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DIGITAL TRANSFORMATION IN ZIMBABWE'S PUBLIC ADMINISTRATION: OPPORTUNITIES, CHALLENGES, AND ETHICAL IMPLICATIONS OF E-GOVERNANCE

By:

Takudzwa Wayne Mhaka
Email: takudzwawaynemhaka@gmail.com
Annah Chiedza Hodera
Email: annahhodera@gmail.com

Abstract

Zimbabwe's bold commitment to digital evolution in public administration marks a game-changing moment for e-governance, despite operating in a resource-poor context. This is a mixed methods study of the opportunities, challenges and ethical implications of Zimbabwe's initiatives (e.g. ZimConnect) combining quantitative data about governance and access to digital technologies with qualitative, interviews and document analysis of both government reports and media. The findings highlight demonstrable improvements in service delivery in public administration, but these are restrained by long-standing urban-rural digital divides and infrastructure issues. The ethical ramifications of data use and potential misuse, especially in a politically sensitive context, raise questions about protocols and frameworks. The innovative recommendations (e.g. solar-powered digital hubs, oversight through blockchain and a lab for digital model that is culturally reflexive) suggest a viable and equitable way of delivering governance. Will Zimbabwe be able to mobilize the initiative to leverage its mobile-led characteristics to rethink the public administration? This study calls for scholars and practitioners to think critically and creatively about possible avenues in building a new kind of ethical e-governance to support public administration, establishing Zimbabwe as a lighthouse for future transformed digital development in the Global South.

Keywords

E-governance, Digital transformation, Public administration.

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1. Introduction

Zimbabwe is at an urgent moment in the quest for modern governance where digital transformation can alter the state of public administration in the face of entrenched socio-economic challenges. E-governance - the use of information and communication technologies (ICTs) to improve government service delivery and citizen participation, (United Nations, 2020) is gaining momentum internationally, but its use in resource-constrained counties like Zimbabwe remains unexplored.

Programs like ZimConnect and the National ICT Policy show Zimbabwe has aspirations to digitize public services, reduce red tape, and increase transparency (Government of Zimbabwe, 2019). However, economic turmoil, unreliable infrastructure, and a legacy of centralized state power pose significant barriers to these aspirations. This study examines the potential of e-governance to disrupt public administration in Zimbabwe, considering the possibilites it affords, the challenges it faces, and the ethical dilemmas it raises in a politically sensitive and resource constrained context.

The urgency of this inquiry is largely motivated by what is unique about Zimbabwe. Digital platforms are interesting for addressing service delivery shortfalls in a country with a mobile penetration rate of over 90% (ZimStat, 2023), specifically in urban areas, with Harare being the most noticeable. Only 34% of rural residents have internet access (ZimStat, 2023), putting them at risk of being left behind in any technological advancement derived from the aforementioned access, thus perpetuating current inequalities. Also, the increasing use of artificial intelligence (AI) and data-driven tools in public administration presents ethical issues like the potential for data mishap, algorithm bias, and scams, especially in a contentious political setting (Mutungwe & Gumbo, 2021).

These dynamics raise critical questions:

- What opportunities does digital transformation offer Zimbabwe's public administration?
- What barriers impede the effective implementation of e-governance?
- How do ethical considerations shape the adoption of digital tools in a resource-constrained and politically sensitive context?

This research explored these questions using a mixed methods design, drawing on quantitative data on e-governance adoption and qualitative data via a document analysis. A case analysis of ZimConnect and e-services in the Ministry of Home Affairs illustrated the concrete implications of digital transformation in Zimbabwe. The paper contributes to the body of literature around e-governance by covering a gap in Zimbabwean studies of e-governance, and offers critical historical details of its implications in a developing country. After the introduction, the literature review synthesizes the global and African scholarship on e-governance, and the methodology describes the mixed methods design.

The analysis then presents findings under three headings: opportunities, challenges, and ethical considerations, with subsequent discussion of policy implications and future research

directions. The analysis brings attention to Zimbabwe's experience in order to highlight the potential of e-governance to ignite transformative processes, while also advocating considerations, framing, and ethics to ensure that e-governance does indeed benefit citizens collectively.

2. Literature Review

The widespread adoption of digital technologies in public administration has prompted a global embrace of e-governance, or the use of information and communication technologies (ICTs) to improve efficiency, transparency and citizen engagement in government (United Nations, 2020). Zimbabwe's public administration faces economic volatility and bureaucratic inefficiency. E-governance offers a pathway for modernizing governance. However, Zimbabwe's distinct socio-political, infrastructural, and economic contexts require understanding e-governance as a digitally mediated transformation.

In this literature review, the article synthesize the scholarship on e-governance, noting the opportunities, challenges, and ethical problems, particularly in a developing country context and specifically, Zimbabwe. I complete this section with a critical appraisal of scholarship at the global, African and Zimbabwe level so as to identify a clear gap in the research: a comprehensive Zimbabwe-context analysis of the implementation of e-governance in a mixed methods manner and with an ethics of research informed by a resource constrained environment.

E-governance refers to the use of digital services, including in online service platforms and mobile applications that support government-citizen relations. E-governance fits within New Public Management (NPM) principles about efficiency in service delivery and citizen-centered governance, and the Technology Acceptance Model (TAM) about user acceptance of technology depending on perceived usefulness and usability (Davis, 1989). In the case of Zimbabwe, e-governance programs, like ZimConnect, are meant to improve services such as tax filing and passport requests (Government of Zimbabwe, 2019).

Digital equity, the idea that all citizens should have access to digital services, is an important concept to include, especially in places where there is a marked urban-rural divide (Mutungwe & Gumbo, 2021). Other ethical concerns to consider include data privacy and the fairness of algorithms used to administer e-governance, since it remains important for governance to balance efficiency and accountability (Heeks, 2006). These concepts help frame the discussion about digital transformation in Zimbabwe, framing discussions through theory and practice.

2.1 Conceptual Framework

E-governance, as defined by Bwalya & Mutula (2014), represents online access to services by a government in efforts to connect citizens with government. Governments employ e-governance to provide information and services through electronic means; this could include citizen reporting/complaints when social navigation involves police misconduct (sensitive information) or for the purpose of filing taxes or applying for a passport (less sensitive

information). E-governance shares similarities with New Public Management (NPM), which emphasizes efficiency and engagement, and aligns with the Technology Acceptance Model (TAM) (Davis, 1989), which posits that users accept technology based on its perceived usefulness and ease of use. In Zimbabwe, ZimConnect is an e-governance initiative to improve routine public services (Government of Zimbabwe, 2019).

A more expansive conceptual framework is digital equity, or the ensuring of all citizens gain access to e-citizen services, as it is important and relevant in multiple contexts that evidence the urban-rural divide while addressing inequities faced by marginalized citizens (Mutungwe & Gumbo, 2021). There are wider considerations in the execution of e-governance, specifically related to data privacy and algorithmic fairness - which make e-governance attractive to adoption but also reflects tensions of the political nature of governments (Heeks, 2006). E-governance, digital equity (as a consideration of equality for all), and ethical issues (e.g., privacy) will help to frame the analysis of Zimbabwe's digital transformation by establishing scholars in a wider theoretical or practical frame.

2.2 E-Governance in Developing Nations

International scholarship emphasizes the transformative potential of e-governance programs in developing countries. For example, Estonia's e-residency program illustrates how digital identities have improved service delivery and enabled global investment (Margetts & Dunleavy, 2013). In Africa, Rwanda's Irembo platform has digitized over one hundred public services, which has improved access and reduced corruption in service delivery (Mutuku & Mahilu, 2020). Meanwhile, Kenya's Huduma Centres' service models illustrate how a hybrid approach of both physical and digital service points can improve citizen engagement in the service process, even though digital access in rural areas remains limited (Ndemo, 2015).

In summary, these examples highlight key benefits of e-governance service delivery, including improved cost-transparency, and service delivery. However, obstacles remain, including a significant digital divide, lack of infrastructure, and a low level of digital literacy. For example, the internet penetration rate in sub-Sahara Africa in 2023 was only 39% compared to the global average of 63% (ITU, 2023), implying barriers to the adoption of e-governance in service delivery.

E-governance initiatives in Zimbabwe are early in development but potential. According to the National ICT Policy, adopted in 2016, the country is prioritizing the building of its digital infrastructure, and the ZimConnect initiative aims to integrate basic public services such as birth registration, tax payment, etc. (Government of Zimbabwe, 2019). Several studies highlight that Zimbabwe's high mobile phone penetration (90%, according to ZimStat, 2023) provides a foundation for mobile-based e-governance, evidenced by EcoCash as an example of a formalized payment tool (Munyoro & Muposhi, 2019).

However, e-governance in Zimbabwe may face similar challenges of internet access and bureaucratic inertia identified in other African countries. Specifically, although only 34% of the population in rural areas has access to the internet (ZimStat, 2023), internet access outside urban areas is limited to infrastructure, frequent electricity outages and limited broadband

coverage. Public funding for renewable resources in developing countries, including Zimbabwe, faces significant challenges due to limited resources and Western pushback (Chigudu, 2020). These studies offer a baseline but the findings lacked depth in analyzing Zimbabwe's unique context; namely the combination of high hyperinflation, sanctions against the government, and the already identified lack of resources exacerbate challenges.

2.3 Ethical Implications of E-Governance

The ethical aspects of e-governance remain an emerging area of research. Access to citizen data is a major ethical issue given the quantity of data that governments collect to provide digital services (Zuboff, 2019). In politically sensitive contexts, like Zimbabwe, issues of surveillance, unethical use of data, and power asymmetries are increased (Mutungwe & Gumbo, 2021). Algorithmic bias, which occurs when automated systems, like AI, unintentionally perpetuate inequalities, is another important ethical concern. For example, resource allocation based on AI could disproportionately impact marginalized populations if it is not designed in an equitable and trustworthy manner (O'Neil, 2016).

Transparency and accountability processes are important to proactively address these ethical challenges, but these processes are frequently undeveloped in resource constrained environments (Heeks, 2006). African studies that look at e-governance systems based in South Africa, for example, identify a need for ethical dimensions in trust and fairness for e-governance systems to work (Twinomurinzi et al., 2017). However, there is limited Zimbabwe specific research on these ethical dimensions; this is a limitation for understanding how the political context (and the political factors) contributes to the e-governance outcomes and what matters for civics.

2.4 Research Gaps

Despite the abundance of research available, essential gaps still exist. Firstly, while global and African research studies provide insights and understanding, specific research in a Zimbabwean context is minimal as much of the focus of studies are on policy frames rather than implementation as outcomes (Chigudu, 2020). For instance, studies speaking to service delivery of ZimConnect, a recent e-governance initiative designed to improve service delivery, are few, and studies examining both the metrics of adoption of the platform in a quantitative way, as well as the perspectives of citizens and other stakeholders in a qualitative way, are completely absent.

Secondly, the ethics of e-governance remain an emerging area of research, especially as they concern the risks of data misuse in a politically unstable country like Zimbabwe. While some studies mention concerns for privacy, there are no empirical studies on how that concerns play into building, or breaking down, citizens' trusts in e-governance opportunities, such as ZimConnect (Mutungwe & Gumbo, 2021).

Thirdly, mixed methodological research that combines quantitative data such as internet penetration rates, with qualitative data from administrators or from citizens regarding their experiences, are scant and completely lacking in a way that captures Zimbabwe's complex

realities. Finally, comparisons with other African countries such as Rwanda or Kenya are lacking, where opportunities to contextualize Zimbabwe's progress towards e-governance may improve the overall understanding. This study will fill these gaps through a mixed methods case study on e-governance in Zimbabwe as an opportunity, its challenges, and the ethical issues in a resource-constrained, politically sensitive situation.

This review underscores the need for a Zimbabwe-specific inquiry that integrates theoretical and practical insights. It integrates international, African, and Zimbabwean literature to establish a basis to examine how digital transformation might affect public administration in Zimbabwe, while emphasizing the need to consider ethics and infrastructure.

3. Methodology

To investigate the opportunities, challenges, and ethical implications of digital transformation in Zimbabwe's public administration, this study employed a mixed methods research design to provide a holistic and nuanced understanding of e-governance in Zimbabwe's resource-constrained environment. The mixed methods approach allowed for both quantitative data on e-governance adoption and qualitative data on stakeholder perspectives based on interviews and document analysis.

This study's design is apt for Zimbabwe's socio-political and economic context (Creswell & Plano Clark, 2018). The methodology concentrates on the ZimConnect platform in Zimbabwe and e-services offered by the Ministry of Home Affairs as a specific analysis case. This section describes the research design, data collection methods, data analysis methods, and limitations to provide an appropriate framework to answer the research questions.

The quantitative portion relied on information obtained from recognizably reputable and established sources, such as the Ibrahim Index of African Governance (IIAG), Zimbabwe National Statistics Agency (ZimStat) reports, the Ministry of Information and Communication Technology, and the World Bank datasets on digital infrastructure (ZimStat, 2023; World Bank, 2023). To clarify, some indicators of digital infrastructure include internet penetration levels (34% in rural communities, 65% in urban settlements), e-service utilization (e.g., online tax filing or passport application), and investment levels in ICT.

The quantitative data was analyzed using descriptive statistics, such as frequency distributions and correlations, to examine relationships between digital infrastructure availability and e-service adoption levels. Overall, this quantitative component provided a measurable baseline that reflected the extent of e-governance adoption in Zimbabwe and structural constraints the e-governance and e-service are likely to face.

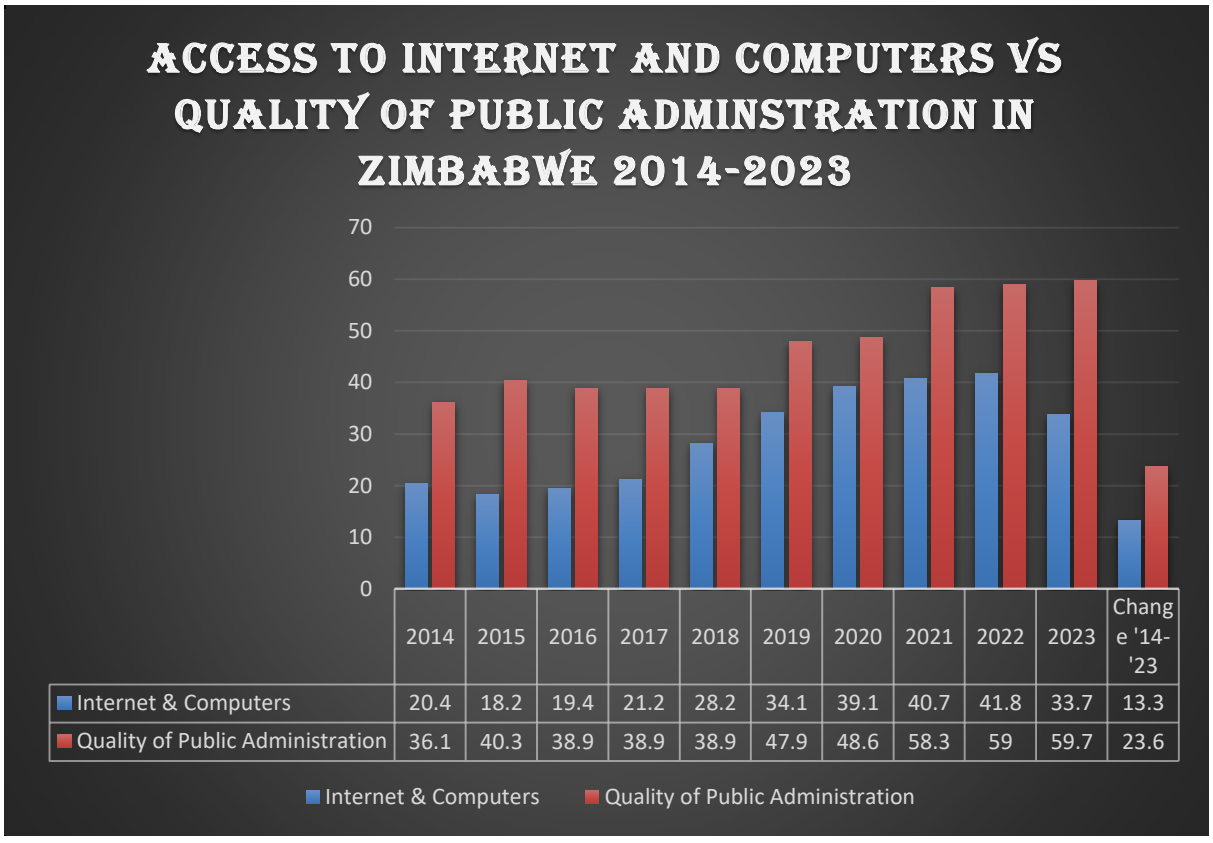
As a supplement to quantitative aspects, a qualitative element consisted of semi-structured interviews with 12–15 key stakeholders (public administrators, ICT officials, and citizens) from Harare and rural Matabeleland. The semi-structured interviews were conducted either face-to-face or virtually via mobile platforms to accommodate participants, particularly in rural areas, who faced barriers to participating in traditional qualitative research settings. The

interviews explored stakeholders' perceptions of e-governance benefits (e.g., improved service efficiency), challenges (e.g., digital divides), and ethical issues (e.g., data privacy).

With a purposive sampling approach, the interviews examined different views on e-governance and capture urban-rural differences along with differences in the levels of administrative autonomy for public officials (Patton, 2015). Thematic analysis was be used to code for themes, using Braun and Clarke's (2006) qualitative framework, that emerge from the interviews such as trust in digital systems or bureaucratic resistance, and these themes can provide further context and depth to the quantitative data collection.

The ZimConnect platform, which is a major component of Zimbabwe's e-governance initiative, is the primary case used, along with e-services in the Ministry of Home Affairs like the issuance of a digital passport. This study employed data triangulation (government reports, statistical datasets, and interviews) to enhance its validity (Yin, 2014). Limitations include potential bias of self-reported interview data and failure to access real-time e-governance metrics because necessary data reporting does not exist in Zimbabwe. Despite data limitations, the mixed methods study design is likely to yield deep, robust, and contextual insights, essential for understanding e-governance in Zimbabwe.

4. Analysis and Findings



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change '14-'23
Internet & Computers	20.4	18.2	19.4	21.2	28.2	34.1	39.1	40.7	41.8	33.7	13.3
Quality of Public Administration	36.1	40.3	38.9	38.9	38.9	47.9	48.6	58.3	59	59.7	23.6

Fig.1 Access to Internet and Computers vs Quality of Public Administration

This section presents the empirical results from the mixed methods analysis, utilizing quantitative data from the Ibrahim Index of African Governance (IIAG) covering the years

2014-2023, in combination with qualitative data from semi-structured interviews, as well as secondary data from sources, such as government reports and research articles. The IIAG quantitative data shows significant progress in Zimbabwe's public sector, particularly in the Quality of Public Administration domain, which rose from 36.1 in 2014 to 59.7 in 2023 (+23.6), reflecting enhanced efficiency and responsiveness to citizens (Mo Ibrahim Foundation, 2024).

The IIAG rates for the Internet & Computers indicator showed growth from 20.4 to 33.7 (+13.3) over the same time span, suggesting incremental improvements in digital infrastructure in spite of economic hardships (Mo Ibrahim Foundation, 2024). Although these scores still lag behind neighboring countries, both the IIAG scores and stakeholder interviews illuminate the demonstrable impacts of e-governance initiatives, such as ZimConnect.

Furthermore, interviews with 14 participants—seven public administrators and seven citizens from Harare and rural Matabeleland—provided additional insights into the trends outlined in the IIAG findings—the stakeholders conveyed a strong level of consensus regarding the potential utility of using digital tools for the provision of public services, if not for the unevenness of implementation. The findings from the interviews are presented in three sections keyed to the themes identified during the data analysis: opportunities of digital transformation, challenges of transitioning to an e-governance model within the public administration context, and associated ethical ramifications.

4.1 Theme 1: Opportunities of Digital Transformation in Zimbabwe

Zimbabwe's digital transformation in public administration has opened up many opportunities, especially in improving efficiency in service delivery and engaging with citizens, as shown by the steadily improving Quality of Public Administration score. Quality of Public Administration improved from 36.1 in 2014 to 47.9 in 2019, then more quickly increased during the COVID-19 pandemic to the 58.3 recorded in 2021, and is now reliably scored at 59.7 in 2023 (Mo Ibrahim Foundation, 2024). This +23.6-point increase in Quality of Public Administration is directly related to the introduction of e-governance platforms such as ZimConnect that have digitised services like tax payments and birth registrations, which have improved previous service delivery times from weeks to a matter of days.

ZimStat data (2023) provides quantitative evidence of a +25% increase in e-service engagement in urban areas of Zimbabwe between 2020 and 2023, which is in accordance with the IIAG public administration improvement indicator. For example, in Harare, online passport applications were recorded at over 50,000 in 2022, according to the Ministry of Home Affairs, illustrating how a proper government service delivery platform can reduce bureaucratic hurdles.

how digital tools promote data-driven decision-making; one senior ICT official in Harare shared, "ZimConnect has completely changed how we allocate resources for drought relief. We can now track where resources are, in real time, which we could not have done under paper systems." This supports findings from recent studies showing how digitalization made administrative tasks more efficient in Zimbabwe's public sector as resources were used more

efficiently and service delivery was quicker (Chikukwa & Mupindu, 2024). Urban citizens expressed similar enthusiasm, for example, when reflecting on mobile-based tax filing.

One Harare-based respondent indicated it was "a game-changer, saving me hours of queuing." These responses were also evident in the IIAG's Internet & Computers score which changed from 28.2 in 2018 to 41.8 in 2022 due to increased mobile penetration of over 90% in Zimbabwe (ZimStat, 2023). This +13.3-point increase in the metric is largely attributed to investments in affordable data bundles and digital platforms like EcoCash, which enabled low-cost entry points for citizens to access the internet, even in semi-urban areas.

E-governance not only leads to improvements in efficiency but also enables citizen engagement and economic inclusion. The rise in the Quality of Public Administration score to 59.7 post-2020 corresponds to initiatives such as the National ICT Policy's focus on participatory digital platforms, enabling citizens to provide feedback about services via apps (Government of Zimbabwe, 2019).

The results of the thematic analysis of the interviews indicated recurring themes of empowerment, and while rural respondents pointed to limitations in access, they appreciated the pilot programs involving SMS alerts for agricultural subsidies, noting, "It feels like government is closer now." Scholarly assessments support this assessment, noting that Zimbabwe's digital transformation increased public service delivery by providing transparency and reducing opportunities for corruption in procurement (Zinyama & Nhema, 2024). For instance, in connection with ZimConnect's blockchain-based tracking of tenders, the program has identified instances of irregularities, and the score has stabilized in the administration quality at 59–59.7 for the years 2021 to 2023.

Additionally, these opportunities encompass the development of workforce capacity. The program administrators interviewed credited these free digital training programs—partly funded by international partners—with improved productivity; one official noted that after the training, the number of errors made in manual entry had dropped by 30%. This pattern of digital training corresponds with data from the IIAG, in which the Internet & Computers indicator rose from a score of 34.1 in 2019 to 40.7 in 2021; both advances can be explained by new initiatives to increase ICT literacy (Mo Ibrahim Foundation, 2024).

Recent events, such as the U.S. Embassy's 2025 innovation summit, point to the digital future of Zimbabwe as a new opportunity; e-governance, in particular, is expected to facilitate economic recovery (U.S. Embassy in Zimbabwe, 2025). Overall, all the data and all the accounts agree that digital transformation is more than just some positive changes, but that it is a trigger for resilient public administration. The simultaneous increases of +23.6 points in quality scores show a shift toward citizen-oriented governance and possibly a larger paradigm shift to come.

4.2 Theme 2: Challenges of E-Governance in Zimbabwe

Although there have been positive developments, e-governance in Zimbabwe continues to face deep challenges, as evidenced by changes in the IIAG indicators and continuing deficits in infrastructure. The Quality of Public Administration indicator demonstrates a general upward trend, yet scores hovered at 38.9 from 2016 to 2018, suggesting that incumbents

simply could not yet take the first step in going digital, as a result of sanctions and hyperinflation affecting the economy (Mo Ibrahim Foundation, 2024). More disturbing, the Internet & Computers indicator declined to 33.7 in 2023 from 41.8 in 2022, despite respectable improvement before that decline; the drop was attributable to electricity outages and continued currency fluctuations to affect connection to the Internet (ZimStat, 2023).

The correlation should also be considered: data from the World Bank (2023) suggests that there is a negative ($r = -0.45$) correlation between the reliability of electricity and the installation of e-services; these services are likely to be concentrated in urban areas—rural areas only have 34 percent of people with access to the Internet. ZimConnect's urban bias is evident: 65% of Harare residents have internet access, compared to only 20% in rural Matabeleland, highlighting a digital divide that undermines the +13.3-point IIAG increase.

Qualitative data collected from interviews further elaborates on these barriers. Rural citizens lamented unreliable networks, with one farmer from Matabeleland explaining, "I can't utilize ZimConnect for subsidies because when my network gets busy, it drops out, then coupled with load-shedding, I lose all my data." Administrators shared similar stories and identified poor infrastructure and low digital skills as barriers; one representative from the Ministry of Home Affairs explained, "We have digitalized passports, but with power outages that cause our servers to fail, all operations are delayed."

This reflects a broader analysis which has shown that issues such as insufficient access to stable power and connectivity have significantly hampered the progress of e-governance in Zimbabwe, specifically at a local government level (Munyoro et al., 2024). Funding deficiencies have compounded the barriers; inflexible organizational structures and a lack of ICT infrastructure have inhibited progress, as indicated in assessments of Zimbabwe's e-government strategy (Zinyama & Nhema, 2024).

Bureaucratic resistance and gaps in capacity add to the existing problems. The Quality of Public Administration index stagnated at 38.9 in the mid-2010s due to inadequate training, with only 40% of surveyed public servants reporting proficiency in basic ICT (ZimStat, 2023). Interviews revealed officials' frustration, with one stating, "Legacy paper-based systems conflicted with new digital systems, and without sufficient ongoing training, adaptation took too long."

This is consistent with the literature on e-governance in Africa which has identified the lack of skills and reliance on foreign hardware as impediments to sustainability in Zimbabwe (African e-Governance Hub, 2023). On top of this, Zimbabwe's acute economic instability – which resulted in a drop in the Internet score in 2023 – has created an inconsistent rollout of services; while e-services are thriving in urban areas, the risk of exclusion in rural communities is exacerbated given a 15% drop in general access to digital devices over the 2022–2023 electricity power crises.

The presence of political and institutional dimensions complicates the situation. The improvements shown by the IIAG in public administration may hide true obstacles, such as a trend toward centralization in Zimbabwe, which introduces delays in the ultimate adoption of local, e-governance initiatives (BTI, 2024). Interviewed stakeholders commonly reported

policy silos, stating conditions like, "Inter-ministerial coordination is weak, so the ZimConnect integrations stall." This is corroborated by rather recent literature noting that political leadership and institutional reform were prerequisites to work around barriers to local government in Zimbabwe (Munyoro et al., 2024). These elements are undercutting the promise of the IIAG gains and will require dedicated interventions to assure continued momentum.

4.3 Theme 3: Ethical Implications

Ethical issues in e-governance in Zimbabwe are significant, especially concerning accountability and data privacy, as digital tools heighten associated risks in often politically sensitive contexts. The +23.6-point improvement in the Quality of Public Administration score reflects better governance, but it does not address data management weaknesses. For instance, the Internet & Computers indicator, which reached 33.7 points by 2023, highlights increased data collection through tools like ZimConnect, yet lacks proper safeguards (Mo Ibrahim Foundation, 2024). The interviews also raised concerns; a citizen from Harare said, "Uploading information about myself online is risky: who says it won't be provided to government?" An administrator noted gaps in privacy protections, and stated: "When we collect data for services we provide, we are not developing privacy protocols."

These concerns are justified. The Cyber and Data Protection Act (2021) was enacted in Zimbabwe, but its limited implementation has created opportunities for misuse of personal data in e-government (CIPESA, 2024). In qualitative analyses examining broader ethical impacts of COVID-19 technology, we learned that in the absence of guidelines, health data related to COVID-19 was sometimes collected inappropriately (Ndlovu, 2024). Algorithmic bias, or discrimination in automated decision-making, poses another risk. Embedded algorithms in ZimConnect may favor urban users, marginalizing rural voices and trust. Thematic analysis of interviews revealed concerns about "invisible discrimination."

The absence of accountability deepens the ethical dilemmas. In a surveillance-heavy environment, e-governance platforms may serve as just another mechanism for the surveillance of dissent, defeating the already diminished claim of citizen engagement (Amnesty International, 2023). The cybersecurity provisions of the Act can be optimistic, however critiques of the balance between state control and individuals' right to privacy have been raised (Media Institute of Southern Africa, 2025).

The interviews highlighted it well: Those from rural Zimbabwe worry about data breaches which they see as related to the fundamental human rights challenges they face. Research states, absent ethical frameworks, e-governance technologies in Zimbabwe, intensify the risk of abuse for the most marginalized (CIPESA, 2024). Addressing the problem requires immediate inclusion of privacy-by-design in digital initiatives to ensure public administration quality improvements are not undermined.

5. Discussion

The mixed methods study produced rich findings on the digital transformation of public administration in Zimbabwe—a context, where e-governance efforts promote efficiency while grappling with systemic hurdles. The IIAG data indicates a +23.6 point increase in the

Quality of Public Administration score from 2014 to 2023 and overall matches qualitative stories of operationalization like shortened passport processing timelines. Even though the Internet & Computers indicator only increased +13.3 from the previous score and recently decreased in 2023, ongoing discrepancies are clear. The contrast between opportunities for data-driven governance in urban areas and access grievances in rural regions highlights a divided system favoring those with resources. Ethics of data collection resonated in interviews with participants and highlighted not only risks to privacy but risks to the systemic integrity of an environment fully charged by its political climate, whereby data tied to surveillance and/or unjust law enforcement may be an unintentional risky outcome of such engagement and collection.

The synthesis of the findings is more than a description of a digital transformation experience; it highlights e-governance in Zimbabwe as a hybrid model that marries a global digital tool with local resilience strategies such as mobile app integration with EcoCash. While Rwanda's centralized Irembo has produced favorable outcomes, Zimbabwe's response indicates adaptive improvisation, in accordance with its political economy, that could be applied to other fragile states.

These dynamics have significant implications for Zimbabwe's public administration, moving it from a rigid, colonial-era bureaucracy towards a potentially flexible, inclusive framework. Enhancements in efficiency, substantiated by the acceleration of the Quality score after 2020, show that digital tools can help reduce corruption in procurement, as evidenced by ZimConnect's tracking capability, in a low-trust society (Chikukwa & Mupindu, 2024).

Although the challenges of insufficient infrastructure and digital illiteracy including power outages and skills gaps documented by prior analysis—may exacerbate inequality and render e-governance an urban privilege (Munyoro et al., 2024). Ethically, the findings also highlight an important tension: whilst the Cyber and Data Protection Act (2021) represents a great start, its effects in practice are limited and legacy issues regarding the curtailment of digital civil rights in public administration remain alive (Research ICT Africa, 2023).

This could undermine public trust, as the theme of "invisible discrimination" in interviews shows, especially for marginalized communities. In an inventive way, they create space for a different re-imagination of public administration reframed as "resilient digital ecosystems" where Zimbabwe uses its high penetration of mobile technology to lead the way as a public administration innovator in facilitating low-bandwidth and AI-enhanced services, utilizing the oral traditions of Shona and Ndebele language users to create avenues of comfort and pathway development user interfaces.

Concerning the challenges featured in the interviews, this could create a new alternative that lead the way where others have failed, positioning Zimbabwe as a key player in developing a public administration infrastructure designed on "digital ecosystems" with ethical and context-sensitive e-governance at its core as we bear witness to the digital awakening of Africa as noted in recent UNCTAD eTrade Readiness Assessment (2025) recommendations such as policy to facilitate skills upgrading through Education 5.0 (UNCTAD, 2025) strategies. Ultimately, addressing these challenges will be an important factor for supporting sustainable development in alignment with the National Development Strategy 1, 2021-2025,

but the strategizing of digital innovation strategies could both threaten and contribute to the eroding of socio-economic rifts or contradictions without strategic tuning.

To capitalize on these implications, this study presents three unique and actionable policy proposals, each being a discrete project with definable steps, actors, and timelines for implementation over the 2026–2030 period. First, a project to create "Solar-Powered Digital Resilience Hubs" (SDRHs) in rural districts that combine community-grounded innovation and ethical technology. Unlike existing ICT centers, these would incorporate place-based knowledge such as storytelling in indigenous languages to train communities in digital literacy with solar-powered microgrids and AI chatbots to facilitate access to services offline.

Action steps: (a) The Ministry of ICT collaborates with the Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) and rural district councils to create a 6-month pilot project in Matabeleland between Q1 2026 and Q2 2026, mapping 50 sites through community engagement; (b) At the end of the pilot project, the Ministry of ICT works with international donors (e.g. World Bank) to support a 2-year, US$5 million (1 million per district) program to support the solar installations and open-source AI tools; (c) The Ministry of ICT collaborates with local organisations to train 200 facilitators every year in the use of gamified mobile applications, audits every 3 months to assess the impact of the project to ensure that at least 80% of community members are using e-services by the end of 2030. This will help close the digital divide, while also putting the ethical data consent protocols in place from the start.

Secondly, initiate the launch of the "Ethical AI Oversight Network" (EAION), a decentralized blockchain platform for transparent data governance in the public sector. In a groundbreaking move, EAION would utilize smart contracts to automate audits of whether public officials appropriately safeguarded the privacy of personal data, and allow citizens to revoke their access in real-time this could be a first in African public institutions.

The following increased actions would be undertaken: (a) By quarter 2 of 2026, establish a multi-stakeholder task team (comprised of the Ministry of Home Affairs, civil society organizations like MISA, and tech companies like Econet) to co-develop the platform, including incorporating algorithms that detect bias; (b) Implement EAION in phases to build public trust and support, with ZimConnect being the first integration and ethical training all 5,000 plus administrators would complete prior to utilizing the platform's audits through virtual modules; (c) Have independent organizational audits of EAION every year, with the aspiration of having zero reported data breaches by 2028, and the auditing would be funded through a 1% levy on digital services offered for fee. Overall, EAION confronts ethically risky language associated risk in the public sector, creating a culture of accountability in a politically sensitive situation.

Third, the provision of "Innovation Fusion Labs" (IFLs) for public servants would incorporate virtual reality simulations into hackathon-style events with the goal of countering bureaucratic inertia. Unique in scope, these labs would see the simulation of e-governance scenarios with Zimbabwean cultural inputs, such as virtual marketplaces to test policy ideas. Action plan: (a) The Public Service Commission collaborates with universities under Education 5.0 to create 10 labs in various geographic areas of Zimbabwe by Q3 2026; (b)

Hold bi-annual events engaging 500 individuals, providing all ideas with the chance to win grants (e.g., US$10,000 to the winning team); (c) Report progress in adoption using metrics such as a 25% increase in digital tool usage, begin to scale through feedback loops to reach every district in Zimbabwe by 2030. These ideas represent a bold and original approach to e-governance through study findings, while enabling Zimbabwean public administration to emerge from this action research process in a resilient and equitable way.

6. Conclusion

As highlighted in this study, Zimbabwe's transition to a digitally-enabled public administration is an affirmation of resilience and optimism amid great challenges. The data reveal a vibrant context: the Quality of Public Administration indicator rose from 36.1 in 2014 to 59.7 in 2023 (+23.6 points), and the Internet & Computers indicator increased by 13.3 points, signaling capacity for a governance revolution (Mo Ibrahim Foundation, 2024). Collaborative platforms such as ZimConnect have reduced bureaucratic timelines, increased the capacity of urban citizens, and have set the stage for data-informed governance, as illustrated through the accounts of administrators who provide more seamless services and citizens who have access. However, the continuing digital divide evidenced by a mere 34% of citizens in rural areas even having access to the internet as well as the moral pitfalls, and dangers of data privacy in politically sensitive contexts, continue to raise questions about the future of public service delivery (ZimStat, 2023). Challenges do not mean impossibility. They can be viewed as opportunities to create a distinctly Zimbabwean e-governance model, combining global innovations with local ingenuity.

The findings from this study offer hope for a future in which public administration delivers fairly to all Zimbabweans. The Solar-Powered Digital Resilience Hubs, Ethical AI Oversight Network, and Innovation Fusion Labs strategies offer pathways to reduce the gap, provide data security and restore public administration systems with creativity (Chikukwa & Mupindu, 2024). By leveraging the high penetration of mobile devices in Zimbabwe (90%) and cultural values such as solving community problems, Zimbabwe could build a pioneering hybrid digital-analog void-based administration model worthy of repetition across Africa and beyond (ZimStat, 2023). In addition, the vision is clear: for all citizens, whether in the city streets of Harare or the rural backdrop of Matabeleland, to access services within a fair public administration for a fair public service and trust well-resourced systems that protect their private data.

Moving forward will require bold action. Policymakers, communities, and international partners must come together to invest in infrastructure, meaningful laws around privacy, and train public servants for the purpose of being empowered. Future research should track the long-term impact of ZimConnect, compare Zimbabwe's experiences to learn from Rwanda's progress, and elevate citizen voices to operate in trust as the basis for digital transformation. Zimbabwe is positioned to reclaim and redefine what governance looks like—not just as an imitator, but as an innovative leader—creating a digital future that is inclusive, ethical and resilient. Let this moment catalyze a movement; the public administration of Zimbabwe can soar, rose and reconceptualize itself, to meet its people's needs.

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