to improve the accuracy and integrity of voter records.

3. Addressing misinformation and hate speech: AI-powered tools for monitoring social media and digital platforms, as used in Kenya, can help combat misinformation and hate speech during elections. For Lesotho, implementing similar technologies could enhance the fairness of the electoral process by addressing the spread of false information and promoting a more informed electorate.

4. Streamlining election management: AI technologies can streamline various aspects of election management, from processing results to analyzing voter behavior. Lesotho could adopt AI-driven data analytics and result verification systems to improve the efficiency and transparency of its electoral processes.

AI Technologies relevant to Elections in Lesotho
The following are some AI technologies relevant to elections in Lesotho:

(i) Machine Learning Algorithms: Machine learning

algorithms, a subset of AI, can be particularly useful in analyzing voter data to identify trends and predict outcomes. These algorithms can process vast amounts of data from multiple sources, such as voter registration databases, historical election results, and socio-economic indicators. For Lesotho, where elections can be affected by factors like geographic isolation and varying levels of access to information, machine learning can aid in more effective planning and resource allocation. For instance, machine learning models can analyze voter turnout patterns to identify districts with historically low participation. This insight can help electoral bodies target outreach efforts more effectively, ensuring that underrepresented areas receive adequate support (Domingos, 2015). Predictive analytics can also be used to forecast election outcomes, allowing for better preparation and contingency planning. By predicting voter behavior, electoral authorities in Lesotho can anticipate and address potential issues before they arise, thereby enhancing the overall efficiency and effectiveness of the electoral process.

(ii) Natural Language Processing (NLP): Natural Language Processing (NLP) encompasses technologies that allow machines to understand and interact with human language. In the electoral context, NLP can be used to develop chatbots and virtual assistants that provide voters with real-time information about the electoral process. This is

particularly relevant for Lesotho, where limited access to information, and to the mountainous areas can pose barriers to voter engagement. Chatbots powered by NLP can answer frequently asked questions about voter registration, polling locations, and election procedures in the Sesotho language which is the lingua franca in Lesotho (Constitution of Lesotho, 1993). This enhances accessibility for voters who may have limited proficiency in English language or who live in remote areas (Jurafsky & Martin, 2021). Virtual assistants can also provide personalized assistance, guiding voters through the registration process and addressing their specific concerns. By improving communication and information dissemination, NLP technologies can foster greater voter participation and inclusivity.

(iii) Computer Vision Technology: Computer vision technology, which enables machines to interpret and process visual information, can play a crucial role in enhancing voter identification 4rsystems and ensuring the integrity of the voting process. In Lesotho, where election fraud and irregularities can undermine public trust in the electoral system and in some cases lead to serious social unrest (Matlosa, 2008), computer vision can offer solutions to improve security and accuracy. As an instance, computer vision can be used in biometric identification systems to verify voter identities during registration and voting. This can help prevent fraudulent activities such as double voting or impersonation.

Advanced imaging technologies, combined with AI algorithms, can analyze facial features or fingerprints with high accuracy, providing a robust mechanism for verifying voter identity (Goodfellow, Bengio, & Courville, 2016). Moreover, computer vision can be employed in monitoring and analyzing footage from polling stations to detect and address any irregularities in real-time, further ensuring the integrity of the election process.

Prospects of AI for Enhancing Social Inclusion and Representation The improvement of voter registration processes through AI presents a significant opportunity to enhance social inclusion and representation in Lesotho. AI technologies can streamline voter registration by automating the verification of voter identities and updating voter rolls in real-time. Machine learning algorithms can efficiently cross-check and validate data, reducing errors and ensuring that eligible voters are accurately registered (Smith, 2021). This can be particularly beneficial in rural and underserved areas, where traditional voter registration processes are often cumbersome and error- prone. By ensuring that more citizens are accurately registered, AI can help to include a broader spectrum of the population in the electoral process, thereby enhancing democratic representation.

AI can be instrumental in ensuring the accurate representation of marginalized communities in Lesotho's electoral process. AI-driven

data analytics can identify and highlight underrepresented groups by analyzing demographic data and voting patterns. These insights can inform targeted outreach efforts to ensure that the voices of marginalized communities are heard and considered (Obermeyer et al., 2019). AI can also help design and implement inclusive policies by providing decision-makers with a comprehensive understanding of the needs and preferences of these communities. This can lead to more equitable representation and the creation of policies that address the specific concerns of marginalized groups. The mitigation of electoral fraud through AI offers a promising avenue for enhancing the integrity of elections in Lesotho. Advanced data analytics powered by AI can detect anomalies and patterns indicative of fraudulent activities, such as multiple voting or tampering with voter registration data (Pasquale, 2015). Machine learning algorithms can analyze large datasets in real-time, providing election officials with timely insights to address potential fraud before it undermines the electoral process. By ensuring the accuracy and security of elections, AI can help build public trust and confidence in the democratic system, thereby encouraging greater participation from all segments of society in Lesotho. Effective voter education and engagement are crucial for enhancing social inclusion, and AI-driven platforms can play a key role in this regard. AI can personalize voter education by providing tailored information to different voter groups based on their demographics, interests,

and previous voting behavior (Smith, 2021). Natural language processing and chatbots can offer real-time responses to voter inquiries, making information about the electoral process more accessible and understandable. By engaging voters through personalized and interactive platforms, AI can help ensure that all citizens, including those from marginalized communities, are well-informed and motivated to participate in the electoral process.

Inclusivity in political campaigns can be significantly improved through the use of AI for sentiment analysis and social media monitoring. AI algorithms can analyze social media content to gauge public sentiment and identify the concerns and priorities of various demographic groups (Obermeyer et al., 2019). This enables political candidates and parties to tailor their campaigns to address the specific needs and interests of different voter segments. By ensuring that campaign messages resonate with a diverse electorate, AI can help political leaders to be more responsive and inclusive, thereby fostering greater representation and participation from all societal groups.

Challenges of AI integration for social inclusion and representation in Lesotho's Elections

Integrating artificial intelligence (AI) into Lesotho's electoral process faces significant challenges, primarily due to the digital divide. The digital divide, which refers to the gap between individuals who have access to modern information and

communication technology and those who do not, is a substantial barrier. In Lesotho, rural areas often lack reliable internet access and technological infrastructure, limiting the potential reach and effectiveness of AI technologies in elections. This divide exacerbates existing inequalities, making it difficult for all citizens to benefit equally from advancements in electoral processes (Van Dijk, 2020). Bridging this divide is crucial to ensure that AI integration does not widen the gap between urban and rural voters, thereby maintaining the integrity and inclusivity of the electoral process.

Unequal access to AI technologies significantly impacts social inclusion in Lesotho's elections. While AI has the potential to streamline and enhance electoral processes, its benefits are not uniformly accessible to all segments of the population. Individuals in remote or hard-to-reach areas, as well as those from lower socio-economic backgrounds, are less likely to have the necessary digital literacy or access to participate fully in AI-enhanced electoral systems (Smith, 2021). This unequal access can lead to disenfranchisement of marginalized groups, undermining the goal of achieving broad-based social inclusion and equitable representation in the electoral process.

Data privacy concerns are another critical challenge in integrating AI into Lesotho's elections. Handling sensitive electoral data, such as biometric information and voter registration details, presents significant risks. The potential for data breaches and unauthorized access to personal information can undermine public trust in the electoral process and deter voter participation (Zwitter, 2018). Establishing robust data protection measures and transparent data handling protocols is essential to safeguarding voter information and maintaining the integrity of the electoral system.

Algorithmic bias poses a significant threat to fair representation in AI-driven electoral processes. AI systems can inherit biases from the data they are trained on, leading to discriminatory outcomes. For instance, if the training data reflects historical inequalities or biases, the AI system may perpetuate these biases, disadvantaging certain demographic groups (Obermeyer et al., 2019. In the context of Lesotho where one of the antecedent factor to conflict is the country's socio-economic fabric (Institute for Peace and Security Studies, 2019), different socio-economic groups must be equitably represented, ensuring that AI systems are free from bias is crucial. Failure to address algorithmic bias can result in skewed electoral outcomes and reduced public confidence in the fairness of elections.

Transparency in AI decision-making is a fundamental challenge in integrating AI into Lesotho's electoral process. AI algorithms can often be opaque, making it difficult for stakeholders to understand how decisions are made. This lack of transparency can lead to mistrust and

skepticism among voters, who may question the fairness and accuracy of AI-driven electoral processes (Pasquale, 2015). Ensuring transparency and accountability in AI systems is essential to building and maintaining public trust. Clear communication about how AI algorithms work and how decisions are made can help mitigate concerns and foster greater acceptance of AI technologies in elections.

To overcome the challenges of integrating artificial intelligence (AI) into Lesotho's electoral process, a multifaceted approach is required. Bridging the digital divide is paramount; this can be achieved by investing in the technological infrastructure of rural areas, ensuring that reliable internet access and essential digital tools are available to all citizens. This investment will not only enable more equitable access to AI technologies but will also foster digital literacy programs that can empower marginalized communities to fully participate in AI-enhanced elections. Addressing data privacy concerns is equally crucial. The development of stringent data protection laws and the implementation of secure, transparent data handling protocols will help build public trust in the use of AI in elections. To combat algorithmic bias, it is essential to ensure that AI systems are trained on diverse and representative datasets, and that ongoing audits are conducted to identify and rectify any biases that emerge. Finally, transparency in AI decision-making processes must be

prioritized by implementing clear communication strategies that explain how AI algorithms function and how decisions are made. By adopting these strategies, Lesotho can enhance the inclusivity, fairness, and integrity of its electoral processes while harnessing the benefits of AI.

FINANCIAL FRAMEWORK FOR IMPLEMENTATION OF IA INTEGRATION TO LESOTHO ELECTIONS

The integration (adaptation and deployment) of AI into Lesotho's election processes requires a well-structured and encompassing framework to pave the way for effective implementation, sustainability, and ethical management. Prime most of any framework for integration, deploying a system or an initiative is the financial framework that serves as the bedrock for funding the project. As posited by (Kigwiru (n.d.) and Ossei-Offul (2017) quoted in Harrison, Adewale & Idowu (2021), any comprehensive financial framework requires a form of budget allocation to finance all the relevant activities for the project. The following are the elements of the proposed framework:

1. **The system of budget and budget allocation for the project**
This mostly relates to the amount or money to be set aside for the initial assessments and feasibility studies. A good system of budget is expressed in the way the budget is designed and operated (KPMG, 2021)). Consequently, zero-based budgeting is the preferred method of budgeting as

all activities to be financed are justified through the use of a rigorous process of activities, prioritisation and approval (Drury, 2018). Part of the budget will be allocated to undertake a Needs Assessments and feasibility study by engaging experts to conduct a study into the proposed AI project and to provide a road map for its viability (Council of Europe, 2020). The feasibility study will encompass the AI integration in electoral processes, including potential benefits, risks, and required infrastructure.

2. Undertake Needs Assessment and feasibility Studies in the Planning Phase

First and foremost**,** the (Ace Project, 2012b) avers that there is a grave need to undertake a comprehensive needs assessment and feasibility studies prior to introducing any AI related technologies such as biometric technology in either voter registration or verification. This same sentiment is echoed by the World Bank (World Bank, 2020) concerning the Planning Phase to elicit the potential risks, benefits and the relevant infrastructure in this case the technology for AI. To ensure success of the project, the importance of the initial planning stage cannot be overemphasised (Serrador and Turner, 2015). In addition to the Needs Assessment and feasibility studies, the following are other key considerations: stakeholder engagement, ensuring that AI systems are scalable and adaptable to future electoral needs and technological advancements, design of AI solutions that are inclusive, and address the needs of all voter groups and

maintaining high standards of transparency and accountability to foster public trust and ensure ethical AI deployment.

3. **Stakeholder Engagement** Stakeholders as individuals, groups, or organizations that affect or are affected by organizational activities (Freeman, 1984). Stakeholder Consultation is to organize consultations with key groups that are affected by the deployment of AI in Lesotho elections, and these are represented by political parties, civil society, and international partners, International Association for Public Participation (IAP2, 2021). A good stakeholder engagement is able to bring about a two-way communication such as round-table discussions, one- on-one conversations and negotiations, workshops, training, conferences, and open-house days (Kujala et al., 2022). Another effective stakeholder engagement on challenging issues may be done through a dialogue (Golob & Podnar, 2014). The deployment of AI in Lesotho elections is an area that requires a lot of collaboration with stakeholders. Hence, co-creation and co-production may be used to bring about joint ownership of the project where the buy-in of leaders of political parties and other civil society is necessary to inform the way forward (Baltazar, 2016).

4. **Infrastructure Development** Infrastructure development is the means of creating, financing, erecting and maintaining physical structures for purposes of creating enabling

environment for the deployment of AI in Lesotho elections. For purposes of our paper, the three critical components of infrastructural development are: Capital investment, Data centers and AI tools and software.

i. Capital Investment relates to how funds will be sourced to finance the procurement of the necessary hardware and software for the AI project to take off. The most prudent way to undertake any capital investment project is first to use an appropriate method of investment appraisal to evaluate the project and ensure the value for money criterion is met (biz.libretexts.org).

ii. Data Centers are part and parcel of capital investment (Data Center Knowledge, 2022). There is a need to establish secure data centers equipped with high-capacity servers and storage solutions. According to Gantz, 2014, a data center is a physical structure, enclosure or facility that contains <u>IT infrastructure</u> for building, running, and providing applications and services, and for storing and managing the data associated with such applications and their related services. For maximum operational efficiency to be attained, the temperature and operating conditions of the data center should be in line with the best practice standards (Greenberg, 2006).

iii. The AI tools and software will be purchased or developed and the tools, tailored to electoral management, voter registration, and data analysis. The role of artificial intelligence (AI)

tools in software development has become immensely important in determining the quality of software products (Qazi, Memon, Ali, & Nizamani, 2022). These AI tools are being used for various purposes such as automated testing, code analysis, and defect prediction, consequently contributing to the improvement of software quality. The cost of these tools and software forms part of the budget allocation afore stated.

5. Technical training

For AI to be deployed in Lesotho elections, the right calibre of personnel who will be in charge of various electoral activities will have to be hired, trained and well-resourced to enable them to appreciate the challenges of their jobs (aceproject.org). Technical Training entails providing specialized training SANS Institute. (2022) for IT staff on AI systems, data management, and cybersecurity to prepare them for efficient delivery of their mandate. To pave the way for a well deployed and successful integration of AI in Lesotho elections the technical know-how and competencies of the IT staff are very crucial and of paramount importance. The type of training provided will be determined by the technical requirements and competencies an incumbent is supposed to have to in order to deliver on their job. Gleaned from the fact that AI's deployment in elections in some parts of the continent is underway, there is no gain saying that the model is an emerging technology which needs a lot of special acculturation and skill sets for smooth running. Whenever people are

not consulted before they are robed into an endeavour, they tend to display some form of taciturn reaction and their attitude towards that arrangement may be lackadaisical leading to failure before it takes off. To avoid any potential failure, awareness programs should be incorporated into the stakeholder engagement process. Arguably, election experts must play a crucial role in designing appropriate education and communication strategies in order to help users understand the required technology and tap into its full use (Adam and Asante, 2019b). This will provide the major stakeholders an opportunity to be given the relevant information on the proposed deployment of AI in Lesotho elections.Workshops and seminars will be conducted for election officials, political parties, and the public on the use of AI in elections (Alvarez, Eberhardt, & Linegar, 2023). Through effectively conducted and well-resourced workshops and other carefully chosen platforms, the required communication and information will be shared with representatives of political parties, electoral officials and leaders of the various communities in Lesotho.

6.   Regulatory   and   Ethical Framework

Ethical standards are guidelines relating to specific group of people that regulate their behaviour, conduct and fairness whereas legal standards are aligned with rules, codes, procedures, orders and administrative resolutions by a governing body, which members or subjects are expected to conform.Regulatory and

ethical framework tend to define any grey areas and potentially unacceptable behavioural patterns that are concomitant with the deployment of AI in Lesotho elections. The deployment of AI in Lesotho elections will require enactment of laws to pave the way for it to become reality.This is because there are areas where AI tends to impinge on privacy and human rights issues (Dwork & Roth, 2014). The success and smooth operation of the deployment of AI in Lesotho elections will to a large extent, be determined by how well the Legal and Ethical Compliance framework is embedded in the fabrics of the electoral publicity and medium of communication (ec-undp-electoral assistance.org). To that end, the country will have to invest in the development of regulatoryframeworks that will create opportunity for dissemination of information about the new model (AI in Lesotho elections) (www.digitalregulation.org). This then calls for the need for collaboration with legal experts European Commission, (2022) to come up with policies and regulations governing the use of AI in elections. International Association for Privacy Professionals (IAPP, 2022) to ensure they comply with national and international standards. The drafting of policies and regulations is only the first step to a wider disseminated information about the policies and regulations. Mokotso, 2022 avers that for information about the new policies and regulations to be well inculcated into the fabrics of the Basotho society the message behind it

should be well received and imbibed by all stakeholders.

7. Ethical Guidelines

According to (AI Now Institute,2020) Ethical Guidelines entails establishing ethical guidelines to address issues such as data privacy, bias, and transparency in AI systems to clarify any grey areas. As put forward by (Wilkinson et al., 2016), to synchronise Policy Development and Ethical Guidelines, the basic tenets of the two procedures should be based on the same principles in order to complement each other. Data privacy entails giving the opportunity to persons about whom data is collected to determine how it is collected and how it will be handled, used and stored and means of storage as well as the period of storage. Data bias ensures that the stakeholders are given the assurance that data used for training AI chatbot is correctly classified and extracted from veritable sources (Dethmnn and Spiekermann, 2024). Therefore, the data used should be a representative of the reality of what the model represents and is devoid of any malicious intent. Data transparency issues around AI boils down to the complexity of how AI uses data to achieve results (The Brookings Institution, 2021). In practice, it is difficult if not impossible for an ordinary person to explain the means through which AI delivers its results (Lundberg et al., 2020). This inability to connect the outcome of AI's work to the processes sometimes leaves a lot out to be desired by all. Hence, there should be transparency

and clarity about the apparent challenges pertaining to AI's capabilities to forestall peoples' confidence in AI (Chong, 2022).

8. Pilot Projects and their Testing phase

These two are very critical in any situation in which an existing project have to be replaced by especially, a new one that is complex such as AI. Thus, there is a need for a proper change over through pilot testing, evaluation and feedback. If the new project (deployment of AI in Lesotho elections) is to be successful and sustainable, these two stages should be done with care and professional attention.

(i) Pilot Funding

A portion of the budget should be earmarked and allocated for the pilot projects (Gartner,2021). This is to ensure the AI deployment is well - grounded in terms of potential challenges that may come up during its eventual roll-out.

(ii) Test Runs

During this phase, pilot runs for projects will be conducted in select districts especially the hard-to-reach parts of the country to test the AI systems in real-world situations. This is to ensure the system is fully ready to be used for Lesotho elections. Again, the testing may reveal any aspects of the system that is not fit for purpose and requires revision prior to its eventual deployment.

9. Evaluation and Feedback

A portion of the budget will be

allocated for activities in respect of evaluation and feedback. The performance of AI tools during the pilot phase will be evaluated, and feedback gathered from stakeholders to refine the systems and resolve any potential challenges. Hence, there is a need for a team-based concerted effort. Consequently, the team's ability to use the feedback in a way that is useful in revising the existing state of the AI tools will determine how effective and sustainable the eventual deployment of the system meets the intended purpose.

10. Implementation and Scaling This stage, without any shadow of doubt, also requires its own budget to meet the on-going operational costs (including routine maintenance and periodical upgrades as well as the full-scale implementation of the AI tools and system). A portion of the budget will be used to cover monitoring and evaluation activities which are normally an integral part of the implementation of especially any new system to ensure it is able to do what it is intended for.

11. Operational Costs
There is a need for additional budget for ongoing operational costs, including maintenance and upgrades to enhance the system's ability to meet expectations. This budget should incorporate a form of agreement to pitch the operational costs in line with projected inflation, Deloitte. (2022). The operational budget should be empirically researched to ensure the amount involved is not only realistic but is

able to meet the estimated and other incidental expenses).

12. Full-Scale Implementation
The phase entails rolling-out AI systems across the country based on the successful outcomes of the pilot projects and making the system fully operational for the intended purposes McKinsey & Company. (2021) and Harvard Business Review. (2020). Since the AI deployment in Lesotho elections entails various forms of the models and Algorithm tools, the different forms that are deployed in Lesotho elections will determine the budget to be allocated Gartner. (2021). As adumbrated above, the deployment of AI in Lesotho elections may result in voter engagement, election security, election engagement and a more inclusive and representative electoral system

13. Monitoring and Evaluation
This aspect of the deployment will also have a portion of the budget allocated to it. The objective is to establish continuous monitoring mechanisms to evaluate the effectiveness and integrity of AI systems during elections IEEE Spectrum. (2021. Monitoring should be an on-going process from the pre-election period, during the election and post-election periods till all issues around results are finalised.

14. Feedback Mechanisms
This is very critical in the introduction of any new system especially a novel kind such as AI. Easily accessible platforms should be created for the public to provide feedback and report

issues related to AI use in Lesotho elections, Center for Democracy & Technology (2022). In addition to these, any general issues or challenges concerning AI in elections may also be discussed or shared and possibly clarified to the stakeholders

POSSIBLE SOURCES OF FUNDING FOR THE AI PROJECT
The main budget that has been referred to in the above discussions, needs funding through reliable source(s). The following proposed sources of funding may not be exhaustive. For the sake of our paper, we structure the funding sources under partnerships and other funding sources. The possible sources of funding are as follows:

(i) International Organizations and Donor Agencies
First and foremost, International Collaboration and funding through the World Bank, 2020) enjoins the Independent Electoral Commission of Lesotho to form partnerships and seek funding from international organizations and donor agencies, United Nations Development Programme (UNDP, 2021), is presumed to be the most reliable source of funding in the deployment of AI in Lesotho elections. This is buttressed by the fact that Lesotho's general elections have over the years been blighted by political uncertainties and lack of agreement by various political parties on the credibility, free and fairness of the outcome of the elections (Motseki-Mokhothu, 2018). Hence, the

international community such as the World Bank, (2021) is likely to support the country by facilitating the electoral processes through advancing soft loans. The funding may thus, be secured through grants and loans to the effect that Independent Electoral Commission of Lesotho may apply for grants and low-interest loans from organizations such as the United Nations, World Bank, and African Development Bank. The loan should be contracted on the basis of a moratorium period not less than five years with soft interest to pivot the country to success in elections and stability prior to repaying the loan African Development Bank (AfDB, 2022).

(ii) Private Sector involvement
In addition to the money borrowed from international organizations, Private Sector Involvement according to McKinsey & Company (2021) will be critical in terms of technical expertise McKinsey & Company. (2022) as well as funding support in specific areas of the AI project. These areas may be funding support for stakeholder engagement, communication strategy, structural AI architecture and others.

(iii) Public Private Partnership arrangement
To successfully deploy the AI in Lesotho's elections, there is a need to determine which aspects of the funding will be sourced from private sector (Harvard Business Review, 2020) and also include funding from the government in areas which conform to traditional public funding

such as training of the electoral personnel in AI and financing the remunerations of the electoral personnel.

This proposed mix of funding is likely to help enhance the project and ensure funding is sourced according to the pecking order.

Conclusion

The incorporation of AI technologies into Lesotho's electoral process can address several challenges related to social inclusion and representation. Leveraging machine learning, NLP, and computer vision can ensure that Lesotho can enhance voter engagement, improve election security, and catalyse a more inclusive and representative electoral system. Addressing these issues is essential for strengthening democratic institutions and promoting equity in the political process.

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