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Leveraging artificial intelligence for academic and administrative accountability in Kenyan universities

Elizabeth Atieno Obura[1]

Independent Researcher, Kenya[1]

Corresponding Author Email: juliannaobura@gmail.com

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Abstract

Kenyan universities face growing public pressure to demonstrate quality and transparency yet persistent operational hurdles ranging from plagiarism and resource leakage to sluggish student feedback continue to compromise institutional integrity. This study examined how Artificial Intelligence (AI), coupled with strategic educational leadership and governance can address these systemic accountability deficits. Through a desktop review of theoretical and conceptual literature, the study evaluated practical fit of key AI tools within the Kenyan Higher education context by focusing on learning analytics, automated grading systems, plagiarism detection software, and blockchain-based credentialing. Findings indicate that AI can significantly sharpen institutional oversight by providing real-time data on campus operations. Specifically, smart learning management systems afford faculty objective insights to identify at-risk students and assess coursework consistently while automated administrative workflows reduce human error and minimize opportunities for corruption in admissions and financial management. However, technology alone cannot resolve these structural issues as deploying AI across Kenyan campuses introduces notable friction regarding digital inequality, data security vulnerabilities, and algorithmic bias. To achieve effective adoption, the study recommends that national policymakers should establish robust regulatory frameworks governing data privacy and ethical fairness. Simultaneously, university leadership should commit direct funding toward fundamental digital infrastructure and practical skills training for staff and students. As a result, AI should not supplant human judgement but instead augment it to foster a more equitable, transparent, and trustworthy academic environment.

Key terms: artificial intelligence, higher education accountability, educational governance, Kenyan universities, digital ethics

Introduction

Globally, the higher education sector is undergoing a profound structural transformation driven by the dual imperatives of rapid technological integration and intensifying public demand for institutional transparency. Modern universities no longer operate as isolated self-governing enclaves of intellectual pursuit, instead, they operate as high-stakes public enterprises held strictly accountable to students, governments, funding agencies, state regulators, and global accreditation agencies (Stensaker & Harvey, 2011; World Bank, 2024). In response to these complex operational demands, universities worldwide are turning to Artificial Intelligence (AI) to redefine university management and governance. Artificial Intelligence-driven systems ranging from predictive learning analytics and automated grading software to natural language processing and blockchain-anchored credentialing are reshaping how academic and administrative standards are protected and monitored (UNESCO, 2025; Zawacki-Ritcher et al., 2019). Internationally, this technological shift transitions institutional oversight from periodic, retroactive compliance reviews to continuous real-time data analytics (OECD, 2024; Selwyn, 2023). Therefore, replacing manual audit trails with automated proactive verification, AI provides global academia with the technological infrastructure required to operationalize modern governance standards on scale.

At its core, accountability in higher education denotes the obligation of an institution and its staff to answer for their decisions, steward public and private resources transparently, and provide verifiable evidence of operational quality to external and internal stakeholders (Bovens, 2007; Britannica, 2024). To evaluate how technology intersects with university governance, this study disentangled the meaning of accountability into its primary functional dimensions as:

At its broader conceptual level, institutional accountability denotes the systemic obligation of an organization and its leadership to answer for their decisions, steward resources transparently, and provide verifiable evidence of operational quality to internal and external stakeholders (Bovens, 2010; Britannica, 2024; World Bank, 2023). This implies that it is not merely a reactive mechanism for post-hoc policing but a proactive culture of organizational answerability.

The academic dimension of accountability refers specifically to the mechanisms, policies, and practices that ensure rigorous scholarly standards, assessment objectivity, quality of reaching, and research integrity (Altbach et al., 2019; Macfarlane, 2021). This dimension is a systemic obligation of faculty and educational administrators. It guarantees that degree conferral process remains uncorrupted by malpractices such as plagiarism, arbitrary grading, examination fraud, or unverified academic records (CUE, 2025).

Administrative accountability is the dimension encompassing the transparent management and ethical stewardship of non-academic operations including financial flows, admission workflows, human resources, payroll systems, and institutional assets (Middlehurst, 2020; Teferra, 2022). It mandates strict adherence to procedural compliance and operational efficiency to prevent resource leakage, administrative bottlenecks, and corruption (Njau et al., 2015).

Globally, the conceptual evolution of university accountability has transitioned through three distinct historical phases. Originally, higher education relied on professional accountability, an internal gentleman's agreement anchored in peer review where academics answered almost exclusively to their disciplinary peers instead of the public or the state (Stensaker & Harvey, 2011). As public expenditures in higher education surged during the late twentieth century, governments introduced managerial accountability superimposing market-driven Key Performance Indicators (KPIs), international rankings, and rigorous financial audits to ensure universities functioned as efficient engines of economic growth

(Shore & Wright, 2015; Stensaker & Harvey, 2011). Today, the emerging paradigm of technological governance leverages AI to bridge the gap between academic and administrative accountability by replacing manual audit trails with automated proactive oversight (OECD, 2023; UNESCO, 2025).

1.1 The Kenyan Historical Trajectory and Constitutional Evolution

In Kenya, the global imperative for tech-enabled oversight collides with a distinct yet complex historical, structural, and legal landscape. Following independence, Kenya's initial public universities were established as vital instruments for African socialism and national development (Sifuna, 1998). However, accountability during this era was strictly hierarchical and state-centric with the executive university leaders being direct appointees of the President. This made institutional administration answerable primarily to the executive political authority rather than to students, faculty, or members of the public (Amutabi, 2003; Sifuna, 1998). Throughout the 1980s and 1990s, this top-down structure often suppressed academic freedom, turning accountability into a political euphemism for executive loyalty. This legacy entrenched a bureaucratic culture where institutional transparency became secondary to political survival, laying the foundation for contemporary administrative vulnerabilities and manual paper-trail inefficiencies.

Currently, the Kenyan higher education sector is at a critical juncture characterized by a paradox of rapid quantitative expansion and declining institutional oversight (eduTinker, 2026; Okebukola et al., 2023). Exponential growth in student enrolments has severely stretched administrative capacity placing immense strain on academic integrity and administrative transparency, the twin pillars of a credible university system. Many public and private universities in Kenya remain tethered to rigid colonial era administrative frameworks that are predominantly Euro-centric and ill-suited for the digital age (Gudo et al., 2020; Sifuna, 1998). According to CUE (2025), a substantial proportion of student disciplinary cases stem from examination malpractices such as impersonation, unauthorized materials, and paper-based falsifications. Currently, as Njau et al., (2025) demonstrate, the persistence of fragmented manual record-keeping creates severe operational blind spots. These systemic gaps facilitate financial leakage, payroll irregularities, and widespread missing marks phenomenon where students suffer delayed graduations due to lost paper transcripts and broken paper-based trails. These inefficiencies are not just technical flaws. They represent severe accountability failures that erode public trust among students, families, and state regulators.

A decisive legal and philosophical turning point occurred with the promulgation of the Constitution of Kenya (2010). Article 10 elevated transparency, integrity, public participation, and accountability into mandatory national values and principles of governance (Republic of Kenya, 2010). This legal shift aligns directly with the indigenous philosophical framework of Utu, humanity and mutual social responsibility, the principle that a university administrator is not merely a bureaucratic manager but a moral custodial of a community's shared educational future (TISA, 2025). Operationalizing this constitutional mandate, the Universities Act No. 42 of 2012 re-established the Commission for University Education (CUE) thereby shifting the national regulatory framework away from state-policing toward multi-stakeholder reporting, mandatory programmatic audits, and continuous institutional quality assurance (Republic of Kenya, 2012).

Building o this legal foundation, the CUE Strategic Plan 2024-2028 explicitly identifies digital automation and data-driven governance as pivotal for the next era of Kenyan higher education (CUE, 2024). This strategic posture signals a decisive attempt to transition from historic culture of administrative rhetoric to a verified culture of practice. Realizing this vision requires moving beyond reactive manual checks towards real-time automated oversight. Artificial Intelligence offers the precise technological bridge required for this transition. Deploying AI-driven financial auditing algorithms to detect anomalies,

predictive learning analytics to flag academically at-risk students before failure occurs, and blockchain-integrated credentialing to neutralize certificate forgery, Kenyan universities can pivot from a defensive reactive posture to proactive governance frameworks (Mbatha & Nyerere, 2024; UNESCO, 2025). Instead of awaiting post-hoc financial audits or retroactive examination investigations, AI enables administrators and faculty to oversee academic engagement, administrative workflows, and resource allocation in real time. Eventually, this technological integration ensures that university assets are ethically stewarded and that degrees conferred by Kenyan universities remain globally competitive, verifiable, and beyond reproach.

1.2 Problem Statement

Kenyan higher education faces a growing crisis of institutional integrity. Despite recent regulatory interventions, public and private universities across the country are struggling to accommodate a massive surge in student enrollment that has severely overstretched their operational infrastructure (edeTinker, 2026; Gudo et al., 2020; Okebukola et al., 2023). This rapid quantitative expansion unaccompanied by proportional investments in management capacity has compromised governance across both academic and administrative domains. In academic affairs, persistent operational vulnerabilities undermine the credibility of university qualifications. Compliance reviews by CUE consistently point to systemic examination malpractices, student impersonation, unverified credentials, and paper-based document falsifications (CUE, 2025). Consequently, administrative operations remain heavily dependent on fragmented paper-based record-keeping systems creating severe operational blind spots (Njau et al., 2025). These administrative gaps facilitate financial leakages, payroll anomalies, and the widespread missing marks phenomenon, a structural flaw that traps students in administrative limbo and causes unnecessary graduation delays. While the CUE Strategic Plan 2024-2028 explicitly prioritizes digital automation and data-driven governance to restore institutional quality, (CUE, 2024), actual implementation across universities remains slow, and uneven. Shifting institutional posture from reactive post-doc manual audits to continuous real-time oversight requires a fundamental technological transition (Mbatha & Nyerere, 2024; UNESCO, 2025). Therefore, the intent of this study was to explore the potential of AI to offer a viable mechanism for this realignment that enhances academic and administrative accountability within Kenyan universities.

1.3 General Objective of the study

To analyze how AI systems can be leveraged to enhance academic and administrative accountability in Kenyan Universities.

1.3.1 Specific Objectives

To analyze the role of AI-driven systems in safeguarding academic accountability in Kenyan universities.

To examine the extent to which automated workflows and AI auditing tools affect administrative accountability.

To evaluate the policy issues surrounding the deployment of AI for governance in Kenyan universities.

1.3.2 Research Questions

What is the role of AI-driven systems in safeguarding academic accountability?

To what extent do automate workflows and AI auditing tools affect administrative accountability?

What policy issues surround the deployment of AI for institutional governance?

2.0 Literature Review

The integration of AI in higher education has evolved from peripheral experiment into a central strategic imperative for institutions globally and nationally. Between 2024 and 2026, research on educational governance increasingly highlights the role of AI I bridging operational blind spots thereby replacing manual reliance with verified data trails and establishing continuous oversight (OECD, 2024; UNESCO, 2025). This literature review synthesizes scholarly research across three thematic areas aligning directly with the study's research objectives: AI in safeguarding academic accountability, AI auditing tools and automate workflows in administrative accountability, and the policy, ethical, and structural issues surrounding AI deployment in Kenyan universities.

2.1 AI-Driven Systems and academic Accountability.

Historically, academic accountability was focused primarily on detecting plagiarism in written assignments. However, the rigid proliferation of Generative AI (GenAI) tools has shifted this paradigm toward contract cheating and AI-assisted academic misconduct. Survey data from Chegg.org (2023) indicates that over 63% of post-secondary students in Kenya have engaged with GenAI platforms for academic coursework underscoring the ambiguity of these systems in modern learning environments. Scholars emphasize that purely punitive measures and traditional plagiarism checkers are increasingly inadequate for managing GenAI outputs (Macfarlane, 2021; Selwyn, 2023). Consequently, current literature advocates for a shift toward pedagogical accountability where AI tools leveraged to provide real-time personalized feedback that fosters authentic student engagement rather than simply flagging correct or incorrect responses (Matere, 2024).

Beyond text generation, the integration of modern reasoning AI models into Learning Management Systems (LMS) represents a structural evolution in academic evaluation. Unlike earlier large language models that operated primarily through statistical word prediction, contemporary reasoning models execute multi-step logic, step-by-step verification, and structured evaluation (Benaich, 2025). In quantitative and analytical disciplines such as mathematics, computer science, law, and economics, these systems evaluate the underlying conceptual progression of a student's submission instead of simply matching final answers. Parsing formula derivations, code logic, or legal argumentation step-by-step, reasoning engines accurately award partial credit and pinpoint specific conceptual misconceptions thus drastically reducing evaluator fatigue and subjective grading bias across large student cohorts (Beinach, 2025; Mbatha & Nyerere, 2024).

Furthermore, rapid enrollment growth in African universities often forces departments to rely on large, decentralized teams of adjunct lecturers and teaching assistants thus creating natural variance in marking standards. When embedded into LMS platforms such as Canvas or Moodle, reasoning AI serves as a continuous baseline evaluator. It applies rubrics uniformly across thousands of scripts and ensures identical standards of rigour regardless of cohort size (Mbatha & Nyerere, 2024). Human instructors transition into supervisory roles by moderating edge cases and auditing flagged submissions and ensuring scalable fairness while maintaining faculty oversight. Crucially, this automated workflow addresses the systemic missing marks phenomenon that plagues many universities in Kenya. Missing marks are rarely just pedagogical issues; they represent broken paper-heavy trails between instructors, departmental chairs, examination boards, and central registry offices. Automated AI assessment workflows eliminate these administrative breakdowns by establishing an immutable digital chain of custody from the moment a student submits an exam to the final grade entry in the Student Information System (SIS). The system maintains a time-stamped digital audit log that automatically syncs approved marks and flags pending or missing grades in real time before board clearances. Therefore, this prevents students from falling into administrative limbo months down the line (George Wooden, 2023; Mbatha &

Nyerere, 2024).

2.2 Automated Workflows, AI Auditing and Administrative Accountability

In public both public and private university administration across Kenya and the broader African continent, reliance on fragmented paper-heavy workflows has historically created severe operational blind spots and opportunities for financial leakage. Recent empirical studies highlight the role of AI-powered SIS and enterprise Leaning Management Systems in automating high-volume administrative tasks such as course registration, fee tracking, transcript processing, and management of academic records (George & Wooden, 2023; Shanganlall, 2024). In the Kenyan context, institutions such as Kenyatta University, University of Embu, Mount Kenya University (MKU), and African Nazarene University have pioneered AI-driven administrative platforms to streamline students support and operational workflows, by illustrating a broader transition toward evidence-based governance (MKU, 2025).

Enforcing programmatic rules such as automatically restricting course registration when fee balances exceed established thresholds, AI systems eliminate the arbitrary administrative discretion that historically contributed to financial leakages (Shanganlall, 2024). Furthermore, public universities in Kenya face substantial debt burdens exceeding 50 billion KES, largely linked to unremitted statutory deductions and inefficient revenue collection mechanisms (eduTinker, 2026). While traditional accounting methods generate retroactive reports on expenditures, AI platforms enable real-time operational monitoring, predictive budgeting, and automated anomaly detection. Predictive models analyze historical spending trends across university departments to project future deficits thereby allowing administrators to reallocate funds proactively. Concurrently, anomaly detection algorithms flag irregular financial transactions such as sudden procurement cost spikes or duplicate payroll entries thus providing automated safeguards against administrative fraud and ghost-worker payroll inflation (OECD, 2024; Shanganlall, 2024).

2.3 Policy, Ethical and Structural Issues in AI Governance

While the technical capabilities of AI in university management are substantial, its effectiveness as a governance tool depends on the strength of the legal and ethical frameworks supporting it. In Kenya, the institutional adoption of AI is currently outstripping the development of formal regulatory policies, creating a notable governance gap (Mbatha & Nyerere, 2024). Although the Kenya National AI Strategy 2025-2030 outlines a national vision for integrating technology into public service delivery, institutional-level policies remain underdeveloped. A regional benchmark study by WISE and Ashesi University (2025) revealed that while nearly 70% of African University administrators advocate for AI adoption, fewer than 40% of universities maintain written policies governing data privacy, algorithmic transparency, or the ethical use of AI in decision making. In the absence of institutionalized policies, Kenyan universities frequently rely on the terms of service of foreign technology vendors. This reliance creates compliance risks under the Data Protection Act (2019) particularly regarding the handling, storage, and cross-border transfer of sensitive student biometrics and financial records (Republic of Kenya, 2019).

A secondary concern highlighted in recent literature is the risk of algorithmic bias and digital colonization stemming from opaque proprietary AI models. When institutions deploy Western-developed algorithms to evaluate student performance, assess bursary eligibility, or predict academic retention, those models may inadvertently disadvantage students from lower socio-economic backgrounds due to training data mismatches (Effoduh, 2025). Without mandatory algorithmic auditing standards, automated systems risk operating as unexplainable black boxes undermining the fundamental principles of transparency and administrative fairness.

Literature also warns of a widening digital inequality gap between urban universities and their rural

resource-constrained universities. Institutions located in major urban centers such as Nairobi, Kisumu and Mombasa often possess the high-speed fiber-optic infrastructure required to maintain real-time AI analytics and automated LMS monitoring. Conversely, institutions in remote areas frequently contend with basic connectivity and power disruptions (Mokoena & Seeletse, 2025). This infrastructural disparity risks creating a fragmented higher education ecosystem where tech-enabled accountability remains accessible primarily to well-funded urban campuses and potentially deepening systemic educational inequalities across the county.

2.4 Theoretical Framework

To structure and analyze how AI systems reshape institutional accountability, this desktop review was anchored in the Actor-Network-Theory (ANT) as formulated by Latour (2005) and Callon (1986). ANT provides a robust lens for evaluating technological adoption because it treats both human actors such as university administrators, lecturers, registry staff, and students and non-human actors such as AI reasoning algorithms, SIS, LMS rubrics, server infrastructure, and statutory policy documents as equal participants within an institutional network.

In traditional educational research, administrative failure or success is often attributed purely to human behaviour or organizational culture. By contrast, ANT posits that institutional outcomes such as grading integrity, fees accountability, or missing marks phenomenon are the result of continuous negotiations within heterogenous networks of human and digital entities. When an AI algorithm is introduced into a university, it is not merely a passive tool; it acts as an active agent or actant that reshapes administrative workflows, enforces rules, locks or unlocks registration, and generates immutable audit trails.

Methodologically, ANT guided this study's desktop review through the concept of translation. It is the process by which human goals and policy mandates such as the CUE's quality standards or national data protection laws are translated into code, automated system permissions, and algorithmic governance rules. Tracing these heterogenous actor-networks across published research and policy documents allowed the study to examine how accountability is built into digital infrastructure, where systemic breakdown occurs, and how non-human AI actants modify human institutional behaviour in Kenyan public and private campuses.

3.0 Research Methodology

The study adopted qualitative desktop literature review research design and focused on empirical and policy-oriented literature. The desktop review design was selected as the most appropriate methodology because it enables a systematic synthesis of rapidly evolving literature surrounding AI integration in higher education. It allowed for in-depth examination of peer-reviewed scholarly journals, legislative frameworks, strategic plans, and institutional policy documents. This bridges global technological developments with the contextual realities of Kenyan universities between 2023 and 2026.

3.1 Multi-Stream Data Sources and Institutional Sampling Sources of Data

To capture both macro-level directives and micro-level campus dynamics, data collection was systematically structured across three complementary streams: The scholarly stream comprised peer-reviewed journal articles, conference proceedings, and academic monographs retrieved from international and regional databases such as Google Scholar, ResearchGate, IEEE Xplore, ScienceDirect, and the African Journal of Computing and ICT. This stream provided empirical evidence on AI deployment, LMS integrations, and automated governance models across African higher education.

The policy and legislative stream involved a systematic analysis of official statutory, policy, and

regulatory documents to benchmark institutional practices against legal frameworks. Key documents included The Constitution of Kenya (2010), the Universities Act No. 42 of 2012, The Data Protection Act No. 24 of 2019, the Commission for University Education (CUE) Strategic Plan 2024-2028, the Kenya National AI Strategy 2025-2030, and the Ministry of Information, Communications and the Digital Economy National ICT Policy (2019). Global benchmarks were incorporated from policy publications by UNESCO and OECD.

The institutional stream evaluated published strategic plans, digital transformation roadmaps, and ICT policies from early adopting Kenyan Universities. These included an examination of MKU's Digital Transformation and AI integration Policy (2024-2028) regarding administrative chatbot deployment, the University of Nairobi's UoN ICT Governance Framework and Records Digitization Strategy (2023-2027), and Kenyatta University's E-learning and Academic Integrity Policy (2024). Therefore, documenting these institutional cases provided concrete evidence of how policy translates into day-to-day administrative and pedagogical networks on the ground.

3.2 Inclusion and Exclusion Criteria

To maintain analytical rigour, empirical validity, and socio-technical relevance, specific criteria governed the inclusion of literature: Temporal boundaries included literature published between 2021 and 2026. This timeframe captures recent advancements in GenAI, modern reasoning models and modern statutory developments in Kenya. Priority was given to literature addressing higher education in Kenya, Eastern Africa, and the broader Global South to achieve geographical and socio-technical relevance. Studies conducted in high-income countries were included only if their conceptual models or technological frameworks could be contextualized to resource-constrained environments such as operating under intermittent power supply, bandwidth limitations, or high mobile data costs. On authority and data legitimacy, grey literature was strictly limited to official reports from established international organizations, government ministries, regulatory agencies, and accredited public and private universities in Kenya. Unverified web articles, opinion blogs, and non-peer reviewed posts were excluded.

3.3 Data Analysis and Synthesis

The collected data was analyzed using thematic analysis following a combined inductive and deductive coding protocol structured by the Actor-Network Theory. Extracted literature and policy data were catalogued and synthesized across three major thematic dimensions matching the study's core research objectives: For the academic integrity and pedagogical accountability, coding focused on how AI reasoning models and LMS automated rubric enforcement reconfigure faculty grading practices, establish digital chains of custody, and eliminate missing marks. For administrative efficiency and financial governance, coding centered on the agency of automated SIS, programmatic fee-block rules, real-time expenditure, auditing algorithms, and automated anomaly detection in payroll systems to eliminate human discretion and financial leakage. For policy, legal and structural frameworks, coding examined network stability, institutional data privacy compliance under The Data Protection Act (2019), strategies for mitigating algorithmic bias in foreign AI models, and infrastructural disparities between urban fiber-connected campuses and remote rural institutions.

4.0 Findings

The synthesis of empirical literature, policy frameworks, statutory documents, and institutional data demonstrates that the deployment of AI in Kenyan higher education has transitioned from a theoretical concept to an active operational reality. Structured through the lens of ANT, the findings highlight how human actors interact with non-human actants to reconfigure institutional accountability across three

operational domains:

4.1 Artificial Intelligence-Driven Systems and Academic Accountability

The analysis reveals a structural evolution in how academic integrity, evaluation standards, and student records are maintained across public and private universities. The missing marks phenomenon, a long-standing indicator of administrative breakdown and academic compromise is being systematically resolved in institutions utilizing integrated eCampus platforms and automated LMS such as Moodle and Canvas. When a lecturer submits marked assessments into an integrated platform, the system generates an immutable time-stamped digital auto log that synchronizes immediately with the central SIS. Students track their academic progression in real time establishing non-repudiation and removing vulnerabilities associated with physical mark-sheet transit, manual data entry, and lost examination scripts.

Empirical studies indicate that approximately 40% of Kenyan university students routinely utilize GenAI platforms such as ChatGPT and Gemini for academic assignments (Ouma, 2025). The findings show that traditional punitive measures and legacy plagiarism detection software are largely ineffective against advanced language generation. Consequently, academic operations adopt pedagogical accountability models. Faculty are leveraging AI capabilities to redesign assessments toward authentic evaluation that focuses on critical analysis, localized case studies and practical problem solving that cannot be easily replicated by automated text models.

Mass enrollment across Kenyan Universities has historically led to high evaluator variance due to a reliance on large teams of adjunct faculty and teaching assistants. Findings indicate that reasoning AI models embedded in LMS platforms serve as objective baseline evaluators applying rubrics uniformly across thousands of student scripts to eliminate grader fatigue and subjective bias. Again, institutions expanding distance learning rely on AI assisted proctoring platforms to monitor biometric indicators, eye movement, and environmental logs to enable secure, scalable examination supervision without requiring excessive physical invigilation.

4.2 Automated Workflow and Administrative Accountability

Administrative findings identify AI platforms as continuous digital auditors capable of monitoring financial transactions, procurement processes, and human resource management. The manual clearance of student fees and course registrations has historically created operational blind spots and opportunities for financial leakages. The implementation of integrated platforms such as the University Integrated Resources Platform (UnIRP) which links student records with direct mobile money such as M-Pesa payment gateways has enhanced revenue integrity. Accountability is built into system code as automated permissions systematically restrict course registration and examination clearance when fee balances exceed established thresholds. This eliminates discretionary human interventions that lead to uncollected revenue.

With public universities in Kenya managing collective debts exceeding 50 billion KES (eduTinker, 2026), traditional monthly or quarterly retrospective financial reports leave executive leadership unable to prevent overruns. Findings show that universities are adopting AI-enabled executive dashboards that aggregate live data from payroll, procurement, and tuition streams. Vice-Chancellors receive real-time notifications when departmental spending exceeds monthly allocations. Additionally, predictive AI models evaluate historical retention trends to forecast student attrition allowing leadership to adjust operating budgets before tuition shortfalls create financial deficits.

Personnel costs account for a substantial portion of university operational budgets. The findings demonstrate that combining biometric access logs with automated payroll analytics allows AI tools to flag

anomalies such as duplicate payroll entries or ghost workers, usually individuals receiving salaries while demonstrating zero physical or digital activity within university infrastructure. In large public institutions, automated identification and removal pf unverified payroll lines save millions of monies annually.

4.3 Policy, Ethical, and Structural Governance

The findings demonstrate that AI adoption is simultaneously a technical, legal, and structural governance transition. The governance landscape in Kenya is realigning to establish legal oversight over automated systems. The introduction of the Artificial Intelligence Bill (2026) proposes the establishment of the office of the Artificial Intelligence Commissioner to regulate high-risk AI deployments, perform conformity audits, and mandate human-in-the-lead oversight mechanisms. For higher education, this bill establishes legal accountability that requires institutions to conduct human rights impact assessments, safeguard student biometric data, and adhere to the Data Protection Act (2019).

A critical finding concerns the uncritical adoption of foreign Western-trained AI algorithms to manage student bursaries, predict academic retention, or process admissions. Scholars observe that algorithms trained on external datasets risk perpetuating bias against students from disadvantaged backgrounds (Effoduh, 2025). Achieving governance accountability requires institutional algorithmic auditing to ensure that automated decision-making engines operate transparently and reflect local socio-economic realities. Despite technological advancements, a pronounced digital divide persists. Studies show that while 78% of urban dwellers in Kenya have access to internet infrastructure, only 42% of rural populations maintain similar connectivity (Ouma, 2025). Urban institutions in Nairobi leverage high-speed fiber-optic networks to maintain real-time AI monitoring and LMS automation while institutions situated in rural settings contend with power instability and bandwidth constraints (Mokoena & Seeletse, 2025). Consequently, tech-enabled accountability risks becoming concentrated in well-resourced urban universities leaving rural ones at a structural disadvantage.

5.0 Discussion

The synthesis of empirical findings, policy analysis, and institutional data demonstrates a fundamental structural shift across Kenyan higher education: a transition from voluntary post-hoc transparency to continuous automated accountability. However, as the findings illustrate, this transition is not a simple plug-and-play technical upgrade. Grounded in ANT, this shift represents a complex socio-technical evolution wherein ono-human AI actants such as LMS, reasoning engines, SIS automated permission rules, biometric payroll logs, and statutory algorithms reconfigure long-standing human networks of power, labour, and administrative discretion across public and private universities.

5.1 Artificial Intelligence-Driven Systems and Academic Accountability

Kenya has a documented history of leveraging technology to bypass traditional stages of infrastructure development, most notably through mobile financial services such as M-Pesa. The findings indicate that Kenyan universities are attempting a similar accountability leapfrog. Instead of attempting to perfect slow paper-heavy and corruption-prone manual record-keeping systems, institutions are deploying AI-driven unified platforms such as the UnIRP to establish an immediate single source of truth. From an ANT perspective, these digital platforms act as stabilizing agents within the university network. In traditional administrative setups, financial leakages unremitted statutory deductions, and payroll anomalies occurred within grey areas of human discretion. Programmatically linking admissions, M-Pesa payment gateways and course registration rules, the technology effectively codes out opportunities for manual manipulation and administrative favouritism (Shanganlall, 2024).

In response to the severe financial debt crisis exceeding 50billion KES across public universities

(eduTinker, 2026), AI functions as an automated digital safeguard. Real-time executive dashboards and predictive financial models remove reliance on retroactive monthly balance sheets, providing Vice-Chancellors with instant visibility into departmental overruns and unverified payroll entries before liabilities compound (OECD, 2024). Simultaneously, the widespread student adoption of GenAI tools (Ouma, 2025) has exposed the limitations of traditional anti-plagiarism mechanisms. As Macfarlane (2021) and Selwyn (2023) argue, attempting to police GenAI through purely punitive detection creates an unsustainable cat-and-mouse dynamic. The transition toward authentic assessment models observed in the findings reflects a necessary pedagogical adaptation.

5.2 Automated Workflows, Artificial Intelligence, and Administrative Accountability

Despite its operational efficacy, the introduction of AI-driven oversight faces substantial resistance. When universities deploy AI-linked biometric attendance monitoring, automated grade-tracking audit logs or continuous payroll verification systems. They risk creating an administrative panopticon-a psychological state where academic and administrative staff feel that they are under constant punitive surveillance. As Matere (2024) observes, while automated tracking platforms yield unprecedented operational transparency, they frequently induce anxiety among staff members who perceive these tools as mechanisms for workplace policing rather than administrative support. Senior academic personnel who traditionally exercise high professional autonomy and flexible schedules may view automated time and grade tracking as an expression of institutional distrust. Furthermore, in many public universities, manual administrative tasks such as script sorting, invigilation coordination, and grade transcription have historically provided supplementary income or defined specific staff roles. As highlighted by UNESCO (2026), automated workflow implementation triggers legitimate concerns regarding task obsolescence and the loss of per diem opportunities.

Resistance also stems from the rigid nature of automated systems. For instance, is a lecturer is delayed by a campus-wide power outage or internet disruption, an unadjusted biometric or LMS tracking tool may flag them for absenteeism thereby failing to account for local infrastructural constraints. When staff feel coerced by rigid systems, digital hesitancy manifests as passive or active sabotage. In this case, entering incomplete data, utilizing virtual private networks to prove location data, or abandoning digital platforms entirely to force a return to manual backups (WISE & Ashesi University, 2025). Overcoming this structural barrier requires repositioning AI from a punitive sword against staff to a protective shield that safeguards their professional integrity. In academic affairs, automated LMS grade-tracking and reasoning models should be framed as instruments that protect faculty from unmerited student appeals or unfounded allegations of grading bias. When a grade dispute arises, time-stamped digital audit logs provide objective verifiable proof that the instructor evaluated the submission against rubrics and met institutional deadlines (Mbatha & Nyerere, 2024).

Automating high-volume administrative tasks such as parsing complex mathematical derivations, cross-referencing fee receipts, or sorting bulk examination scripts, AI functional as an administrative companion that reduces drudgery. As Thaldar et al., (2025) demonstrate, when university leadership involves faculty in co-designing internal AI guidelines instead of imposing top-down mandates. Adoption rates increase significantly because system parameters reflect the lived contextual realities of academic work.

5.3 Policy, Ethical, and Structural Issues in AI Governance

The discussion of AI-driven accountability extends into national policy, legal compliance, and regional infrastructure. The findings indicate that technology adoption in universities should align with evolving statutory frameworks, especially The Data Protection Act (2019) and the proposed Artificial Intelligence Bill (2026). The establishment of the office of the AI commissioner under the proposed 2026 legislation

introduces mandatory oversight for high-risk automated decision-making engines (The Legal Wire, 2026). This legal shift mandates that institutional algorithms, whether used for admission processing, student retention predictions, or financial bursary allocation undergo formal algorithmic auditing. As Effoduh (2025) cautions, uncritically adopting foreign-trained AI models risks institutional digital colonization where opaque algorithms inadvertently penalize students from marginalized socio-economic backgrounds due to unadjusted parameters. Therefore, institutional accountability frameworks require continuous algorithmic auditing to ensure automated decisions remain transparent, explainable, and contextually fair to ensure administrative fairness and data sovereignty.

Addressing the digital divide between rural and urban universities (Mokoena & Seeletse, 2025; Ouma, 2025) represents a major structural hurdle. While urban institutions in major metropolitan areas leverage high-speed fiber-optic infrastructure to maintain real-time LMS analytics and continuous auditing, rural and under-resourced campuses often face basic power and connectivity disruptions. If tech-enabled accountability frameworks require uninterrupted digital connectivity, resource-constrained institutions risk being left in a structural data-dark zone. This implies that achieving national higher education integrity requires policy interventions that couple AI deployment with equitable digital infrastructure investments across all regions of Kenya.

5.4 Conclusion

The integration of AI into Kenyan public and private universities represents far more than a routine technological upgrade; it is an urgent structural, moral, and administrative imperative. Grounded in ANT, this study demonstrates that shifting from vulnerable, paper-heavy manual systems to automated tech-enabled accountability offers a viable path toward resolving systemic operational crises that have historically undermined governance of universities across the country. The empirical and policy findings of this study establish that AI functions as a continuous digital conscience for university operations. Across academic affairs, the implementation of integrated eCampus architectures, automated rubric engines, and time-stamped LMS workflows systematically eliminates the long-standing missing marks phenomenon. By creating an immutable digital chain of custody from initial student submission to direct SIS grade synchronization. Artificial Intelligence actants safeguard non-repudiation, remove manual data entry errors, and protect the international integrity of Kenyan university qualifications.

In administrative and financial accountability, the findings confirm that AI-driven enterprise platforms such as the UnIRP reconfigure institutional networks to protect revenue streams and enforce fiscal discipline. By programmatically linking fee payments via M-Pesa gateways directly to course registration permissions, automated code eliminates the discretionary human interventions that historically facilitated financial leakages. Additionally, real-time executive dashboards and biometric payroll cross-auditing provide leadership with instant operational visibility. This enables predictive budgeting and the systematic eradication of duplicate payroll entries and unverified personnel in the name of ghost workers amidst the sector’s ongoing debt crisis.

Notwithstanding though, as the discussion shows, the ultimate success of tech-enabled accountability depends on addressing two fundamental socio-technical hurdles: human administrative resistance and regional structural inequity. To overcome the perception toward AI as a punitive panopticon, university management should reframe automated tracking tools from mechanisms of workplace surveillance into protective shields that defend faculty integrity, reduce administrative drudgery, and ensure grading objectivity. Concurrently, national policy should prioritize infrastructural equity to bridge the digital divide between fiber-connected urban campuses and resource constrained rural universities. This can prevent under-resourced universities from falling into a structural data-dark-zone. This implies that if Kenyan universities adopt AI as a collaborative tool for human empowerment and not for policing, it should be

supported by robust compliance under the Data Protection Act (2019) and the emerging Artificial Intelligence Bill (2026). It would be imperative for Kenya to establish a sustainable model for high-integrity and ethically governed higher education across the country.

5.5 Recommendations

To ensure that AI-driven accountability in Kenyan universities is ethical, inclusive, and effective, actionable strategies should directly address the empirical, administrative, and structural vulnerabilities identified across university operations. Grounded in the ANT and anchored directly in the study's findings, the following recommendations are structured for University Senates, the Ministry of Education, and the Commission for University Education (CUE):

Every university should establish an internal AI Ethics and Audit Board mandated to evaluate, audit, and approve all automated algorithms deployed for student admissions, bursary allocations, administrative clearance and automated assessment workflows prior to deployment.

University Senates should also mandate explainable AI architectures to resolve findings concerning opaque grading flags, automated proctoring errors, and non-transparent administrative blocks.

To mitigate findings on staff anxiety, fears of administrative panopticon and active digital hesitancy among faculty, universities should redesign faculty development programmes. Such initiatives should train faculty on how AI reasoning models automate high-volume administrative drudgery instead of framing AI tools as punitive workplace monitoring.

To address compliance risks highlighted under The Data Protection Act (2019) regarding the unauthorized handling and potential cross-border transfer of sensitive student data, CUE and University Senates should enforce explicit opt-in data consent protocols.

To resolve the findings on digital and socio-economic bias inherent in foreign-trained algorithms (Effudoh, 2025), the Ministry of Education and research divisions should establish strategic partnerships with local Silicon Savannah technology developers and research hubs.

To eliminate the severe digital divide identified between fiber-connected urban universities and connectivity. Constrained university institution, the Ministry Education in coordination with the National Research Fund and the ICT Authority should establish dedicated Digital Equity Infrastructures Grants.

To ensure uninterrupted administrative and academic accounting during frequent national grid power outages, bandwidth disruptions, rural universities should prioritize Edge Ai Server Architectures.

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