Shaping anti-corruption strategies: investigator perspectives on electronic records

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Abstract

Purpose – This study aims to investigate the specific difficulties involved in implementing electronic recordkeeping for anti-corruption investigations in Nigeria. It recognises the importance of technological advancements in such investigations and the need for efficient, internationally recognised services, especially in a country where manual processes are prevalent.

Design/methodology/approach – This study uses a qualitative, exploratory case study approach. Data were gathered through interviews with 15 anti-corruption investigators in Nigeria in the year 2020 and analysed using thematic analysis.

Findings – This study identified two main challenges: resistance to adopting technological change and indifference towards information technology.

Originality/value – This study highlights the transformative potential of technology, specifically cloud computing and forensic technology, in an investigative context. By intentionally integrating technology, existing deficiencies can be addressed, investigative processes can be streamlined and a culture of accountability can be cultivated. It contributes to ongoing discussions and emphasises the capacity of technology to drive significant transformation in the pursuit of integrity and justice.

Keywords Accountability forums, Anti-corruption strategies, Corruption, Electronic records, Records management

Paper type Research paper

Introduction

Corruption is a widespread and damaging issue that negatively impacts various aspects of society, hindering their development. Despite efforts to combat it, corruption remains a persistent challenge (Gray and Kaufmann, 1998; Lawan and Henttonen, 2024a; Urbina and Rodríguez, 2022). The advent of technology has revolutionised the way information is managed and disseminated, leading to a new phase in the documentation landscape (Gul and

Bano, 2019). The interplay between opportunities and challenges accompanying this transition resonates significantly in combating corruption (Aarvik, 2019). While tangible paper trails were once crucial in investigations, the emergence of electronic records necessitates a thorough understanding of their implications in anti-corruption efforts and the pursuit of transparency and accountability (Sindhu and Meshram, 2012).

Records, regardless of their form, hold intrinsic value and relevance to an organisation's activities, decisions and transactions (Yeo, 2008). Record management, which involves the co-ordination of policies and technologies, is essential in ensuring the systematic creation, retention, utilisation and disposal of records throughout their lifecycle (Ngoepe, 2016). In anti-corruption investigations, records serve as critical evidence that can illuminate and prevent corrupt practices (Lawan and Henttonen, 2023; Okello-Obura, 2013).

Records, which are crucial for accountability and transparency in governance, play a significant role in anti-corruption investigations (Lawan and Henttonen, 2023). They serve as repositories of factual evidence that can uncover instances of wrongdoing and corruption (Lawan and Henttonen, 2024b; Okello-Obura, 2013). In investigations, records provide evidence, establish timelines and offer insights into events under scrutiny (Shepherd, 2006). By analysing records, investigators can uncover instances of unethical governance (Hou *et al.*, 2020).

Traditionally, the landscape of anti-corruption investigations has relied predominantly on manual recordkeeping methods in which physical documents and paper trails constitute the primary evidentiary fabric (Aduwo *et al.*, 2020). However, the evolution of technology has ushered in electronic records, driven by rapid advances in digital systems. Manual records, characterised by their tactile nature, remain susceptible to physical deterioration, loss and deliberate manipulation (Setor *et al.*, 2021). In stark contrast, electronic records, facilitated by sophisticated information systems, bear the attributes of intangibility and digitisation. These records offer distinct advantages including streamlined storage, rapid accessibility and potential resistance to physical tampering (Adam and Fazekas, 2021).

The adoption of electronic records in corruption investigations has raised important questions, such as their effectiveness and efficiency, as well as potential obstacles (Aduwo *et al.*, 2020; Prabowo, 2020). Managing electronic data and navigating cyber threats present significant challenges for anti-corruption efforts (Kebande, 2022). This study explores the perspectives of anti-corruption investigators on transitioning from manual to electronic recordkeeping in the context of anti-corruption investigations. It aims to uncover the complex interplay between the benefits, challenges and risks associated with this shift, as revealed by the experiences of those fighting corruption.

The transition from paper to electronic records has become increasingly important as countries grapple with corruption. This shift has transformed the way investigations are conducted, organised and analysed. However, there has been no examination of how anti-corruption investigators' work has evolved and how they perceive this change. This research aims to explore their viewpoints and determine if this change has improved anti-corruption efforts. This study seeks to enrich the discourse on electronic records in anti-corruption investigations and provide insights for policymakers and practitioners.

Previous research

The history of efforts to combat corruption is complex and multifaceted, spanning centuries and encompassing various societies and legal systems (Lawan and Henttonen, 2024a; LIU, 2015; Mulinge and Lesetedi, 2002). Ancient civilisations such as Egypt and Mesopotamia implemented laws to prevent bribery and embezzlement, whereas the medieval and Renaissance periods saw rulers and religious leaders issuing orders to reduce corruption among government officials (Jordan, 2009). The Enlightenment era marked a significant

shift towards emphasising transparency, accountability and the rule of law (Chen and Ganapati, 2023; Hoseah, 2014). In the 20th century, government agencies and international organisations dedicated to eradicating corruption were established, such as the FBI in the USA and Transparency International (Teichmann and Wittmann, 2023; Wolf, 2018). Investigative journalism has also played a critical role in exposing corruption and holding officials accountable (Dagba *et al.*, 2022; Pollack and Allern, 2018; Yusha'u, 2009).

Countries have implemented anti-corruption laws and participated in global agreements to combat corruption, such as the 2003 United Nations Convention against Corruption (Brody *et al.*, 2020; Weilert, 2016). Technological advancements, international co-operation and improved investigative methods have led to more effective efforts to fight corruption in the 21st century. Sophisticated methods for detecting and investigating corruption, legal protections for whistle-blowers, cross-border investigations and civil society pressure have contributed to these efforts (Carr and Outhwaite, 2011; Fazekas *et al.*, 2016). For example, many countries have strengthened legal protections for whistle-blowers, allowing individuals to report corruption without fear of retaliation (Aarvik, 2019; Delima and Dachyar, 2020; Halai *et al.*, 2021).

The shift towards electronic records in investigative practices has brought significant changes in how investigations are conducted, organised and analysed (Setor *et al.*, 2021). This transition offers numerous benefits, such as increased efficiency, accessibility, precision and the ability to handle large amounts of data (Mutungi *et al.*, 2019). In the past, documentation, evidence and case details were primarily recorded and stored on paper, leading to storage challenges, difficulties in locating and retrieving information and a higher risk of loss, damage or tampering. Sharing case-related information during the paper era required time-consuming physical transfers or mailing of documents, causing delays in investigations and collaboration. Analysing an extensive number of paper-based documents is labour-intensive and time-consuming. Investigators had to manually sift through the data, resulting in delays and oversight (Marquette and Doig, 2004). Dealing with digital evidence such as computer files or emails in a paper-based environment poses challenges for investigators in preserving and examining electronic data (Trace and Sanett, 2000). Trials and hearings traditionally occur in physical courtrooms, requiring all relevant parties to be physically present (Bandes and Feigenson, 2020). Ensuring the security and integrity of paper documents is difficult due to concerns regarding tampering, loss and unauthorised access (Rafoneke and Mnjama, 2019).

With the advancement of technology, investigative agencies are increasingly relying on electronic documentation and storage. This offers improved organisational capabilities, search functionality and secure archiving and backup options. The transition to electronic records also facilitates seamless information sharing across different agencies and departments, enhancing collaboration and the speed of investigations (Hsu *et al.*, 2009; Luyombya, 2011; Shibambu and Marutha, 2022). Advanced tools such as data mining, text analytics and machine learning algorithms can be used to process and analyse electronic records, uncovering patterns and insights that may have otherwise gone unnoticed (Rabuzin and Modrušan, 2019). Digital forensics has emerged as a field to extract, analyse and present electronic evidence in a legally admissible manner (Sorunke, 2018). Electronic records also enable remote collaboration for legal teams, judges, witnesses and other stakeholders through virtual trials and hearings. Blockchain technology is being explored to enhance the security and traceability of electronic records (Li *et al.*, 2021; Xiaodong *et al.*, 2019; Yan *et al.*, 2020).

Electronic records (e-records) have become increasingly relied upon across various sectors, including investigative practices, due to a combination of technological

advancements and global connectivity (Sun *et al.*, 2020; Trace and Sanett, 2000). These developments have led to a shift towards digital documentation, eliminating the need for physical storage space and reducing the risk of data loss. Advanced data processing and analysis tools, such as data mining, AI and machine learning, enable organisations to extract valuable insights from vast data sets (Duranti and Rogers, 2019). High-speed internet connections and robust communication networks have facilitated the seamless exchange of electronic records across geographical boundaries, enabling real-time collaboration among investigative bodies, legal professionals and stakeholders (Oliveira *et al.*, 2015). The widespread use of smartphones and tablets allows individuals to access and manage their records on-the-go, enhancing the efficiency and responsiveness of law enforcement personnel, investigators and legal experts.

Electronic records offer instant access to critical information, which is crucial in emergencies and time-sensitive investigations (Cho and Choi, 2004; Weidinger *et al.*, 2023). The ease of searching through electronic records increases efficiency and reduces the time spent on information retrieval. Automation of workflows and digital case management systems streamline investigative processes, allowing investigators to focus on complex matters (Ajibade and Mutula, 2021; Djamaludin *et al.*, 2023). The transition to e-records aligns with sustainability goals by reducing paper consumption and the environmental impact of printing and document preservation. Compliance with regulations and standards for electronic records preservation compels organisations to adopt digital recordkeeping methods (Middleton *et al.*, 2009). The legal field recognises the admissibility of electronic evidence in courtroom proceedings, promoting the use of e-records in investigations and trials (Halai *et al.*, 2021; Okpara *et al.*, 2023; Zadareiko, 2022).

A review of the literature shows that anti-corruption efforts and investigative approaches have progressed towards greater transparency, accountability and international co-operation. The shift from traditional paper-based methods to digital ones has led to more efficient operation, improved data management and the use of advanced investigative techniques. Continuous technological advancements are equipping investigative agencies with enhanced capabilities, driving the development of modern investigative methods. The integration of technological innovations and global connectivity has created an environment where electronic records are vital for investigative operations. The benefits of electronic records, including superior data management, accessibility, efficiency and collaborative potential, have led to increased reliance across various sectors, highlighting their role in contemporary investigative methodologies.

Methodology

In this study, an exploratory qualitative case study approach is used to gain an in-depth understanding of a specific social phenomenon. This research aims to address the following question:

> *Q1.* What is the perspective of anti-corruption investigators on the shift from manual to electronic records in their work?

To achieve this research objective, it is crucial to provide a comprehensive and accurate portrayal of the phenomenon under investigation (Creswell, 2018; Silverman, 2010; Taylor *et al.*, 2015; Yin, 2009). To focus on this study, it is necessary to define a research topic that targets a particular aspect of the phenomenon. This method is particularly suitable for investigating cases because it allows researchers to describe the various components and consequences of the phenomenon under investigation (Creswell, 2018; Silverman, 2010; Yin, 2009).

Nigeria, the largest economy in Africa and the most populous nation is grappling with corruption, which significantly hinders its potential (Osoba, 1996; Page, 2018). Given the widespread nature of corruption and its central importance in national and global discussions, Nigeria is a suitable subject for this study. This study aims to investigate the perspectives of anti-corruption investigators on the application of electronic records to enhance investigation efficiency. This study aims to identify the obstacles associated with adopting electronic records within the context of Nigeria's Independent Corrupt Practices and Other Related Offences Commission (ICPC), which was established in 1999 as the country's first anti-corruption agency. The ICPC's application of electronic records in investigations is a topic of significant interest in this study. Given the ICPC's substantial experience in tackling corruption at the grassroots level, this is an ideal source of research. In addition, the ICPC's operational department relies heavily on recorded evidence for investigation, making it a valuable resource for this study. Furthermore, the ICPC is responsible for evaluating the practices, systems and procedures of public bodies and ensuring transparency and accountability for good governance in Nigeria (ICPC, 2024).

The need for the transition from manual to electronic recordkeeping in an environment heavily reliant on manual records for anti-corruption investigations in Nigeria necessitates the application of the records lifecycle concept, which encompasses the creation, distribution, maintenance, use, appraisal and disposition phases. This approach is crucial for investigating the challenges encountered in a predominantly manual environment. This concept aligns with the study variables and offers a framework for testing vulnerabilities in systems during investigations (Shepherd and Yeo, 2003). The record lifecycle approach simplifies problem diagnosis and resolution, enabling the identification of record management-related issues and areas that require immediate attention for effective resolution (Hoke, 2011).

The data for this study were collected in 2020 through semi-structured interviews recorded for transcription. The interviews were designed to elicit open-ended responses from anti-corruption investigators regarding their perspectives on the movement from manual to electronic records to improve investigative efforts. The study's themes were derived from the records lifecycle model, which emphasises the purposeful creation and maintenance of records for appropriate utilisation.

Fifteen research participants were selected using the snowball sampling technique from the ICPC's Operations Department's six units. Data saturation was reached after the 15th interview, indicating that additional interviews would not yield new insights. The participants included senior, mid-level and junior investigation officers, who were heavily reliant on records for accountability. Each department's investigative team had a minimum of two staff members participating in the study.

Given the sensitive nature of the participants and their privacy concerns, the researcher provided comprehensive explanations of the study's goals to obtain consent for data collection. The interviews were conducted at the commission headquarters of participants' offices. Interview durations ranged from 30 min to an hour, depending on the response length. The interview data were transcribed and subjected to a thematic analysis. The analysis involved comparing commonalities and differences in participants' responses to identify themes, including the investigators' roles in record management, prospects for record management and transparency in recordkeeping practices.

Findings

The significance of glide from manual to electronic records in combating corruption has been the focus of investigation and has provided valuable insights into the matter of anti-

corruption investigators. As society continues to digitise its administrative processes, there is growing potential for transparency, accountability and evidence preservation through electronic records. This study aimed to explore the perspectives of anti-corruption investigators regarding the use of electronic records in their investigations and offer insights into their experiences, challenges and recommendations. Through this research, we gained a deeper understanding of how digital documentation impacts the landscape of corruption investigation, ultimately leading to the development of more effective strategies for the pursuit of integrity and justice:

> I just think Nigeria has refused to move along with the rest of the world, and we believe in something I call all motion no action. People move up and down but do not really do anything. And the way to […] where the world is going, you have to work smart, not necessarily hard, and that is where technology comes in. So, what you have is because of the legacy practices we have been doing. We have the issue of legacy practice. We have the issue of the quality of staff employed to handle these functions. Are they trained or upskilled? Can they use ICT tools? Even if you buy tools that cannot be used, there is still a problem. Everything must work together. So, I just think we need to use technology and get it right and begin to […] starting to determine a cut-off period from which we start utilising everything while we work to upload the backlog, which is what we are currently doing in the Commission at the moment. (Interviewee I)

The participants raised concerns about the slow adoption of technology-driven approaches in anti-corruption efforts. The participants asserted that the prevailing culture of manual approaches must give way to the strategic employment of technology to keep pace with contemporary progress. The participant acknowledges the need for a paradigm shift in the way corruption investigations are conducted and emphasises the fundamental role of technology in enhancing the efficiency and accuracy of such efforts. The participant proposed a phased implementation strategy that harmoniously aligned the acquisition of digital tools with the procedural frameworks. The participant also recognises ongoing efforts within the Commission to embrace technology and rectify historical inefficiencies through technological integration.

Resistance to change has become a focus in the context of technology's evolving role in the fight against corruption. As highlighted by the next participant, this complex aspect of change management is a crucial consideration in the adoption and implementation of new technologies for anti-corruption efforts. This quote effectively captures the essence of the challenge:

> There is only one bottleneck I see and that is resistance to change. Change management. People are not ready or wary of using technology. It's this IT apathy. People do not […] are not ready. They are not used to it, and they're not ready to learn how to use it and we are all guilty. (Interviewee II)

The interviewee identified resistance to change and "IT apathy" as significant challenges in the anti-corruption sphere. The reluctance to engage with technology is a collective shortcoming that requires a comprehensive change management strategy. The interviewee emphasised the need to address the fundamental issue of resistance to technological integration, which is a substantial obstacle. The term "IT apathy" highlights the widespread aversion to learning and adopting new technological tools. The recognition that this resistance is a collective challenge, rather than an individual concern, is a crucial insight. A well-structured change management strategy that fosters a culture of tech proficiency is necessary to overcome this obstacle. The interviewee envisions a more tech-empowered anti-corruption landscape in which the barriers to change are collectively dismantled, enabling more effective use of technology in the pursuit of integrity and justice.

In the fight against corruption, recordkeeping assumes paramount importance as the cornerstone of accountability. As the interviewees' insights revealed, accurate and detailed recordkeeping is essential to ensure transparency and accountability in the decision-making processes. This quote encapsulates this sentiment:

> Proper record keeping ensures accountability because once you have proper record keeping, it becomes difficult for certain practices to get done if things are properly documented and recorded, you know who did what at every step of the process and if somebody now eventually does something wrong, it's easy to identify the person and yeah, so it's if you want to fight corruption record keeping especially using ICT platform is the way to go. (Interviewee III)

Thorough recordkeeping is essential for accountability, as it ensures transparency and allows for swift identification of deviations from norms. The interviewee emphasised the importance of comprehensive documentation to prevent unethical practices and promote anti-corruption measures. The use of information and communication technology (ICT) platforms in record management can transform the fight against corruption by facilitating easy maintenance, access and cross-referencing of records.

There is a growing optimism surrounding the potential for Nigeria to transition towards more advanced recordkeeping practices. This sentiment is reflected in the belief that integrated data systems can lead to transformation. The interviewees' comments reinforced this optimistic outlook, as evidenced by the following quote:

> Yes, I think there is a prospect, there is very high hope, and we have started seeing it. Now, you see that this national ID card, whatever the government directs, should be integrated. NIMC records, and what do you call them? Road safety and driver's licences, immigration, and passports should be integrated. By the time we begin to integrate that and extend a bit further to integrate records of anti-corruption institutions such that an individual if it is fully integrated and we have started, what you just need now is for the police and ICPC and other institutions also to move into that; they have started but it's a gradual thing, so there is very high hope. If someone has a criminal record, you do not need to […] by the time he gets to the airport, by the time they scan his passport, the history comes out, and you say you know this person needs to be watched. He has this so-and-so case, so you can monitor, such a person, there's high hope that this issue […] is in the front burner of government, but there is very high hope that Nigeria will migrate fully into proper and modern recordkeeping. (Interviewee IV)

The shift towards interconnectivity in the ICPC's administrative policy framework is highlighted by the government's directive to integrate the national ID card with other crucial documents such as drivers' licences, immigration records and passports. This harmonisation enables a comprehensive understanding of individual profiles and leads to more informed decision-making processes. The interviewee advocates for a more profound integration of records in the realm of anti-corruption institutions, which would allow for real-time monitoring and facilitate accountability. This vision requires the involvement of entities such as the police and ICPC, but the interviewee has high hopes for its viability and the potential impact it could have on the society.

Within the realm of uncovering corruption, a captivating viewpoint centred on the role of meticulous recordkeeping. The interviewees' forthright insights shed light on the intricacies and obstacles of this arena. The quote in question effectively summarises this perspective:

> Oh my God, that's a very good question. Do you know that you discover that you go to an agency that is the subject of investigation and discover that they do not have a record? Some of them don't. They will say Ah, and then some will come up with flimsy excuses; they will say that fire entered or flood came and swept the basement and all of that, so. However, we have had occasions to go to an organisation where their records are well managed. Some are technologically-driven; therefore, you do not stress yourself. We just say OK; these are the records I want, then this is how we just

get it electronically, we copy it in a flash and that is it. We have also gone to an organisation that is paper not electronic, it's not everybody that is digitally inclined, but I just hope that one day all these organisations will be technologically driven because it is easier, it makes the job easy, and we must not have more papers everywhere. And will save the government the story that fire enters and burns, and fire does not burn even if it burns anything electronically, we have already backed it up in the cloud. Therefore, it can also be accessed. So, we have gone to organisations that have well-managed paper documents, including […], and we have gone to organisations that are technologically driven and their documents are digitised. So, yeah, and it has been a good experience because it makes the job very easy. Not that when you go to a place where they say they do not have documents, you have to devise other ways we know. If another document […] let us assume the payment voucher, we are dealing with a payment voucher that is not available. We have just […] still be able to trace the payments. We know how to do that, yes. (Interviewee V)

The analysis digs into matter's fundamental aspects, as highlighted by the interviewee's exclamation on the challenges posed by agencies with inadequately managed records. This includes excuses ranging from natural disasters to avoiding accountability. However, the interviewees' narratives range from organisations still relying on paper documents to those embracing technology. The interviewee's optimism is palpable when discussing technologically advanced organisations, as they facilitate expedited investigative processes. The transformative potential of technology for streamlining investigations is highlighted by the concept of swiftly accessing records electronically, even from cloud backups. This perspective underscores the broader aspirations of organisations in adopting digital practices, advocated by the interviewee for a technologically driven future. The desire to minimise dependence on physical records resonates, especially given their susceptibility to damage or loss. The interviewee asserted that electronic backups serve as a safeguard against incidents such as fires, resonating with the broader drive towards enhanced data security and accessibility. The interviewees' reflections extend to the diverse nature of the records encountered, ranging from well-managed paper documents to fully digitised databases. Although the former requires different approaches to trace information, the latter exemplifies the potential ease that technology offers for investigation. This perspective affirms the interviewee's adaptability and expertise in navigating various recordkeeping scenarios.

The insights provided by the interviewees effectively illustrated the complex interplay between efficient record management, technological integration and the investigative process. Through a discerning perspective, this viewpoint highlights the concurrent benefits of facile data access and preservation, as well as the crucial importance of organisations adopting contemporary recordkeeping practices. These practices are essential to enhance the productivity and efficacy of anti-corruption measures:

OK, yeah. Of late, we have some innovations, but before I talk about the innovations, we write to agencies and MDAs, whether both public and private, we write to them to give us the documents we are looking for. However, recently, we have started accessing the portal, for example, the Corporate Affairs Commission, where we can conduct a preliminary check on companies. We are also doing so to some reasonable extent with the Federal Inland Revenue Service. We're also talking to other agencies whether we can get access to their portal. (Interviewee VI)

The analysis probes into the historical approaches to document retrieval in investigative practice and the interviewee's acknowledgement of using traditional methods. The discussion takes an interesting turn as the interviewee highlights recent innovations such as portal-based access to agencies like the Corporate Affairs Commission and Federal Inland Revenue Service. This shift towards digital platforms streamlines the data acquisition process and signifies a proactive stance towards digital efficiency. The ongoing efforts to negotiate access to other agencies' portals show a broader ambition to establish

interconnected data-retrieval mechanisms across multiple sectors. This approach holds promise for more effective anti-corruption efforts. The consideration of extending portal access embodies the proactive attitude needed for a robust information ecosystem. The interviewee's adoption of technology-driven solutions highlights adaptability and hints at a future where digital integration shapes investigative processes and potentially transforms corruption combat.

An intricate and multifaceted approach to investigations is imperative, one that integrates both surface-level findings and strategic technological interventions. The interviewees' insights provide a comprehensive understanding of the interplay between initial observations and subsequent technological interventions, which are effectively captured in the quote:

> Yes. We have found ourselves, that is, at the surface level, but once we get to that point, we now use technology, which is forensic OK. For example, somebody says the server is down or it spoilt so if the server is spoilt, then we try to walk through the channels of CBN for financial […] alternative options. So, if they are saying OK, it's not yet, it's no longer there, then we use technology, so there are other options to go about it. Technology is one of them, and regulatory bodies are another aspect of it to unravel this, and we can always go behind to get these things done. But mainly what the surface level cannot give technology can give. (Interviewee VII)

This perspective highlights the nuanced strategies used in the field of investigation. The interviewee acknowledged the significance of initial findings, which serve as a starting point for further exploration. However, the interviewee emphasised the profound impact of technology, particularly forensic technology, on the investigative process. Technology can reveal layers that might otherwise remain hidden, and this perspective highlights the interplay between human expertise, regulatory frameworks and technological tools in achieving deeper insights.

This perspective speaks of the nuanced fusion of human insight and technological prowess. Investigations operate on multiple levels, requiring a holistic approach that combines traditional methodologies with cutting-edge tools. Interviewees' insights highlighted an evolving landscape in which technology augments human capabilities, enabling more thorough, accurate and insightful investigative outcomes.

Discussion

This chapter provides a comprehensive examination of the research findings, which sheds light on the complex interconnections between Nigeria's anti-corruption initiatives and the transformative possibilities presented by technology-driven approaches. This study highlights the crucial role of integrating technology in strengthening accountability, streamlining investigative processes and fostering a culture of efficiency in the anti-corruption realm. These findings emphasise the need for strategic reforms to overcome existing barriers and to usher in a new era of integrity and justice pursuits.

The study's primary revelation is that a shift towards technology-driven methodologies is urgently required in Nigeria's anti-corruption efforts. The absence of such strategies has led to superficial measures that address the intricacies of corruption inadequately. The proposal to wholly adopt technology offers an innovative avenue for enhancing the effectiveness of investigations and provides a roadmap for aligning a nation's actions with contemporary global standards (Brody *et al.*, 2020; Mutungi *et al.*, 2019; Setor *et al.*, 2021). This study acknowledges the initial steps taken by the Commission to embrace technology, underscoring its pragmatic orientation and recognition of incremental progress.

This study also emphasises the human aspects of technology integration, identifying resistance to technological change and "IT apathy" as formidable collective barriers within the anti-corruption domain. The call for a comprehensive change-management strategy

centred on fostering a culture of technological proficiency aligns with the broader objective of facilitating the effective use of technology for integrity and justice pursuits (Sorunke, 2018). This finding underscores the study's focus on the human-centred aspects of technological transformation.

This study aligns with the fundamental principle of accountability in anti-corruption efforts. This study highlights the critical role of precise recordkeeping facilitated by ICT platforms. This study reveals the potential of technology to swiftly identify deviations from established norms, thereby enhancing accountability (Li *et al.*, 2021; Xiaodong *et al.*, 2019; Yan *et al.*, 2020). This study shows the transformative power of technology to strengthen the efficacy of recordkeeping and underscores the significance of advanced information systems in anti-corruption efforts. This finding emphasises the study's emphasis on leveraging technology as a cornerstone of governance and ethical practices.

This study presents a visionary proposal that positions technology at the core of ICPC's administrative framework. The study advocates for comprehensive record integration and interconnectivity, aligning with modern trends in administrative modernisation (Ajibade and Mutula, 2021; Middleton *et al.*, 2009). This proposition holds significant promise, as it promotes informed decision-making and heightened accountability. The study maintains cautious optimism, acknowledging execution challenges while envisioning governmental prioritisation and presenting a balanced perspective.

This study underscores the indispensability of well-managed records and technological integration in anti-corruption investigations. This study builds a case for the potential of technology to expedite investigations and enhance data security and accessibility, which is consistent with the broader narrative of technology as a catalyst for comprehensive and transparent governance (Mutungi *et al.*, 2019).

This study examined the evolution of investigative practices in the digital age. The study's observation of a shift towards technology-driven data acquisition through portal-based access underscores the growing significance of digital efficiency. The promise of improved data retrieval mechanisms and the transformative potential to reshape corruption-combat strategies underscore the adaptive and dynamic nature of anti-corruption efforts.

This research highlights the revolutionary potential of technology, particularly cloud computing and forensic technology, in the realm of investigation. This underscores the capability of these technologies to provide incisive insights beyond superficial observations (Hou *et al.*, 2020; Sorunke, 2018). The study acknowledges the complex interplay between human expertise, regulatory frameworks and technological tools, and recognises the multifaceted nature of investigative outcomes. This finding is consistent with the comprehensive approach proposed in this study.

Conclusion

This study demonstrates the crucial part technology plays in backing Nigeria's battle against corruption. To address existing weaknesses, enhance investigative procedures and cultivate a culture of accountability, it is crucial to integrate technology thoughtfully. By combining these findings, the research adds to the ongoing debate on the potential of associated technologies in fostering honesty and fairness. The study suggests that a comprehensive approach to incorporating technology into Nigeria's anti-corruption efforts can improve investigative processes, strengthen data security and accessibility and encourage a culture of accountability and integrity. However, it is important to note that the research exclusively focuses on the ICPC, a significant organisation in Nigeria's anti-corruption initiatives. Although the findings may not directly apply to other agencies or contexts, there are recognised obstacles, such as resistance to adopting technology related to recordkeeping

and a lack of interest in information technology. Future investigations should concentrate on developing strategies to overcome these challenges, such as providing specialised training and capacity-building programs for anti-corruption investigators and government officials.

References

Aarvik, P. (2019), "Artificial intelligence – a promising anti-corruption tool in development settings?' U4 anti-corruption resource Centre".

Adam, I. and Fazekas, M. (2021), "Are emerging technologies helping win the fight against corruption? A review of the state of evidence", *Information Economics and Policy*, Vol. 57, doi: 10.1016/j. infoecopol.2021.100950.

Aduwo, E.B., Ibem, E.O., Afolabi, A.O., Oluwnmi, A.O., Tunji-Olayeni, P.F., Ayo-Vaughan, E.A., Uwakonye, U.O. and Oni, A.A. (2020), "Exploring anti-corruption capabilities of e-procurement in construction project delivery in Nigeria", *Construction Economics and Building*, Vol. 20 No. 1, pp. 56-76, doi: 10.3316/informit.091972364756927.

Ajibade, P. and Mutula, S.M. (2021), "The use of blockchain technology in electronic records management systems to mitigate corruption in South Africa", *Mousaion: South African Journal of Information Studies*, Vol. 39 No. 4.

Bandes, S.A. and Feigenson, N. (2020), "Virtual trials: necessity, invention, and the evolution of the courtroom", *Buffalo Law Review*, Vol. 68, p. 1275, available at: https://heinonline.org/HOL/Page?handle=hein.journals/buflr68&id=1316&div=&collection=

Brody, R.G., Gupta, G., Ekofo, A.N. and Ogunade, K.M. (2020), "The need for anti-corruption policies in developing countries", *Journal of Financial Crime*, Vol. 28 No. 1, pp. 131-141, doi: 10.1108/JFC-06-2020-0099.

Carr, I.M. and Outhwaite, O. (2011), "NGOs fighting corruption: theory and practice", *SSRN Electronic Journal*, doi: 10.2139/ssrn.1739867.

Chen, C. and Ganapati, S. (2023), "Do transparency mechanisms reduce government corruption? A meta-analysis", *International Review of Administrative Sciences*, Vol. 89 No. 1, pp. 257-272, doi: 10.1177/00208523211033236.

Cho, Y.H. and Choi, B.-D. (2004), "E-government to combat corruption: the case of Seoul metropolitan government", *International Journal of Public Administration*, Vol. 27 No. 10, pp. 719-735.

Creswell, J.W. (2018), *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, (5th edition. International student edition). SAGE.

Dagba, G., Opoku, P., Amankwa, M.O. and Nyadera, IN. (2022), "Investigative journalism and anti-corruption: public perception on Anas's approach in Ghana", *Journal of African Media Studies*, Vol. 14 No. 3, pp. 363-383, doi: 10.1386/jams_00083_1.

Delima, P.M. and Dachyar, M. (2020), "Advancing the e-tendering information system to counter corruption by proposing anti-Corruption SMART tools", 2020 3rd International Conference on Applied Engineering (ICAE), pp. 1-8, doi: 10.1109/ICAE50557.2020.9350554

Djamaludin, D., Aziz, M.F., Ar-Rasyid, Y. and As-Sayyis, I.A. (2023), "Assessing the impact of electronic court systems on the efficiency of judicial processes in the era of digital transformation", *Volksgeist: Jurnal Ilmu Hukum Dan Konstitusi*, pp. 1-18, doi: 10.24090/volksgeist.v6i1.8082.

Duranti, L. and Rogers, C. (2019), *Trusting Records in the Cloud*, Facet Publishing.

Fazekas, M., Tóth, I.J. and King, L.P. (2016), "An objective corruption risk index using public procurement data", *European Journal on Criminal Policy and Research*, Vol. 22 No. 3, pp. 369-397, doi: 10.1007/s10610-016-9308-z.

Gray, C.W. and Kaufmann, D. (1998), "Corruption and development", *Finance and Development*, Vol. 35 No. 1, doi: 10.5089/9781451953220.022.A003.

Gul, S. and Bano, S. (2019), "Smart libraries: an emerging and innovative technological habitat of 21st century", *The Electronic Library*, Vol. 37 No. 5, pp. 764-783, doi: 10.1108/EL-02-2019-0052.

Halai, A., Halai, V., Hrechaniuk, R. and Datsko, K. (2021), "Digital anti-corruption tools and their implementation in various legal systems around the world", *SHS Web of Conferences*, Vol. 100, p. 3005, doi: 10.1051/shsconf/202110003005.

Hoke, G.E.J. (2011), "Records life cycle: a cradle-to-grave metaphor", *Information Management; Overland Park*, Vol. 45 No. 5, pp. 28-30,32,54. http://search.proquest.com/socialsciencepremium/docview/914991063/abstract/41A65F4073E24E1APQ/3

Hoseah, E.G. (2014), "Corruption as a global hindrance to promoting ethics, integrity, and sustainable development in Tanzania: the role of the anti-corruption agency", *Journal of Global Ethics*, Vol. 10 No. 3, pp. 384-392, doi: 10.1080/17449626.2014.973995.

Hou, J., Li, Y., Yu, J. and Shi, W. (2020), "A survey on digital forensics in internet of things", *IEEE Internet of Things Journal*, Vol. 7 No. 1, pp. 1-15, doi: 10.1109/JIOT.2019.2940713.

Hsu, F., Chen, T. and Wang, S. (2009), "Efficiency and satisfaction of electronic records management systems in e-government in Taiwan", *The Electronic Library*, Vol. 27 No. 3, pp. 461-473, doi: 10.1108/02640470910966907.

ICPC (2024), "Legislative background", ICPC, available at: https://icpc.gov.ng/legislative-background/ (Accessed 20 March 2022).

Jordan, W.C. (2009), "Anti-corruption campaigns in thirteenth-century Europe", *Journal of Medieval History*, Vol. 35 No. 2, pp. 204-219, doi: 10.1016/j.jmedhist.2009.03.004.

Kebande, V.R. (2022), "Industrial internet of things (IIoT) forensics: the forgotten concept in the race towards industry 4.0", *Forensic Science International: Reports*, Vol. 5, p. 100257, doi: 10.1016/j.fsir.2022.100257.

Lawan, A.A. and Henttonen, P. (2023), "Anti-corruption investigators' perception of the role of records and records management in Nigeria", *African Journal of Library, Archives and Information Science*, Vol. 33 No. 1, p. 1, available at: www.ajol.info/index.php/ajlais/article/view/247657

Lawan, A.A. and Henttonen, P. (2024a), "Dissecting the record life cycle: a new frontier in anti-corruption investigation strategies", *Information Development*, p. 2666669231222552.

Lawan, A.A. and Henttonen, P. (2024b), "Preserving evidence integrity: the key to efficient anti-corruption investigations", *Records Management Journal*, Vol. 34 No. 1, pp. 41-57, doi: 10.1108/RMJ-03-2023-0016.

Li, M., Lal, C., Conti, M. and Hu, D. (2021), "LEChain: a blockchain-based lawful evidence management scheme for digital forensics", *Future Generation Computer Systems*, Vol. 115, pp. 406-420.

Liu, E. (2015), "A historical review of the control of corruption on economic crime in China", *Journal of Financial Crime*, Vol. 23 No. 1, pp. 4-21, doi: 10.1108/JFC-08-2015-0042.

Luyombya, D. (2011), "ICT and digital records management in the Ugandan public service", *Records Management Journal*, Vol. 21 No. 2, pp. 135-144, doi: 10.1108/09565691111152062.

Marquette, H. and Doig, A. (2004), "Drilling down to the detail: a case study into anti-corruption project records and record-keeping", *Crime, Law and Social Change*, Vol. 41 No. 1, pp. 1-14, doi: 10.1023/B:CRIS.0000015322.44525.86.

Middleton, M., Bradford, C., Frantzis, J., Ambler, A., Sisson, T., Montgomerie, D. and Martin, J. (2009), "Paperless and paper-based processes in the modern radiotherapy department", *Radiography*, Vol. 15 No. 4, pp. 300-305.

Mulinge, M.M. and Lesetedi, G.N. (2002), "Corruption in sub-Saharan Africa: towards a more holistic approach", *African Journal of Political Science*, Vol. 7 No. 1, pp. 51-78.

Mutungi, F., Baguma, R., Janowski, T. and University Krems, Austria, D. (2019), "Towards digital anti-corruption typology for public service delivery", Proceedings of the 20th Annual International Conference on Digital Government Research, pp. 484-494, doi: 10.1145/3325112.3325266.

Ngoepe, M. (2016), "Records management models in the public sector in South Africa: is there a flicker of light at the end of the dark tunnel?", *Information Development*, Vol. 32 No. 3, pp. 338-353, doi: 10.1177/0266666914550492.

Okello-Obura, C. (2013), "Effective records and information management as a catalyst for fighting corruption", *Information Development*, Vol. 29 No. 2, pp. 114-122, doi: 10.1177/0266666912451847.

Okpara, J.O., Uguru, U., Agom, C.U. and Mgbolu, A.K. (2023), "Admissibility of electronic evidence in criminal trials in Nigeria and the challenges of new crimes", *Agora International Journal of Juridical Sciences*, Vol. 17 No. 1, p. 28, available at: https://heinonline.org/HOL/Page?handle=hein.journals/agoraijjs2023&id=31&div=&collection=

Oliveira, A., Lopes, I. and Costa, C. (2015), "Tools for online collaboration: do they contribute to improve teamwork? Tools for online collaboration: do they contribute to improve teamwork?", pp. 105-112.

Osoba, S.O. (1996), "Corruption in Nigeria: historical perspectives", *Review of African Political Economy*, Vol. 23 No. 69, pp. 371-386.

Page, M.T. (2018), *A New Taxonomy for Corruption in Nigeria*, Carnegie Endowment for International Peace.

Pollack, E. and Allern, S. (2018), "Disclosure of Scandinavian telecom companies' corruption in Uzbekistan: the role of investigative journalists", *European Journal of Communication*, Vol. 33 No. 1, pp. 73-88, doi: 10.1177/0267323117750697.

Prabowo, H.Y. (2020), "Retooling our anti-corruption arsenals: exploring the potential use of CAQDAS in corruption investigation", *Journal of Money Laundering Control*, Vol. 24 No. 1, pp. 111-136, doi: 10.1108/JMLC-03-2020-0021.

Rabuzin, K. and Modrušan, N. (2019), "Prediction of public procurement corruption indices using machine learning methods", Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, pp. 333-340, doi: 10.5220/0008353603330340.

Rafoneke, T. and Mnjama, N. (2019), "records management practices at the national university of Lesotho", *ESARBICA Journal: Journal of the Eastern and Southern Africa Regional Branch of the International Council on Archives*, Vol. 38 No. 1, p. 38.

Setor, T.K., Senyo, P.K. and Addo, A. (2021), "Do digital payment transactions reduce corruption? Evidence from developing countries", *Telematics and Informatics*, Vol. 60, p. 101577, doi: 10.1016/j.tele.2021.101577.

Shepherd, E. (2006), "Why are records in the public sector organizational assets?", *Records Management Journal*, Vol. 16 No. 1, pp. 6-12, doi: 10.1108/09565690610654747.

Shepherd, E. and Yeo, G. (2003), *Managing Records: A Handbook of Principles and Practice*, Facet publishing.

Shibambu, A. and Marutha, N.S. (2022), "A framework for management of digital records on the cloud in the public sector of South Africa", *Information Discovery and Delivery*, Vol. 50 No. 2, pp. 165-175, doi: 10.1108/IDD-10-2020-0128.

Silverman, D. (2010), *Doing Qualitative Research*, SAGE, London.

Sindhu, K.K. and Meshram, B.B. (2012), "Digital forensic investigation tools and procedures", *International Journal of Computer Network and Information Security*, Vol. 4 No. 4, pp. 39-48, doi: 10.5815/ijcnis.2012.04.05.

Sorunke, O.A. (2018), "Forensic accounting investigation techniques and successful prosecution of corruption cases in Nigeria", *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 8 No. 3, pp. 37-44, doi: 10.6007/IJARAFMS/v8-i3/4450.

Sun, J., Yao, X., Wang, S. and Wu, Y. (2020), "Blockchain-based secure storage and access scheme for electronic medical records in IPFS", *IEEE Access*, Vol. 8, pp. 59389-59401.

Taylor, S.J., Bogdan, R. and DeVault, M. (2015), "Introduction to qualitative research methods: a guidebook and resource", John Wiley and Sons, Incorporated, available at: http://ebookcentral.proquest.com/lib/tampere/detail.action?docID=4038514

Teichmann, F.M.J. and Wittmann, C. (2023), "International implications of corruption in Eastern European prosecution offices: a field report", *Journal of Financial Crime*, Vol. 30 No. 2, pp. 512-521, doi: 10.1108/JFC-01-2022-0006.

Trace, C. and Sanett, S. (2000), "InterPARES: securing the future of our electronic records", *Bulletin of the American Society for Information Science and Technology*, Vol. 27 No. 1, pp. 24-26.

Urbina, D.A. and Rodríguez, G. (2022), "The effects of corruption on growth, human development and natural resources sector: empirical evidence from a Bayesian panel VAR for Latin American and Nordic countries", *Journal of Economic Studies*, Vol. 49 No. 2, pp. 346-363, doi: 10.1108/JES-05-2020-0199.

Weidinger, J., Schlauderer, S. and Overhage, S. (2023), "Information technology to the rescue? Explaining the acceptance of emergency response information systems by firefighters", *IEEE Transactions on Engineering Management*, Vol. 70 No. 1, pp. 14-28, doi: 10.1109/TEM.2020.3044720.

Weilert, A.K. (2016), "United nations convention against corruption (UNCAC) – after ten years of being in force", *Max Planck Yearbook of United Nations Law Online*, Vol. 19 No. 1, pp. 216-240, doi: 10.1163/18757413-00190008.

Wolf, M.L. (2018), "The world needs an international anti-corruption court", *Daedalus*, Vol. 147 No. 3, pp. 144-156, doi: 10.1162/daed_a_00507.

Xiaodong, Y., Ting, L., Rui, L. and Meiding, W. (2019), "Blockchain-based secure and searchable EHR sharing scheme", pp. 822-8223.

Yan, W., Shen, J., Cao, Z. and Dong, X. (2020), "Blockchain based digital evidence chain of custody", pp. 19-23.

Yeo, G. (2008), "Concepts of record (1): evidence, information, and persistent representations", *The American Archivist*, Vol. 70 No. 2, pp. 315-343, doi: 10.17723/aarc.70.2.u327764v1036756q.

Yin, R.K. (2009), *Case Study Research: Design and Methods*, SAGE, London.

Yusha'u, M.J. (2009), "Investigative journalism and scandal reporting in the Nigerian press", *Ecquid Novi: African Journalism Studies*, Vol. 30 No. 2, pp. 155-174, doi: 10.1080/02560054.2009.9653400.

Zadareiko, S. (2022), "Technological processes of combating corruption of our time", *J. Int'l Legal Commc'n*, Vol. 5, p. 69.

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