Reimagining Ghana's Electronic Transactions Act in the Age of Artificial Intelligence: Legal Gaps, Risks, and Opportunities

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Abstract
The rise of Artificial Intelligence (AI) has transformed the landscape of digital transactions, challenging existing legal frameworks that were designed for an earlier era of electronic commerce. Ghana's Electronic Transactions Act, 2008 (Act 772), while pioneering at the time of its enactment, now exhibits significant regulatory deficiencies in addressing the complexities of AI integration in digital markets. This article critically examines the legal gaps in Act 772 in relation to algorithmic agency, liability attribution, transparency, data protection, and consumer rights. Using a doctrinal and comparative methodology, it analyses global developments including the European Union's Artificial Intelligence Act, the United Kingdom's pro-innovation approach, and African policy responses to identify models that could inform Ghana's legislative reform. The article argues that Act 772 must be reimagined through a risk-based and rights-oriented lens to remain relevant in the age of intelligent systems. It proposes a suite of legislative recommendations, including the introduction of AI-specific definitions, enhanced transparency obligations, ethical AI principles, liability frameworks, and institutional coordination mechanisms. The goal is to craft a forward-looking legal infrastructure that safeguards fundamental rights, promotes responsible innovation, and ensures public trust in AI-enabled electronic transactions. In doing so, the article contributes to the broader discourse on AI governance in Africa and offers a roadmap for aligning Ghana's digital laws with emerging technological realities.

Keywords: *Artificial Intelligence, Electronic Transactions Act, Digital Regulation, Algorithmic Liability, Data Protection, AI Governance, Legal Reform, Comparative Law.*

1.0 Introduction

Despite the transformative potential of AI, Ghana's legal framework remains largely silent on the subject. The *Electronic Transactions Act* (Act 772), while progressive in regulating electronic communications and digital signatures, was enacted at a time when the dominant technologies were deterministic and non-adaptive[1]. Consequently, the Act assumes human

[1] Electronic Transactions Act 2008 (Act 772), s 3.

initiation and control of all digital transactions, leaving no legal space for autonomous systems or self-executing algorithms. For instance, section 3 of Act 772 contemplates "electronic transactions" as those initiated and conducted by persons using data messages. This anthropocentric framing overlooks the possibility of transactions initiated, modified, or completed autonomously by AI agents. Furthermore, Section 9 of the Act deals with security of an electronic record but assumes a human agent or known party is responsible for unauthorized alteration of electronic record again excluding AI-driven interactions from the purview of legal attribution. This presents serious challenges in contexts such as algorithmic contract negotiation or automated financial transactions, where an AI agent may bind a user to terms without their direct input. In the absence of statutory reform, such scenarios are legally ambiguous and expose users to potential harm without recourse.

Again, judicially, Ghanaian courts have not yet been confronted with a reported case that tests the boundaries of artificial intelligence in legal interpretation or liability. This absence of precedent poses a significant challenge as AI systems become increasingly integrated into government procurement, justice delivery, and financial transactions. The potential for disputes involving algorithmic discrimination, questions of authorship over AI-generated works, and liability for autonomous decision-making underscores the urgency of preparing the legal system for these emerging complexities. Without proactive engagement, the judiciary risks being ill-equipped to address the novel legal questions AI will inevitably raise. Consequently, there is a pressing need for judges, lawmakers, and legal practitioners in Ghana to develop the requisite competence through continuing legal education and interdisciplinary collaboration, ensuring that the justice system evolves in tandem with technological advancements.[2]

Globally, regulatory bodies and legal scholars have increasingly acknowledged the inadequacy of traditional legal frameworks to address the rapid evolution of AI. The European Union, for instance, has adopted the Artificial Intelligence Act, the first comprehensive attempt to regulate AI based on a risk-based classification of systems and emphasis on human oversight and fundamental rights protections.[3] The United Kingdom, while taking a more innovation-centric and sectoral approach, has issued guidelines and white papers identifying core regulatory principles, including safety, transparency, fairness, and accountability in AI deployment.[4] In Africa, countries like Kenya, South Africa, and Nigeria are initiating legislative reforms or national AI strategies to anticipate the legal and ethical challenges of AI integration. Ghana, however, still lacks a comprehensive legal framework, judicial capacity or policy strategy that directly engages with AI regulation and adjudication. This lacuna is significant given the increasing use of AI-powered systems in electronic transactions, particularly in automated credit scoring, biometric authentication, customer profiling, automated betting systems, and chatbots used in financial services. These systems raise questions about the legal validity of algorithmically generated decisions, the enforceability of machine-executed contracts, the integrity of digital identities, and the protection of personal data in high-risk contexts.[5] More critically, the use of AI amplifies concerns about

[2] Judicial Training Institute of Ghana, 'Strategic Plan 2021–2025' https://www.jti.gov.gh accessed 30 July 2025.
[3] European Commission, Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) COM(2021) 206 final.
[4] Department for Science, Innovation and Technology (UK), A Pro-Innovation Approach to AI Regulation (Policy Paper, March 2023) https://www.gov.uk/government/publications/ai-regulation-a-pro-innovation-approach accessed 27 July 2025.
[5] Frank Pasquale, The Black Box Society: The Secret Algorithms That Control Money and Information (Harvard University Press, 2015) 3–7.

discrimination, lack of human oversight, and the erosion of trust in automated systems, all of which challenge the foundational principles of fairness, consent, and accountability that underpin Act 772.[6]

The article seeks to reimagine the Electronic Transactions Act, 2008(Act 772) through the lens of AI. It examines the legal gaps and institutional weaknesses in the Act as it stands, identifies emerging risks associated with AI integration into digital transactions, and explores the opportunities that a revised legal framework could offer for innovation, inclusion, and consumer protection. This reimagining is not merely a technical legislative exercise, but a normative inquiry into how Ghana can craft a digital legal infrastructure that is both responsive to emerging technologies and rooted in constitutional and human rights norms. To this end, the article adopts a comparative and doctrinal methodology. It draws on global best practices in AI regulation, explores legal theory surrounding emerging technologies, and situates its analysis within Ghana's constitutional, statutory, and policy framework.[7] The goal is to contribute to the ongoing academic and policy discourse on digital transformation in Ghana, while offering a roadmap for legislative reform that aligns with the dynamic nature of AI.

This article is organised into eight substantive sections, each addressing a distinct yet interconnected aspect of artificial intelligence and its implications for Ghana's legal framework. Section One introduces the study, situating it within Ghana's broader digital transformation and outlining the central research questions. Section Two provides a definitional foundation of Artificial Intelligence, clarifying conceptual ambiguities and establishing the analytical scope of the discussion. Section Three offers an overview of the evolution and principal provisions of the Electronic Transactions Act, critically assessing its relevance within the contemporary digital environment. Section Four adopts a comparative lens, examining legal innovations from other jurisdictions while also engaging with Ghana's 10-Year National Artificial Intelligence Strategy and its approach to AI risk. Section Five focuses on the legal lacunae within the Electronic Transactions Act, paying particular attention to the emerging questions of legal personhood, agency, and liability in relation to AI. Section Six extends this analysis to regulatory and ethical concerns, exploring the risks AI poses to accountability, fairness, and trust in electronic transactions. Section Seven turns towards reform, envisioning how the Electronic Transactions Act might be reimagined to address AI-related challenges. It advances legislative proposals and recommendations for harmonising Ghana's digital legislation with the realities of AI-driven systems. The article concludes in Section Eight by reflecting on the broader implications of AI for the future of legal regulation in Ghana's digital economy, underscoring the need for a forward-looking, ethically grounded, and coherent regulatory framework.

2.0 Understanding Artificial Intelligence for Legal Reform in Ghana

As Ghana enters the next phase of digital transformation, the need to re-evaluate the Electronic Transactions Act[8] in light of Artificial Intelligence (AI) becomes pressing. Much like how judges in common law systems interpret abstract legal concepts to establish precedent and clarify legal meaning, Ghanaian law must now engage in a similar exercise to demystify AI for purposes of regulation, accountability, and legal predictability. Artificial Intelligence,

[6] Lilian Edwards, 'Regulating AI in the UK and the EU: Convergence or Competition?' (2021) 12(2) European Journal of Risk Regulation 418.
[7] Mireille Hildebrandt, Law for Computer Scientists and Other Folk (Oxford University Press 2020) 21–43.
[8] Electronic Transactions Act, 2008 (Act 772). Ghana.

both as a technological phenomenon and an epistemic category, lacks a universally agreed-upon definition. Its conceptual fluidity is reflected in the diversity of academic and professional fields that engage with it, from computer science and cognitive psychology to philosophy, law, and sociology.

While in public discourse AI may refer to singular, high-profile systems like ChatGPT, in scholarly and technical contexts, it describes broader capabilities as those that allow machines to perform tasks traditionally requiring human intelligence. To avoid semantic ambiguity and promote legislative clarity, this article adopts a functionalist definition as proposed by legal scholar Harry Surden, who describes AI as *technology designed to automate tasks that would otherwise require human intelligence*[9]. This includes, but is not limited to, activities involving reasoning, decision-making, language processing, learning, and pattern recognition. Surden categorizes AI into four conceptual classes: (i) systems that think like humans; (ii) systems that act like humans; (iii) systems that think rationally; and (iv) systems that act rationally. This framing aligns with the objectives of legal pragmatism and regulatory clarity, particularly in the Ghanaian context where policy and legal infrastructures are still catching up with digital innovation. Such a definition is especially pertinent in the application of the Electronic Transactions Act, 2008 (Act 772), which regulates electronic records, signatures, and transactions but was drafted in an era when AI applications were embryonic and largely rule-based. The Act makes no reference to AI systems or machine learning, nor does it anticipate autonomous decision-making systems that might interface with human users or the courts.[10]

There are many operational typologies of Artificial Intelligence (AI). Existing AI systems may be broadly divided into three conceptual paradigms: top-down systems, bottom-up systems, and large language models (LLMs)[11]. Understanding these distinctions is essential for the Ghanaian legal regime to appropriately categorize and regulate various AI technologies. Top-down AI systems, or rule-based systems, function by encoding human expertise into machine-readable logic. It involves translating human expertise, such as legal codes or regulatory frameworks, into machine-readable logic using structured programming languages (e.g., if-then-else structures).[12] These systems work well in domains where legal rules are codified, unambiguous, and logically sequenced. For example, while Ghana's *Income Tax Act, 2015 (Act 896)*, for instance, presents opportunities for expert systems to aid in tax compliance, no known AI-based systems have yet been integrated into the Ghana Revenue Authority's (GRA) public platforms[13]. However, future collaboration between the GRA and legal technologists could yield expert systems for automating tax assessments, thereby reducing administrative burden and human error. On the other hand, bottom-up or data-driven systems, which encompass machine learning and neural networks, learn from large datasets and can perform tasks such as fraud detection, sentiment analysis, and predictive analytics.These systems do not rely on predefined rules but learn patterns from large datasets, making them

[9] Harry Surden, 'Artificial Intelligence and Law: An Overview' (2019) 35 Georgia State University Law Review 1305.
[10] Electronic Transactions Act 2008 (Act 772), s 3.
[11] Stuart Russell and Peter Norvig, Artificial Intelligence: A Modern Approach (4th edn, Pearson 2020) ch 1.
[12] Artificial Intelligence and Law – An Overview and History." Youtube, uploaded by Stanford Law School, 15 Sept. 2023, www.youtube.com/ watch?app=desktop&v=BG6YR0xGMRA.
[13] Income Tax Act 2015 (Act 896), ss 1–3.

adaptable and predictive.[14] In the Ghanaian banking sector, the Bank of Ghana has issued guidelines for financial technology innovations, such as the Payment Systems and Services Act, 2019 (Act 987), which encourages digital transformation in banking[15]. However, these guidelines do not yet include specific provisions for AI-driven systems, leaving significant gaps in terms of accountability, algorithmic transparency, and consumer protection in data-intensive applications such as credit scoring or anti-money laundering surveillance.

A hybridization of bottom-up and top-down systems is found in Large Language Models (LLMs) a class of generative AI that includes GPT-4, Bard, and Claude. These systems are capable of generating human-like text, legal summaries, and even rudimentary legal opinions based on large, unstructured datasets[16]. Their emergence has already disrupted the legal sector, as seen in the integration of models like GPT-4 into platforms such as *Harvey* for contract review and litigation analytics. While Ghanaian law firms have yet to widely adopt such platforms, informal observations indicate growing interest in tools like *Spellbook* and *CoCounsel*, particularly among boutique firms in Accra and Kumasi[17]. Importantly, Ghana's Electronic Transaction Act (ETA) does not currently accommodate the unique implications of LLMs such as content attribution, error liability, or unauthorized practice of law. For instance, if a client relies on an AI-generated contract clause that later proves defective in litigation, there is no regulatory clarity on liability attribution: is it the developer, the legal professional who deployed the tool, or the client who acted upon it?

3.0 The Evolution and Scope of Ghana's Electronic Transactions Act (Act 772)

The Electronic Transactions Act, 2008 (Act 772) was enacted at a time when digital infrastructure and internet penetration were beginning to experience significant growth in Ghana. Its primary aim was to provide legal certainty for electronic communications and transactions, promote public confidence in the integrity of digital systems, and encourage investment in e-commerce and e-government initiatives.[18] The Act was part of a broader effort to align Ghana's legal framework with international standards on digital commerce and electronic communications, particularly in line with the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce (1996).[19] At the heart of Act 772 are provisions that ensure the functional equivalence of electronic communications and traditional paper-based transactions. For instance, sections 5 and 6 of the Act affirm the legal validity and admissibility of electronic records, while sections 10 to 13 of the Act provide for the recognition and use of electronic signatures in a manner consistent with contract law principles. An electronic signature commonly referred to as an e-signature or eSign is a modern, digital alternative to the traditional handwritten signature. Its primary function is to authenticate and validate documents, ensuring that they carry the same legal weight as those signed in ink. Today, e-signatures are widely used across a variety of contexts,

[14] Surden, Harry, Artificial Intelligence and Law: An Overview (June 28, 2019). Georgia State University Law Review, Vol. 35, 2019, U of Colorado Law Legal Studies Research Paper No. 19-22, Available at SSRN: https://ssrn.com/abstract=3411869.

[15] Bank of Ghana, 'Payment Systems and Services Act 2019 (Act 987)' https://www.bog.gov.gh accessed 30 July 2025.

[16] Stuart Russell and Peter Norvig, Artificial Intelligence: A Modern Approach (4th edn, Pearson 2020) ch 1.

[17] Spellbook AI, 'Contract Drafting with GPT-4' (2024) https://www.spellbook.legal accessed 30 July 2025.

[18] Electronic Transactions Act 2008 (Act 772), long title and s 1.

[19] UNCITRAL, Model Law on Electronic Commerce with Guide to Enactment 1996 (UN 1999) https://uncitral.un.org/en/texts/ecommerce/modellaw/electronic_commerce accessed 27 July 2025.

including the execution of contracts, formal agreements, and official records, making them an indispensable tool in the digital era.

The legality of electronic signatures in Ghana is well-established under the Electronic Transactions Act, 2008. Backed by a clear legal framework, both individuals and businesses can embrace electronic signatures with confidence, assured that their transactions rest on firm legal foundations. As technology advances, however, it remains essential to stay updated on applicable legal standards and best practices to fully harness the advantages of electronic signatures. Sections 26 to 33 and 39 to 43 of Act 772 also addresses critical issues relating to authentication, encryption, liability of service providers, online consumer protection, and the regulation of certification service providers. In doing so, it lays the groundwork for the legal recognition of digital contracts, records, and signatures, thereby facilitating the migration of public and private transactions onto digital platforms.

Despite these advances, the architecture of Act 772 is primarily premised on static notions of digital interaction. Its framework presumes that digital transactions occur under conditions of full human agency, direct intent, and traceable authorship. The Act does not contemplate the complexities introduced by AI systems capable of autonomous action, continuous learning, and probabilistic reasoning.[20] It remains silent on fundamental questions such as whether an AI-generated communication can constitute a valid offer or acceptance, or whether liability can be imputed to an AI agent or its developer in the event of an error or harm.[21] These questions are no longer theoretical. In Ghana today, AI technologies are being embedded in fintech platforms that offer credit-scoring algorithms, facial recognition systems used in customer authentication, and digital assistants that simulate human interaction for contractual purposes.[22]

Moreover, Act 772 lacks mechanisms to evaluate or audit the integrity and fairness of algorithmic processes. Unlike the more recent European and North American legal instruments that adopt a risk-based approach to emerging technologies, Act 772 does not differentiate between low-risk and high-risk digital activities.[23] Nor does it provide regulatory tools to address the opacity of machine learning models, the potential for algorithmic discrimination, or the systemic biases that may arise from unrepresentative training data. The absence of such provisions exposes users particularly consumers and marginalised groups to invisible harms and discriminatory outcomes without legal recourse or transparency guarantees.[24]

From an institutional standpoint, enforcement of Act 772 is divided among multiple state agencies, including the National Information Technology Agency (NITA), the Data Protection Commission, and the Cyber Security Authority, creating fragmented oversight and limited regulatory coherence. As AI systems often transcend jurisdictional and institutional boundaries, the absence of a centralised or harmonised legal mechanism compounds

[20] Lilian Edwards and Michael Veale, 'Slave to the Algorithm? Why a "Right to an Explanation" is Probably Not the Remedy You Are Looking For' (2017) 16(1) Duke Law and Technology Review 18.
[21] Mireille Hildebrandt, Law for Computer Scientists and Other Folk (Oxford University Press 2020) 151–163.
[22] Emmanuel Dogbevi, 'Artificial Intelligence Finds Use in Ghana's Banking and Health Sectors' Ghana Business News (Accra, 23 April 2023) https://www.ghanabusinessnews.com/2023/04/23/ai-in-ghana-banking-health/ accessed 27 July 2025.
[23] European Commission, Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) COM(2021) 206 final.
[24] Frank Pasquale, The Black Box Society: The Secret Algorithms That Control Money and Information (Harvard University Press 2015) 9–26.

enforcement difficulties, especially in high-speed digital markets where harm can be diffused or anonymised.[25] To effectively respond to the demands of an AI-driven digital economy, Ghana must revisit the foundational assumptions and regulatory limits of Act 772. While the Act remains a critical legal instrument, it must evolve from a baseline electronic commerce statute to a dynamic, adaptive legal framework capable of engaging with contemporary technological realities. As later sections of this article will demonstrate, this transformation will require a redefinition of key legal concepts, the adoption of accountability mechanisms for algorithmic systems, and a recalibration of enforcement tools to safeguard human rights and consumer protection in the digital age.

4.0 Comparative Legal Developments and Global Approaches to AI Regulation

As Ghana contemplates reforms to its Electronic Transactions Act in the wake of artificial intelligence (AI) advancements, comparative legal perspectives offer valuable guidance. Around the world, states and regional blocs have begun developing normative and legal frameworks to regulate AI, focusing on transparency, accountability, risk classification, and the protection of fundamental rights. Jurisdictions such as South Africa, Kenya, the United Kingdom, United States, and the European Union (EU) have either begun adapting their legislative frameworks or issued policy guidance to manage the multifaceted challenges and opportunities of AI. These experiences illuminate strategies for addressing definitional clarity, accountability, rights protection, and institutional coordination in the deployment of AI technologies. This section examine how other jurisdictions are responding to the challenges posed by Artificial Intelligence (AI). The section also explores key developments in the European Union, the United Kingdom, and selected African jurisdictions, drawing lessons and identifying models that could inform Ghana's regulatory reform.

4.1 Ghana's 10-Year National Artificial Intelligence Strategy

In 2022, Ghana launched its 10-Year National Artificial Intelligence (AI) Strategy through the Ministry of Communications and Digitalisation—now the Ministry of Communication, Digital Technology and Innovations—with support from Smart Africa, GIZ Fair Forward, The Future Society, and local stakeholders. This places Ghana among a small number of African states with a national framework designed to maximize AI's benefits while addressing its risks. The strategy draws lessons from global policy models but is mindful of the structural disadvantages that African countries face in the digital economy. Centred on eight pillars, the plan emphasizes research in machine learning, rapid adoption across sectors, ethical safeguards, and preparations for the future of work. It also highlights AI's potential to advance Ghana's developmental priorities, including the UN Sustainable Development Goals. Alongside technological adoption, the strategy stresses investment in human capital, support for start-ups, and financial incentives such as tax reliefs and seed funding. Initiatives like the National Innovation Challenge further provide funding and training to entrepreneurs developing AI-driven solutions.[26] By prioritizing talent development, infrastructure, and responsible use, Ghana aims to leapfrog into advanced technologies as a pathway to sustainable growth. AI applications in healthcare, particularly for diagnostics in underserved areas, showcase its transformative potential. More broadly, the strategy seeks to position Ghana as a continental hub for innovation, investment, and ethical AI governance.

[25] Kwame Asare-Nyarko, 'Fragmented Oversight of Digital Technology in Ghana: A Regulatory Mapping' (2022) African Journal of Law and Technology 4(2) 77–92.

[26] Thompson Kwarkye, 'Navigating the Frontiers of AI Policies in Africa' (Social Practice of Human Rights Conference and the 6th International Conference on the Right to Development, University of Dayton, 2023) https://ecommons.udayton.edu/human_rights/2023/concurrent5e/1/ accessed 21 August 2025.

4.1.2 Ghana's Approach to AI Risks

An essential aspect of Ghana's 10-Year National Artificial Intelligence Strategy is its focus on embedding ethical frameworks that resonate with societal values and norms. By grounding AI governance in social and moral considerations, the strategy seeks to align technological innovation with ethical imperatives that guide policy directions. In particular, it builds on the Data Protection Act of 2012 (Act 843), which safeguards individual privacy and regulates the processing of personal information, thereby reinforcing a culture of accountability and responsible innovation. In line with global practice, Ghana's strategy also proposes the establishment of a Responsible AI (RAI) Office, expected to become operational within a year of the policy's adoption. Inspired by comparable institutions in Egypt, Singapore, and the United Kingdom, this body will be tasked with creating frameworks that ensure fairness, transparency, accountability, privacy, and respect for human rights in AI systems. By engaging stakeholders across both the public and private sectors, the RAI Office is intended to serve as a cornerstone of Ghana's ethical AI landscape. However, the strategy provides limited clarity regarding the office's structure, resources, and enforcement authority, raising questions about its capacity to deliver meaningful oversight[27]. Without clear mandates and regulatory powers, the risk remains that this initiative may fall short of its objectives.

The broader policy debate reflects Ghana's efforts to define ethical boundaries for AI in ways that align with global standards while accommodating national priorities. Much of the strategy draws on lessons from the European Union, whose role as a global regulator of digital rights and privacy has been described as the "Brussels Effect" (Bradford 2020). The EU's emphasis on human-centred AI anchored in rights, transparency, and accountability has informed Ghana's attempt to integrate ethical safeguards into its framework. Yet, while Ghana's approach mirrors the EU's normative leadership, it diverges in a crucial respect: the absence of binding legal provisions and enforceable mechanisms. As such, Ghana's model highlights both the promise and the limitations of emerging AI governance in Africa—an approach rooted in ethical awareness but still in need of robust legal backing to guarantee compliance and effectiveness.

4.2 The European Union: A Risk-Based, Rights-Centric Approach

The European Union has emerged as the global frontrunner in comprehensive AI regulation. Its Artificial Intelligence Act proposed in April 2021 is the world's first horizontal legal framework for AI systems.[28] The regulation classifies AI applications into four categories based on risk: unacceptable, high-risk, limited-risk, and minimal-risk. Unacceptable-risk systems, such as those involving social scoring by governments or manipulative technologies, are outright prohibited. High-risk systems such as those used in credit scoring, biometric identification, or recruitment must comply with strict obligations including data quality standards, human oversight, transparency, robustness, and conformity assessments.[29] This approach offers valuable insights for Ghana. By embedding risk-differentiated obligations and aligning AI deployment with fundamental rights, the EU model provides a regulatory roadmap

[27] Desmond Israel, 'Ghana's National Artificial Intelligence Strategy: A Critical Policy Analysis on Building a Sustainable AI Ecosystem' (LinkedIn, 3 February 2025) www.linkedin.com/pulse/ghanas-national-artificial-intelligence-strategy-ai-israel-esq-vwlwe/ accessed 21 August 2025.

[28] European Commission, Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) COM(2021) 206 final.

[29] Artificial Intelligence Act) COM(2021) 206 final, arts 5–9.

that balances innovation with public interest.[30] Additionally, the EU's regulatory emphasis on explainability and documentation ensures that AI systems used in electronic transactions are auditable and accountable key concerns Ghana must address if it is to update Act 772 effectively.[31]

The European Union's regulatory model carries significant implications for Ghana, offering valuable insights into how the country might structure its own approach to artificial intelligence (AI). By explicitly defining AI and categorizing its various uses, the EU framework avoids the definitional vagueness that continues to challenge many national systems, including Ghana's Electronic Transactions Act (ETA). This legal clarity not only enhances predictability but also provides a more stable foundation for innovation and enforcement. Equally important are the accountability mechanisms embedded in the EU model, which impose obligations on both AI developers and deployers, ensuring shared responsibility and establishing penalties for non-compliance. Ghana could draw on this co-liability framework in shaping future reforms, thereby strengthening trust and compliance within its digital ecosystem.

Moreover, the EU's AI Act is firmly anchored in the Charter of Fundamental Rights, safeguarding privacy, equality, and access to justice against potential risks posed by AI technologies[32]. A parallel can be drawn for Ghana, where Chapter 5 of the 1992 Constitution enshrines fundamental human rights that could serve as the normative bedrock of any future AI policy. Finally, with Ghana's active role in the African Continental Free Trade Area (AfCFTA), adopting a harmonized regulatory approach aligned with international best practices would be crucial[33]. Such alignment would not only foster digital investment but also facilitate the smooth provision of cross-border digital services, positioning Ghana as a credible actor in the evolving global digital economy

4.3 The United Kingdom: A Pro-Innovation and Sector-Based Strategy

In contrast to the EU, the United Kingdom has adopted a more decentralised and innovation-friendly model for AI regulation. Its White Paper on AI Regulation (2023) proposes five cross-sectoral principles: safety, transparency, fairness, accountability, and contestability.[34] The UK model avoids creating a central AI regulator, preferring instead to empower existing sectoral regulators such as the Financial Conduct Authority and Information Commissioner's Office to apply these principles within their respective domains. This model offers flexibility and responsiveness, particularly in fast-evolving sectors like fintech and e-commerce. Ghana could draw on the UK's sectoral approach by integrating AI principles into the mandates of its existing regulatory agencies, such as the National Information Technology Agency (NITA), the Data Protection Commission, and the Cyber Security Authority.

[30] Lilian Edwards, 'Regulating AI in the UK and the EU: Convergence or Competition?' (2021) 12(2) European Journal of Risk Regulation 418.
[31] Mireille Hildebrandt, Law for Computer Scientists and Other Folk (Oxford University Press 2020) 163–171.
[32] Charter of Fundamental Rights of the European Union [2012] OJ C326/391.
[33] African Union Commission, Digital Transformation Strategy for Africa (2020–2030) (2020) https://au.int/en/documents/20200518/digital-transformation-strategy-africa-2020-2030 accessed 30 July 2025.
[34] Department for Science, Innovation and Technology (UK), A Pro-Innovation Approach to AI Regulation (Policy Paper, March 2023) https://www.gov.uk/government/publications/ai-regulation-a-pro-innovation-approach accessed 27 July 2025.

However, care must be taken to avoid regulatory fragmentation a challenge the UK itself has acknowledged and Ghana is already experiencing.[35]

4.4 The United States: Soft Law and Market-Led Governance

The United States has generally preferred a "soft law" approach to AI regulation, relying on voluntary guidelines, industry standards, and sector-specific rules rather than comprehensive federal legislation. In 2022, the Blueprint for an AI Bill of Rights was issued by the White House Office of Science and Technology Policy, articulating five principles: safe and effective systems, algorithmic discrimination protections, data privacy, notice and explanation, and human alternatives.[36] Although non-binding, these principles reflect an emerging consensus on key ethical and procedural safeguards. For Ghana, the U.S. experience underscores the importance of public-private collaboration, standard-setting, and innovation sandboxes. However, reliance on soft law may be inadequate for developing countries with weak enforcement cultures or institutional capacity constraints.[37]

4.5 African Legal Developments: Emerging Regional and National Models

Across Africa, AI regulation remains in its infancy, but several countries are initiating legal and policy responses. Kenya, for example has taken proactive steps toward developing a legal and ethical framework for AI through its Digital Economy Blueprint (2019) and the establishment of an AI and Blockchain Taskforce in 2018. The Taskforce recommended the development of a comprehensive legal framework to address liability, data governance, and ethics in AI applications.[38] In 2022, the country also launched a National Artificial Intelligence Strategy which calls for AI governance rooted in constitutional values, human rights, and equity.[39]

Additionally, Kenya has explored the use of AI in public services, including judiciary automation and public health surveillance, prompting critical debates around the need for algorithmic transparency and safeguards against systemic bias. Kenya's experience emphasizes the importance of building independent regulatory bodies with the technical capacity to audit and monitor AI systems a model Ghana may emulate through institutions such as the National Information Technology Agency (NITA) or a newly established AI Commission. Nigeria is developing a national AI policy under the National Information Technology Development Agency (NITDA), focusing on ethics, inclusiveness, and sustainable development.[40]

South Africa, while lacking a national AI law offers a unique model of engaging with emerging technologies through a constitutional rights-based lens, anchored in its progressive Constitution. The South African Constitution guarantees the right to dignity, privacy, and equality, which directly interfaces with concerns over biased or opaque AI systems. While South Africa does not yet have a specific statute regulating AI, recent government-

[35] Kwame Asare-Nyarko, 'Fragmented Oversight of Digital Technology in Ghana: A Regulatory Mapping' (2022) African Journal of Law and Technology 4(2) 77–92.
[36] White House OSTP, Blueprint for an AI Bill of Rights (2022) https://www.whitehouse.gov/ostp/ai-bill-of-rights/ accessed 27 July 2025.
[37] Ryan Calo, 'Artificial Intelligence Policy: A Primer and Roadmap' (2018) 51(2) UC Davis Law Review 399, 418.
[38] Ministry of Information, Communications and Technology (Kenya), Distributed Ledgers Technology and Artificial Intelligence Taskforce Report (2019) https://www.ict.go.ke/taskforce accessed 30 July 2025.
[39] Ministry of ICT (Kenya), National Artificial Intelligence Strategy 2022–2027 https://ict.go.ke/ai-strategy accessed 27 July 2025.
[40] National Information Technology Development Agency (Nigeria), Draft National Artificial Intelligence Policy (2023) https://nitda.gov.ng/ai-policy accessed 27 July 2025.

commissioned documents and judicial commentary underscore the growing concern over algorithmic fairness, transparency, and accountability. The Presidential Commission on the Fourth Industrial Revolution (PC4IR), established in 2019, produced a comprehensive report in 2020 recommending the development of an integrated national AI strategy, digital ethics guidelines, and regulatory readiness for emerging technologies[41]. Moreover, South Africa's Protection of Personal Information Act (POPIA) mirrors many aspects of the EU's GDPR, particularly in protecting data subjects against unfair automated decision-making. Section 71 of POPIA prohibits decisions that are solely based on automated processing unless authorized by law or with explicit consent[42]. This provision offers a legal foothold for courts or regulators to challenge harmful applications of AI in credit scoring, recruitment, or public service delivery an area that Ghana's Data Protection Act, 2012 (Act 843) does not currently address with the same specificity.

At the continental level, the African Union (AU) has recognised the transformative potential of AI in its Digital Transformation Strategy for Africa (2020–2030). It encourages member states to adopt principles of responsible innovation, data sovereignty, and harmonised regulatory frameworks.[43] Ghana, as a key AU member and digital hub in West Africa, has the opportunity to lead regional discourse by embedding AI principles into its domestic legal reforms and supporting interoperability across borders. For Ghana, adopting a constitutional lens in AI governance may require interpreting fundamental rights such as equality and human dignity in the context of AI deployments, especially where the technology is used in justice administration, electoral processes, or welfare delivery.

5.0 Legal Gaps in Ghana's Electronic Transactions Act in Relation to Artificial Intelligence

While the Electronic Transactions Act, 2008 (Act 772) provides a foundational legal framework for electronic commerce and digital communication in Ghana, it is increasingly apparent that the statute does not adequately respond to the legal complexities introduced by Artificial Intelligence (AI). The Act reflects a transactional paradigm rooted in human agency and intent, but AI technologies operate in ways that challenge traditional contract formation principles, agency doctrines, and liability attribution models. This section explores the specific legal gaps within the Act as it relates to AI integration and highlights the urgent need for conceptual and regulatory rethinking.

5.1 Legal Personhood and Attribution of Acts

One of the central doctrinal challenges posed by AI is the question of legal personhood. Section 1 of Act 772 presupposes the involvement of identifiable natural or juristic persons in electronic transactions. However, AI systems particularly those that learn and evolve beyond their original programming often act autonomously, making it difficult to attribute their conduct to a single legal actor. The absence of provisions in Act 772 addressing whether and how AI systems can be considered legal actors or how their actions are to be attributed to developers, deployers, or users creates ambiguity in matters of contractual validity, tortious liability, and regulatory responsibility.[44] The issue is further compounded in instances where

[41] Republic of South Africa, Report of the Presidential Commission on the Fourth Industrial Revolution (2020) https://www.stateofthenation.gov.za accessed 30 July 2025.
[42] Protection of Personal Information Act 2013 (South Africa), s 71
[43] African Union, Digital Transformation Strategy for Africa (2020–2030) https://au.int/en/documents/20200603/digital-transformation-strategy-africa accessed 27 July 2025.
[44] Ugo Pagallo, 'The Laws of Robots: Crimes, Contracts and Torts' (Springer 2013) 101–115.

AI systems engage in negotiations or execute contracts without direct human supervision. While section 21 of Act 772 recognises the validity of automated message systems in contract formation, it fails to address the doctrinal complexities introduced by self-executing algorithms or AI agents that generate new contractual terms.[45] This raises the question: when an AI system misrepresents information or enters into a contract contrary to the intention of its human deployer, who bears responsibility?

5.2 Agency and Authority in Algorithmic Transactions

Traditional contract law in Ghana, derived from common law principles, rests on the idea that agents act on behalf of principals and that contracts made by an agent within the scope of their authority are binding on the principal.[46] Act 772 does not contemplate whether or how these principles apply to AI systems acting as agents. AI technologies often act based on probabilistic inferences rather than predefined instructions. This makes it difficult to determine whether an AI system's actions are within the scope of "actual" or "apparent" authority, or whether the doctrine of agency even applies at all.[47] In jurisdictions such as the United States and the European Union, legal scholars and policymakers have begun exploring frameworks for "electronic agents" or algorithmic agency that blend agency principles with foreseeability and control tests.[48] Ghana's Act 772, however, remains silent on these developments. Without clarity on how AI-generated actions are treated under contract and agency law, parties are exposed to legal uncertainty, particularly in high-value or cross-border digital transactions.

5.3 Liability for AI-Induced Harm

Another critical legal gap in Act 772 is its lack of a liability framework tailored to AI-induced harm. The Act provides for intermediary liability (sections 73–78) and civil liability for damages in certain instances, but these provisions presuppose that the party responsible for the harm can be clearly identified and that causation is straightforward.[49] In the context of AI, the chain of causation is often opaque and may involve multiple actors, including data suppliers, algorithm designers, system integrators, and end users. This creates a "responsibility gap" whereby harm is caused, but no party is clearly at fault.[50] Moreover, AI systems can produce outcomes that were not reasonably foreseeable by their developers, especially in cases involving deep learning or unsupervised machine learning. This undermines traditional fault-based liability models. Some legal systems have responded by proposing strict liability regimes or mandatory insurance requirements for high-risk AI applications.[51] Ghana's legal framework, by contrast, lacks such innovations, rendering the victims of AI-induced harm without adequate remedies or recourse.

[45] Electronic Transactions Act 2008 (Act 772), s 21.
[46] GHL Fridman, The Law of Agency (7th edn, LexisNexis 2011) 17–20.
[47] Mireille Hildebrandt, Law for Computer Scientists and Other Folk (Oxford University Press 2020) 156–163.
[48] Harry Surden and Timothy Hodel, 'AI and the Automation of Legal Reasoning' (2021) 22 Yale Journal of Law & Technology 1, 18–22.
[49] Electronic Transactions Act 2008 (Act 772), ss 73–78.
[50] Matthias Uhl and Martin Ebers, 'Liability for Artificial Intelligence and EU Consumer Law' (2020) 8(4) Journal of European Consumer and Market Law 160.
[51] European Commission, White Paper on Artificial Intelligence – A European Approach to Excellence and Trust COM(2020) 65 final.

5.4 Transparency and Explainability

Transparency is a foundational principle in electronic transactions, particularly with respect to informed consent and the fairness of automated decision-making. Yet, Act 772 contains no provisions requiring algorithmic systems to be auditable or explainable. In the age of AI, where decisions are increasingly made by black-box models whose logic cannot be understood even by their creators, the lack of statutory requirements for algorithmic explainability undermines due process, fairness, and trust.[52] For example, when a consumer is denied credit or subjected to differential pricing by an AI system, Act 772 offers no legal basis for the consumer to demand an explanation or challenge the decision.[53] This deficiency stands in contrast to frameworks such as the EU General Data Protection Regulation (GDPR), which includes a right to meaningful information about the logic involved in automated decisions.[54] Ghana's Data Protection Act, 2012 (Act 843) only partially addresses this issue, and Act 772 fails to integrate data protection principles into the governance of digital transactions in the AI context.

5.5 Consumer Protection and Algorithmic Discrimination

The consumer protection provisions in Act 772 are general and do not account for the unique risks of AI, including discriminatory or biased outcomes. Section 46 of the Act requires suppliers to provide accurate information and ensure that goods and services meet performance standards. However, AI systems trained on biased or incomplete datasets may unintentionally perpetuate discrimination, particularly along lines of gender, ethnicity, or socioeconomic status.[55] Without safeguards such as algorithmic audits, fairness assessments, or anti-discrimination clauses, consumers in Ghana remain vulnerable to opaque and unfair treatment by AI systems.[56]

6.0 Regulatory and Ethical Risks Posed by Artificial Intelligence in Electronic Transactions in Ghana.

The integration of Artificial Intelligence (AI) into electronic transactions has brought considerable efficiencies, scalability, and innovation across various sectors in Ghana, including banking, e-commerce, education, and telecommunications. However, these benefits come with significant regulatory and ethical risks that remain largely unaddressed by the current framework of the Electronic Transactions Act, 2008 (Act 772). This section explores the most pressing of these risks algorithmic opacity, bias and discrimination, cybersecurity vulnerabilities, data misuse, and erosion of consumer autonomy, and explains why these challenges demand urgent legal and regulatory attention.

6.1 Algorithmic Opacity and the "Black Box" Problem

One of the most cited ethical concerns in AI systems is the lack of transparency, commonly referred to as the "black box" phenomenon.[57] Machine learning algorithms especially those based on deep learning often generate results in ways that even their

[52] Sandra Wachter, Brent Mittelstadt and Luciano Floridi, 'Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation' (2017) 7(2) International Data Privacy Law 76.
[53] Frank Pasquale, The Black Box Society: The Secret Algorithms That Control Money and Information (Harvard University Press, 2015) 3–12.
[54] Regulation (EU) 2016/679 (General Data Protection Regulation), art 22.
[55] Solon Barocas and Andrew D Selbst, 'Big Data's Disparate Impact' (2016) 104(3) California Law Review 671.
[56] Ifeoma Ajunwa, 'The Paradox of Automation as Anti-Bias Intervention' (2020) 41(3) Cardozo Law Review 1671, 1690–1697.
[57] Sandra Wachter, Brent Mittelstadt and Luciano Floridi, 'Transparent, Explainable, and Accountable AI for Robotics' (2017) 2(6) Science Robotics eaap6962.

developers cannot fully explain. This opacity becomes problematic in contractual and consumer contexts, where parties may be subject to automated decisions that significantly affect their rights and obligations without understanding how those decisions were made. In Ghana, AI systems are increasingly being deployed in fintech for credit scoring and loan approvals. When such decisions are made without human oversight or clear audit trails, it becomes nearly impossible for affected individuals to contest or appeal them.[58] The lack of any obligation under Act 772 to provide reasons for automated decisions exacerbates the accountability gap and weakens consumer protection. In contrast, Article 22 of the General Data Protection Regulation (GDPR) requires meaningful information about the logic and consequences of automated decisions.[59] Ghana's current framework lacks such safeguards.

6.2 Bias, Discrimination, and Structural Inequality

AI systems are only as fair as the data on which they are trained. In contexts where historical data reflect systemic biases based on gender, ethnicity, or socioeconomic status AI systems may reproduce and even amplify those biases.[60] For example, a recruitment platform or financial algorithm trained on data that underrepresents women or rural populations may inadvertently exclude such groups from job offers or credit access.[61] In Ghana, where digital literacy and access remain uneven across regions and demographics, algorithmic discrimination can worsen structural inequality. Yet, Act 772 does not recognise or address the problem of algorithmic bias. Nor does it require institutions using AI in electronic transactions to perform fairness assessments, submit systems for algorithmic audits, or conduct impact assessments for vulnerable populations.[62] This legal vacuum leaves the most disadvantaged segments of society exposed to discriminatory outcomes without remedial channels.

6.3 Cybersecurity and Systemic Vulnerabilities

AI systems that automate electronic transactions are often interconnected with large data repositories and operate in real time, making them attractive targets for cyberattacks.[63] Compromised algorithms can be manipulated to produce harmful outputs, such as authorising fraudulent payments, spoofing biometric credentials, or misclassifying users. AI-generated phishing attacks and adversarial inputs that trick algorithms into misbehaving are becoming more sophisticated and difficult to detect.[64] Although sections 98–140 of Act 772 deals with offences related to unauthorized access, data interference, and system security, it was drafted before the emergence of adversarial AI and is not calibrated to detect or mitigate the cybersecurity risks posed by complex AI systems. Ghana's Cybersecurity Act, 2020 (Act 1038)

[58] Emmanuel Dogbevi, 'Artificial Intelligence Finds Use in Ghana's Banking and Health Sectors' Ghana Business News (Accra, 23 April 2023) https://www.ghanabusinessnews.com/2023/04/23/ai-in-ghana-banking-health/ accessed 27 July 2025.

[59] Regulation (EU) 2016/679 (General Data Protection Regulation), art 22.

[60] Solon Barocas and Andrew D Selbst, 'Big Data's Disparate Impact' (2016) 104(3) California Law Review 671.

[61] Ifeoma Ajunwa, 'The Paradox of Automation as Anti-Bias Intervention' (2020) 41(3) Cardozo Law Review 1671, 1675–1681.

[62] Lilian Edwards, 'Privacy, Security and Data Protection in Smart Cities: A Critical EU Law Perspective' (2016) 2 European Data Protection Law Review 28.

[63] Branka Marijan, 'Securing AI: The Need for Cybersecurity by Design' (Centre for International Governance Innovation, 2021) https://www.cigionline.org/publications/securing-ai/ accessed 27 July 2025.

[64] Nicolas Papernot and others, 'Practical Black-Box Attacks against Machine Learning' (2017) Proceedings of the 2017 ACM on Asia Conference on Computer and Communications Security 506–519.

provides a more modern framework, but coordination between this statute and Act 772 remains weak, leading to jurisdictional ambiguity and fragmented enforcement.[65]

6.4 Data Protection and AI Surveillance

AI systems rely heavily on large volumes of personal data, including biometric, behavioural, and transactional information. In Ghana, AI is already used in digital identity systems, mobile banking, and customer service automation. These systems present a heightened risk of invasive surveillance and data misuse.[66] Despite the enactment of the Data Protection Act, 2012 (Act 843), compliance remains low, and enforcement mechanisms are weak.[67] Act 772 fails to integrate core data protection principles such as data minimisation, purpose limitation, and storage limitation into the regulation of electronic transactions involving AI. Moreover, AI systems used in government service delivery such as smart policing or tax profiling may lead to unwarranted state surveillance, profiling, or even political targeting if deployed without legal safeguards.[68] The absence of statutory limits or judicial oversight on AI-enabled data aggregation creates a fertile ground for rights violations under the 1992 Constitution of the Republic of Ghana which guarantees the right to privacy[69].

6.5 Consumer Autonomy and Informed Consent

AI systems can manipulate user behaviour through personalised advertising, nudging techniques, or dynamic pricing strategies that exploit cognitive biases.[70] In digital transactions, such techniques may impair a consumer's ability to make autonomous and informed choices. For example, a digital platform powered by AI may continuously adjust the terms of an offer based on user data in real-time, effectively coercing the user into a purchase decision they might not have made in a non-AI context.[71] Act 772 assumes a level playing field and informed consent, as reflected in its provisions on consumer protection and information disclosure.[72] However, the psychological complexity and real-time nature of AI systems erode the traditional concept of consent. As legal scholars have noted, consent in the digital age is increasingly "manufactured" rather than freely given.[73] Without recalibrating consent standards to reflect these realities, Ghanaian law risks legitimising exploitative or manipulative practices under the guise of consumer agreement.

7.0 Reimagining the Electronic Transaction Act: Towards a Ghana-Centric AI-Ready Legal Framework

The limitations of Ghana's Electronic Transactions Act, 2008 (Act 772) in the face of rapid Artificial Intelligence (AI) integration present not only challenges but also unique opportunities for legislative and institutional reform. Reimagining Act 772 within an AI-aware digital economy offers Ghana the chance to craft a technologically adaptive, rights-based, and innovation-friendly legal framework. This section outlines key reform opportunities and makes

[65] Kwame Asare-Nyarko, 'Fragmented Oversight of Digital Technology in Ghana: A Regulatory Mapping' (2022) African Journal of Law and Technology 4(2) 77–92.
[66] Mireille Hildebrandt, Law for Computer Scientists and Other Folk (Oxford University Press 2020) 200–213.
[67] Data Protection Act 2012 (Act 843), ss 50–54.
[68] Nanjala Nyabola, Digital Democracy, Analogue Politics: How the Internet Era is Transforming Politics in Kenya (Zed Books 2018) 125–143.
[69] The 1992 Constitution of Ghana, art 18(2).
[70] Shoshana Zuboff, The Age of Surveillance Capitalism (PublicAffairs 2019) 225–235.
[71] Ryan Calo, 'Digital Market Manipulation' (2014) 82 George Washington Law Review 995, 1000–1007.
[72] Electronic Transaction Act (Act 772), ss 46-51.
[73] Daniel Solove, 'Privacy Self-Management and the Consent Dilemma' (2013) 126 Harvard Law Review 1880, 1887–1895.

specific recommendations to align the Act with global best practices and Ghana's constitutional imperatives.

7.1 Embedding AI-Specific Definitions and Scope

One of the first steps toward reform is to introduce AI-specific definitions into Act 772. Currently, the Act lacks any reference to AI, algorithmic systems, or automated decision-making. Incorporating legally precise definitions covering machine learning, automated agents, algorithmic profiling, and high-risk AI would ensure clarity of scope and enable context-sensitive regulation.[74] Such definitions should be aligned with international frameworks like the EU Artificial Intelligence Act or the OECD Principles on AI, while being tailored to Ghana's developmental context.[75]

7.2 Adopting a Risk-Based Regulatory Approach

Inspired by the EU model, Ghana should consider amending Act 772 to include a risk-based classification system for AI systems used in electronic transactions. AI systems that pose a high risk to public interest such as those used in credit scoring, health diagnostics, biometric surveillance, or recruitment should be subject to mandatory conformity assessments, algorithmic audits, and human oversight mechanisms.[76] A legal requirement for periodic risk assessments would enhance consumer protection and institutional accountability, especially in fintech and e-government applications.

7.3 Enhancing Transparency and Explainability Obligations

A core reform imperative is to introduce statutory obligations for transparency, explainability, and auditability of algorithmic decisions. This would ensure that parties subject to automated decisions in electronic transactions have the right to be informed of the logic, significance, and consequences of such decisions, and can request human review where appropriate.[77] Ghana could adopt language similar to Article 22 of the General Data Protection Regulation (GDPR) and build on section 43 of its Data Protection Act, 2012 (Act 843) to establish these rights within AI-integrated electronic systems.

7.4 Establishing Liability and Redress Mechanisms

To effectively address the "responsibility gap" in instances of AI-driven harm, Ghana should consider incorporating a tiered liability regime into Act 772. Such a framework would ensure that accountability is proportionately allocated among the various actors involved in the deployment and operation of artificial intelligence systems. For example, strict liability could be imposed on deployers of high-risk AI systems, recognizing the heightened potential for harm that such technologies may cause. At the same time, developers and data providers could be held liable under a negligence-based standard, which would reflect their duty to ensure that systems are designed and trained responsibly. To further strengthen protections, mandatory insurance schemes should be required for operators of AI in sensitive sectors, thereby guaranteeing compensation for victims where direct attribution of liability may be difficult. These reforms would bring Ghana's approach in line with emerging European models, while

[74] Ugo Pagallo, The Laws of Robots: Crimes, Contracts, and Torts (Springer 2013) 25–30.
[75] OECD, Recommendation of the Council on Artificial Intelligence (2019) https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449 accessed 27 July 2025.
[76] European Commission, Artificial Intelligence Act COM(2021) 206 final, arts 6–10.
[77] Sandra Wachter, Brent Mittelstadt and Luciano Floridi, 'Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation' (2017) 7(2) International Data Privacy Law 76.

offering much-needed legal clarity and assurance for those affected by AI-induced harm.[78] Additionally, the courts should be empowered, through specific legislative guidance, to infer liability in cases where opaque algorithmic processes obscure direct causation, provided that both harm and the use of an AI system can be established. This approach would close accountability gaps and ensure a more just and responsive legal framework for the regulation of AI technologies.

7.5 Integrating Data Protection and Ethical AI Principles

Although Ghana has a data protection framework under Act 843, it does not adequately address the ethical concerns that arise when artificial intelligence is integrated into transactional contexts. To bridge this gap, Act 772 should be amended to expressly codify ethical AI principles that promote fairness, transparency, and accountability. These principles should encompass safeguards against discrimination, the promotion of human-centred design, limitations on data collection and usage, and clear prohibitions against manipulative or exploitative algorithmic practices. Importantly, such ethical standards should not be confined to state institutions but must also extend to private developers and deployers of AI systems. To ensure effective implementation, the Data Protection Commission, together with NITA and the Cyber Security Authority, could spearhead the development of AI codes of conduct tailored to sector-specific needs. This would provide a practical framework for ensuring that AI technologies are deployed responsibly and in alignment with both societal values and international best practices.

7.6 Strengthening Institutional Coordination and Oversight

The current regulatory landscape in Ghana is marked by **fragmentation**, with overlapping mandates and weak inter-agency coordination. In reforming Act 772 Ghana may consider establishing a multi-stakeholder AI commission or regulatory authority or incorporating such oversight into the mandate of the National Information Technology Agency (NITA)[79] tasked with harmonising standards, facilitating cross-agency investigations, and issuing binding technical guidance on AI use in electronic transactions.[80] Additionally, Ghana could consider establishing an AI Supervisory Authority or expanding the mandate of an existing institution such as NITA to provide technical oversight, maintain registries of high-risk systems, and accredit conformity assessment bodies. This would enhance institutional coherence and build enforcement capacity.

7.7 Promoting Public Awareness and Legal Literacy

The reform of Act 772 should be accompanied by **public education campaigns**, judicial training, and legal capacity-building initiatives on AI and digital rights. Many citizens interact with AI systems without understanding their implications for privacy, consent, or access to justice.[81] Legal empowerment would strengthen democratic oversight of emerging technologies and ensure that AI benefits are equitably distributed.

[78] Matthias Uhl and Martin Ebers, 'Liability for Artificial Intelligence and EU Consumer Law' (2020) 8(4) Journal of European Consumer and Market Law 160.

[79] World Bank, Digital Ghana Agenda: A Roadmap for e-Transform Ghana (World Bank, 2021) https://documents.worldbank.org accessed 30 July 2025.

[80] Kwame Asare-Nyarko, 'Fragmented Oversight of Digital Technology in Ghana: A Regulatory Mapping' (2022) African Journal of Law and Technology 4(2) 77–92.

[81] Nanjala Nyabola, Digital Democracy, Analogue Politics (Zed Books 2018) 155–169.

7.8 Inclusion of AI Definitions and Classifications

The ETA must be amended to include legally binding definitions of AI, algorithmic agents, and autonomous systems. These should reflect both the functional and operational characteristics discussed above[82].

7.9 Attribution and Liability for Autonomous Agents

New provisions are needed to determine attribution of actions undertaken by AI agents, and establish liability regimes for damage or harm caused by autonomous decisions[83].

7.10 Judicial Training and Law Reform Commissions:

The Judicial Training Institute and the Ghana Law Reform Commission should incorporate AI literacy into their programmes to ensure judges and drafters are prepared for the evolving legal-technical interface with electronic justice[84].

From the above, it is asserted that by adapting these insights Ghana's Electronic Transactions Act would offers a decisive moment to craft a forward-looking digital legal order. By integrating AI-specific rules, ethical standards, risk-based classifications, and effective institutional coordination, Ghana can establish itself as a leader in responsible innovation in Africa. The recommendations above are not exhaustive but provide a foundational roadmap to ensure that Act 772 evolves to meet the realities of the algorithmic age protecting rights, fostering trust, and enabling inclusive digital transformation.

8.0 Conclusion

As Ghana continues its digital transformation journey, the convergence of Artificial Intelligence (AI) and electronic transactions presents both unprecedented opportunities and complex legal challenges. The Electronic Transactions Act, 2008 (Act 772**)** once a progressive instrument designed to legitimise electronic commerce and communication now reveals its limitations in an AI-driven environment marked by algorithmic decision-making, autonomous systems, and large-scale data analytics. Its static provisions, rooted in assumptions of human agency and linear liability, are increasingly inadequate for a digital economy characterised by opacity, unpredictability, and speed.

This article has shown that Act 772 does not sufficiently address the core legal, ethical, and institutional questions raised by AI integration. The Act is silent on issues of algorithmic agency, liability attribution for AI-induced harm, and the rights of individuals affected by automated decisions. It fails to mandate transparency or explainability in digital processes and does not provide a framework for algorithmic fairness or protection against bias. It also lacks the institutional coordination necessary to oversee the governance of AI technologies, especially in cross-sectoral applications like fintech, healthtech, and e-governance. Comparative insights from the European Union, United Kingdom, United States, and African jurisdictions illustrate a growing global consensus on the need for risk-based, principle-driven, and rights-compatible AI regulation. These jurisdictions offer valuable lessons that Ghana can adapt to its local context, taking into account its constitutional values, digital ecosystem, and

[82] European Parliament, 'AI Act: Parliament's New Rules for Artificial Intelligence' (2024) https://www.europarl.europa.eu accessed 30 July 2025.

[83] World Bank, Digital Ghana Agenda: A Roadmap for e-Transform Ghana (World Bank, 2021) https://documents.worldbank.org accessed 30 July 2025.

[84] Ghana Law Reform Commission, 'Mandate and Programmes' https://www.lawreform.gov.gh accessed 30 July 2025.

institutional capacity. The analysis in Section 5 identified actionable pathways for reform: from embedding AI-specific definitions and risk classification mechanisms into Act 772 to strengthening transparency obligations, introducing liability frameworks, and promoting ethical AI governance.

The reform of Act 772 should not be viewed merely as a technocratic legal amendment but as part of a broader constitutional and policy dialogue on digital justice, inclusion, and innovation. It provides an opportunity for Ghana to position itself not only as a regulatory leader in Africa but also as a protector of digital rights in an age of intelligent machines to leverage on digital architecture within the framework of the African Continental Free Trade Area (AfCFTA). Legislative change must therefore be coupled with judicial awareness, public education, multi-stakeholder engagement, and harmonisation with continental and international digital strategies. In reimagining the Electronic Transactions Act, Ghana must confront a fundamental question: How can the law evolve to preserve human dignity, accountability, and fairness in an era where decisions are increasingly delegated to algorithms? The answer lies not in resisting AI, but in regulating it wisely. A future-ready Act 772 must embrace AI while ensuring that technology serves human interests, respects fundamental rights, and strengthens public trust in the digital economy.

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